The Costs of Legal Certainty

A Forensically-Informed Methodology on How to Identify the Relevant Costs in Exclusionary Abuse Cases

Marcus Skarpsvärd
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Marcus Skarpsvärd

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Abstract
This dissertation examines the forensic relationship between unilateral price practices and prima facie exclusionary abuse(s) under Article 102 TFEU. The research aim is to ascertain relevant cost benchmarks that can be used to determine the legal qualification of a dominant firm’s price practices.

The research synthesises and results reflect the law in force on the 1 February 2023 and are outcomes of applying the forensic method. The forensic method was applied by systematising the relevant financial data together with the legal sources for the purpose of categorising impugned price behaviours as exclusionary or competition on the merits.

The research demonstrates, inter alia, that the legal use of cost benchmarks is entrenched in concept of the rule of law by seeking to strike a balance between legal certainty and the effectiveness of Article 102 TFEU. In order to realise this objective, the Court of Justice has constructed three distinct legal tests and depending on which test that is used, it will have a significant impact on which cost benchmark(s) that is to be regarded as relevant. The first is the AKZO test, which is a fixed cost test as it explicitly states which cost benchmarks that must be used. The second is the great bulk of cost test, which is a semi-fixed cost test as it is limited to the objectives that the chosen cost yardstick must realise. The third is the as efficient competitor test, which is an open-ended cost test as it is limited to its aim. However, despite clarifications from the Court of Justice, the law on exclusionary pricing remains complex, ambiguous, and sometimes contradictory. To that end, whilst the research concludes that variable cost is an inappropriate benchmark to apply in service sectors, the research also reveals that lex lata allows for the use of variable cost in a manner which is so extensive that the cost yardstick ultimately will apply in an overlapping way. The legal overlap that follows makes Article 102 TFEU wide-ranging to the extent that legal contradictions will occur. The research concludes that the incoherence is the result of using the wrong yardstick over which to classify the cost under scrutiny.

Based on the research results, the dissertation makes two main propositions to rectify the incoherence. First, the relevant cost benchmark ought to be the managerial forward-looking calculated out-of-pocket cost. Second, the relevant yardstick over which costs should be classified ought to be the period in which the accused dominant undertaking’s price practice is in force.

Keywords: competition law, EU law, exclusionary abuse, price abuse, cost, relevant costs, as efficient competitor test, forensic science, forensic investigation, forensic analysis, forensic method, legal method, law and economics.

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To my parents and my sister.
Acknowledgements

Finalising a doctoral dissertation is cumbersome. Not only does it necessitate cerebral nimbleness, it also requires intellectual and corporeal perseverance. The steam and vibrancy tend to wear off as the inquiry progresses into novel findings and insights. The material can easily appear to become insurmountable as case law develops and new literature is produced. To that end, a doctoral dissertation never becomes finished, it only becomes successfully defended.

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Joined Cases C-7/56 and C-3/57 to C-7/57, Dinecke Algera, Giacomo Cicconiardi, Simone Coutraud, Ignazio Genuardi, Félicie Steichen v Common Assembly of the European Coal and Steel Community, ECLI:EU:C:1957:7.

Joined cases 56 and 58-64, Consten and Grundig v Commission, ECLI:EU:C:1966:41.

C-48/69, ICI v Commission (Henceforth, Dyestuffs), ECLI:EU:C:1972:70.


Joined Cases 40/73 to 48/73, 50/73, 54/73 to 56/73, 111/73, 113/73 and 114/73, Suiker Unie and Others v Commission, ECLI:EU:C:1975:174.

Joined cases 15/76 and 16/76, France v Commission, ECLI:EU:C:1979:29.

C-27/76, United Brands v Commission, ECLI:EU:C:1978:22

C-33/76, Rewe v Landwirtschaftskammer für das Saarland, ECLI:EU:C:1976:188.

C-52/76, Benedetti v Munari, ECLI:EU:C:1977:16.

C-85/76, Hoffmann-La Roche v Commission, ECLI:EU:C:1979:36.

C-15/81, Schul, ECLI:EU:C:1982:135.

C-283/81, CILFIT v Ministero della Sanità, ECLI:EU:C:1982:335.

C-322/81, Michelin v Commission, ECLI:EU:C:1983:313.
Joined cases C-89/85, C-104/85, C-114/85, C-116/85, C-117/85 and C-125/85 to C-129/85, *A. Ahlström Osakeyhtiö and others v Commission (henceforth, Wood Pulp II)*, ECLI:EU:C:1993:120.


C-213/89, *The Queen mot Secretary of State for Transport, ex parte Factortame (Factortame I)*, ECLI:EU:C:1990:257.


C-344/98, Masterfoods and HB, ECLI:EU:C:2000:689.


C-159/00, Sapod Audic v Eco-Emballages SA, ECLI:EU:C:2002:343.

Joined Cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P, Aalborg Portland and Others v Commission, ECLI:EU:C:2004:6.

C-453/00, Kühne & Heitz, ECLI:EU:C:2004:17.

C-363/01, Flughafen Hannover-Langenhagen, ECLI:EU:C:2003:548.

C-12/03 P, Commission v Tetra Laval, ECLI:EU:C:2005:87.

C-95/04 P, British Airways v Commission, ECLI:EU:C:2007:166.


C-183/05, Mostaza Claro, ECLI:EU:C:2006:675.

Joined Cases C-222/05 to C-225/05, J. Van der Weerd and Others v Minister van Landbouw, Natuur en Voedselkwaliteit, ECLI:EU:C:2007:318.

C-268/06, Impact, ECLI:EU:C:2008:223.

C-413/06 P, Bertelsmann and Sony Corporation of America v Impala, ECLI:EU:C:2008:392.


C-290/07 P, Commission v Scott, ECLI:EU:C:2010:480.

C-169/08, Gondrand and Garancini, ECLI:EU:C:1981:171.


C-8/08, T-Mobile Netherlands and Others, ECLI:EU:C:2009:343.

C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83.
C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172.
C-549/10 P, Tomra v Commission, ECLI:EU:C:2012:221.
C-488/11, Asbeek Brusse and de Man Garabito, ECLI:EU:C:2013:341.
C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651.
C-74/14, Eturas and Others, ECLI:EU:C:2015:651.
C-177/16, Biedrība "Autortiesību un komunicēšanās konsultāciju aģentūra – Latvijas Autoru apvienība" Konkurences padome (AKKA), ECLI:EU:C:2017:689.
C-525/16, MEO - Serviços de Comunicações e Multimédia, ECLI:EU:C:2018:270.
C-228/18, Budapest Bank and Others, ECLI:EU:C:2020:265.
C-307/18, Generics (UK) and Others, ECLI:EU:C:2020:52.
C-152/19 P, Deutsche Telekom v Commission, ECLI:EU:C:2021:238.
C-377/20, Servizio Elettrico Nazionale and Others, ECLI:EU:C:2022:379.

Opinions of the Advocate General


General Court


**Commission Decisions – Antitrust Cases**


**US Case law**


Olympia Equipment Leasing Company and Others v Western Union Telegraph Company, 797 F.2d 370 (7th Cir. 1986).

AA Poultry Farms Inc v Rose Acre Farms Inc, 881 F. 2d 1396 (7th Cir 1989).


United States v. AMR Corporation, 335 F.3d 1109 (10th Cir. 2003).


Swedish Case law

Case A8/11, Swedish Market Court, 2013:5.

Decisions by the Swedish Competition Authority – Antitrust Cases

Swedish Competition Authority Inquiry Regarding Abuse of Dominant Position, Dnr 1135/2004 – TeliaSonera.

Case law from Great Britain


Chester City Council v Arriva [2007] EWHC 1373 (Ch).

Norwegian Case law

Case 05-111347TVI-OTIR/06, SAS v Konurransetilsynet, 2005.

European Court of Human Rights

John Murray v the United Kingdom, judgment of 8 February 1996, Application no. 18731/91.
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EU Primary Legislation (Treaties)


Treaty establishing the European Coal and Steel Community.

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Commission Notice on the definition of the relevant market for the purpose of Community competition law, OJ 1997 C 372/5.


European Economic Area (EEA)
Agreement on the European Economic Area.

**International Treaty**


**Other Non-Binding Instruments**


Body of European Regulators for Electronic Communications (BEREC), *BEREC Guidance on the Regulatory Accounting Approach to the Economic Replicability Test (i.e. ex-ante/sector specific margin squeeze tests)*, BoR (14) 190, 2014.


DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases.


DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, 1 Competition Policy Brief 2003.

EU Submissions to OECD on competition matters, Roundtable on Competition on the Merits, 2005.


Suggested Best Practices for Submissions of Technical Economic Analysis from Parties to the Competition Commission.

**Norway**

Norwegian Competition Act.

**Sweden**

Swedish Competition Act.

**US**

The Sherman Act.

Federal Rules of Evidence.
Abbreviations

α       Significance or Alpha Level.
AAC      Average Avoidable Cost.
AC       Average Cost.
ABC      Activity-Base Costing.
ACL      Average Customer Lifetime.
ACMI     Aircraft, Crew, Maintenance and Insurance.
ADSL     Asymmetric Digital Subscriber Line.
AG       Advocate General.
ASK      Available Seat per Kilometre.
AOC      Aircraft Operating Cost.
ARR      Accounting Rate of Return.
ASM      Available Seat per Mile.
ATC      Average Total Cost.
A-T-Test Areeda-Turner Test.
AVC      Average Variable Cost.
β        Beta.
BLF      Breakeven Load Factor.
CASK     Cost per Available Seat Kilometre.
CASM     Cost per Available Seat Mile.
CapEx    Net Capital Expenditures.
CAPM     Capital Asset Pricing Model.
CF       Relevant Cash Flows.
Charter  Charter of Fundamental Rights of the European Union.
CLV      Customer Lifetime Value.
CMA      The UK Competition & Merger Authority.
CSM      Fuel per Capacity Seat Miles.
Court of Justice Court of Justice of the European Union.
CVP      Cost-Volume-Profit.
DCF      Discounted Cash Flow.
DG       Directorate-General.
DOC      Direct Operating Cost.
DSL      Digital Subscriber Line.
EAGCP    Economic Advisory Group on Competition Policy.
EBIT     Earnings Before Interest and Taxes.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>EBITDA</td>
<td>Earnings Before Interest and Taxes minus Depreciation and Amortisation.</td>
</tr>
<tr>
<td>ECSC Treaty</td>
<td>Treaty Establishing the European Coal and Steel Community.</td>
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<tr>
<td>EEA</td>
<td>European Economic Area.</td>
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<td>EEC</td>
<td>European Economic Community.</td>
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<td>EU</td>
<td>European Union.</td>
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<tr>
<td>FAC</td>
<td>Fully Allocated Cost.</td>
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<tr>
<td>FCFE</td>
<td>Free Cash Flow to Equity.</td>
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<td>FSC</td>
<td>Full-Service Network Carrier.</td>
</tr>
<tr>
<td>FTE</td>
<td>Flow-to-Equity.</td>
</tr>
<tr>
<td>GAAP</td>
<td>General Accounting Accepted Principles.</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product.</td>
</tr>
<tr>
<td>$H_0$</td>
<td>Null Hypothesis.</td>
</tr>
<tr>
<td>$H_a$</td>
<td>Alternative Hypothesis.</td>
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<tr>
<td>IRIS</td>
<td>Internal Route Information System.</td>
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<td>IRR</td>
<td>Internal Rate of Return.</td>
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<td>ISP</td>
<td>Internet Service Provider.</td>
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<tr>
<td>KPI</td>
<td>Key Performance Indicator.</td>
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<td>LC</td>
<td>Legacy Carrier.</td>
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<td>LCC</td>
<td>Low-Cost Carrier.</td>
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<tr>
<td>LCC</td>
<td>Life-Cycle Costing.</td>
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<tr>
<td>LLU Regulation</td>
<td>Local Loop Unbundling Regulation.</td>
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<tr>
<td>LRAIC</td>
<td>Long-run Average Incremental Cost.</td>
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<td>MC</td>
<td>Marginal Cost.</td>
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<tr>
<td>MEA</td>
<td>Modern Equivalent Asset.</td>
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<td>MRR</td>
<td>Minimum Required Return.</td>
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<tr>
<td>MARR</td>
<td>Minimum Acceptable Rate of Return.</td>
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<tr>
<td>NAL</td>
<td>Net Advantage of Leasing.</td>
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<tr>
<td>NBV</td>
<td>Net Book Value.</td>
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<tr>
<td>NCA</td>
<td>National Competition Agency.</td>
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<td>NCA</td>
<td>Norwegian Competition Authority.</td>
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<tr>
<td>NLC</td>
<td>Network Legacy Carrier.</td>
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<tr>
<td>NRA</td>
<td>National Regulatory Agency.</td>
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<tr>
<td>NPA</td>
<td>Network Profitability Analysis.</td>
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<tr>
<td>NPV</td>
<td>Net Present Value.</td>
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<tr>
<td>O&amp;D</td>
<td>Origin &amp; Destination.</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development.</td>
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<tr>
<td>$p$</td>
<td>Probability Value.</td>
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<tr>
<td>PI</td>
<td>Profitability Index.</td>
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<tr>
<td>PP</td>
<td>Payback Period.</td>
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<tr>
<td>PV</td>
<td>Present Value.</td>
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<tr>
<td>Q</td>
<td>Quantity.</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Definition</td>
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<tr>
<td>RASK</td>
<td>Revenue per Available Seat Kilometre.</td>
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<tr>
<td>RASM</td>
<td>Revenue per Available Seat Mile.</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development.</td>
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<tr>
<td>ROE</td>
<td>Return on Equity.</td>
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<tr>
<td>ROS</td>
<td>Return on Sales.</td>
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<tr>
<td>RPA</td>
<td>Route Profitability Analysis.</td>
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<tr>
<td>RPM</td>
<td>Revenue Passenger Mile.</td>
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<tr>
<td>RPK</td>
<td>Revenue Passenger Kilometre.</td>
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<tr>
<td>SCA</td>
<td>Swedish Competition Authority.</td>
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<tr>
<td>SCP</td>
<td>Structure-Conduct-Performance.</td>
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<tr>
<td>SME</td>
<td>Small and Medium-Sized Enterprises.</td>
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<tr>
<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities and Threats.</td>
</tr>
<tr>
<td>t</td>
<td>Relevant Cash Flows under an Investments Lifetime.</td>
</tr>
<tr>
<td>TAT</td>
<td>Turnaround Time.</td>
</tr>
<tr>
<td>TC</td>
<td>Total Cost.</td>
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<tr>
<td>TDABC</td>
<td>Time-Driven Activity-Base Costing.</td>
</tr>
<tr>
<td>TFEU</td>
<td>Treaty of the Functioning of the European Union.</td>
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<tr>
<td>UCN</td>
<td>Účelové členenie Nákladov.</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom.</td>
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<tr>
<td>US</td>
<td>United States.</td>
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<tr>
<td>WACC</td>
<td>Weighted Average Cost of Capital.</td>
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1 Introduction

1.1 Research Aim and Objective

Article 102 Treaty of the Functioning of the European Union (Article 102 TFEU) aims to prohibit dominant undertakings from, inter alia, using price practices as exclusionary devices to skew the structure of competition. The notion of exclusionary price practices connotes that the source of the exclusionary effect results from the negative or reduced profit margin. However, a particular legal turmoil – despite clarifications in case-law and advances in legal literature – is what cost measurement that should be used when analysing the profit margin of an allegedly exclusionary price practice.

This dissertation examines the forensic relationship between profitability and prima facie exclusionary pricing abuse under Article 102 TFEU. The emphasis will be on the legal identification and construction of the relevant cost benchmark (although some parts will analyse the use of management accounting and corporate finance profitability assessments in legal decision-making).

The research aim is to ascertain objective cost benchmarks that can be used to classify a dominant firm’s price practices. The direct purpose of these yardsticks is to provide courts with legal benchmarks to review objectively the legal categorisation of impugned conducts. Consequently, these benchmarks can also be used indirectly by enforcement agencies to review the robustness of their legal conclusions.

Based on the research aim, the objective is to apply a forensic method. The method (which will be described in further detail in chapter 2) is the systematic process of piecing together financial data for the purpose of accepting or refuting a legal plea or claim. That is, whether the alleged behaviour should be categorised and classified as exclusionary or competition on the merits. The legal forensic method – applied in this dissertation – essentially seeks to ascertain the business rationale behind an impugned price policy by analysing the commercial behavioural implications of the undertaking’s decision-making data. As a result of the method, the bulk of the conduct is judged on ex ante analysis. For that purpose, management accounting and corporate finance theory will be applied. These sources or frameworks provide well-established profitability concepts and methods. The justification for applying these sources is that they can provide important insights about how profitability and

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1 See, e.g. C-52/09, Konkurrensværet v TeliaSonera, ECLI:EU:C:2011:83, para. 33.
decision-making actually is being set in a firm, since they are the language of business.4

1.2 Research Rationale

The very purpose of antitrust rules is to guide firms’ behaviours in a manner that prevents their actions from resulting in consumer harm. The European Union (EU) antitrust system is designed to prohibit commercial activities that are harmful to the proper functioning of the competitive process.5

The law on exclusionary price practices is nonetheless complex. Although, price is an essential pillar of competition,6 and the legal framework is designed

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5 “[The] competition rules of the Treaty, is designed to protect not only the immediate interests of individual competitors or consumers but also to protect the structure of the market and thus competition as such.” See, C-8/08, T-Mobile Netherlands and Others, ECLI:EU:C: 2009:343, para. 39.

to, inter alia, protect and foster energetic low-cost price practices, it is generally accepted that price drops can harm competition and consumers. The concern is that firms with market power use price-based conducts as an exclusionary instrument, to bring about anticompetitive effects on the market(s).

To identify and extinguish infringements by dominant firms, the Court of Justice has developed legal tests. Although there is no one size fit all test, exclusionary price practices are subject to conduct-specific legal tests, or profit-focused tests. The two most obvious one are the ascertainment or AKZO

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7 “Price competition is the essence of the free and open competition which it is the objective of Community policy to establish on the internal market. It favours more efficient firms and it is for the benefit of consumers both in the short and the long run. Dominant firms not only have the right but should be encouraged to compete on price.” See, Opinion of Advocate General Fennelly, Joined Cases C-395/96 P and C-396/96 P, Compagnie Maritime Belge NV and Dafra-Lines v Commission, ECLI:EU:C:1998:518, para. 117. See also, Matsushita Electric Industrial Co v Zenith Radio Corp 475 US 574, 594 (1986).


test, and the imputation or margin squeeze test. The purpose of these tests is to enable the legal assessment of a particular situation and to draw a legal conclusion by analysing the profit or profitability of the dominant firm’s price strategy. The tests are based on the underlying notion that if the dominant firm’s price practice is incapable of providing sufficient profits, the price practice is capable or likely to oust competitors that are as efficient as the dominant firm.

The Court of Justice pointed out in TeliaSonera that where the dominant firm’s profit margin is insufficient or lossmaking, that practice is likely to

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cause anticompetitive effects on the market. The terms profit and profitability describe the financial result when revenue generated from a business activity surpasses its costs during a particular period. It follows from well-established case law, that the legal assessment must be based on the accused undertaking’s own cost-revenue. The aim is to provide the dominant firm with legal certainty as costs and revenues allow the firm to assess the lawfulness of its own conduct. The legal certainty issue is that all ex post cost benchmarks are based on some form of variable cost. The economic rule is that costs tend to be fixed in the short-run, whereas all costs are variable in the long-run. The issue is that what the dominant firm believed was a fixed cost at the time of the decision can in fact be classified as a variable cost ex post, resulting in a positive margin metamorphosing into a negative margin.

The quarrel can be described as an apples and oranges problem, since the cost items that are used in the ex post analysis cannot be practically compared to the ex ante decision-making due to their intrinsic differences.

Notwithstanding, although economists debate over the proper use of profitability in antitrust analysis, and the obligation to use accounting cost, little

18 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 33, 41-44 and 64.
20 E. g. Profit = Total Sales Revenue − Total Variable Costs − Total Fixed Costs, or profit = (Unit Price × Q) − (Unit Variable Costs × Q) − Total Fixed Costs.
22 See, e.g. C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 41-44,
attention has been paid by legal scholars. Legal scholars tend to focus only on the abstract content of the price-cost tests, and not on how to apply them.


The rationale for this inquiry is that there is a legal vacuum in how the law ought to deal with profits and, in particular, cost-based arguments.

As a result of the open-ended design of Article 102 TFEU, the law on exclusionary abuse is the result of the case law of the EU courts. Disputes about the proper interpretation reach the Court of Justice either by appeal from the General Court or reference for preliminary ruling by a national court. Notwithstanding the differences in judicial review, the underlying cause of the dispute is the same, namely a disagreement between the authority and the accused dominant undertaking about the correct construction.

A particular grapple between the parties is the correct legal cost benchmark that ought to apply in order to assess and hold the dominant undertaking accountable for its actions. As the law stands, the relevant legal cost yardstick should identify instances where the implemented conduct threatens the existence or entry of competitors as efficient as the dominant undertaking itself.

The core challenge for the reviewing court is to pinpoint the relevant source from which the cost information should be picked. The turmoil about the correct cost yardstick is likely to intensify because of the Intel ruling. The fact that the antitrust agency and the accused firm has supplied the court with different cost measurements does not necessarily mean that any of the measurements is the correct one. Suffice it to say, agencies tend to argue that the correct source of cost measurement is microeconomic theory, whereas the accused firm tends to claim that it is management accounting and corporate finance theory. The reason being that the agency and the accused firm have different aims and objectives with their cost measurements. Consider, e.g. the use of variable cost in France Télécom. Wanadoo, a retail subsidiary of

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Consequently, the separation between the content of the abstract norm and how the norm ought to be applied becomes almost indistinct because interpretation and adjudication coincide.


This was the core issue before the Swedish Market Court in TeliaSonera. The Swedish Competition Authority argued that the correct cost benchmark was the long-run incremental cost, whereas the TeliaSonera argued that the cost benchmark was inapplicable because TeliaSonera had not used it. This will be analysed in chapter 6.5. See also, e.g. T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, T-336/07, Telefónica v Commission, ECLI:EU:T:2012:172, and T-851/14, Slovak Telekom v Commission, ECLI:EU:T:2018:929.

France Télécom, was accused by the Commission of implementing a predatory pricing scheme on the Internet service market. The Commission applied the AKZO test and was therefore legally required to analyse if Wanadoo had covered its variable costs. The cost yardstick and the legal consequence was abundantly clear ex ante. However, the implicit underlying legal issue was whether variable cost was an appropriate cost benchmark, since the variable cost tends to be close to zero in network sectors. This would limit the scope of Article 102 TFEU, since Wanadoo’s price practice could be almost at zero without committing an infringement. The Commission, to effectively enforce Article 102 TFEU, used the fixed advertisement cost as a proxy for Wanadoo’s economic variable costs, and as a result indirectly applied the avoidable cost benchmark. By doing this, the Commission stretched or widened the scope of the variable cost benchmark to effectively enforce Article 102 TFEU.

Indeed, although each cost yardstick has its strength and weaknesses, it is important that their use does not conflict with the rule of law and the principle of legal certainty in particular. The conflict is between the dominant undertaking’s right to legal certainty ex ante and the antitrust enforcer’s need for flexibility to effectively combat exclusionary prices ex post. The legal implication is that Article 102 TFEU needs to strike an appropriate balance between these objectives, since the rule of law is a core principle of EU law that seeks to offer sufficient judicial protection.

1.3 Research Questions

To ascertain the legality and qualification of impugned exclusionary price practices the legal inquiry seeks to identify whether the price practice displays appropriate or sufficient profit margins. The investigation may nonetheless raise four particular legal obstacles. First, it follows from Article 119(1) TFEU that the internal market is based on the principle of open market economy with free competition, which implies a connection between law and social science. Article 102 TFEU is part of this system that has as its object to protect competition to the benefit of consumers, which is a fundamental objective of the

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35 It follows from Article 3(3) Treaty of the European Union (TEU), in conjunction with Protocol No. 27 on the internal market and competition, that the Union shall establish an internal market and a system ensuring that competition is not distorted. Originally the principle of undistorted competition was to be found in Article 3(f) of the Treaty of Rome (EEC) and was transferred to Article 3(1)(g) EC Treaty, but when the Lisbon Treaty amended the Treaty of
The provision imposes certain restrictions on dominant firms’ freedom to conduct business. Social sciences, such as accounting and economics, provide important insights into when and how such limitations should be drawn. The notion of profitability is however multifaceted. To the extent it applies to exclusionary pricing practices, it denotes a natural bridge to, inter alia, economics, accounting, and financial theory, but at different levels and for different purposes. The grapple is to decide how the theoretical frameworks ought to be used.

Second, a core challenge is how Article 102 TFEU should manage the uncertainty and complexity, in particular since enforcement is characterised by an ex ante-ex post dichotomy. On the one hand, the law may punish ex ante pricing decisions because noxious welfare effects are observable in the market, years or decades after the act was undertaken. On the other hand, the law must provide enforcement agencies with the necessary legal criteria to effectively combat anticompetitive behaviours. The hurdle is to select which profitability benchmark or method(s) that ought to be used when assessing the behaviour.

Rom it was moved to one of the Protocols annexed of the Treaty. According to Article 51 TEU, protocols and annexes to the Treaties must be given equal weight. The Court of Justice of the European Union (the Court of Justice) has applied Protocol No. 27 as if it was no different from Article 3(1)(g). See, C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 20-22.

This objective is so fundamental that it constitutes the raison d’être of the EU. On the 18 December 2014 the Court of Justice handed down its opinion on the draft agreement on the accession of the EU to the European Convention for the Protection of Human Rights and Fundamental Freedoms. The Court of Justice stated that: “The pursuit of the EU’s objectives, as set out in Article 3 TEU, is entrusted to a series of fundamental provisions, such as those providing for the free movement of goods, services, capital and persons, citizenship of the Union, the area of freedom, security and justice, and competition policy. Those provisions, which are part of the framework of a system that is specific to the EU, are structured in such a way as to contribute — each within its specific field and with its own particular characteristics — to the implementation of the process of integration that is the raison d’être of the EU itself.” See, C-2/13, Accession of the European Union to the European Convention for the Protection of Human Rights and Fundamental Freedoms - Compatibility of the draft agreement with the EU and FEU Treaties, ECLI:EU:C:2014:2454, para. 172. According to Advocate General Kokott the EU antitrust law is such a necessity that it constitutes one of the institutions of the EU. See, opinion of Advocate General Kokott, C-95/04 P, British Airways plc v Commission, ECLI:EU:C:2006:133, para. 63.

It follows from Article 16 and 52(1) of the Charter that the EU recognises the freedom to conduct business, but that freedom can be subject to limits.


"[Anticompetitive] nature of its acts must be evaluated at the time when those acts were committed." See, C-457/10 P, AstraZeneca v Commission, ECLI:EU:C:2012:770, para. 110.
Third, the effectiveness of Article 102 TFEU is conditional on how proficient the profitability analysis is in identifying exclusionary acts on the relevant market. A cornerstone when assessing whether a profit level can result in the exclusionary effects, is to establish the relevant conditions on the market in question. The analysis is necessary to put the conduct and the profits in their proper context. The objective is to analyse the merits of certain profit levels based on their underlying market characteristics, such as industries with network effects. Markets with network effects – e.g. airline and telecom – present particular challenges when applying the profitability toolbox. To avoid type I or II errors, the profit methodology should be robust, e.g. reflecting the relevant market conditions together with the proper business model.

Fourth, although it is important to establish relevant objective profit benchmarks and financial yardsticks, a critical part is to ascertain the relevant duration under which the conducts should be analysed. The relevance of duration is that has significant implication for the finding of abuse. The length will directly affect the taxonomy of cost yardstick. It is common microeconomic knowledge that all cost tends to be fixed in the short run and variable in the long run. The duration will also have immediate consequences on the relevant profitability method and decision-making rule. It is central to establish a reference period under which the profits are analysed to avoid type I and II errors.

The relevance of profitability assessments in antitrust procedures are often undisputed. However, a core battleground between the Commission and the accused dominant undertaking is how the assessment should be performed in a systematically and coherent manner. As the law stands, the conflict in the legal opinions can be distilled into two main research questions:

43 As will be discussed in chapter 4.3.4, business models and monetisation strategies are important management accounting and financial tools to analyse and assess the underlying business rationale. From an economic perspective, these concepts do not provide any taxonomy of good/bad behaviours. See, C. Caffarra, Business Models, Invectives and Theories of Harm, 1 Antitrust Chronicle 1, 2019. Available at: https://ecp.crai.com/wp-content/uploads/2020/02/CPI-Caffarra-min.pdf.
1. What is the legal relevance of cost yardsticks and is variable cost an appropriate competitive benchmark?

Cost benchmarks are important criteria when assessing whether a price practice should be qualified as exclusionary. The measurements set the scope of Article 102 TFEU (or the extent of dominant undertakings special responsibilities) by providing workable proxies for competitive harm.\textsuperscript{45} The relevant cost benchmark(s) is a prime legal concept(s) as it aims to provide objective criteria for when a price policy is capable of resulting in anticompetitive harm. Having objective criteria is a fundamental condition to make the law predictable and provide legal certainty.\textsuperscript{46} However, although the principle of legal certainty provides the necessary bridge between law and managerial insights, cost yardsticks are strict legal constructions. As a point of law, the legal notion of the relevant cost base is for the lawmaker or the Court of Justice and not the Commission and the accused dominant firm to establish. This begs the question of whether variable cost is an appropriate measurement and if not, what should the alternative cost benchmark be for competition analysis.

Suffice to say, effective enforcement is conditional on the correct cost measurement being used, which presupposes that the Court of Justice has designed the legal test(s) in an adequate manner. The most recognised legal test in the EU is the so-called AKZO test. The test is a profit-oriented test that seeks to provide analytical criteria to establish a prima facie exclusionary abuse. The test is designed based on variable and total cost criteria to identify the underlying competitive rationale for pricing at certain levels.\textsuperscript{47}

The test does nonetheless give rise to two particular legal issues. First, variable cost may not be an appropriate financial benchmark to establish exclusionary pricing abuse, in particular in network industries.\textsuperscript{48} The cost structure in network industries tends to be characterised by large amounts of fixed costs,\textsuperscript{49} and an insignificant level of variable costs.\textsuperscript{50} The risk is therefore that the AKZO test may lead to decision-making errors because the variable cost yardstick fails to identify the relevant cost base the accused firm ought to cover.

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to trade profitably. The Commission has in a series of decisions recognised the shortcomings and used other yardsticks as proxies for variable cost.\textsuperscript{51}

Second, even if variable cost was to be considered a good benchmark, the incandescent legal query is how the benchmark ought to be used for decision-making practices. This goes back to the ex ante-ex post dichotomy. As a legal tool, the cost criterion is intended to make the law operational under uncertain conditions. On the one hand, the objective is to provide the dominant firm with legal certainty.\textsuperscript{52} This implies that financial yardsticks ought to be based on costs that are relevant for management ex ante pricing decisions. On the other hand, the objective is to provide antitrust authorities with proficient tools to bring to an end ongoing exclusionary price practices before the actual effects are observable in the market. As long as the same conceptual benchmark is used ex ante post, the law is coherent. Problems arise when the antitrust enforcer uses an ambiguous cost measurement ex post. The issue is that variable cost is multifaceted. The cost measurement is used in both accounting and economic theory, but the content and use of the yardstick is different.\textsuperscript{53} As the law stands, the actual legal use of the measurement is conflated. Suffice it to say, the concept of economic cost,\textsuperscript{54} is broader in scope than its equivalent in management accounting. As a result, the management decision can be profitable ex ante, but unprofitable ex post because the antitrust enforcer uses economic cost to analyse the management decision instead. Indeed, the Commission used, inter alia, economic variable cost for the purpose of performing an as efficient replicability test in Qualcomm (predation).\textsuperscript{55} As the law stands, it is silent on which theoretical framework the Commission is allowed to use ex post, the only legal requirement is that the fact-finding and financial analysis has to be based on the accused undertakings incurred costs.\textsuperscript{56}


\textsuperscript{52} “The validity of such an approach is reinforced by the fact that it conforms to the general principle of legal certainty, since taking into account the costs and prices of the dominant undertaking enables that undertaking to assess the lawfulness of its own conduct, which is consistent with its special responsibility under Article 102 TFEU (…) While a dominant undertaking knows its own costs and prices, it does not as a general rule know those of its competitors.” See, C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 44.


\textsuperscript{55} See, Commission Decision, AT.39711, Qualcomm (predation), 2019, recital. 804.

2. Which methods should be relevant when assessing the profitability and the financial health of accused dominant undertakings?

When analysing the relevance of different costs and profitability tools, it is important to consider that there are different tools for different purposes. Asking the relevant question(s) will be as important as the tool itself. The validity of any method and/or result is conditional on the extent to which the results represent what the method or tool is intended to produce. As a result, there is an important difference between methods for calculating an investment’s profitability and methods for calculating the profit and loss statements.

The objective with profitability methods is to assess whether the impugned firm’s operations are likely to be profitable. The two most cited methods for antitrust analysis are the period-by-period and the discounted cash flow. The main difference is that the former is static and backwards-looking, whereas the latter is dynamic and forward-looking (multi-period).

The period-by-period method or historical accounting approach is a cornerstone in the Commission’s enforcement toolbox. The Commission uses the method to assess the both short- and long-term pricing decisions made by dominant firms, i.e. predatory pricing and margin squeeze respectively. The period-by-period method is a static backward-looking approach that seeks to provide a financial and consistent evaluation of the profitability of the impugned price practice. As the name implies, the method is applied in accordance with specific time periods, e.g. a week, a month and a year. The method therefore considers each period separately based on the dominant undertaking’s costing data. The approach can nonetheless lead to type I errors.

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60 As will be analysed in e.g. chapters 6.2.6.2.1. and 6.4.6.5, the period-by-period method is in fact an ex post replicability test. The test does not seek to establish if the dominant undertaking’s financial accountings are correct, its objective is to reconstruct the financial data to economic profit and loss data. In Qualcomm (predation) the Commission expressly disregarded Qualcomm’s management cost accounting data, because it did not allow the Commission to reconstruct it and perform an economic effects appraisal. The legality of the Commission’s approach could be questioned given that the case law expressly points out the legal certainty purpose of profitability criteria. From a rule of law perspective it could be argued that there is a significant difference between applying a forensic analysis to determine the correctness of the dominant undertaking’s spreadsheet to ascertain the profitability of its operation(s) vis-à-vis reconstructing the spreadsheet to show that an exclusionary abuse has been committed. In Slovak Telekom the General Court partially annulled the Commission’s decision for applying a method that only had as its purpose to dilute the undertaking’s profits and thus enabled the finding of margin squeeze (See, T-851/14, *Slovak Telekom v Commission*, 2016, para. 4.139).
To say that the method is intended to assess the profitability is somewhat misleading. In fact, the method ignores whether a business operation or investment decision is profitable. The method is designed to identify whether any of the periods leading up to the investigation are lossmaking. The approach can lead to over-enforcement in dynamic and emerging markets, e.g. telecom and railway, where the largest portion of cost structure is fixed. Since the method is based on historical accounting costs and revenues, it disregards market uncertainty and the risk-taking of capital budgeting.

A frequently raised motion by the undertaking is the use of discounted cash flow instead of the period-by-period. The discounted cash flow method is a well-established financial tool to assess whether an investment is likely to be profitable. The method, unlike the period-by-period approach, is forward-looking and extends over multiple periods. The discounted cash flow is appropriate in less mature, unstable and uncertain markets.

The main sources of divergence between the Commission and dominant firms are the questions of how to apply the profitability analysis and what interpretation that can be drawn from the result. Sufficient to say, there are other well-established methods for assessing the rate of return in financial theory, but perhaps the Commission’s issue is not with the discounted cash flow itself, but rather with how the data is presented. In management accounting and financial theory, there are many well-established methods to calculate, allocate

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and spread the initial upfront cost over the investment’s lifetime. The objective of these methods is to present a true and fair view of a firm’s financial health.
2 Methodology

2.1 Introduction

As alluded to previously, Article 102 TFEU is part of this system that has as its object to protect competition to the benefit of consumers, which is a fundamental objective of the EU. As a public law provision, its legitimacy and enforcement is nonetheless subject to the rule of law. It follows from Article 2 TEU that the rule of law is a fundamental provision in the EU legal order. The rule of law is based on the concept that the legitimacy of the state’s monopoly on the legal use of force is limited by the values and freedoms of the legal system, such as, the principle of legal certainty. This means that in

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71 See, e.g. C-169/08, Gondrand and Garancini, ECLI:EU:C:1981:171, para. 17.
order for Article 102 TFEU to be effective against exclusionary price practices, the provision needs to strike a balance between legal certainty and an appropriate flexibility, in a coherent manner.

This chapter aims to justify the principle choices that have been made and how they have subsequently been applied. It starts with explaining the justification for the method and how it has been applied. It then describes the legal and auxiliary sources that have been applied throughout the dissertation to establish the legal result(s).

2.2 Justifying the Use of a Forensically-Informed Assessment of Law

This dissertation has applied a forensic method to carry out a forensically-informed assessment of law with the use of the traditional legal tools.

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74 That is, to classify and systematise the norms in interpretative arguments (e.g. lexical, systematic and teleological) as well as prioritise them (lex superior or effet utile in EU terms, lex posterior, and lex specialis. Perhaps the appropriate term for the latter is systematic prioritisation rules or arguments. For the interpretative arguments and prioritisation arguments see, e.g.
The forensic methodology, as will be argued down below, is predicated on the notion that the effectiveness of Article 102 TFEU is the result of striking an appropriate balance between legal certainty and effective enforcement.

Forensics is a methodology that applies scientific insights to solve legal issues that could be subject to or are pending before the court. The methodology has been applied in the dissertation to identify exclusionary price practices by applying accounting, economic, and financial theories and insights. The aim of the systematisation of these scientific sources is to provide decision-makers with relevant arguments to solve legal issues and disputes.

The justification for using accounting and financial sources is that they can promote legal certainty as they can be used as practical proxies for teleological arguments ex ante, by providing decision-makers with objective concepts and methods to analyse ex post the validity of the dominant firm’s claims.

The forensic method acknowledges that economic theory is an important source as it can be used to identify the appropriate cost benchmarks and intervention triggers based on the economic conditions in the market. This means that economic theory provides flexibility about the teleological scope of Article 102 TFEU. The forensic methodology does however contest the legitimacy of economic theory being the exclusive source to support a finding of exclusionary abuse. The methodology asserts that, whilst economic theory is necessary when adjudicating the teleological scope of a rule, it does not provide decision-makers with sufficient tools when interpreting the legal characteristics of business transactions, and, in particular, their legal qualification ex post. Firms use management accounting and corporate financial theory to make the calculation and implementation of business transactions possible in practice. The terms accounting and finance will henceforth be used for management accounting and corporate finance, if nothing else is explicitly stated.

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77 That is not to say that the economic analysis of the law is not useful. The method has significantly affected how the exclusionary abuses are conceptualised by providing, e.g. economic efficiency as an enforcement policy aim.


Accounting and finance are the theoretical frameworks that provide corporate decision-makers with information and measurements in order to plan, control and make decisions with the objective to meet the firm’s goals.\textsuperscript{80} The legitimacy of applying these theories is that they can enhance the predictability of Article 102 TFEU ex ante, since they allow the ex post analysis to ascertain if the dominant firm aimed to cover the relevant costs – which are the result of the market characteristics on the relevant market. That is, as stated previously, the justification for using accounting and financial sources to promote legal certainty as they are proxies for teleological arguments ex ante.

The forensic methodology is predicated on the general requirement that the law in force is the result of a legal system that contains a complete set of systematically coherent legal norms.\textsuperscript{81} This appreciation means that there cannot exist any legal gaps, there cannot exist any overlaps and there cannot exist any contradictions in the law on exclusionary pricing. The notion that there cannot arise any conflicts between norms is based on the rule of law, which is a core principle of EU law that seeks to offer judicial protection,\textsuperscript{82} by, inter alia, limiting the state’s legal use of force.\textsuperscript{83} This means that, although Article 102 TFEU is a public provision that limits dominant firms’ freedom to conduct business, the enforcement of provision is subject to judicial constrains by the EU courts. One such constraint is the legal requirement to use the as efficient

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\textsuperscript{82} K. Lenaerts, I. Maselis, and K. Gutman, \textit{EU Procedural Law}, Oxford University Press, 2014, paras. 1.02 and 1.03.

competitor test in order to intervene. The rationale of the test is that it provides legal certainty for the dominant undertaking since the test is to be based, as a general rule, on the dominant firm’s own costs and prices.

A critical issue, as was argued above, is that accounting and economic cost concepts are lexically overlapping, which creates a confusion. As a result of the lexical overlaps, it can be extremely difficult for dominant firms to oversee the legal consequences of their own behaviour ex ante. By using accounting and financial insights to analyse a dominant firm’s price practice ex post, the possibility of overlaps can be avoided, consequentially strengthening the legal certainty.

2.3 The Legal Significance of the Forensic Method

Based on the above, the query becomes nonetheless; what is the legal significance to the result of applying the forensic method.

On a general level, the result differs from that of, e.g. the traditional legal dogmatic method in that the result of the forensic method is based on a broader set of informative auxiliary sources and/or materials. The aim of the auxiliary sources is to aid judicial decision-makers – in particular the courts – to make robust informative normative decisions about the content and practical application of legal provisions. The auxiliary sources are important in order to limit the likelihood of type I and II errors in the judicial decision-making.

Yet, from a jurisprudence perspective it is vital to possess the proper understanding of the role the auxiliary sources play in adjudication. To start with, sources of law and legal sources are often used interchangeably. However, whilst the difference is often perceived as subtle, the distinction has important normative implications. The former concept denotes which norms that are part of the legal system because they are binding law, e.g. TEU, TFEU, the Charter, regulations and directives. The latter concept denotes which sources are either an expression of binding law, e.g. case law, or utilities to interpret and apply the law, such as case law and legal literature. Case law is however in a unique position. On the one hand, it is the concrete embodiment of what the law is and in particular the law in action. On the other hand, it is an important source to interpret and draw new and accurate normative conclusions about


the law by, inter alia, establishing its actual content or calibrating its teleological purpose. This implies that case law is to an extent a link or a vehicle between sources of law and legal sources. This being said, although there is a fine line between these sources, the fundamental distinction is that sources of law are sources that identify valid law or what constitutes law, whereas legal sources are sources that identify and limit what materials that can be used to interpret the law. The recognition is important as it is one of two significant benchmarks that sets the extent to which court decisions are to be considered interpretation of and not making of the law. The other benchmark will be discussed infra. As such, the view is that auxiliary sources can only and should only be used to interpret, enforce, and apply legal provisions.

It follows that a first difference in result when using the forensic method instead of the legal dogmatic method is in the level of precision. This is because determining the legal qualification that the dominant firm’s conducts ought to have, is in fact an interpretation of what the legal content ought to be. To reach this result, the legal dogmatic method uses a limited set of legal sources which habitually only consists of law, statute, travaux préparatoires, case law, and legal literature. The issue that arises is that the result lacks the necessary precision to fully ascertain what underlying triggers that cause exclusionary effects and thus which objective criteria that must be met in order to qualify practices as exclusionary. As a consequence of the deficit in the legal content, the legal dogmatic method classifies the legal inadequacy as issues of facts (at least from a Swedish perspective). This means that the matter of qualification of dominant firms’ behaviours is solved by means of what has been proven. Medicating the shortage of relevant sources in such a manner leads to determining exclusionary abuse on a case-by-case basis by datuming the evidence for premises. Therefore, the result of the legal dogmatic method is not what the law in action ought to be, it is an inductive inference as to what the law in action probably is. That is, not what an exclusionary abuse is, but rather the probability that the conclusion of qualifying the practice as exclusionary is correct.

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89 Case A8/11, Swedish Market Court, 2013:5.


91 As courts decide similar cases in similar manners, the likelihood that the first qualification is correct increases. When a sufficient amount of case law exists, the evidence will be transformed into legal content.
The forensic method achieves a more accurate, detailed and nuanced result by using the necessary forensic materials and insights to identify and determine the relevant objective criteria that must be met, e.g. case law, economics, accounting, finance, and statistics. The aim is to interpret and establish the notion of exclusionary abuse based on objective factors. The identification of relevant auxiliary sources is done through objective teleological interpretation. The determination of what the provision objectively seeks to promote is concluded by reference of the pre-existing law in the legal order (i.e. lex lata), and in the context of EU antitrust, in particular the case law. Consequently, the results of the forensic method allow courts to apply the results deductively by predetermining premises and conclusion(s) thereof. This also significantly reduces the amount of evidence courts must administrate. As has been described throughout, although Article 102 TFEU is open-ended the statement does not mean that the forensic method is inductive, it simply means that the facts are used to concretise which auxiliary sources are relevant for the purpose of applying Article 102 TFEU as effectively as possible.

The results of the forensic method also differ significantly from the results of law and economics. To start with, law and economics, economic analysis of law, or economically-informed analysis of law are all well-established approaches to assess the welfare effects of dominant firms’ behaviours. Although these approaches are to an extent based on different methodological conceptions, they will be used interchangeably to demonstrate the main differences in results. That said, the economic analysis of law is rooted in two main conceptions. The first is that the law ought to be efficient. This conception rests on the proposition that the overarching aim of legal rules is to promote economic efficiency since it endorses social welfare in the long run. The economic analysis of law uses economic efficiency as the proxy for the maximisation of social welfare. As such, it does not find the study of legal sources sufficient and instead claims that the legal effects of the legal rules are to be examined in terms of cost-benefit analysis.

The economic analysis of law and the forensic method both challenge the legal dogmatic view that law is an autonomous system. However, while both


93 Note that, although such an analysis falls outside the scope of the dissertation, it could be questioned whether or not law and economics is actually a method or rather a legal theory.


methods view the traditional legal sources as insufficient to draw accurate conclusions, they contrast as to what legal purpose economic efficiency ought to have in the judicial decision-making process. For law and economics, economic efficiency is the overriding aim. This means that when applying an economically-informed analysis of law, all other norms and/or values are immaterial as economic efficiency is always to be applied as vertically authoritative.\textsuperscript{97} The forensic method does not contest the use of economic efficiency. The forensic method does however oppose the notion that economic efficiency should be the exclusive source to support a finding of exclusionary abuse.\textsuperscript{98} The reason being that it excludes other legal norms and values that courts are obligated to take into account when applying the rule. For it, the concept is one existing source to scientifically approach the assessment of anticompetitive effects. Based on the mentioned, it follows that when applying the forensic method economic efficiency is not the aim in itself; it can be a means to identify which objective teleological purpose a provision seeks to promote.

Having regarded how the methods seek to utilise economic efficiency differently, the pinnacle difference lies nonetheless in their views on what role the courts should play when confronted with the concept.

The second conception of law and economics is that it is a form of legal pragmatism, as it aims to provide judges with the necessary economic theories to resolve legal disputes.\textsuperscript{99} Legal pragmatism is often viewed as a form of legal

\textsuperscript{97} “Pragmatism (...) denies that people ever have legal rights; it takes the bracing they are never entitled to what would otherwise be worse for the community just because some legislature said so or a long string of judges decide.” See, R. Dworkin, Law’s Empire, Belknap Press, 1986, p. 152.

\textsuperscript{98} That is not to say that the economic analysis of the law is not useful. The method has significantly affected how the exclusionary abuses are conceptualised by providing e.g. economic efficiency as an enforcement policy aim.

realism as both are based on the same core idea that legal rules are only a factor when judges or courts decide the outcome of a case.\textsuperscript{100} Both stress the importance of using social science and in particular economic theory to understand the social consequences of the law.\textsuperscript{101} Legal pragmatism seeks to put a scientific account of the law in action and this technological approach means that other norms and values (such as justice) are downplayed.\textsuperscript{102} Legal pragmatists are only interested in how judicial decisions are actually reached and therefore tend to ignore other normative aspects. As a consequence, judges play a pinnacle role and in deciding a case they are not bound by the legal method or the traditional legal sources.\textsuperscript{103} Legal pragmatists instead emphasise that judges and courts are free to use whatever method that is necessary in order to give a legal rule its scientific effects in the society. As such, they do not find it necessary to view the legal system as a coherent set of legal norms as judges are free to choose the legal solution that maximises social welfare.\textsuperscript{104} This means that the term pragmatism refers to a judge or a court’s discretion in choosing which method and/or source-based argument that maximises social welfare.\textsuperscript{105} However, this has two important implications when using law and economics. The first, as stated above, is the conception that the law ought to be efficient. However, since the economic analysis of law is based on legal pragmatism,\textsuperscript{106} the first conception implies that economic efficiency is a normative instruction to courts and judges. This “efficiency hypothesis” claims that judges should use legal rules as mechanisms to achieve social welfare maximisation,\textsuperscript{107} by making the economic system more efficient.\textsuperscript{108} It follows

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ex hypothesi that courts and judges ought to choose the alternative that maximises economic efficiency since it is a proxy for social welfare. But, the efficiency hypothesis comes with a paradox.

The assertion that economic theory provides a scientific approach to analyse the welfare implications of the law, and that economic efficiency is the correct benchmark, is justified by the notion that it makes the law in action objective and predictable. The claim assumes that there is an objective and correct concept of economic efficiency that can be applied in a nonarbitrary manner. The problem is that there is no single concept of economic efficiency, which means that all concepts are on the same plying field (i.e. they are horizontally indistinct). This spotlights a fundamental shortcoming of the method, which highlights the second important implication of using law and economics. That fact that the method is untethered to systematic techniques and previous case law means that the law will be applied ad hoc. Each ruling will be regarded as correct as long as the law has been applied efficiently, irrespective of whether the judgment is incoherent with the rest of the legal system. Consequently, the lack of an objective benchmark means paradoxically that the use of a law and economic method to design the content of Article 102 TFEU is highly likely to result in incoherency as well as capricious and arbitrary enforcement.

The absence of an objective benchmark is also present in the legal dogmatic method. The method, as is well known, aims to ascertain the law in action by systematising the legal sources into different legal arguments, e.g. systematic and teleological arguments. However, the legal dogmatic method is often used without stating which objective criteria the end result comprises of, at least in Sweden. The lack ties into the discussion above; the recognition of the other significant benchmark which sets the extent to which court decisions are to be considered interpreting and not creating the law.

The forensic method, unlike the legal dogmatic and law and economic methods, is predicated on the notion that the legal result must be consistent and coherent. This means that the method is based on a benchmark which

111 To that effect see, C. Lebeck, De konstitutionella Gränserna för Tillämplig av Överstatlig Rätt: En Komparativ Studie, Jure, 2019, p. 73.
112 To that effect see, e.g. A. Sanchez-Graells, Economic Analysis of Law, or Economically Informed Legal Research, in D. Watkins and M. Burton (eds), Research Methods in Law, 2nd edition, Routledge, 2017, pp. 177-179.
114 To that effect see, e.g J. W. Harris, Legal Philosophies, 2nd edition, Oxford University Press, 1997, p. 99.
seeks make sure that systematisation of the auxiliary sources produces a result that does not contain any legal gaps, does not contain any overlaps and does not contain any contradictions in order to be coherent. The consistency and coherency benchmark aims to, inter alia, strike a balance between interpretation and judicial law-making, which is viewed as creating the law. A first step in the method is to identify possible legal gaps, overlaps, and contradictions that exist in the pre-existing law. The identification of these incoherencies is what triggers demand for legal interpretation with the aim of quash them.\textsuperscript{116} To ensure that the result is consistent and coherent, the inquiry of pre-existing law constitutes to a significant degree of systematising the relevant case law (this is particular the case in regard to EU antitrust law).

Indeed, while the EU legal order does not recognise stare decisis, a core characteristic of how the Court of Justice uses its own precedents is its strong adherence to its previous rulings. The case law is therefore an important source of legal information which acts as proxy for what the law is as well predicts what it ought to be.\textsuperscript{117} The forensic method systematises the relevant case law and utilises it as systematic horizontal law in order to ascertain the vertical normative authoritative law in action. This is because the method is predicated on the notion that case law is the epitome of previous objective teleological law and therefore the correct legal basis to draw new consistent and coherent teleological arguments about the law in action, lex ferenda. The use of lex lata to extract lex ferenda is based on an interplay between systematic and teleological reasoning.\textsuperscript{118} The interplay sets the legal limits the legal system places on how extensive the teleological interpretation can be.\textsuperscript{119}

The approach to systematising the case law horizontally is also relevant for the notion of legal certainty.\textsuperscript{120} The identification of stringent legal reasoning


\textsuperscript{116} That is, if the result is not aimed to clarify the law by solving these incoherencies, then the result is only an application of lex lata.

\textsuperscript{117} To that effect see, e.g. M. Jacob, \textit{Precedents and Case-based Reasoning in the European Court of Justice: Unfinished Business}, Cambridge University Press, 2014.

\textsuperscript{118} To that effect see, R. Dworkin, \textit{Law’s Empire}, Belknap Press, 1986, p. 58.


\textsuperscript{120} To that effect see, S. Lewis, \textit{Precedent and the Rule of Law}, 41 Oxford Journal of Legal Studies 873, 2021.
from the courts makes it possible to predict and evaluate how the law in force is likely to be applied. As such, even if the legal system does not recognise the notion of stare decisis, stability and predictability in courts’ reasoning are cornerstones to achieve legal certainty, at least procedurally. It follows that the forensic method can be used to promote social welfare as objective teleological arguments, but unlike law and economics, it can only do so in an incremental and predictable manner based on a set of coherent legal norms.

2.4 The Forensic Method Applied

The application of forensic science is intellectually beneficial since the approach allows the researcher to intertwine substantive law with e.g. economic, accounting, and financial theory. As was outlined supra, the objective of the legal forensic methodology in this dissertation, was to establish the relevant legal profitability and cost criteria that ought to be applied when assessing the lawfulness of the dominant firm’s pricing policy. For that purpose, the legal forensic method was applied in three different-but-related stages.

First the traditional legal analysis was applied. The approach was a necessary pre-condition in order to fully grasp and understand EU antitrust law. The legal analysis aimed to establish the content and scope of the legal provision vis-à-vis other policy aims. The legal content was extracted by applying the legal forensic method to the decision-making practice of the EU institutions. The application also exposed the rationale for the adoption of a particular line of legal reasoning, i.e. the motive (internal) vis-à-vis the cause (external), for a particular normative conclusion. The systematisation of the different rules and legal principles also uncovered the economic and accounting concepts that are inherent in the legal provisions. Although it follows from Article 288 TFEU that the case-law of the Court of Justice is not an official authoritative source of EU law, such case-law is a particularly important source of legal interpretation. The EU courts’ case-law, as a forensic source, was used to identify how the courts actually apply the legal method. This was necessary to recognise the transformation process between facts and norms that the EU courts apply in conformity with Article 119(1) TFEU. That is, the legal scope of allowed persuasive sources when interpreting the notion of undistorted competition.

The outcome of the above described erudition has been used, throughout the dissertation, to make prescriptive normative conclusions regarding the concept of exclusionary pricing abuses. This was done primarily by identifying the ranking positions of systematic and teleological arguments (and their interchangeability) made and applied by the EU courts, and secondarily by testing the quality of the primary results by applying the coherency condition. The latter part of the forensic operation was made by testing and assessing the
primary forensic result against the horizontal and vertical coherence of the system.\textsuperscript{121} Second, an economic analysis of the law was carried out in parallel with the legal analysis (law and economics). This was in turn undertaken in three stages. First, by establishing and analysing the content of the provisions in their economic setting. Second, by evaluating these rules from an efficiency perspective. The analysis sought to ascertain whether EU antitrust law aims to prohibit inefficient outcomes in the market and if empirically grounded economic principles have any normative prescriptions for policy makers and judicial review. Such analysis obtained and established whether antitrust enforcement and judicial review is consistent and coherent on the same rationale. The concept of normativity of law has a different meaning and purpose compared to the concept of normativity in economics and accounting. The orthodox view of legal normativity is that rules exercise norms and values,\textsuperscript{122} which affect the behaviours of individuals, producers, and distributors in their decision-making.\textsuperscript{123} Conversely, since economic theory predicts financial incentives and human behaviours that stem from such motivations, the normative aspect is located in its prescriptive guidance.\textsuperscript{124} Finally, a forensic economic analysis was used to create a synthesis of various theories of harm.

Third, a forensic accounting and financial analysis (forensic analysis),\textsuperscript{125} of the different cost benchmarks and revenue streams that are applied by the Commission and the EU courts was carried out simultaneously with the second analysis. This was done in three stages. Initially, the content and criteria of the different cost concepts was established. This was a necessary step to distinguish and ascertain which cost yardsticks should be applied ex ante

\textsuperscript{121} Meaning it needs to be demonstrated that the forensic result is coherent with authoritative sources which can be horizontal (consistency between provisions dealing with the same subject-matter, e.g. following the same systematic approach establish in earlier case-law) or vertical (if a provision has multiple interpretations, priority should be given to those that are consistent over those that are not). See, e.g. R. Dworkin, \textit{Law's Empire}, Belknap Press, 1986, pp. 333-354, W. N. Eskridge, Jr., \textit{Dynamic Statutory Interpretation}, Harvard University Press, 1994, p. 239, and F. Gilles Sourgens, \textit{A Nascent Common Law: The Process of Decisionmaking in International Legal Disputes Between States and Foreign Investors (International Litigation in Practice)}, Brill - Nijhoff; Lam edition, 2015, pp. 329-331.


\textsuperscript{123} “[T]he legal system is treated as a given and the question studied is how individuals or firms involved in the system react to the incentives that it imparts.” See, R. A. Posner, \textit{The Economic Approach to Law}, 53 Texas Law Review 757, 1975, p. 763.

\textsuperscript{124} This type of analysis is also called normative or welfare economics, which provides policy recommendations based on the economic consequences of various policies aims, from an efficiency perspective. This approach adopts a more prescriptive and judgemental thinking. See, M. Trebilcock, \textit{An Introduction to Law and Economics}, 23 Monash University Law Review 123, 1997, p. 132. See also, R. B. Cooter Jr and T. Ulen, \textit{Law and Economics}, International edition, 6th edition, Person, 2014, p. 78.

\textsuperscript{125} The difference between clinical and scientific forensics is that the latter establishes tests and protocols which are then used in practical trials.
whilst also capturing harmful effects ex post. This phase would additionally determine which costs are de facto relevant and accordingly assigned to the cost object and therefore able to be applied as rebuttable legal presumptions ex ante. Next, different costing methods were applied and analysed. This was done because the direct and indirect costs need to be traceable back to the cost object whilst also avoiding possible post-construction problems. The different costing techniques gave some guidance to the inherent cost classifications problems, such as variable or fixed costs as well as how much resources each were expected and de facto consumed. In so, they were used to establish a deductive qualitative forensic legal approach to the mandatory correlation analysis.126 Lastly, distinctive cash flow techniques were applied and analysed (cash flow forecasting and cash flow analysis). This was done because costs are just a mental simulation of financial absorption. What actually matters is the anticipated and genuine outflow of financial resources. These cash flow approaches trace, measure, and ascertain whether the calculation of the cost object corresponds with the effusion of equity. In addition, to uncover post-constructions, the cash flow methods can trace and establish if management has sacrificed non-floating assets instead of floating assets to ensconce the financial drainage from the company or to rationalise the fabricated low-cost calculation.

2.5 Sources of Interpretation

It follows form the methodology, that the core material consists of two sets of sources. On the one hand, sources of EU law or EU instruments. This set of sources is a first step to determine the abstract state of the law, as it applies to dominant undertakings. The systematisation nonetheless often results in a too abstract account that is difficult to apply to the concrete facts. As a result, the most important source is the case law of the EU courts, in particular the Court of Justice. It is important to appreciate that the Court of Justice’s rulings have binding effects. Preliminary rulings are binding on the all national courts and administrative authorities in the EU.127 The reason is that the Court of Justice rules on the interpretation of law and thus only declares the pre-existing state of law.128 It is unclear if the case law is a source or authoritative evidence.129

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Two other important sources are the Commission’s infringement decisions and soft law instruments. It follows from Article 288 TFEU that infringement decisions are binding in their entirety on the undertaking concerned. However, the Court of Justice ruled in Masterfoods that national courts are precluded from adopting judgments that run contrary to an ongoing infringement investigation by the Commission.\textsuperscript{130} The principle is codified in Article 16 of Regulation 1/2003. Article 288 TFEU also makes it clear that soft law instruments are without binding effects. However, that does not preclude these instruments from having practical effects. These soft law instruments can provide important interpretative guidance when identifying an exclusionary pricing abuse.

On the other hand, accounting, economic and financial theory. This set of sources are auxiliary, they provide supportive arguments on how the law can or should be applied to ensure that the Treaty provisions are met.\textsuperscript{131} As such, they can be used to establish concrete legal content of EU provisions or case law.

The remaining part of this chapter is devoted to discussing the Court of Justice, soft law instruments, sources of economic, accounting, and financial theory.

2.5.1 Legal Sources

2.5.1.1 The Role of the Court of Justice

Resolving antitrust cases in a materially correct way is a complex task for reviewing courts. According to Article 19 TEU, the EU courts shall ensure that interpretation and application of the Treaties the law is observed. Nonetheless, a specific interpretative problem is the literary vagueness of Article 102 TFEU and that litigation tends to be extremely fact intensive. As a result, the EU courts tend to conclude the matter exclusively on the established facts of the case.\textsuperscript{132} Thus, the legal categorisation of a particular conduct is inferred from the facts. The EU courts’ approach to the matter can therefore easily create confusion regarding the separation of law and fact, the so-called the law-fact distinction.\textsuperscript{133} Differently expressed, the intertwined hybrid amongst

\textsuperscript{130} C-344/98, Masterfoods and HB, ECLI:EU:C:2000:689, paras. 52-53.
\textsuperscript{132} F. Castillo De La Torre and E. Gippini Fournier, Evidence, Proof and Judicial Review in EU Competition Law, Edward Elgar Publishing, 2017, p. 3.
\textsuperscript{133} According to traditional legal theory there is a separation between arguments of law and arguments of policy. See, H. Kelsen, Pure Theory of Law, 2nd edition, The Lawbook Exchange, Ltd., 2002, p. 1. The separation distinguishes between arguments what the law is and what it ought to be (i.e. whether the court has as its purpose to apply the law or to create the law). The traditional legal method can therefore be explained as a set of behavioural rules that have as
the two properties muddies the identifying factors that determine the separation of the EU courts’ authority to apply the law from creating the law.

The notion of facts typically denotes to facts in issue or law of evidence. This is because the purpose of evidence is to establish whether a particular legal rule is applicable to a concrete factual situation (question of facts), whereas the purpose of legal interpretation or legal reasoning is to *inter alia* clarify and quash ambiguous results according to a rule’s purpose (question of law). However, due to the Court of Justice’s dynamic approach to interpreting the Treaties, the concept of facts has other meanings. This is because the legal classification of facts must be filtered through the fundamental conditions or principles of legal certainty, legitimacy and rationality, which is especially true in regard to the open-textual nature of Article 102 TFEU.

On an abstract level, profit calculations and performance measurements provide price-cost methodologies that allow adjudicators to define anticompetitive acts, which is a legal requirement if the legal consequence takes the form of punishment. It follows from the jurisprudence of the EU courts that they have used the factual situation to infer substantive rules, standards and their objective to control and limit the court’s discretionary powers. The rationale that the court may only base its legal justifications emancipated from legal sources is due to the separation of powers doctrine. The doctrine essentially states that the court is limited in its legal reasoning and thus its judgment (its normative conclusion). See, T. Spaak, *Relativism in Legal Thinking: Stanley Fish and the Concept of an Interpretative Community*, 21 Ratio Jurist 157, 2008, pp. 158-160. According to Bell, it is therefore necessary to identify which arguments are source of law arguments and which are not. A source of law argument justifies an action by showing that it has as its legal basis the best interpretation of a rule, principle or value identified in a material source of law.” See, J. Bell, *Sources of Law*, 77 Cambridge Law Journal 40, 2018, p. 42. As a result, it therefore follows that due to the fact that these ideas lack anchoring in the traditional sources of law they fall outside the scope of applicable law. But such a conclusion is only valid if one assumes that EU law builds on the same law-fact distinction across its member states. Differently, critics often disregard that the law-fact distinction is culture specific. See, W. Twinning, *Civilians Don’t Try: A Comment on Mirjan Damaska’s “Rational and Irrational Proof Revisited”*, 5 Cordozo Journal of International and Comparative Law 69, 1997, pp. 75-76.


135 Adjudication is legitimate and rational if a legally binding decision is coherent with the requirement of treating similar cases alike with the addition that it should be rationality grounded so that the participants can accept the normative conclusion as rational and legitimate. A court may therefore support its decisions on internal or external grounds of justifications. Internal justification refers to the idea that the court’s legal reasoning is derived exclusively from sources of law, whereas external justification is when the court justifies its conclusion from the premise itself. See, J. Habermans, *Between Facts and Norms: Contributions to a Discourse Theory of Law and Democracy*, 2nd edition, The MIT Press, 1996, pp. 198-199.

136 “[T]he principle requires the law to give a clear definition of offences and the penalties which they attract. That requirement is satisfied where the individual concerned is in a position to ascertain from the wording of the relevant provision and, if need be, with the assistance of the courts’ interpretation of it, what acts and omissions will make him criminally liable” See, C-194/14 P, *AC-Treuhand v Commission*, ECLI:EU:C:2015:717, para. 40.
principles based on the main components or substantive criteria of the impugned conduct. For instance, in AKZO the Court of Justice legally defined predatory pricing by identifying the conduct’s most essential economic criteria and abstracting them into legal content. Another example is the Court of Justice’s preliminary ruling in TeliaSonera, where it established the legal characterisation of an abusive margin squeeze, by recognising the fundamental economic underpinnings of such unilateral behaviour. Arguably, to avoid abrasions with the first condition, it appears that the EU courts apply a two-step approach. First, they inductively transform questions of facts into questions of law. Second, they convert the principles derived from the first step into legal rules or substantive standards that deductively apply to the case. This approach meets the requirement of legal certainty on two grounds. Primarily, it places the dominant company in a position that enables it to assess the lawfulness of its own commercial policy ex ante. Secondary, it determines which economic and accounting tools the Commission is allowed to and/or is required to apply according to the factual circumstances. This explains why the evidentiary theme, which has to be supported by facts in issue, must be derived from applicable law, and not vice versa.

Given the lyrical vagueness of the Treaties’ provisions, the Court of Justice often goes beyond the black letter of the Treaties and adopts a dynamic

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139 C-52/09, Konkurrensverket v TeliaSonera Sverige, ECLI:EU:C:2011:83, paras. 32-34.
140 According to Castillo De La Torre and Gippini Fournier, the Court of Justice uses the margin of discretion doctrine to resolve questions of law. See, F. Castillo De La Torre and E. Gippini Fournier, Evidence, Proof and Judicial Review in EU Competition Law, Edward Elgar Publishing, 2017, p. 303. Note that if Castillo De La Torre and Gippini Fournier’s argument is correct then the legal and political consequence of their statement skews the balance of power towards the Commission due to EU courts’ limited judicial review. However, such an investigation clearly falls outside the scope of this dissertation.
141 “It must be added that any other approach could be contrary to the general principle of legal certainty. If the lawfulness of the pricing practices of a dominant undertaking depended on the particular situation of competing undertakings, particularly their cost structure – information which is generally not known to the dominant undertaking – the latter would not be in a position to assess the lawfulness of its own activities.” See, T-271/03, Deutsche Telekom v Commission, ECLI:EU:T:2008:101, para. 192.
144 “The possibility of withdrawing such measures is a problem of administrative law, which is familiar in the case-law and learned writing of all the countries of the Community, but for the solution of which the Treaty does not contain any rules. Unless the Court is to deny justice it is
approach towards the integration process to maintain the integrity of the internal market. The Court of Justice’s approach has led some authors to accuse it of judicial activism by overstepping its boundaries and thus creating the law instead of applying the law. Nevertheless, the method of interpretation is characterised by a particular feature. Its legal reasoning and normative justifications build almost exclusively on a framework consisting of legal principles, coupled with the teleological approach to legal interpretation or reasoning by telos (the most pronounced method of interpreting EU law). Strictly viewed, the teleological interpretation seeks to establish the rationale or the purpose of the legal provision by searching for the legislative intent. But, in the context of EU legislation the probing for a legal solution is broader. The EU constitutional telos encompasses the additional element of systematic (contextual) reasoning, which adheres to an interpretation that solves a social welfare problem that may not have been anticipated when the legislative text

 therefore obliged to solve the problem by reference to the rules acknowledged by the legislation, the learned writing and the case-law of the member countries.” See, Joined Cases C-7/56 and C-3/57 to C-7/57, Dinecke Algera, Giacomo Cicconardi, Simone Couturaud, Ignazio Genuardi, Félicie Steichen v Common Assembly of the European Coal and Steel Community, ECLI:EU:C:1957:7, p. 55.
145 Lord Denning made some interesting comments in the Champagne case regarding interpretation of EU law. According to Denning, the Treaty expresses common aims and purposes by establishing general principles of law. As a result, whilst the Court of Justice’s style of reasoning resembles those of common law heritage, it is not bound by the wording of the Treaty and in its role as the highest exponent of interpreting the Treaty it must fill out the gaps and clarify the meaning of those provisions. Lord Denning therefore concluded that it is a necessary condition that all adjudicators must adapt a “European pattern” of interpretation that is characterised by looking at the purpose and intent of the provisions. See, HP Bulmer Ltd & Anor v. J. Bollinger SA & Ors [1974] EWCA Civ 14 (22 May 1974).
146 This is because they feel that the court in its role as the highest interpreter of EU law have taken too much political considerations. See for example, H. Rasmussen, On Law and Policy in the European Court of Justice: A Comparative Study in Judicial Policymaking, Martinus Nijhoff Publishers, 1986, H. Rasmussen, The European Court of Justice, GadJura, 1998, A. O’Neill, Decisions of the European Court of Justice and Their National Implications, Butterworths Law, 1994.
147 “Faced with interpreting a framework treaty which necessarily leaves to the institutions considerable powers to enact rules implementing it, the Court has isolated from the technical rules contained in the Treaty the fundamental principles which provide the foundation for building the Community. These principles of the Community’s ‘economic constitution’ (…) serve as the theme or leitmotiv of an extensive case law, concerned both with the achievement of the free movement of goods and persons and with implementing common policies.” See, J-V. Louis, The Community Legal Order, The ‘European Perspectives’ Series, 1980, p. 30.
Arguably, the Court of Justice’s methodology enables it to convert arguments of policy into arguments of law, the latter falling within the scope of substantive law.150 The emphasis on systematic and teleological reasoning has the effect that the Court of Justice may justify its decision on a broader set of source material.

The EU is essentially founded on the institutionalisation of the internal market.151 According to Article 3 TEU in conjunction with Protocol No. 27, the EU shall establish an internal market that seeks to achieve inter alia economic growth, a competitive social market economy, the promotion of technological advances and the establishment of a system ensuring that competition is not distorted. One likely source of restriction to competition arises from artificial barriers to trade enacted by private powers.152 These barriers are

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harmful not only because they repartition the single market, but also because they enable firms to exploit their market powers. This suggests an expansion of the source material beyond the traditional legal sources to provide courts with sufficient instruments to identify and define anticompetitive acts and/or criteria. It could be argued that the legal basis for such an expansion could be found in Article 119(1) TFEU. According to Article 119(1) TFEU, the EU common aims and objectives shall be settled in accordance with the principle of an open market economy with free competition. The principle denotes a natural link to economics, accounting and financial principles and theories, but the article also provides the Court of Justice with the necessary legal basis to interpret and transform these various facts into administrative rules, standards as well as principles. Note that these scientific principles form part of substantive law indirectly through a systematic interpretation or argumentation in law. This is because a teleological interpretative argument, strictly viewed, provides independent interpretative guidance to the policy aim of the legislator.\textsuperscript{153} It therefore provides ponderosity to the argument, but does not supply the sufficient condition to justify the direct application of non-traditional legal sources. The systematic interpretation adds the sufficient link to expand the source material by connecting Article 119(1) TFEU with the principle of undistorted competition when interpretive Article 102 TFEU.\textsuperscript{154} A caveat is however in order. The use of the open market principle as a legal basis to extract and clarify the law, should be limited to scenarios where there is a blind spot in pre-existing data.

Why is Article 119(1) TFEU of such importance then? The provision sets the legitimate scope of interpretation and sources of data. The lack of any consensus regarding the correct legal theory of judicial reasoning that the Court of Justice ought to apply has one significant theoretical implication. The purpose of methods of interpretation is to describe what the Court of Justice has or will do in a given situation, not what it is supposed to do.\textsuperscript{155} They lack normative status and as a consequence the interpretative approaches, applied by the Court of Justice, establish the weight, but not the boundary, of legal reasoning. Instead, it is the legal provisions that determine the interpretative scope.\textsuperscript{156} This is one aspect of the coherency requirement.\textsuperscript{157}

\textsuperscript{153} N. MacCormick, \textit{Argumentation and Interpretation in Law}, 6 Ratio Juris 16, 1993, p. 25.
\textsuperscript{154} The systematic argument provides the necessary supplement to make teleological reasoning meaningful by supplying rational coherence and keeping the intelligibility of the law together. See, N. MacCormick, \textit{Argumentation and Interpretation in Law}, 6 Ratio Juris 16, 1993, p. 24.
2.5.1.2 Soft Law Instruments

It follows from Article 288 TFEU that recommendations and opinions are without binding force. However, the fact that soft law instruments are without binding legal effect does not imply that they fall outside the scope of the judicial process.\(^\text{158}\) In Gramalid, the Court of Justice ruled that a recommendation cannot create right upon individuals since the instrument lacks binding legal effects, but that does not preclude it from having any legal effects. National courts are bound to take such instruments into account where they provide important interpretative data.\(^\text{159}\) Accordingly, they can have indirect legal effects,\(^\text{160}\) e.g. policy making,\(^\text{161}\) and sources of interpreting the law.\(^\text{162}\)

Soft law instruments can be viewed as codes of conducts.\(^\text{163}\) The Commission’s soft law instruments, e.g. notices and guidelines, often contain declarations on which types of competitive behaviours that may harm competition and how it will enforce the EU antitrust provisions. The legal effect of these instruments is that they can bind the Commission. The logic is that the Commission should be accountable for its own internal administrative rule-making if it produces legal certainty or legitimate expectations, e.g. where the Commission has exhausted its discretion in its soft law instruments.\(^\text{164}\)

The Commission’s soft law often contains policy choices and detailed assessments and methods.\(^\text{165}\) The distinction between policy and assessment is

\(^\text{159}\) C-322/88, Grimaldi v Fonds des maladies professionnelles, ECLI:EU:C:1989:646, paras. 16 and 18.
far from clear in the EU courts case law and has been debated in the literature.166 Policy choices and appraisals of a technical nature describe the Commission’s power to exercise discretion, i.e. how to approach and deal with an individual case.167 The EU courts have nonetheless used different concepts to describe the discretion enjoyed by Commission, e.g. discretion,168 margin of discretion,169 margin of appraisal,170 power of appraisal,171 margin of appreciation,172 and margin of assessment.173 Notwithstanding the complexity in establishing a clear line, can they be classified into two broad notions. On the one hand, the margin of discretion refers to scope in policy choices the Commission enjoys.174 The concept implies that the Commission enjoys freedom in


174 On the distinction: “In the light of the case-law, it seems to me that it is possible to draw a distinction between two categories of ‘discretion’. The first category is one which could be called discretion of a ‘political’ nature. The institutions are generally recognised as having such a discretion where they act in their capacity as ‘political’ authorities and, in particular, where they legislate in a given field or where they lay down guidelines for a Community policy. In that case, recognition of such a discretion is justified by the fact that the institutions must generally reconcile divergent interests and thus select options within the context of the policy choices which are their responsibility. Discretion which is ‘political’ in nature thus corresponds to the political responsibilities which a Community provision confers upon an institution. (...
deciding which tool to use (e.g. the as efficient competitor or the profit sacrifice test) and/or how to categorise the abuse (e.g. pure pricing or price discount). On the other hand, the margin of assessment refers to latitude the Commission enjoys in choosing the appropriate method to show that an abusive act has been committed. The concept denotes a freedom to choose the appropriate tools and methods to describe and analyse a complex situation.

The two concepts are easily fuzzed as they both concern policy matters, and that they can only be challenged under the manifest error test. One clear difference between them seems to be in the intensity of judicial review.

A second legal and practical effect of soft law instruments is how they can shape the interpretation and application of the EU antitrust provisions. It is necessary do distinguish when EU courts confirm or reject the interpretation in soft law and when EU courts use them as sources to advance the law.

According to Senden, the EU courts will only confirm a soft law interpretation of existing law, if it follows the same line of reasoning as in existing...
case law. The Commission’s interpretations must actually “cover” the EU courts’ reasoning to the extent that they coincide. The General Court quashed the Commission’s quantitative interpretation of market threshold in European Night Service because the notice modified the existing case law in a manner that did not cover the court’s reasoning.

According to Stefan, the EU courts use soft law as an interpretative tool to, inter alia, make the EU provisions operational, insofar as they do not conflict with other EU norms. This is implying that the practical effects of soft law instruments are indirect by making the law transparent and predictable.

2.5.2 Auxiliary Interpretative Sources

2.5.2.1 Sources of Economic Theory

The traditional rationale for applying an economic analysis of the law to the field of antitrust is that there is a natural link between economic theory and this particular area of law (law and economics). This is because antitrust is a regulatory framework that deals with markets, suggesting a natural link to the notion of economic efficiency. The conventional wisdom for applying economic theory, neoclassic economics or price theory is that they can provide guidance to certain areas of law. This is because economic theory can provide guidance to the means of achieving a specific set of objectives, as well as providing principles that can be morphed into legal content. Thus, analysing the EU antitrust framework through an economic lens can supply a set of answers that can assist the legal assessment. For instance, economic theory may show which type of conducts that can have negative or positive effects on

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social welfare. As a result, the nature of antitrust can be described as a multifaceted one that intertwines different theoretical frameworks, where an economic analysis of the law is the traditional one.

The conventional intellectual approach to antitrust issues is the incorporation of economic theory. Nonetheless, the examination is underlined by certain claims and assumptions. These assertions are both positive and normative in nature and are of central importance in microeconomic analysis. In economic theory, a positive analysis is a statement that describes relationships by explaining and predicting the cause and effect, whereas a normative analysis assesses what it ought to be and is therefore not limited to alternative options to a policy and also applies to the design of a particular policy option. It follows that one fundamental purpose of economic theory is to try to provide a framework that establishes the inner logic, motivation and explanations regarding the market operators’ conduct.

- **The Fundamental Claims**
  An economic analysis of the law is underpinned by four fundamental claims: the behavioural, the normative, the positive and the generic. The behavioural claim asserts that economic theory provides a good proxy that can predict human interactions under rules of law. The normative and positive claims hold that the law ought to be efficient and that legal rules, especially those of common law, are de facto efficient. This is suggesting that a legal rule should build on the most efficient economic principle. The generic claim avouches that the common law tends to select efficient rules, although not every rule will, at any given time, be efficient.

- **Assumptions**
  Economic theory builds on at least three essential assumptions. First, market operators behave independently according to full and transparent information. Second, the economic operators act in a rational manner. Third, the rational cost-effective operator will always seek to max-

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imise its profits. Note that these assumptions vary in intensity deepening on which school of economic thought is used to analyse a firm’s competitive behaviour. Moreover, all economic models incorporate the ceteris paribus (other things equal or the same) assumption. The ceteris paribus assumption simplifies some of the relationships in the models by keeping outside forces constant in the construction of the economic models. Consequently, economic concepts, theories and arguments are based on simplifications of reality, and due to their abstract nature, they can be difficult to verify against the relevant empirical data.

The fact that microeconomic theory is simple and abstract is not a sufficient condition to dismiss its relevance. Nor should the fact that it is pigeonholed by certain claims and assumptions cause a rejection of its value in principle. Of more importance should be to acknowledge the inherent assumptions in the theory and to explicitly state how they affect the robustness of the conclusions that can be drawn thereof when a particular theory or model is applied in real-world settings. Some economic models can be highly complex, but intricacy in itself does not make any claims of appropriateness. Instead, they can be perceived as counterintuitive as well as convoluted. A respectable economic theory is usually the simplest and the clearest, which traditionally has made it a good proxy to guide the legal assessment.

Price theory has conventionally been applied to provide an economic explanation of how competitive prices are determined and how they coordinate economic activity. Typically, economic profitability models have provided explanations and predictions that have helped decision-makers to identify the competitive rationale and possible effect of a dominant undertaking’s pricing strategy. However, another useful application of economic theory is that it can provide valuable insights regarding the specific economic characteristics of a particular industry, sector or market, identifying as well as predicting the likelihood of competitive harm and where it is most likely to occur.


Accordingly, economic theory offers two important implications that decision-makers should be aware of when performing the competitive assessment, with the addendum that they are intertwined and changes in one of them will most likely affect the other one in terms of application and conclusions. Moreover, a concern of the ceteris paribus assumption is that the outside environment does not affect economic profitability models and cost concepts. Consequently, their informative value may be very limited in certain situations, which can make their application erroneous or inevitably cause decision-makers to draw the wrong conclusions. For example, industries and markets are often characterised and determined by their structural features and competitive forces. The structural underpinnings of an industry reflect the intensity of forces that shape competition and determine the competitive profits.\(^{199}\) For the purpose of ending unlawful behaviours, it is important to pinpoint the sector specific characteristics by identifying its economic, technical and legal foundations. The specific market characteristics determine the actual cost structure of a sector and as a result, the relevance and informative value of cost measurements are governed by the competitive forces, i.e. which financial benchmarks actually reflect the outflow of monetary resources in the industry. However, because economic theory provides a set of proxies, its value and usefulness operate when analysing market characteristics. This is because these models can e.g. clarify how supply and demand behave, if there are any significant barriers and if there are any essential investments that need to take place in relation to the market economic footings.

The modernisation process of EU antitrust rules coupled with the Commission’s Guidance Paper has had implications for enforcement as well as litigation. The Commission’s adoption of a more economic or effects-based approach implies the development and use of theories of harm.\(^{200}\) In essence, a theory of harm should be formulated so it clearly spells out how the competitive process is harmed as a result of the dominant undertaking’s strategic interventions.\(^{201}\) Economic theory, because of its behavioural claims, has a central role in establishing and developing a well-defined theory of harm.\(^{202}\) The concept of harm is nonetheless a static perception and more often than not the theory must be moulded to adequately represent the relevant market charac-


teristics. An additional argument is that an effects-based approach should contain, at the minimum, some criteria that enable judgment. As a result, there is an interplay between the relevant costs and the correctness of the theory, since they both seek to establish a convincing narrative of cause and effect in the marketplace.

2.5.2.1.1 The Ordoliberal School

The Freiburg School of Economics, or Ordoliberalism, has its roots in post-war Germany. The Ordoliberals argued that it was necessary to institutionalise a system of antitrust laws in order to establish a healthy and prosperous society that would guard human dignity and personal freedom. Although, Ordoliberals agreed with some of the classic liberal ideas, they had a border view of justice. Classical economists such as Adam Smith had identified that the economy was part of a legal and political system. According to Gerber, throughout the nineteenth century economic issues had lost connection to the political and social context. The concept of liberalism had thus come to be associated with the idea of laissez-faire liberalisms. The Ordoliberals had a critical view and contended that laissez-faire capitalism overlooked that powerful private individuals could constrain the state. In their view, the legal framework in Germany lacked effectiveness due to collaboration between the Nazi government and private cartels.

The Ordoliberals argued that in order to establish a healthy and prosperous society it was necessary to encompass an economic system free from haphazard governmental interference. The Ordoliberals held that a productive and reliable economic system should limit government intervention as well as private economic powers, especially monopolies. As such, markets had to function fairly in the sense that all applicants had the same opportunity. However, the government was not the only entity that needed to be supervised, since private economic operators could restrict the freedom of individuals, thus operating as an impediment to social integration. See, D. J. Gerber, Law and Competition in the Twentieth Century Europe: Protecting Prometheus, Clarendo Press, Oxford, 1998, p. 241.


The Ordoliberals held that the powers of the government could be reduced if the flow of economic resources was governed by private decision-making, which would enhance a productive and reliable economic system. As such, markets had to function fairly in the sense that all applicants had the same opportunity. However, the government was not the only entity that needed to be supervised, since private economic operators could restrict the freedom of individuals, thus operating as an impediment to social integration. See, D. J. Gerber, Law and Competition in the Twentieth Century Europe: Protecting Prometheus, Clarendo Press, Oxford, 1998, p. 241.
welfare, it was necessary to establish an economic order based on antitrust laws. This would establish the conditions for creating and maintaining a competition that could function properly. The rationale for this seems to be the argument that since consumers are the representatives of the common interest, therefore decision-making based on economic policy should focus on protecting consumer independence. To address this, the Ordoliberals envisioned an institutional framework for creating, enforcing and applying its principles. The legislator’s only task was to enact antitrust laws that were consistent with economic principles, thus transforming those into normative standards (an economic constitution). This would reduce the risk of interference from private actors since the legislator had little discretion to shape the laws.

The Ordoliberals envisioned situation of complete competition, which referred to a competitive state in which no firm had power to force its conduct upon other firms. In addition, to some Ordoliberals this meant the complete abolishment of monopolies, to others that the economy should be based on SMEs with as few large firms as possible. These two groups had two things in common and that was the mistrust of economic power and the protection of SMEs.

The Ordoliberals did not suggest a complete prohibition of monopolies, since even those had to be allowed to compete with their rivals, but only if it

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210 P. Nedergaard, The Influence of Ordoliberalism in European Integration Processes – A Framework for Ideational Influence with Competition Policy and Economic and Monetary Policy as Examples, Munich Personal RePec Archive, December 2013, pp. 6-7.
213 It should be noted that concept of complete competition is often understood as perfect competition. At first blush complete competition and perfect competition seems to be synonymous, but there are at least two fundamental differences between them. First, complete competition does not rely on the underlying structural assumptions that perfect competition does. Second, a firm with market power can still exist in the market under complete competition, but it cannot take advantage of its power.
constituted performance based competition. The Ordoliberals claimed that under competitive pressures the only means by which a dominant firm could increase its profits was to improve its productive efficiency, which generates consumer welfare. Therefore, monopolists should behave as if they were under complete competition. The as if principle can be seen as an extension of fairness, since in order to protect SMEs the law should put some restraints on firms with market power. The as if standard would thus constrain dominant firms from taking advantage of their economic power insofar as their behaviour would unfairly limit rivals’ access to the market, or excluding them from the market. It seems that the Ordoliberals felt that complete competition in conjunction with the as if principle would ensure performance competition.

2.5.2.1.2 The SCP Paradigm – Harvard School of Industrial Organisation

The Harvard school of industrial economics contends that there is an interplay between performance outcomes, given the distinctive conduct of firms, which in return depends on the market structure (Structure-Conduct-Performance (SCP) paradigm). A market structure encompasses the interaction between a given number of sellers and buyers, their actual and potential competitors. Therefore, an examination of the degree of concentration, barriers to

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217 This concept was nothing new. H. C. Nipperdey had worked on the idea for some time. He made a distinction between “performance competition” (Leistugswettbewerb) and “impediment competition” (Behinderungswettbewerb), see D. J. Gerber, *Law and Competition in the Twentieth Century Europe: Protecting Prometheus*, Clarendo Press, 1998, p. 253.
220 The as if standard should be applied as if complete competition occurred. Thus, the conduct by a dominant undertaking would be the same as if it were subject to competitive market pressures. See, E. Rousseva, *Rethinking Exclusionary Abuse in EU Competition Law*, Hart Publishing, 2010, p. 30.
223 According to Ordoliberal thinking, some conducts could be categorised as non-performance competition, hence incommensurable with the as if principle, e.g. predatory pricing and loyalty rebates. See, D. J. Gerber, *Law and Competition in the Twentieth Century Europe: Protecting Prometheus*, Clarendo Press, 1998., p. 253.
product differentiation and the cost structures of the firms is necessary. Conduct refers to the behaviour of the firms on a marketplace given the market structure and thus establishes the firms’ strategic interactions with each other. The examination of conduct involves how firms determine their pricing policies, product strategies, advertising, research and development, investments and legal tactics. Performance measures the positive or negative effects that market rivalry has on welfare. Good performance criteria should analyse how:

- scarce resources should be produced with limited waste of resources and respond to consumer demand in terms of quality and quantity (production efficiency),

- production should contribute to the long-run growth of actual income per capita by taking advantage of new technologies, thus resulting in new and better products for the consumers (progressive productions),

- progressive productions should result in full employment for human resources without interference with macroeconomic injections (realisation of stable employment), and

- producers do not secure rewards in excess of what is needed to call forth an appropriate degree of production (distribution of income).

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225 The notion of barriers to entry was a major intellectual contribution to the development of the SCP paradigm. Barriers to entry permit established firms to make or maintain monopoly profits without being more efficient than their actual or potential rivals are. However, antitrust concerns should only be raised when barriers to entry solely favour the incumbents that are not more efficient than the newcomers are. Bain introduced the concept and defined a barrier to entry as: “[The] advantages of established sellers in an industry over potential entrant sellers, these advantages being reflected in the extent to which established sellers can persistently raise their prices above a competitive level without attracting new firms to enter the industry.” See, J. S. Bain, Barriers to New Competition, Harvard University Press, 1965, p. 3. Note that Bain’s definition has an effects-based approach. This means that conducts could also constitute barriers to entry in themselves.


Harvard therefore recommends that antitrust policy should safeguard the markets, ensuring that these are not overly concentrated.\textsuperscript{230} The Harvard school of thought has made significant contribution to antitrust economics and theory of competition. Although the theoretical foundations for SCP analysis are the models of price theory and monopoly,\textsuperscript{231} its foremost input is in the development of a theoretical framework built on real world empiricism.\textsuperscript{232} However, the SCP paradigm rests on the assumption that concentrated markets are inclined to endorse anticompetitive behaviour that in return affects the performance of the economy.\textsuperscript{233} Furthermore, the SCP assumes that the structure of the market determinants firm’s behaviour, thus the conduct cannot determinate the structure (exogenous treatment).\textsuperscript{234}

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2.5.2.1.3 The New Industrial Organisation

In the 1970s the SCP paradigm started to be heavily criticised by a number of scholars, e.g. for its inability to establishing a causal link between concentration levels, profits and/or barriers to entry. The criticism led to what is
now known as the new industrial organisation. \(^{237}\) The new industrial organisation points out that the SCP paradigm is based on a major weakness, which significantly limits the insights it can provide for the antitrust analysis.

The critics argued that the connection between concentration levels and profitability is based on the wrong level of analysis. The fact that a firm earns an above average return is not indicative of a monopolistic structure, it is a healthy sign of effective competition and that the market is evolving. \(^{238}\) The reason, the critics argued, is that the SCP paradigm assumed that all firms in an industry are economically homogeneous, except for their size. \(^{239}\) The assumption meant that the market structure concept was designed on the perfect competition model, \(^{240}\) which the sceptics deemed a poor proxy to predict strategy and market performance. \(^{241}\) The sceptics contended that this level of analysis is fundamentally flawed and should not be used for policy and/or legal proposals.

The main insight the wrong level of analysis thesis provided was that market structure cannot determine a firm’s conduct and an analysis of the market structure is therefore unable to provide a robust account for higher profitability. \(^{242}\) Revenscraft used business level data across firms to test the profit-concentration hypothesis. \(^{243}\) In doing so, Revenscraft found a positive correlation between market share and profitability, whereas the connection was inverted between concentration and profitability. \(^{244}\) Scherer et al verified the finding in


a later study. Revenscraft argued that empirical studies that found a positive correlation between concentration and industry profitability were likely the result of using concentration as a proxy for market share. The sceptics argued that increased market shares and high profitability are the result of a firm’s superior craftmanship and efficiency.

The critics contended that the correct level of analysis is firm specific and reasoned that a strategy – which is a conduct in the SCP paradigm terminology – does not arise from market structure but from the specific resources that a firm controls. They pointed out that all firms within a sector are not homogeneous, but in fact heterogenous due to their unique resources, e.g. core competence, tangible and intangible assets, as well as the ability to measure profitability, assess risk, and utilise the firm’s competitive advantage. Wernefelt argued that it is the link between resources and profitability that should be analysed. This link is sometimes referred to as the resource-based view of competitive advantages. According to the resource-based view, superior performance in terms of high profit and/or profitability is a result of how well a firm utilises its key resources. The notion is therefore that firms can maintain long-run profitability because they control different strategic resources and these resources are not readily replicable and/or perfectly mobile across firms within markets or sectors.

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On the whole, the critics concluded that strategy of firms is the result of their unique resources, and not of market structure. As such, antitrust law should focus on the interaction between the unique resources of firms and how strategies are implemented according to the current market environment.

The critics rejection of the SCP paradigm thesis led to the emergence of the new industrial organisation. The methodology of the new industrial organisation deviates from the SCP paradigm in two significant ways.

First, the use of game theory. The aim for the new industrial organisation is to identify strategies that can create monopoly prices in the long run. The analysis focuses on the ability of firms to employ profitable strategies by preventing entry, i.e. a strategy that preserves the incumbent’s market power and monopoly rents. For the strategy to be profitable, the market or the specific sector must contain some sort of structural characteristics, which are any type of barriers to entry. To identify profitable strategies, the new industrial organisation utilise game theory. The integration of game theory is particularly useful to make robust predications about strategic actions under imperfect and incomplete information conditions. This implies that the new industrial organisation deems the SCP paradigm’s concept of strategy as hyperbolic (because it assumes perfect and complete information).

Second, the relevant equilibrium model. The integration of game theoretical models means that the insights the new industrial organisation can provide are quite specific to the underlying market conditions. That is, a small change in the set of the underlying assumptions will have significant consequences for the robustness of the predictions about the economic effects of behaviours. Consequently, many of the predictions and insights that derive from the new

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255 As will be described in chapter 4.3.5, this interaction is central to Porter’s thesis that a firm’s strategy is profitable if its internal resources are used to gain a competitive advantage by assessing the functioning of the market. Note that the SWOT analysis is predicated on Porter’s five forces framework, but with the key difference that the business uses the SWOT analysis to develop a strategy, whereas it uses the five forces to assess the market.
256 That is, as stated above, that there is a symmetric relationship between price and concentration.
industrial organisation are based on partial equilibrium analysis. Partial equilibrium analysis, unlike general equilibrium analysis, is limited to identifying the economic effects in an individual market or small group of markets. Most modern oligopoly theories are based on partial equilibrium. The difference in methodology means that the new industrial organisation focuses on the effects on a specific market or small group of markets, whereas the SCP paradigm focuses on the effects across industries.

2.5.2.1.4 The Chicago School

The Chicago school of economics (neoclassic economics) can be viewed as a reaction to the Harvard school, since Chicago questioned the SPC paradigm’s theoretical underpinnings, methodological approaches and contended that Harvard was biased against big firms. The soul of Chicago thinking is focused on analysing how the law should be constructed to promote efficiency. According to Bork, antitrust is only rational if it prevents conducts that have negative effects on consumer welfare, a notion that has been endorsed by the US courts since the 1970s. Bork’s definition of consumer

264 The empirical findings that had led the scholars of the SCP paradigm to their findings were in fact subject to different interpretations. See, L. Pedell, D. Richards and G. Norman, Industrial Organization: Contemporary Theory and Empirical Applications, 5th edition, Wiley, 2014, pp. 10-11.
266 “Antitrust is about the effects of business behaviour on consumers (. ..), and [the] whole task of antitrust can be summed up as the effort to improve allocative efficiency without impairing productive efficiency so greatly as to produce either no gain or a net loss in consumer welfare. Consumer welfare, as the term used in antitrust, has no sumptuary or ethical component, but permits consumers to define by their expression of wants in the marketplace what things they regard as wealth. Antitrust litigation is not a process for deciding who should be rich or poor, nor can it decide how much wealth should be expended to reduce pollution nor undertake to mitigate the anguish of the cross-country skier at the discretion wrought by snowmobiles. It can only increase collective wealth by requiring that any lawful products, whether skis or snowmobiles, be produced and sold under conditions most favourable to consumers.” See, R. H. Bork, The Antitrust Paradox: A Policy War with Itself, Basic Books, Inc., 1978, pp. 90-91.
267 For instance, in 1979, the Supreme Court stated that: “[Congress] designed the Sherman Act as a consumer welfare prescription.” See, Reiter v. Sonotone Corp. ET AL., 442 US 330, 1979. In 1984, the Supreme Court also held that: “[A] restraint that has the effect of reducing the importance of consumer preference in setting price and output is not consistent with this fundamental goal of antitrust law. Restrictions on price and output are the paradigmatic examples of restraints of trade that the Sherman Act was intended to prohibit.” See, National Collegiate Athletic Association v. Board of Regents of the University of Oklahoma, 468 US 85, 1985.
welfare is however arbitrary, since it could also be viewed as allocative efficiency and social wealth (total welfare).

The backdrop of the Chicago school analysis is neoclassic price theory, which adherents contended would make antitrust more scientific and free from nebulous political values. Chicago deemed that political values had made the law a mechanism of distributive justice, fair competitive processes and the protection of SME’s that are less efficient than the monopolist is. Moreover, Chicago claimed that its simple analytical framework would have at least two major benefits. First, it would economize the cost of competition enforcement and litigation. Second, the dominant company would be able to self-assess the lawfulness of its own competitive behaviour ex ante.

Neoclassic price theory applies microeconomic models to evaluate the welfare effects of a dominant firms pricing behaviour. The theory assumes that a monopolist seeks only to maximise its profits, that markets will self-correct and that people behave rationally. The Chicago school argues that firms are by their very nature profit-maximisers and that this inherent motivation is what drives business strategies. To reach this conclusion they made a deduction of the price theory model. In addition, they consider that most markets are competitive, even where the numbers of rivals are small. Chicago scholars believed that even in the presence of monopoly the forces of self-correctness would prevail. For them emphasis was put on when, if even possible, a firm can obtain and, more importantly, preserve that monopoly power, to the detriment of welfare. The Chicagoans argued that the maintenance of monopoly was a result from superior efficiency by a firm with market power and not the monopolistic position itself. Consumers will logically react to every


273 Because of the downward slope of the demand curve an increase in price will alter the output, thus making the highest possible return. See, R. A. Posner, The Chicago School of Antitrust Analysis, 127 University of Pennsylvania Law Review 925, 1978, p. 928.


price fluctuation that occurs in the market. Thus, consumers will switch supplier if the current dealer should yield supra-competitive prices, as long as the consumer does not receive any added value. Accordingly, the rational consumer is willing to pay for advertisement as long as transaction costs are reduced. According to the Chicago school of thinking the exclusive measure of welfare ought to be on expanded output and lower prices. As a result they assert that competition policy should only pursue inefficient behaviours – i.e. conducts that lessen the output on a given market – that can be viewed objectively by the effects that that commercial behaviours have on price and output. Posner advocates that the particular goal that antitrust law seeks to promote is to maximise allocative efficiency and that price theory can define under which circumstances it will occur. Bork observes that the perfect compaction model never was intended to serve as a guideline for competition policy and it should not be used as a normative underpinning, but it should serve as a starting-point to reasoning about actual markets.

2.5.2.1.5 The Post-Chicago School
The Post-Chicago school questioned and challenged the theories and assumptions made by Chicago. Post-Chicago criticised Chicago for its deductive approach and instead emphasised the use of empirical evidence to inductively derive how markets actually perform. The Post-Chicago school endorsed the Harvard school’s emphasis on empirical data, but still considered that consumer welfare in terms of allocative efficiency should be the exclusive goal for antitrust. The Post-Chicago school’s most significant contribution is its use of game theory to identify strategic interventions due to market imperfections. Whilst Chicago assumes that markets function accurately and a monopoly is a transitory phase, Post-Chicago believes that firms with market

282 The term Post-Chicago law and economics "refers to a new era in which a variety of new questions about law and law-making is being asked and a variety of promising economic techniques is being used to answer them.” See, R. E. Barnett, Forward: Post-Chicago Law and Economics, 65 Chicago-Kent Law Review 3, 1989, p. 3.
power will employ anticompetitive strategies\(^{286}\) because of market imperfections. For Post-Chicago, imperfections are attributed to a firm’s limited information about the market, its rivals and opportunities.\(^ {287}\) Furthermore, different markets do not share the same characteristics and additional information can alter the perception. These market imperfections create a broader set of incentives for exclusionary actions, something that Chicago would described as irrational. According to Post-Chicago this will result in distortion of competition, and consequently inefficient results, even in the event of competitive markets. Consistent with Post-Chicago analysis, information deficits permit firms to exploit consumers’ illiteracy and manipulate their choices, or use product differentiation to, inter alia, tie consumers.\(^ {288}\) This could enable firms to exercise their maker power. However, this depends on specific market conditions or the industry itself, e.g. network effects, economies of scale and scope, etc.\(^ {289}\)

Post-Chicago criticised both Chicago and Harvard for not emphasising the welfare implications of dominant firms’ strategic interventions. Post-Chicago meant that strategic interaction by incumbents can lead to market imperfections, something that Chicago had ignored and Harvard had erroneously associated with freedom to trade, since they ignored the understanding of the competitive process.\(^ {290}\) Instead, Post-Chicago focused on actual injuries to the competitive process, rather on behaviours that can reach total monopoly.\(^ {291}\) They argued that some types of strategies employed by the monopolist are better explained as not depleting competition totally but rather as imposing costs on its rivals and thereby impeding competition (raising rivals’ costs).\(^ {292}\) In particular, by refusing to deal or license, tying, dealing exclusively and utilising rebates. These types of strategies target the competitive process itself

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\(^{288}\) A. Cucinotta, R. Pardolesi, and R. Van den Berg (eds), *Post-Chicago Developments in Antitrust Law*, Edward Elgar, 2002, (pp. 582-584 and 589.)


by imposing higher costs on rivals, thereby elevating the price and creating a price umbrella under which the monopolist can earn monopoly profits.  

Both Chicago and Post-Chicago argue that application of antitrust policy and law are only warranted when strategic behaviours by firms raise prices or constrain output. Nevertheless, they have different opinions about concepts of consumer welfare and efficiency. Post-Chicago challenged the Chicago school restriction output test and stated that this was too static, because the test did not take into consideration the affect it could have on consumer welfare. Post-Chicagoans argued that some business tactics might reduce consumer welfare when they restrict consumer choice or make consumer decision-making more costly without leading to limitation of output. According to Post-Chicago, efficiencies must be direct and, to some extent, passed on to consumers. Under this view inefficiencies might counterbalance an otherwise anticompetitive practice insofar as they create benefits not only for the monopolist but also for the consumer. Thus, the premise that transaction cost savings for the commercial entity is procompetitive and will result in welfare enhancement is not sufficient. On the contrary, Post-Chicago argues that, this will result in an increase of consumers’ own information and transaction costs.

The rationale for prohibiting unilateral strategies is that they can result in inefficiency from an economic perspective. Chicago and Post-Chicago both argue that consumer welfare is the appropriate standard of measurement, which has also been endorsed by Harvard. Nonetheless, there are some that advocate for a more political and philosophical approach to EU antitrust law that is in line with Ordoliberal thinking.

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2.5.2.2 Forensic Accounting and Forensic Finance
Forensic accounting and forensic finance are methods that apply financial and accounting theories and principles to solve legal issues.

Forensic finance or financial forensics investigations are specialised in gathering evidence and interpreted the financial decision-making process of a specific financial transaction. Typically, the role of a financial forensics investigator is to detect financial crimes or to suggest checks and balances to prevent these types of crimes. According to Ross, financial forensics is a way to identify and set up a list of symptoms of failing schemes to detect indicators of value reducing conduct. Dorrell and Gadawski argue that forensic finance refers to the art and science of investigating people and money, implying that quantitative measurements can only partially explain a financial decision, because of psychological limitations or incentives (i.e. social dimensions). Ross as well as Dorrell and Gadawski seem to indicate that the source of value destruction can be attributed to the principal-agent dilemma.

As previously noted, financial forensics and forensic accounting have a symbiotic nature. This is because financing theory provides the necessary tools to analyse the costs and benefit of an investment, whereas accounting provides an instrument that communicates the allocated and committed resource consumption. Thus, accounting is indispensable to interpret a business transaction as it appears in the cost data system. Forensic accountants are bookkeepers that are specialised in the field of gathering and evaluating financial and non-financial data, distinguishing between relevant and non-relevant information and deducing what robust conclusions that can be drawn thereof. Therefore, forensic accounting can be understood as the multidisciplinary application of special skills such as accounting, finance, quantitative techniques,

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investigation and research to certain areas of law. Examples include matrimonial disputes, cybercrime, fraud, antitrust and damages. The main difference between cost accountants and forensic accountants is that the latter have a more sceptical view towards the economic and financial information while also possessing a deeper knowledge of the law. In addition, forensic accounting analysis has to be constructed and presented so it can be understood by persons that lack general knowledge in accounting, business models and theories. This is especially important due to the theoretical optimum problem. Under this problem, judges may have shortcomings when dealing with complex economic disputes. The problem can have tip-over effects, which may render judicial review weak from a legal certainty perspective. For this reason, judges can greatly benefit from help to define and interpret economic, accounting, and financial concepts and facts in order to make a sound and suitable interpretation and assessment of the law.

Typically, all forensic analyses, regardless of connotation, have the intrinsic property of being corresponding in nature. A forensic analysis may reveal insignificant results if applied in abstracto. Thus, its application is habitually to support or strengthen a contended narrative by establishing the relevant indicia, e.g. the applicable theory of harm (which will be described in chapter 5.6.3).

2.5.2.2.1 Accounting and Financial Theory

Accounting is the scientific process of collecting and analysing financial information for communication purposes. Thus, by definition accounting provides explanations, usually expressed in financial terms, about the transactions that have occurred or will arise in the economic entity (account). Accounting information enables managers to perform their task, whilst also enabling stakeholders of the organisation to control and check that the tactical decisions of the management have not transpired or will not transpire in the interest of

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308 Although some insights help.

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Accordingly, the accounting packaging of economic information varies depending on the placement of the receiving agent and for what decision-making purposes the intelligence is needed. These agents or stakeholders can be internal or external and, as a natural consequence, it therefore follows that a statement of account can divulge monetary transactions or disclose monetary analytics. Note that all businesses, archetypally, are engaged in financing, investing and operating activities (business activities). The most important task of an accountant is to record these activities in the accounting information system. Because stakeholders may display different distinctive needs, the profession and academics of accounting has industrialised the notions of financial and management accounting. Although both deal with the handling of financial resources, there are fundamental differences in timeline and purpose. The divisions in classification are essential because the use and relevance of the accounting information will depend on what kind of information is necessary and sufficient to draw or infer the appropriate conclusions. This is operative. Depending on the purpose of the autopsy, accounting for financial and managerial reasons will exhibit different inferences and conclusions from the recorded financial data. Although both financial and management accountants use cost items, their consumption measures and displays different interpretations of profitability.

2.5.2.2.2 Financial Accounting Theory

Financial accounting aims to provide external stakeholders with a clear and objective picture of the financial position and performance that has been accomplished in the business within a given period. Typically, external stakeholders comprise mainly of investors, creditors, suppliers and government agencies. The main task of a financial accountant is to accumulate and congregate statements of the monetary transactions for accountability purposes. These statements provide decision makers outside the economic entity with a snapshot at a specific point in time regarding previous financial transactions.

In principle, the conceptual framework provides the different stakeholders with sufficient information to make informed economic decisions in relation to the entity (financial statement analysis or financial analysis).

In essence, financial analysis is the process of analysing and reviewing the monetary health of the company by scrutinising its financial statements to make as informed of an economic decision as possible. These financial decisions can vary in purpose, but from an investment perspective the aim is to provide objective benchmarks that let the agent compare the company against others in regards to profitability, cash flows and equity. However, due to information asymmetry and the risk of falsifying the information, various legislative acts and regulations have been adapted to standardise the presentation of financial accounting information. For instance, the EU has adopted harmonising rules that follow international accounting standards.

As a consequence of the regulatory measurements, the rules, principles and guidelines that underpin the conceptual framework must follow standards or principles issued by an appointed organisation, such as the General Accounting Accepted Principles (GAAP). The different measurements and techniques used to report the transactions in the financial statements are therefore regulated. Consequently, according to the historical cost convention or cost principle of financial accounting, cost measurements used for displaying monetary transactions are based on their costs of acquisition (historical cost). The rationale for applying historical cost is that such a record represents a demonstrable fact, thus limiting measurement problems, and is easier and cheaper method of valuation. The cost principle has two fundamental issues. First, one key concern is that the cost of acquisition may not contain the relevant information that the user needs to make an economic decision because

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the value does not represent the current financial position.\textsuperscript{323} Second, the historical cost convention does not provide the relevant information for making decisions regarding future predictions of cash flows.\textsuperscript{324} It follows that financial accounting cost yardsticks have the purpose of displaying historical financial events for valuation purposes and are thus not relevant for decision-making considering the future events of the economic entity.

\textbf{2.5.2.2.3 Management and Cost Accounting Theory}

Management or cost accountants seek to assist the managerial staff with accounting information that is relevant for planning, decision-making, and controlling purposes in order to fulfil the goals of the organisation.\textsuperscript{325} Cost accountants use different tools and techniques for gathering and evaluating financial and non-financial information for internal use.\textsuperscript{326} The managerial accounting information is significantly different from the financial accounting one. This is mainly due to three reasons. First, managers need the information to develop and implement the organisation’s business model as well as its competitive strategy by planning for the future (budgeting). Second, the information is used when making financial decisions regarding the firm’s pricing and financial outlay in the future (decision-making). Thirdly, the information is necessary to confirm and safeguard that plans are implemented and achieved (control).\textsuperscript{327} In addition, since the accounting information is intended for managerial day-to-day operations there is no formal or legal requirement regarding the quality and communication of the intelligence.\textsuperscript{328}

Cost accounting information therefore contains three properties important for decision-making:

• It supplies the reliable cost data required when calculating the expected future resource consumption if the artefact is be produced (calculations).

• These calculations are used to estimate the competitive price and production quantity of the artefact.

• These calculations affect the firm’s profitability in the future by examining whether existing artefacts are profitable, helping to determine if they should cease to exist, if they can be manipulated in terms of cost reduction, or if additional artefacts should be introduced.329

Cost accounting theory contains a large set of deep-rooted theories and principles for assessing the future profitability of a firm. These calculations can be used to identify profits in isolation or in companionship, i.e. whether each product or service line is generating a profit and/or how manipulation in one area affects the overall profitability assessment.

It should be noted that the concept of management accounting may be perceived as extremely broad. This is because as global competition stiffened during the 1980s, the approaches and techniques used by classic management accountants lost their relevance. The emergence of more modern techniques, such as total quality management or product life cycles, and more accurate knowledge of product costs made the use of the classic approaches out of date in the highly competitive environment.330 Consequently, recent development in management accounting has incorporated some of the ideas that have developed during the 1980s to make new and more flexible approaches to inter alia design effective cost accounting. Thus, management accounting today is synonymous with or implicitly implemented in organisations through:

• Value-based management,

• Non-financial performance systems,

• Quality management approaches,

• Activity-based management,

• Cost accounting,

• Strategic management accounting, and


• Strategic cost management.

The modern approach to management accounting is the incorporation of different scientific approaches and link them with the organisation’s strategic and operational aims in the long run. The goal is to achieve a competitive advantage by using cost data to develop and maintain superior strategies that facilitate sustainable competitive advantages. However, for pedagogical purposes, the term cost accounting will be used to highlight the strategic use of costs and profitability measurements.

2.5.2.2.4 Corporate Finance Theory

Corporate finance is the scientific activity of adding value to investments for external as well as internal use. Corporate finance can therefore be defined as the management of assets. This is because all economic entities need a certain amount of real assets to operate their activities. To compensate monetarily for its purchases of real assets, the cooperation needs to issue commitments of claims on the invested assets and an amount of the cash flow it will make in the future. As such, financial management comprises of two very important decisions:

- Investment decisions, i.e. purchases of new and supervision of existing tangible assets, and
- financial decisions, i.e. sale of financial assets and managing not only new but also existing investors’ expectations.

Accordingly, financial analysis can provide sound insights regarding the profitability of a dominant undertaking’s existing assets as well as the projected cash flow. As will be discussed in, e.g. chapters 6.3 and 6.4, in some markets and industries are characterised by different risks and growth opportunities. Consequently, depending on the growth rate and market risk, some markets are pigeonholed into different types of real assets. For example, one special feature of the pharmaceutical sector is that firms tend to invest heavily in intangible assets, e.g. R&D. This goes to the fundamental objective with

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corporate finance, i.e. value-maximisation of shareholders. The notions of value-maximisation and profit-maximisation seem to stem from the same economic principle, thus at first glance they seem to be synonymous and interchangeable. However, the concept of profit-maximisation ignores the associated problems with timing and risks that are interconnected with the concept of value. Value is therefore closely dependent upon when the costs and benefits arise (the timing issue) in conjunction with its uncertain surrounding environment (the risk issue). Depending on the context, short-run profit-maximisation can hurt long-run value-maximisation. As will be discussed it chapter 4.3.6.1, this is a principal-agent dilemma.

Corporate finance theory has a sizable selection of well-established theories and principles to evaluate the rationale of investments and measure these against value-maximisation. Accordingly, since financial analysis is about evaluating the probability of profitability in the future it can be used, inter alia, to detect irrational loss-making strategies.

2.6 Summary

The aim of this chapter has been to justify the use of the forensic method. First, it started with outlining the justification for applying accounting and financial theory and insights. Secondly, it then moved to explaining the principle choices that have been made. Thirdly, it outlined an account about which sources that have been used and the possible issues with them. Fourthly, the chapter ended with an explanation about the different legal and auxiliary sources.

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339 Note however that the special responsibility doctrine will hold the dominant firm liable regardless of intent. The doctrine charges conduct that objectively can produce anticompetitive effects on the market even if the dominant undertaking did not intent such an effect.
3 The Court Knows the Law: The Role of Legal Tests in Antitrust Procedure

3.1 Introduction

Legal issues are not solved in books, they are settled by courts of law. Article 102 TFEU is an open-ended Treaty provision. As a result, the law on exclusionary abuse is the result of an incremental process developed by the Court of Justice through the construction of different legal tests. A core challenge is to assemble these legal tests so that the Treaty canons achieve their intended results through uniform adjudication. The issue could be said to result from the fact that the legal tests are underpinned by a plethora of different concepts that have distinctive objectives, e.g. social science that lays out knowledge about profitability or maximising the efficacy of enforcement. The mixture has given birth to a law-fact indistinction in EU antitrust law.

This chapter seeks to provide a forensic account of the characteristics in the tests and assess why the content is attributed to legal classification. The appreciation is important in order to apprehend the underlying justification in Court of Justice’s legal reasoning. Of particular interest is how substantive procedural aspects are imbedded in the case law – and reciprocate into workable legal tests – by the use of presumptions and burden-shifting. According to the Court of Justice, the incorporation of procedural aspects is necessary to ensure that Article 102 TFEU is uniformly and effectively applied across the EU.

3.2 Defining Prima Facie Exclusionary Abuse

Article 102 TFEU is part of a system that aims to ensure that competition in the internal market is undistorted. The Treaty provision is an indispensable legal tool to achieve and promote the aims of the internal market.

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340 Article 102 TFEU, unlike Article 101 TFEU and Article 2(3) of the Merger Regulation which contains explicit legal rules or tests, does not contain any clear guidance.


343 It is worth noting that the inquiry does not seek to establish any account of EU law or EU legal theory. Such probing would go far beyond the scope of this work.

As the law stands, the legal characterisation of exclusionary abuse presupposes that the impugned conduct is capable of producing exclusionary effects. Legal tests are important tools to ascertain prima facie exclusions. A commercial practice is considered prima facie exclusionary where the conduct restricts competition, absent any objective justification, e.g. the profit margin is loss-making or artificially reduced. Thus, a prima facie exclusionary conduct is a practice that is presumed to result in anticompetitive effects.

The finding of an exclusionary abuse can nonetheless be subject to a bifurcated or trifurcated structure of analysis. The rationale is that they allocate the

345 “[It must be observed] that if such conduct is to be characterised as abusive, that presupposes that that conduct was capable of restricting competition and, in particular, producing the alleged exclusionary effects.” See, C-307/18, Generics (UK) and Others, ECLI:EU:C:2020:52, para. 154.
346 “[Article 102 TFEU] covers practices which are likely to affect the structure of a market where, as a direct result of the presence of the undertaking in question, competition has already been weakened and which, through recourse to methods different from those governing normal competition in products or services based on traders’ performance, have the effect of hindering the maintenance or development of the level of competition still existing on the market.” See, C-322/81, Michelin v Commission, ECLI:EU:C:1983:313, para. 70.
347 “A margin squeeze, in view of the exclusionary effect which it may create for competitors who are at least as efficient as the dominant undertaking, in the absence of any objective justification, is in itself capable of constituting an abuse within the meaning of Article 102 TFEU.” See, C-52/09, Konkurrensværket v TeliaSonera, ECLI:EU:C:2011:83, para. 31.
348 See, e.g. C-52/09, Konkurrensværket v TeliaSonera, ECLI:EU:C:2011:83, paras. 33.
parties responsibilities that tend to limit type I error (false convictions or false positives) and type II error (false acquittals or false negatives).\textsuperscript{350}

3.2.1 The Conventional Structure of Analysis

Conventionally, the Court of Justice has selected a bifurcated structure of analysis, whereas the Intel judgment sets out a trifurcated mode of analysis:\textsuperscript{351}

The bifurcated mode of analysis is:

1. The Commission bears the burden of proving a prima facie abuse and where this is met,

2. The dominant undertaking has a right to demonstrate that its conduct is objectively justified.\textsuperscript{352}

Needless to say, although the EU courts accept claims of objective justifications proposed by the accused firm,\textsuperscript{353} the success factor of such claims are scanty at best.\textsuperscript{354} Accordingly, the legal battleground will take place during the


\textsuperscript{352} “It follows that in determining whether, on the part of an undertaking in a dominant position, a system of discounts or bonuses which constitute neither quantity discounts or bonuses nor fidelity discounts or bonuses within the meaning of the judgment in Hoffmann-La Roche constitutes an abuse, it first has to be determined whether those discounts or bonuses can produce an exclusionary effect, that is to say whether they are capable, first, of making market entry very difficult or impossible for competitors of the undertaking in a dominant position and, secondly, of making it more difficult or impossible for its co-contractors to choose between various sources of supply or commercial partners.” (…) “It then needs to be examined whether there is an objective economic justification for the discounts and bonuses granted. In accordance with the analysis carried out by the Court of First Instance in paragraphs 279 to 291 of the judgment under appeal, an undertaking is at liberty to demonstrate that its bonus system producing an exclusionary effect is economically justified.”. See, C-95/04 P, \textit{British Airways v Commission}, ECLI:EU:C:2007:166, paras. 68-69.


prima facie stage. The backbone of a dispute, in the context of exclusionary price practices, is most likely to be, whether the Commission has applied the correct legal test and performed the assessment accordingly. Therefore, in practice, the second step is redundant.

3.2.2 The Relevant Structure of Analysis in Exclusionary Pricing Procedures

In Intel, the Court of Justice amended its stance on discounts by clarifying that such practices are subject to a presumption of unlawfulness. The judgment sets out a trifurcated mode of analysis:

1. The Commission bears the burden of proving a prima facie infringement, whereas the dominant undertaking can submit evidence, during the administrative procedure, to trigger an in-depth investigation regarding the asserted foreclosure effects.

2. If the Commission successfully demonstrates anticompetitive effects, the burden shifts back to the dominant firm to provide evidence that supports any economical or other objective justification.

3. If such evidence is provided, the burden finally shifts back to the Commission, which needs to perform a balancing exercise to show that the anticompetitive effects outweigh the provided procompetitive defence.

The ratio decidendi indicates the dominant undertaking has the possibility to rebut, by showing that its practice is unlikely to or even incapable of harming competition in the light of the specific conditions on the relevant market. Where such evidence is brought forward, the Commission cannot simply discount it. This provides the dominant undertaking with an intermediate de-

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fence, halfway between the objective justification and the efficiency defence. The Commission will have to show that exclusionary effects are sufficiently likely, thus implying that the threshold is raised from capacity to foreclose under the prima facie exclusionary analysis.

The mode of analysis appears to be applicable where price is the predominant exclusionary mechanism, or when the as efficient competitor test is applicable. The Court of Justice pointed out in Post Danmark II that in order for a practice to be qualified as an exclusionary abuse, such a practice must be capable of ousting competitors that are as efficient as the dominant undertaking. The Court of Justice also pointed out that whilst the as efficient competitor test is not a legal requirement for all types of conducts, the test can nevertheless be an important legal tool for dominant firms in order to assess whether their conducts are compatible with Article 102 TFEU.

The Court of Justice pointed out in Servizio Elettrico Nazionale that where the dominant firm submits exculpatory evidence during the administrative procedure, antitrust authorities have a legal obligation to examine carefully and impartially all the relevant aspects of the individual case, and, in particular, the evidence submitted by that undertaking.

Consider, e.g. Qualcomm (exclusivity dealing). The General Court pointed out that a dominant undertaking’s right to put forward evidence that seeks to rebut a finding of anticompetitive effects, aims to protect the dominant firm’s right to defence. The Commission argued that Qualcomm had implemented an exclusivity agreement to one of its major customers between 2011 and

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361 C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651, para. 66.
362 C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651, para. 58.
363 “[W]here a dominant undertaking submits, during the administrative procedure and with supporting evidence, that its conduct was not capable of restricting competition, the competition authority concerned is required to examine whether, in the particular circumstances, the conduct in question was indeed capable of doing so.” See, C-377/20, Servizio Elettrico Nazionale and Others, ECLI:EU:C:2022:379, para. 51.
364 “In those circumstances, in accordance with the right to be heard, which, according to a consistent body of case-law, is a general principle of EU law which applies where the authorities are minded to adopt a measure which will adversely affect an individual, competition authorities have, inter alia, the obligation to hear the undertaking concerned, which means that they must pay due attention to the observations thus submitted by that undertaking, examining carefully and impartially all the relevant aspects of the individual case, and, in particular, the evidence submitted by that undertaking.” See, C-377/20, Servizio Elettrico Nazionale and Others, ECLI:EU:C:2022:379, para. 52.
The Commission applied the Intel framework to show that Qualcomm’s practice was capable of producing anticompetitive effects.\textsuperscript{366} The Commission analysed the extent of Qualcomm’s dominance, the duration of the exclusivity payments, and the market coverage of the practice.\textsuperscript{367} The Commission argued that it had established a consistent body of evidence and that it was unnecessary to rely on the as efficient competitor test to prove the alleged foreclosure effects. Qualcomm did nevertheless submit an analysis of the as efficient competitor test (critical margin analysis), which sought to demonstrate that its conduct was not capable of having the alleged anticompetitive effects.\textsuperscript{369} The Commission rejected Qualcomm’s critical margin analysis for being unrealistic and made significant revisions to it.\textsuperscript{370} The General Court, on appeal, quashed the Commission rejection by stating that the Commission had infringed on Qualcomm’s right to defence. The General Court pointed out that it is up to the dominant firm to choose the tool it wants to use for the purpose of showing that its conduct is incapable of ousting an equally efficient competitor,\textsuperscript{371} that the Commission is obliged to examine the evidence put forward, and that failure to properly scrutinise the evidence infringes on the dominant firm’s right of defence.\textsuperscript{373}

\begin{itemize}
  \item \textsuperscript{366} See, Commission Decision, AT. 40200 – Qualcomm (Exclusivity Dealing), 2018.
  \item \textsuperscript{367} See, Commission Decision, AT. 40200 – Qualcomm (Exclusivity Dealing), 2018, recital. 383.
  \item \textsuperscript{368} See, Commission Decision, AT. 40200 – Qualcomm (Exclusivity Dealing), 2018, recitals. 395-541.
  \item \textsuperscript{369} See, Commission Decision, AT. 40200 – Qualcomm (Exclusivity Dealing), 2018, recital. 487.
  \item \textsuperscript{370} See, Commission Decision, AT. 40200 – Qualcomm (Exclusivity Dealing), 2018, recitals. 489-497.
  \item \textsuperscript{371} “It is also common ground that, in its reply to the statement of objections, the applicant presented a ‘critical margin analysis’ which sought to demonstrate that the conduct attributed to it was not capable of having foreclosure effects on those two markets.” See, T-235/18, Qualcomm v Commission, ECLI:EU:T:2022:358, para. 320.
  \item \textsuperscript{372} “In essence, it is an economic analysis which seeks to demonstrate that a hypothetical competitor as efficient as the applicant could have competed with the applicant to supply LTE and UMTS chipsets to Apple, since that competitor would have been in a position to offer a price covering its costs while also being able to compensate Apple for the loss of the payments concerned.” See, T-235/18, Qualcomm v Commission, ECLI:EU:T:2022:358, para. 323.
  \item \textsuperscript{373} “By proceeding in that manner, regardless of the substance of the three objections to the assumptions made in the applicant’s critical margin analysis and of the corresponding corrections made to it in the ‘revised’ critical margin analysis, the Commission infringed the applicant’s rights of defence.” See, T-235/18, Qualcomm v Commission, ECLI:EU:T:2022:358, para. 329.
\end{itemize}
3.3 The Requirement and Implication of Legal Certainty

A fundamental condition of law is that it is predictable. The Court of Justice has consistently ruled that predictability or legal certainty is part of the general principles of EU law and thus a fundamental value of EU law. The Court of Justice has held that principle requires:

“The principle of legal certainty requires that rules (…) must be clear and precise so that he may know without ambiguity what are his rights and obligations and may take steps accordingly.”

Legal certainty enables those affected by the law to manage their day-to-day operations. Applied to exclusionary abuse, the concept implies that dominant undertakings should be able to make predictions about how their conduct will be assessed by adjudicators. That is, to foresee the legal implications of its own commercial operations. The principle prohibits retroactive effects.

The issue with enforcing Article 102 TFEU ex post is to determine what criteria or facts that should be relevant ex ante. The problem is that business decisions are taken on facts that are uncertain and that ex post always have the benefit of hindsight. Indeed, it has been argued that the use of economic theory to determine the legality of the dominant firm’s practices has led to the backslide of legal certainty. Then, what should the implication be?

Legal certainty, as a general requirement of EU law, implies that the Court of Justice’s role in antitrust matters is to provide analytical criteria that allow dominant undertakings to assess the legality of their own conduct ex ante. From this point of view, cost benchmarks are prime legal concepts as they aim to provide objective criteria when a price policy is capable of resulting in

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375 See, C-169/08, Gondrand and Garancini, ECLI:EU:C:1981:171, para. 17.


379 J. Broulik, Preventing Anticompetitive Conduct Directly and Indirectly: Accuracy Verses Predictability, 64 Antitrust Bulletin 115, 2019, pp. 123.


381 See, e.g. C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 44.
anticompetitive harm. However, although the principle of legal certainty provides the necessary bridge between law and managerial insights, cost yardsticks are strict legal constructs. As a point of law, the legal notion of the relevant cost base is for the lawmaker or the Court of Justice, not the Commission and the accused dominant firm. Amongst the core challenges the Court of Justice is faced with, in the absence of legislation, is which neutral and objective benchmark the legal interpretation should be based on. As will be argued in chapter 6.2.6.1.1, an appropriate point of departure for the cost analysis is the relevant market.

### 3.4 Primer on the Profitability Tests

A core challenge that the law on exclusionary abuse is faced with is how to operate under uncertain and complex conditions. Legal tests are indispensable tools to make Article 102 TFEU functional. On the one hand, they provide enforcement agencies with the necessary legal tools to combat anticompetitive behaviours. On the other hand, they provide dominant undertakings with the necessary legal information to assess their obligations under the law.

The legal tests on exclusionary pricing are one-tailed, they are designed to accept or refute a plea that an impugned price policy is exclusionary.\(^{382}\) As the law stands, the AKZO or ascription test is a self-contained test as it provides decision-makers with a bright-line test as the legal conclusion can be drawn from just a few factors.\(^{383}\) The margin squeeze or imputation test is an open-ended test that needs to be modelled case-by-case. The imputation test is designed to identify the likelihood of competitive harm based on profit levels.\(^{384}\) The first level presumes injury if it is established that operation is loss-making.\(^{385}\) The second level presumes that a positive margin cannot result in competitive harm. The Commission must therefore show that the positive margin is likely to oust competition.\(^{386}\) Notwithstanding that cost yardsticks are used as legal concepts to classify and qualify price-based conducts,\(^{387}\) legal

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383 To that effect see, C. Ritter, Presumptions in EU Competition Law, 6 Journal of Antitrust Enforcement 189, 2018, p. 191.

384 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 33.

385 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 43 and 73.


tests are underpinned by other concepts which are also important to take into consideration.

3.5 Conceptual Underpinnings

Legal tests are designed to encapsulate objective factors that result in distortions. As such, they aim to bring order in a world of uncertainty. The strength of a legal test is a result of its content and sequence. The approach and modelling of tests are made up of factual or quasi-normative concepts. Factual concepts are facts that permit courts to create normative propositions. 388

According to Kalintiri, there are three concepts that are crucial in enforcement of EU antitrust, namely: premises, proxies, and presumptions. 389

Premises are generalised claims or propositions that form the basis of a decisional choice, as they often can encapsulate past experience, existing knowledge and socio-political values. Premises can, inter alia, inform the design and interpretation of legal tests and serve as the solid backdrop against which evidence is assessed. 390 Kalintiri highlights that premises often assist courts when interpreting and applying legal rules, but draws attention to the fact that premises are not immune to change as knowledge progresses. 391

Proxies are second best alternatives; they should be used as substitutes when an item is not measurable. 392 Proxies allow courts to infer conclusions about the facts of a case based on the available evidence. Proxies can also be used as screening devices when courts determine the lawfulness of a conduct.

Lastly, presumptions enable an unknown fact, to be found based on proof of another fact. The use of presumptions in law enforcement is widely recognised as an analytical shortcut, as it allows decision-makers to establish the “truth” under imperfect conditions. Presumptions in the technical sense, have nonetheless a specific procedural consequence attached; if the presumption is triggered then the burden of proof automatically shifts. In that regard, Kalintiri argues that it is only the burden of producing evidence that shifts. 393


392 For instance, because the object is impossible or vary difficulty to quantify.

Price-cost tests are typically used as truncated or quick-look diagnostic tools to usher the decision-making process forward to reach a final decision. However, Kalintiri’s descriptions invite to reflection and pondering. Premises, proxies, and presumptions suggest, by extrapolation, that profitability analysis can have four important uses or implications when constructing legal tests.

First, as knowledge progress, profitability analysis can pinpoint the relevant circumstances when a price can lead to competitive harm. Second, profit levels, in particular cost measurements, can be used as proxies for harm and to define antitrust offences. Third, profitability analysis can be used to inform how and when to use presumptions. Fourth, profitability analysis can be used to determine the correct or rectified probative value of submitted profit models.

3.6 The Burden(s) of Proof

The primary burden of proof rests on the one that alleges an antitrust infringement, but the burden can shift depending on the factual situation or categorisation. The EU courts’ approach to evidentiary issues reflects a risk allocation or trade-off between the different rights and interests, inter alia over-against under enforcement. The burden of proof is therefore a way of managing which party should bear the risk of losing the case. Accordingly, allocation of the burden of proof displays two distinctive features. First, the risk of adducing the relevant facts and supporting forensic demonstration (subjective or formal burden of proof). Second, the risk of unresolved facts or allegations unproven (objective or substantive burden of proof). Because determination of facts by definition involves risk, schemes which entangle risk-allocation reflect how tolerant the legal system is of errors.

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395 “The standard of proof determines the requirements which must be satisfied for facts to be regarded as proven. It must be distinguished from the burden of proof. The burden of proof determines, first, which party must put forward the facts and, where necessary, adduce the related evidence (subjektive or formelle Beweislast, also known as the evidential burden); second, the allocation of that burden determines which party bears the risk of facts remaining unresolved or allegations unproven (objektive or materielle Beweislast).” See, Opinion of Advocate General Kokott, C-8/08, T-Mobile, ECLI:EU:C:2009:110, footnote. 60.
3.6.1 Legal Burden of Proof

According to Article 2 of Regulation 1/2003, the antitrust agency or the party alleging an infringement of Article 101 and 102 TFEU has the legal burden of proof.\(^{398}\) The legal burden of proof stipulates that the bearer must establish the facts in a particular scenario and the truth of those facts in issue to the required legal standard before the adjudicator (the burden of persuasion).\(^{399}\) However, the burden can shift due to presumptions,\(^{400}\) where the accused party invokes a defence,\(^{401}\) because of the evidentiary burden of proof,\(^{402}\) as well as the tactical burden of proof.\(^{403}\)

3.6.2 Evidentiary and Tactical Burdens of Proof

The evidentiary burden of proof requires that the carrier adduces evidence in support of a disputed fact,\(^{404}\) whereas the tactical burden of proof activates if the transporter fulfils its evidentiary burden.\(^{405}\) The tactical burden can thus shift back and forth between the parties during the litigation phase.\(^{406}\) The allocation of the formal burden of proof may result in the conclusion that a certain fact is taken to be proven in the absence of any plausible or alternative explanation by the accused firm.\(^{407}\)

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\(^{398}\) As such, the Antitrust Regulation applies to both public as well as private enforcement.


\(^{400}\) C-10/55, *Mirosevich v High Authority*, ECLI:EU:C:1956:14, p. 343.

\(^{401}\) “[I]t should be for the party or the authority alleging an infringement of the competition rules to prove the existence thereof and it should be for the undertaking or association of undertakings invoking the benefit of a defence against a finding of an infringement to demonstrate that the conditions for applying such defence are satisfied, so that the authority will then have to resort to other evidence.” See, *Joined Cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P, Aalborg Portland and Others v Commission*, ECLI:EU:C:2004:6, para. 78.

\(^{402}\) “Although according to those principles the legal burden of proof is borne either by the Commission or by the undertaking or association concerned, the factual evidence on which a party relies may be of such a kind as to require the other party to provide an explanation or justification, failing which it is permissible to conclude that the burden of proof has been discharged.” See, *Joined Cases C-204/00 P, C-205/00 P, C-211/00 P, C-213/00 P, C-217/00 P and C-219/00 P, Aalborg Portland and Others v Commission*, ECLI:EU:C:2004:6, para. 79.


According to the Commission, the evidentiary burden of proof rests on the dominant undertaking to submit concrete evidence to rebut the effects analysis made by the Commission, which the Commission calls “placing the burden of rebuttal on the dominant firm”.408

This makes for good administrative practice since a specific problem is that evidence can be difficult or almost impossible to obtain because of information asymmetry, which is true regarding the obtainment of relevant cost and revenue data. According to the proof-proximity principle, the evidential burden of proof should be allocated to the one who has the evidence available based on probability assessment.409 This could be the case where the accused undertaking challenges the Commission’s foreclosure assessment,410 and the firm is in an advantaged position to produce or extract the evidence form its costing system. Moreover, the emergence of Big Data has started to raise competition concerns and various discussions about the development of new and improved enforcement tools start to appear.411 However, Big Data analytics is also used for managerial purposes, such as to identify and reduce bottlenecks, enhance cost efficiency, reallocate work force, and improve investment decisions.412 Thus, cost and revenue data is collected and bundled with other information with high velocity and in an unstructured manner.

3.6.3 Distinction Between Legal and Evidentiary Burdens

One important distinction between the legal and evidentiary burdens is that the former requires that a question of fact be proven, whereas the evidentiary acts as a burden of persuasion.413 Unfortunately, the line between legal and

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409 According to Volpin, the principle is not explicitly established in EU case law, but makes sound administration of justice and fairness since it evens out the playing field between the parties where power is skewed. See, C. Volpin, The Ball is in Your Court: Evidential Burden of Proof and the Proof-Proximity Principle in EU Competition Law, 51 Common Market Law Review 1159, 2014, p. 1173. The principle seems however to have been applied by the Court of Justice in Intel. See, C-413/14 P, Intel v Commission, ECLI:EU:C:2017:631.
evidentiary burdens is not very clear, and the different terminology used by the EU courts is somewhat confusing. The burden of proof may nonetheless act as an objective rule to deal with uncertainty about evidentiary issues, but the adjudicator must as far as possible eliminate all uncertainty about the substantive rule through reasoning. Consequently, the inclusion of economic reasoning in antitrust law is a mean to enhance legal certainty about the rule, to clarify the objects of proof, and lastly to solve evidentiary inquires through risk-allocation.

3.7 Presumptions in EU Antitrust Law

Presumptions or safe harbour techniques are widely used in the field of antitrust law (they are of course not exclusive to antitrust since they can be found in virtually all legal systems and in every area of law).

Generally, presumptions are often associated with some form of inferred liability or automatic legal consequence, e.g. res ipso loquitur (the facts speak for themselves), implying that the aim of presumptions are two-fold. First, to directly overcome information asymmetry. Second, to increase efficiency through the legal process indirectly since decision-makers only have to apply a cursory analysis.

In the realm of Article 102 TFEU, assessing dominance is one of the compulsory touchstones for finding an infringement. The jurisprudence of the Court of Justice has shown that market shares in excess of 50 per cent establish a presumption of dominance. Clearly, market shares amount to an empirical question and thus an evidentiary presumption. Nonetheless, because presumptions apply throughout the legal process, they can be evidentiary, substantive, and procedural.

According to Bailey, evidential or factual presumptions build on inferring a fact from a known fact,\textsuperscript{422} whereas substantive or legal presumptions refer to which legal test that will apply in the specific case.\textsuperscript{423} Both categories build on inferences, which make the distinctions hard to make. It could however be argued that the distinctive factor is subjective or objective.

One purpose of factual presumptions is to keep error cost as low as possible and at the same time ensure that evidence reach the accurate threshold. Factual presumptions allow the adjudicator to reach a decision that recuses the risk of false convictions, based on life experience where evidence is insufficient.\textsuperscript{424} As long as evidentiary presumptions are limited to catching adverse effects, they should in principle be rebuttable.\textsuperscript{425}

Although the use of evidentiary presumptions is intended to keep error costs low, they are inherently subjective in nature since the inferred fact will ultimately depend on what is common sense to a particular person due to life experience. The use of circumstantial evidence should be limited or abolished because of the strong tendency of type IV error. Consequently, the application of mechanical tests should be extremely restrictively used.

Legal presumptions, like factual presumptions, are fabricated through a common sense approach,\textsuperscript{426} but instruct the members of the court to assume a particular fact as true if a factual element or indicium is proven.\textsuperscript{427} Substantive


\textsuperscript{422} Sometimes these are called factual and evidential presumptions or indirect and circumstantial evidence. See, C. Ritter, \textit{Presumptions in EU Competition Law}, 6 Journal of Antitrust Enforcement 189, 2018, p. 190.


\textsuperscript{426} Common sense or intuition in this context refers to the knowledge which is assumed to be true. Conversely, "experience" refers to knowledge which has been empirically tested and proven. See, C. Ritter, \textit{Presumptions in EU Competition Law}, 6 Journal of Antitrust Enforcement 189, 2018, pp. 192-193.

\textsuperscript{427} "Legal presumptions or presumptions of law (…) go beyond what is sanctioned by extra-legal common sense: they mandate courts to presume that \( q \), given proof of \( p \), even if without
3.7.1 Negative and Positive Presumptions of Harm

Substantive presumptions can take one of two forms. The two systems trigger an automatic conclusion about the conduct based on a cursory inquiry. The strategy may either be assessed by lawfulness (safe harbour) or unlawfulness (formalistic or mechanical). A legal presumption of harm can therefore be negative or positive in nature. For instance, failure to cover a specific cost standard triggers a negative presumption.

Whilst advocates of the effect-based approach may acclaim the Court of Justice in Intel, the Guidance Paper provides a number of negative presumptions. For instance, if the conduct appears, absent any enhancement in efficiency, to only raise obstacles to competition, anticompetitive effects can be inferred. An obvious example, post Intel judgment, is naked restrictions, which never went on appeal. One legal issue with the General Court’s approach to Intel’s naked restriction is that there is no mention of any justification ground for rebutting the presumption of harm, implying that there are de facto some behaviours that fall within the per se rule, even under EU law.

The Commission’s methodology in relation to refusal to supply provides a good example of how positive and negative presumptions can coexist. The such a legal rule, proof of p might not give us good enough reason to take q as true.” Note that common sense presumptions, or presumptions of fact, have no formal legal status and they are derived through extra-legal reasoning, which implies the application of pure logical reasoning. See, R. A. Duffy, Strict Liability, Legal Presumptions, and the Presumption of Innocence, in A. P. Simester (eds), Appraising Strict Liability, Oxford University Press, 2005, p. 130.

legal presumption is that a dominant firm has a prima facie right to refuse sharing its physical and non-physical investments. Thus, as long as the refusal does not fall within the exceptional circumstance doctrine, the refusal is lawful. According to the Guidance Paper, obligating a dominant undertaking to share its infrastructure may reduce the incentives of dominant firm’s investment and innovation, which would possibly cause consumer harm. However, if it can be shown that there is a potential demand and market for a product that must have access to the incumbent’s infrastructure, harm can be inferred.

3.7.2 The Procedural Presumption and the Presumption of Innocence

According to Bailey, procedural presumptions are obligatory by law, they do not contain any substantive assessment. Typically, these types of presumptions regulate the interactions between the parties – the Commission and the accused undertaking. The creation of a procedural presumption is often rationalised by convenience and procedural economy.

A procedural presumption can take different forms, but the most known is probably the presumption of innocence. It follows from Article 6(2) European Convention on Human Rights (ECHR) and Article 48(1) of the Charter of Fundamental Rights of the EU (the Charter), that anyone charged with offence of criminal nature shall be presumed to be innocent. The EU courts have recognised the presumption of innocence in EU antitrust procedures in which sanctions may apply as a fundamental right protected under EU law. Although it follows from Article 23(5) of Regulation 1/2003 that decisions imposing fines shall not be of a criminal legal nature, which would prevent the

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application of the principle, accused undertakings can still benefit from presumption because of the autonomous concepts developed by the ECHR.\textsuperscript{441}

In quintessence, the presumption reflects a system of checks and balances when the Commission assesses an infringement by finding that the defendant has proven its innocence.\textsuperscript{442} The presumption has a direct consequence on the burden of proof,\textsuperscript{443} but also on the standard of proof.\textsuperscript{444}

3.8 Judicial Powers and the Enforcement of EU Antitrust Law

Legal issues are not solved in books, they are settled through litigation. The enforcement system of Article 102 TFEU is administered through a dispute resolution mechanism that enables two types of procedures. On the one hand, the enforcement is handled by the Commission (which is natural since they are the guardians of the Treaties). On the other, the enforcement is managed by the national courts and national antitrust agencies.

3.8.1 The Commission’s Margin of Discretion

3.8.1.1 Margin of Discretion and Judicial Review

It follows from Article 19 TEU that the EU courts shall ensure that the law is observed in the interpretation and application of the Treaties. Accordingly, the EU courts have exclusive jurisdiction in reviewing the legality of a decision adopted by, inter alia, the Commission. It has nonetheless been recognised by the EU courts that the Commission enjoys a margin of discretion when it comes to complex economic and technical appraisals. The legal consequence of this doctrine is first that the Commission exercises a right regarding the legal classification of facts in the case,\textsuperscript{445} and second that the EU courts only exercise a limited review of the adopted decision, i.e. the judicial review limits itself to investigate the legality of the prohibition decision. The case law of the


\textsuperscript{443} The principle is violated if the burden of proof is shifted from the prosecution to the defendant. See, European Court of Human Rights (ECtHR), \textit{John Murray v the United Kingdom}, judgment of 8 February 1996, Application no. 18731/91, para. 54.


EU courts has made the Commission the de facto tribunal of facts with regards to economic and technical matters.\textsuperscript{446}

The margin of discretion doctrine is often referred to under different names, such as the margin of appreciation or the margin of discretion. These doctrines are often referred to as synonyms, but nonetheless it seems that there are some differences in their application for two reasons. First, the margin of appreciation seems to apply in conflicts between contracting states and human rights.\textsuperscript{447}

The origin for the margin of appreciation doctrine emanates from French tradition Conseil d’Etat jurisprudence and applies in administrative and civil law jurisdictions.\textsuperscript{448} Second, the margin of discretion seems to be exclusively used in the context of EU antitrust law.

The legal basis for the doctrine can be traced back to Article 33 of ECSC Treaty. The underlying principle of the Article 33 ECSC Treaty establishes that the Commission is free to make judgments about economic facts or circumstances.\textsuperscript{449} However, the ECSC Treaty was a regulatory framework for public cartels,\textsuperscript{450} which should in principle distinguish it from the antitrust rules laid down in the EC Treaty and the TFEU. In Consten and Grundig, the Court of Justice extended the application of the principle to apply more generally in antitrust law.\textsuperscript{451}

The concept of judicial review can be described as an institutional one, which defines a balance of power between the EU courts in relation to acts and decisions adopted by the Commission.\textsuperscript{452} Thus, the margin of discretion doctrine is a matter of redistribution of powers.\textsuperscript{453} This allocation of powers can be observed in the EU courts’ case law where the intensity of review varies

\textsuperscript{446} “[t]hose appraisals are in principle subject to only limited judicial review, which means that the EU judicature cannot substitute its own assessment of matters of fact for the Commission’s” See, T-336/07, Telefónica v Commission, ECLI:EU:T:2012:172, para. 70.

\textsuperscript{447} For review regarding the compatibility with the judicial review and ECHR see D. Slater, S. Thomas and D. Waelbroeck, \textit{Competition Law Proceedings before the European Commission and the Right to a Fair Trial: No Need for Reform?}, 5 European Competition Journal 97, 2009.


\textsuperscript{449} “[The] Court may not, however, examine the evaluation of the situation, resulting from economic facts or circumstances, in the light of which the [Commission] took its decisions or made its recommendations, save where the [Commission] is alleged to have misused its powers or to have manifestly failed to observe the this Treaty or any rule of law relation to its application.”


depending on the complexity of the case. The rationale for such limited review seems to be that a more comprehensive review could impede the Commission’s abilities to fulfil its tasks as investigator, enforcer, and decision maker in EU antitrust cases. According to Buendia Sierra, the aim of the doctrine is to avoid the EU courts replacing policy decisions taken by the Commission with their own judgment. If this is correct, then it implies that the scope of the doctrine sets the outer boundaries for the Commission’s policy-making. The intensity of judicial review could therefore be an indication of how tolerant the EU courts are of changes to the Commission’s policies (in certain situations).

3.8.1.2 Legal Implications of the Margin of Discretion Doctrine

One particular feature of antitrust litigation is that it is inherently fact intensive. The margin of discretion confers upon the Commission a right to interpret and ascertain matters of economic natures. But that right is not unfettered as it only extends to questions of facts. As such, issues regarding questions of law fall outside the scope of the doctrine. The theoretical distinction is an important one, because the different questions are subject to different standards. In theory, the Commission should be subject to a legality test in matters regarding questions of law whereas the Commission is subject to a manifest error test regarding questions of fact. The Commission’s prohibition decision will be annulled if the reviewing court ascertains that the Commission has committed an error in law. Hence, the Commission cannot deviate too much from the EU courts’ precedents.

The specific feature of antitrust law makes it very difficult to generalise to a substantive universal rule, standard or test that applies to all scenarios. Therefore, the definition of abuse is to an extent rooted in the underlying economics, implying that abuse is a question of fact. However, it follows from the principle of legality that offences and penalties must be defined by law. Consequently, the classification of abuse must follow a sufficiently concrete

457 “[T]he principle requires the law to give a clear definition of offences and the penalties which they attract. That requirement is satisfied where the individual concerned is in a position to ascertain from the wording of the relevant provision and, if need be, with the assistance of the courts’ interpretation of it, what acts and omissions will make him criminally liable” See, C-194/14 P, AC-Treuhand v Commission, ECLI:EU:C:2015:717, para. 40.
and stable standard. Issues regarding which legal standard or economic test that shall apply is always a question of law. Does this mean that there is a clear and dividing line between the concepts? Surely, the question has to be answered negatively. In SOP, the General Court had to decide whether the accused undertaking was eligible for exemption under Article 101(3) TFEU. The issue was the extent or size of the economic sphere. Clearly, that assessment should fall within the scope of the law. However, the General Court applied a manifest error test to assess if the Commission had made an error in law by rejecting the firm’s economic interpretation. The General Court held that the Commission was correct and right in its economic analysis and therefore did not commit an error of law. The General Court pointed out likewise, in VISA that it had to review the lawfulness of the Commission’s legal assessment. The dispute regarded if the Commission had applied the correct legal test. The General Court held, without mentioning the manifest error test, that the Commission had reached a conclusion that was sufficiently justified.

It is easy to categorise the EU court’s approach as circular, but such interpretation disregards the fact that alteration to the economic test may be necessary to the analyse the conduct (chapter 2.1.2). Accordingly, what is the correct substantive standard or test depends on what conclusion that can be drawn in the specific case.

3.8.1.3 The Test of Manifest Error of Assessment

The concept of complex economic and technical assessments’ actual scope and substance is far from clear. Of course, a comprehensive review falls outside the latitude of this dissertation, but it will be submitted that there is an interplay between the Commission and the EU courts. On the one hand, the Commission’s right to form EU antitrust policy and on the other hand, how the EU courts assess these economic principles and filter them through the judicial process to turn them into operating legal principles.

The EU courts have frequently held that the purpose of limited judicial review is to verify whether the relevant procedural rules have been complied

with, whether the statement of the reasons for the decision is adequate, whether the facts have been accurately stated, and whether there has been any manifest error of appraisal or a misuse of powers. At first glance, it is easy to assume that it is just a restatement of Article 263 TFEU with the addition of the phrase “manifest error of appraisal”. However, as a legal rule it follows from Article 263 TFEU that the Court of Justice shall review the legality of the Commission’s decision. The design of Article 263 TFEU makes it sufficiently clear that the Court of Justice has the power to conduct a comprehensive (neither a limited nor an unlimited) review of law, facts and what conclusions that can be drawn thereof. One complexity of antitrust analysis is that there is an intrinsic link amongst the aforementioned properties, which arguably makes the Commission’s enforcement economic by its nature. Another related complexity is that these features are intertwined, which makes them indistinct from each other.

Although the EU courts must exercise control over the law as well as the facts that the Commission relies upon in its decision, and the fact that these can be difficult to distinguish does not warrant a limited judicial review. The rationale for limited review is based on the idea of balancing power between the EU institutions. The Commission in its role as Guardian of the Treaties must therefore be able to enforce the law, and hence to shape, calibrate, or determine which economic effects that are non-compliant with the aims and objectives of the EU. The issue with identifying anticompetitive behaviours is that a quick look at the form does not suffice for the legal and factual qualification in most instances. The assessment must therefore incorporate economic theory together with the relevant legal test. These antitrust policy and strategy statements fall within the scope of administrative discretionary policy, which means that the Commission must be able to choose autonomously an economic theory that can explain the causal link between the behaviour and the adverse effects. The discretionary powers, which involve a degree of

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“value judgment”, give the Commission the power to lawfully choose between different outcomes. In sharpening EU antitrust policy, the Commission may issue soft law instruments and the Guidance Paper is one such tool. According to Article 288 TFEU notices, guidelines, and priority policy papers fall outside the scope of legally binding acts which the EU courts must observe in their substantive assessment. However, these tools can peg down the Commission. In certain circumstances, the legal effect of these soft law instruments can limit the Commission’s own discretion.

In Ziegler, the General Court held that the Commission cannot deviate from its guidelines insofar they raise a safe harbour based on legitimate expectations. This is implying that the Commission has exhausted its right to shape antitrust policy without first withdrawing the soft law instrument. Accordingly, the Commission cannot apply other cost standards than those that follow from the Guidance Papers. Of course, such an interpretation has nothing or little to do with the Commission’s actual calculation and/or method when assessing those cost yardsticks. The chosen method for establishing an abusive act is subject to a limited review and thus a manifest error test. It therefore follows that the EU courts can only cursory control the capability of the chosen method to calculate the relevant costs that the Commission has made, and the application and its mathematical operations. The General Court held in Deutsche Telekom that the Commission is legally correct in assessing the abuse nature based on the dominant firm’s own cost structure instead of actual or potential competitors in the market. Moreover, for the purpose of calculating a margin squeeze, the Commission is entitled to classify and establish which revenues and costs are relevant for its assessment of the call services.

473 According to Article 289(1) TFEU, the Commission is entitled to propose legislative acts.
474 “[The] Guidelines are capable of producing legal effects. Those effects stem not from any attribute of the Guidelines as rules of law in themselves, but from their adoption and publication by the Commission. By adopting and publishing the Guidelines, the Commission imposes a limit on its own discretion; it cannot depart from those rules under pain of being found, where appropriate, to be in breach of the general principles of law, such as equal treatment or the protection of legitimate expectations and legal certainty. See, T-59/02, Archer Daniels Midland v Commission, ECLI:EU:T:2006:272, para. 43.
Note that the General Court in France Télécom seems to imply that the accused undertaking is allowed to put forward evidence to challenge the EU courts’ limited review. However, the bar is set extremely high since the undertaking must prove that the Commission has used an unlawful method.481 The limited review is arguably based on a system of external checks and balances to control that the Commission’s economic policy corresponds with the legal principles of EU law.482 This separation of powers explains why the EU court must refrain from making its own economic assessment of the facts,483 i.e. the Commission is the EU enforcer, not the EU courts.484 The manifest error of appraisal standard captures legal and factual infringements485 made by the Commission. The decision of the Commission will be voided only when the error is severe or irrational enough to amount to a violation of the Treaties, secondary EU legislation,486 or general principles of EU law.487 The scope of the margin of discretion doctrine is thus limited to the evaluation of facts,488 in the light of the law. Nonetheless, the doctrine possesses at least two problems. First, it is uncertain when an economic appraisal is so complex as to qualify under the doctrine. Second, the lines between an evaluation of facts and interpretation of the law have become blurred, especially in antitrust law. This is because an interpretation of the law is a necessity regardless of whether the assessment of economic facts is sufficient to ascertain the legal claim. In RJB Mining, the General Court seems to imply that manifest denotes that the failure to discern legal rules by the Commission is so grave that it must be an obvious error in the evaluation.489 But the error must

489 “It suffices to observe in that regard that, as regards the evaluation of the situation resulting from economic facts or circumstances underlying the contested decision, it is settled case-law that the Court, in conducting its review, must confine itself to ascertaining whether the Commission misused its powers or manifestly failed to observe the provisions of the ECSC Treaty or any rule of law relating to its application. In that context, the term ‘manifest’ in Article 33 presupposes that the failure to observe legal provisions is so serious that it appears to arise from an obvious error in the evaluation, having regard to the provisions of the ECSC Treaty, of the
have a decisive influence or effect on the outcome of the decision made by the Commission. That could be the case when the Commission applies an economic test on conceptually wrong facts, i.e. when it is impossible or very difficult to draw a coherent and sufficiently correct conclusion.

For instance, in Corsica Ferries France, the General Court held that the Commission had committed a manifest error of assessment. The Commission had applied the relevant test to the wrong factual context. As such, the Commission’s conclusion was materially incorrect. Consequently, the relevant time horizon becomes particularly important. The more speculative the Commission’s effects appraisal becomes, due to nature of assessing the possible emergence of anticompetitive effects in the future, the judicial review intensifies because the relevant facts could undergo a manifest change due to political, market, and social economic factors. What could be regarded as anticompetitive in the imminent future, may have become neutral or even pro-competitive later on. Thus, distance in time horizon triggers a raising of the evidentiary bar that the Commission must meet in order to draw or infer the correct legal conclusion.

3.8.2 Enforcement of EU Antitrust Law in National Courts
The enforcement of EU (antitrust) law builds on a cooperative federalism. The aim is to extend adjudicatory power on to national courts. As a result of the decentralised model, national courts operate as the Court of Justice’s downstream arm to safeguard judicial protection and enforce EU law.
The system is based on an interplay between national procedural law and EU substantive law. According to the system, national courts shall apply Article 102 TFEU in accordance with their own procedural laws.\textsuperscript{494} The system is not without problems, as material and procedural issues easily conflate.\textsuperscript{495}

According to Sibony, although there is a distinction between relevant and irrelevant facts to prove an abuse, the line between law and fact is indistinct.\textsuperscript{496} The law-fact distinction is one of the most challenging legal issues to tackle.\textsuperscript{497}

The lack of a clear-cut line could be the result of precognitive biases in legal education, which leads to misunderstandings of how the EU legal taxonomy catalyses.

EU law is the abstract result of integrating a number of distinctive national legal systems. Each system deals with questions of law and questions of fact differently.\textsuperscript{498} The outcome of a litigation would therefore be the result of, inter alia, how the legal system manages the classification. This raises the confusion regarding the doctrine of procedural autonomy (or principle of procedural autonomy). The fact that the EU enforcement system is based on a cooperative federalism that piggybacks on member states’ procedural systems\textsuperscript{499} could provide an explanation to why there is a perceived law-fact indistinction in the legal tests.

3.8.2.1 Sincere Cooperation and Procedural Autonomy

The doctrine of procedural autonomy states that EU law is to be enforced according to national procedural law.\textsuperscript{500} The doctrine is nonetheless one of the

\begin{footnotes}
\footnote{495}{According to Galetta, the issue of distinguishing procedural law from substantive law is two-fold. First, a classification based in national law would result in different outcomes. Second, EU substantive- and procedural law is broader in scope than their counterparts in member states. See, D-U. Geletta, \textit{Procedural Autonomy of EU Member States: Paradise Lost?: A Study on the “Functionalyzed Procedural Competence” of EU Member States}, Springer, 2010, pp. 1-2.}
\footnote{496}{A-L, Sibony \textit{Le juge et le raisonnement économique en droit de la concurrence}, L.D.G.J., 2008, paras. 668, 678 and 823.}
\footnote{498}{F. Castillo De La Torre, \textit{Evidence, Proof and Judicial Review in Cartel Cases}, 32 World Competition 505, 2009, p. 506.}
\footnote{499}{R. Schütze, \textit{From Dual to Cooperative Federalism: The Changing Structure of European Law}, Oxford University Press, 2009.}
\footnote{500}{P. Craig and C. de Búrca, \textit{EU Law Text, Cases and Materials}, 7th edition, Oxford University Press, 2020, p. 263.}
\end{footnotes}
most misunderstood legal concepts in EU law. The mix-up seems to emerge in a procedural law fallacy. The fallacy is that national procedural law is exempted or immune from EU law, making national courts, inter alia, classify the facts and attach evidentiary weight without any limitations. Indeed, interpreting the doctrine in such a manner would most likely undermine and destabilise the effective and consistent adjudication of Article 102 TFEU.

To fully appreciate the doctrine, it is necessary to observe its underlying rationale and that it does not exist in a vacuum. The enforcement of EU antitrust law on a national level is based on a cooperative federalism, that has its legal basis in the principle of sincere cooperation as set out in Article 4(3) TEU. The principle establishes that the Union and the member states shall collaborate to realise Treaties, e.g. enabling and facilitating EU antitrust law.

Against this backdrop, the notion of procedural autonomy should be understood as an interplay between the Union and member states on three levels: institutional, procedural, and principle. On the institutional level, the doctrine means that national institutions (antitrust authorities and courts) are at the Union’s disposal to enforce the EU antitrust system. On the procedural level, in the absence of EU rules, it is the member states’ responsibility to determine the relevant procedural conditions that secure the effective enforcement. On the principle level, legal principles pre-empt member states from using, e.g. procedural autonomy, to obstruct the effectiveness of EU law.

The Court of Justice’s case law on sincere cooperation and procedural autonomy can be summarised as follows:


502 As Wallerman puts it: “Procedural lawyers sometimes entertain an attitude towards EU law which [resembles] that of medieval map makers towards the unknown; we feel comfortable in our own jurisdictions, we may even venture into comparative research, but beyond the borders of our national legal systems, there be dragons.” See, A. Wallerman, *The Impact of EU Law on Civil Procedure*, 21 Tijdschrift voor Civiele Rechtspleging 91, 2013, p. 91.

503 C-74/14, *Eturas and Others*, ECLI:EU:C:20016:42, para. 35.


505 “Pursuant to the principle of sincere cooperation, the Union and the Member States shall, in full mutual respect, assist each other in carrying out tasks which flow from the Treaties.”


507 “In] the absence of Community rules on this subject, it is for the domestic legal system of each Member State to designate the courts having jurisdiction and to determine the procedural conditions governing actions at law.” See, C-33/76, *Rewe v Landwirtschaftskammer für das Saarland*, ECLI:EU:C:1976:188, para. 5.


1. If the EU has its own procedural rules, they pre-empt national rules.

2. In the absence of EU procedural rules, member states enjoy procedural autonomy.

3. National courts have the duty to enforce EU law in accordance with their national rules and procedures.

4. Member states’ procedural autonomy is subject to limitations due to the principles of equivalence and effectiveness.

EU procedural rules can be legislative or judicial. The justification for unifying and harmonising certain procedural rules is to erode national rules that may impede and/or threaten the effective and unified application of EU law. In the area of antitrust, the EU has enacted certain procedural rules. Council Regulation (EC) 1/2003 seeks to establish a system that ensures that the EU antitrust provisions are applied effectively and uniformly across the EU. The Regulation contains procedural rules that take precedence over member states’ procedural autonomy, but only to a limited extent, e.g. regarding the burden of proof.

The vast majority of EU procedural rules nevertheless emanate from case law. The Court of Justice has ruled that the notion of sincere cooperation obligates member states to put in place institutions and procedures to fully ensure the full effectiveness of EU law (effet utile). As a corollary, national procedural laws are incompatible with EU law if they conflict or diverge from any other EU legal canon, in particular the principles of equivalence and effectiveness. These principles can be viewed as practical expressions of the principles of primacy and direct effect, with practical implications for all

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512 See, e.g. C-213/89, The Queen mot Secretary of State for Transport, ex parte Factortame (Factortame I), ECLI:EU:1990:257, para. 21.
states of proceedings, e.g. party autonomy and iura novit curia, res judicata, presumptions, burden of proof, and evidentiary matters.

3.8.2.2 The Principles of Equivalence and Effectiveness

The principles or doctrines of equivalence and effectiveness could be regarded as a legal package developed by the Court of Justice. The legal implication of the package is a judicial harmonisation process of national procedural laws.

The doctrine of equivalence is straightforward and should be unproblematic when national courts are applying Article 102 TFEU. The underlying rationale is that national courts should apply the EU antitrust provisions in the same manner as their domestic equivalence.

Thus, the doctrine of equivalence is essentially a formal procedural requirement of non-discrimination.

The doctrine of effectiveness or effet utile requires national courts to oversee that EU law-based claims are not rendered practically impossible or excessively difficult. The doctrine establishes an absolute minimum threshold on national procedural systems. The doctrine is however polycentric in

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515 See, e.g. Joined Cases C-222/05 to C-225/05, J. Van der Weerd and Others v Minister van Landbouw, Natuur en Voedselkwaliteit, ECLI:EU:C:2007:318.
516 See, e.g. C-234/04, Kapferer, ECLI:EU:C:2006:178.
517 See, e.g. C-8/08, T-Mobile Netherlands and Others, ECLI:EU:C:2009:343.
scope,\textsuperscript{524} as it is entrenched on both a substantive and procedural level.\textsuperscript{525} The polycentricity implies that the doctrine has two distinct applications.\textsuperscript{526}

On a substantive level, the effet utile is hermeneutical, i.e. it is an interpretative tool,\textsuperscript{527} meta-rule,\textsuperscript{528} or principle,\textsuperscript{529} that seeks to ensure that the EU objectives are achieved in practice. The tool applies where the interpretative result is ambiguous,\textsuperscript{530} i.e. there are competing meanings.\textsuperscript{531} As a collision method, where the effet utile applies the EU law will be constructed to achieve the intended EU objective.\textsuperscript{532} As such, the effet utile is not a synonym for teleological reasoning nor is it a standalone principle, it is an interpretative tool to solve conflicts of norms in favour of teleology.\textsuperscript{533} The practical implications


\textsuperscript{526} According to Galetta, the issue of distinguishing procedural law from substantive law is two-fold. First, a classification based on national law would result in different outcomes. Second, EU concepts of substantive and procedural law are broader in scope than their counterparts in member states. See, D-U. Geletta, \textit{Procedural Autonomy of EU Member States: Paradise Lost?: A Study on the “Functionalyzed Procedural Competence” of EU Member States}, Springer, 2010, pp. 1-2.


\textsuperscript{530} “[Where] a provision of [EU law] is open to several interpretations, only one of which can ensure that the provision retains its effectiveness, preference must be given to that interpretation.” See, C-223/98, \textit{Adidas}, ECLI:EU:C:1999:500, para. 24


\textsuperscript{533} S. Mayr, \textit{Putting a Leash on the Court of Justice? Preconceptions in National Methodology v Effet Utile as a Meta-Rule}, 5 European Journal of Legal Studies 8, 2012, p. 17, and M. Bobek,
of the effet utile are twofold. First, what might usually be viewed as questions of proof under the national system, is in fact an integral part of the substantive law on exclusionary abuse (legal tests). Second, national procedural rules which are deemed as obstacles to the effective enforcement of Article 102 TFEU are eroded, e.g. rules on evidence and standard of proof.

On a procedural level, the doctrine of effectiveness is an eliminatory rule, i.e. it is a tool that seeks to prevent national courts from applying national rules that pose a practical threat to effective judicial protection under EU law. The implication is that there is an absolute minimum standard of procedural guarantees that the national system must provide and national courts must apply. The corollary of the doctrine is that e.g. the right to a fair trial must not be practically impossible or excessively difficult. The first limb refers to situations where the legal system lacks judicial remedies, whereas the second limb applies where the substantive law(s) make it too difficult for EU law-based claims to be acquired. As the law stands, the last limb is hard to grasp.

3.8.2.3 The Procedural Rule of Reason and Judicial Harmonisation
The doctrines of effet utile and effectiveness are far-reaching on member states’ procedural autonomy. In fact, many legal scholars conclude that the notion of procedural autonomy does not exist due to the doctrines.

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535 B. Lindell, Civil Processen: Rättegång samt Skiljeförfarande och Medling, U 4, iustus, 2017, s. 65.
536 “The principle of effectiveness requires however that national rules governing the assessment of evidence and the standard of proof must not render the implementation of EU competition rules impossible or excessively difficult and, in particular, must not jeopardise the effective application of Articles 101 TFEU and 102 TFEU.” See, C-74/14, Eturas and Others, ECLI:EU:C:20016:42, para. 35.
The legal duty that follows from the doctrines is that national courts must carry out a balancing or proportionality exercise between the effective enforcement of Article 102 TFEU and the dominant undertaking’s procedural rights under EU law.\(^{542}\) The scope of the effective judicial protection is extensive in theory,\(^{543}\) and may be regarded as quite intrusive on member states’ procedural autonomy.\(^{544}\) This implies that there is a need to strike a balance between procedural autonomy on the one hand and principles of effectiveness on the other hand. The Court of Justice’s ruling in Van Schijndel is considered to introduce such a test.\(^{545}\) The test, which has been interpreted as a procedural rule of reason,\(^{546}\) aims to strike a balance between the effective application of EU law and member states’ legitimate interests.\(^{547}\)

However, the test is extremely difficult to apply in practice and the Court of Justice seems to pick the doctrine of effectiveness over procedural autonomy on routine.\(^{548}\) The perception that the Court of Justice applies the effet utile on routine may be explained by the ancillary function national courts

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\(^{542}\) The Court of Justice has, since the Treaty of Lisbon came into force, discussed the issue of national procedural law in terms of effective judicial protection. It follows from Article 19(1) TEU in conjunction with Article 47 of the Charter of Fundamental Rights of the EU (the Charter) that member states must provide procedures that ensure effective legal protection.


\(^{544}\) Note that Article 52(1) of the Charter allows for limitations, but only insofar they are prescribed by law and are necessary and genuine to meet the objectives of general interest recognised by the EU or the rights and freedoms of others. See, H. E. Ellingsen, *Effective Judicial Protection of Individual Data Protection Rights: Puškár*, 55 Common Market Law Review 1879, 2018, p. 1880.

\(^{545}\) “[Each] case which raises the question whether a national procedural provision renders the exercise of rights conferred by the [EU] legal order on individuals impossible or excessively difficult must be analysed by reference to the role of that provision in the procedure, its progress and its special features, viewed as a whole, before the various national instances. In that context, it is necessary to take into consideration, where relevant, the principles which lie at the basis of the national legal system, such as the protection of the rights of the defence, the principle of legal certainty and the proper conduct of the proceedings.” See, Joined Cases C-222/05 to C-225/05, *J. Van der Weerd and Others v Minister van Landbouw, Natuur en Voedselkwaliteit*, ECCLI:EU:C:2007:318, para. 33.


have in the cooperation and the lack of clarity when applying the collision method. The end result is nonetheless the same: an EU procedural primacy. The legal justification for harmonising EU antitrust procedural rules is that conflicting national procedural rules can restrict the effective and uniform application for Article 102 TFEU.

3.9 Evidence in Antitrust Procedures

3.9.1 The Role of Expert Opinions and Scientific Evidence in Antitrust Proceedings

The acceptance by the EU courts for the more economic approach to Article 102 TFEU has evidentiary consequences. The Commission must now establish to the adequate legal standard that the dominant undertaking’s behaviour is capable of producing the alleged foreclosure effect(s). Ascertaining the probability of a certain economic effect on social welfare requires, however, an introduction of legally unorthodox approaches to evidence.

In order for the Commission to establish the purported effects of the infringement, the use of economic and econometric evidence is an indispensable tool, but such evidence can also lead to the problem of experts (battle of the reports), and the theoretical optimum problem.

The battle of the reports is a result of opposite opinions about what inferences and conclusions can be drawn from certain facts. On appeal, the accused undertaking will submit its own interpretation by a partisan expert to challenge and cast doubt on the assessment made by the Commission. The objective is to annul the infringement decision.


551 According to Galetta, the issue of distinguishing procedural law from substantive law is two-fold. First, a classification based in national law would result in different outcomes. Second, EU concepts of substantive and procedural law are broader in scope than their counterparts in member states. See, D-U. Geletta, *Procedural Autonomy of EU Member States: Paradise Lost?: A Study on the “Functionalized Procedural Competence” of EU Member States*, Springer, 2010, pp. 1-2.


553 The parties may present expert evidence and they have full discretion to decide what elements they what to address before the EU courts. This can be done in two ways, either through
Partisan expert evidence has been used to some extent, e.g. when the issues involve accounting and/or finance, such as when distinguishing the actual costs from the yearly turnover,\(^{554}\) or assessing the financial health of an undertaking.\(^{555}\)

In AKZO, the appellant submitted a partisan expert’s report which, inter alia, contained an evaluation of the undertaking’s costs.\(^{556}\) In Deutsche Telekom, the applicant submitted an expert’s opinion on when a margin squeeze may occur.\(^{557}\) Partisan expert’s reports have also been submitted before the Commission without any success.\(^{558}\) According to the Guidance Paper, the Commission will prohibit an exclusionary strategy if it is established, based on cogent and convincing evidence, to result in consumer harm by using, among others, qualitative and quantitative evidence.\(^{559}\)

Assessing the robustness of others’ empirical assessments can be a difficult task even for economists or other experts.\(^{560}\)

The theoretical optimum problem stipulates that members of the court may not possess the necessary experience to draw the right or suitable conclusions from the evidence or to assess which report trumps the other in terms of reliability. The optimum would of course be that adjudicators have the expert knowledge in both legal and other relevant scientific approaches relevant to the case. Clearly, such a scenario is not feasible in reality. According to Article 70 on the Rules of Procedure of the Court of Justice, the Court of Justice may at any time order an expert opinion ex officio.\(^{561}\) The purpose of a neutral expert report is to aid the Court of Justice with narrowing down the scope of disputes over facts and particularly when there are disputes over which scientific methods of interpretation should apply.\(^{562}\)

The commissioning of expert

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the submission of an expert’s report in the written pleadings or through an oral presentation during the hearing. Although it is extremely rare, the opposing party may examine the expert through questions, but one shall not put an equal sign with cross examination. See, K. P. E. Lasok, *The European Court of Justice: Practice and Procedure*, 2nd edition, Butterworths, 1994, p. 398.


\(^{555}\) Order T-198/01 R, Technische Glaswerke Ilmenau v Commission, ECLI:EU:T:2002:90, paras. 20, 35, 39, 44 and 45.


\(^{557}\) T-271/03, Deutsche Telekom v Commission, ECLI:EU:T:2008:101, paras. 153


\(^{561}\) According to Article 25 of the Statute of the Court of Justice of the European Union, the Court of Justice may at any time entrust any individual, body, authority, committee, or other organisation it chooses with the task of giving an expert opinion.

opinions by the Court of Justice in antitrust proceedings is more of an exception than a rule.\textsuperscript{563}

3.9.2 Admissibility of Scientific Evidence: The Daubert Principle

One characteristic of antitrust litigation is that cases often are complex in nature due to fact intensity and submission of different scientific theories. This can result in too much data before the courts, which makes proceedings almost unmanageable (data-rich distortion).\textsuperscript{564}

Data-rich distortion is obvious before the EU courts, since they are only guided by the principle of unfettered evaluation of evidence,\textsuperscript{565} and thus the credibility of evidence.\textsuperscript{566} Although it can be difficult to assess the credibility and evaluating arguments of the scientific nature, especially if they are a result of methodology considerations by the expert,\textsuperscript{567} the EU courts need to limit data distortion. Contrariwise,\textsuperscript{568} the US courts are guided by the so-called Daubert principle.\textsuperscript{569} The principle is codified in Rule 702 of the Federal Rules of Evidence.\textsuperscript{570}

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\textsuperscript{563} Indeed, the Court of Justice has only appointed neutral experts on two occasions, both dealt with evidence concerning concerted practices. See, C-48/69, ICI v Commission (Henceforth, Dyestuffs), ECLI:EU:C:1972:70, and Joined cases C-89/85, C-104/85, C-114/85, C-116/85, C-117/85 and C-125/85 to C-129/85, A. Ahlström Osakeyhtiö and others v Commission (henceforth, Wood Pulp II), ECLI:EU:C:1993:120.


\textsuperscript{565} "[The] activity of the [Court of Justice] and thus also that of the [General Court] is governed by the principle of the unfettered evaluation of evidence, unconstrained by the various rules laid down in the national legal systems. Apart from the exceptions laid down in the Communities’ own legal order, it is only the reliability of the evidence before the Court which is decisive when it comes to its evaluation.” See, opinion of Advocate General Vesterdorf, Joined cases T-1/89 to T-4/89 and T-6/89 to T-15/89, Rhône-Poulenc SA and others v Commission, ECLI:EU:T:1991:38, p. 954.


\textsuperscript{569} The principle developed by the US Supreme Court in Daubert v. Merrell Dow Pharmaceuticals 509 U.S. 579 (1999).

\textsuperscript{570} Rule 702 of the Federal Rules of Evidence states: If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.
\end{small}
The Daubert principle sets out the admissibility of expert evidence by creating a barrier against “junk science” reaching the courtroom. The rationale for the principle is that judges should act as gatekeepers to prevent arguments based on untested and/or unreliable theories to support a claim, implying that the principle acts as a screening device to test the merits of scientific underpinnings. The Daubert principle stipulates there are three conditions that must be taken into account before allowing the evidence:

1. whether the submission is based upon sufficient facts or data,

2. is the product of reliable principles and methods, and

3. whether the principles and methods have been applied reliably to the facts of the case.

Importantly, the Daubert principle can be said to contain a de facto fourth condition (although, it could equally be argued that the additional condition falls within the scope of the third). The fourth criteria examines the quality of the expert knowledge. The person in question must have the necessary understanding not only of the scientific principles and methods, but also the sufficient knowledge of the context. An illustrative US antitrust case is Nelson v. Monroe Regional Medical Center. The case involved a clinic’s refusal to continue treating patients. The court dismissed the plaintiffs’ expert on the ground that, although he was a PhD in economics, he had no background in competition economics and primary care. In addition, the plaintiffs’ expert was not part of any association or organisation that specialised in antitrust law and economics.

The case seems to open up for the possibility that one could assimilate expert knowledge due to experience. Thus, formal education is not a precondition in of itself; it is merely a means to achieve expert status. Former EU jurisdictions support this conclusion, e.g. the English High Court in an abuse of dominance case. The judgment indicates that the necessary and sufficient

574 Case, Nelson v. Monroe Regional Medical Center, 925 F 2d 1555 (1991), para. 73.
576 Case, Chester City Council v Arriva [2007] EWHC 1373 (Ch).
knowledge can be obtained by other means than formal training. In Skibsværftsforeningen, the General Court dismissed the applicant’s experts for, inter alia, lack of knowledge of the industry.

According to Lasok, the only decisive rule, except in limited circumstances, is the credibility of evidence. Even though the EU courts are not bound to agree with the expert’s report, MacLennan notes the Court of Justice has occasionally shown reluctance to even glance at documents submitted by the parties. That might be when the report is relevant but produced to question and/or deemed unfounded; the report does not put forward “the slightest evidence” in support of its conclusions; the conclusions in the report are based on complex premises which do not permit sufficiently definite conclusions; or when the expert lacks qualifications material for the issue at hand and has insufficient knowledge of facts. However, the Court of Justice has not produced any test for the credibility and evaluation of expert evidence. Although an evaluation of the expert can be a difficult task for the Court, there is still a need for guidance on how an appraisal of experts should be conducted. The Daubert principle can serve as blueprint to narrow down the battles of the reports and secure the scientific quality of those reports in EU antitrust litigations, which is especially true regarding economic evidence.

577 One question was if the Court would allow testimony from an expert that was not an economist, but did have extensive business experience of the industry. “Whilst the concepts required to be investigated in a competition law case are no doubt most easily grasped, explained and opined upon by trained economists, they are concepts drawn from and related to the operation of the markets of the real world; and I regard it as unreal the thought that it is only trained economists with a list of learned articles to their name who have the expertise necessary to understand them and to help the court on their application to a particular case.” See, Case, Chester City Council v Arriva [2007] EWHC 1373 (Ch), para. 147.

578 The question whether the experts had made any attempts to acquire this knowledge was never under consideration. See, T-266/94, Skibsværftsforeningen and Others v. Commission, ECLI:EU:T:1996:153.


585 That is of course true for anyone that is not familiar with the scientific field.
3.9.3 Evidence and Profitability

3.9.3.1 Economic Evidence
Article 18, 19, and 20 of Regulation 1/2003 empower the Commission to request or carry out a dawn raid to get access to a company’s cost data or other relevant information. Carrying out dawn raids, whilst effective, is a resource-intensive practice, which may additionally take substantive time management. Therefore, requesting the relevant information from the accused undertaking can be equally as effective.

In 2010, DG Competition published a staff working paper for the submission of economic evidence and data collection in cases concerning the application of Articles 101 and 102 TFEU and in merger cases (Best Practices). The purpose of the Best Practices is to enhance transparency and predictability in EU antitrust proceedings by creating good conditions for the suggestion, alongside with the presentation of relevant economic evidence that may be taken into account in the assessment.

The Best Practices are not a statement of law, they only set out the rationale of the Commission with regards to what evidence it might take into consideration and should be understood as recommendations and guidance. This is exactly the same as with the Guidance paper, since it merely states the rationale for the Commission’s prioritisation and is not a statement about the law.

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587 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases. Note that some national antitrust authorities also have published Best Practices for economic evidence, e.g. the German Bundeskartellamt and Competition & Markets Authority (CMA Best Practices). In addition, the Swedish antitrust agency as published a report on complex economic analysis and their application by the Swedish courts. See, R. Sandin, Avancerad ekonomisk analys i mål om tillämpningen av konkurrenslagen i svensk domstol, 2003.

588 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, paras. 5-6.

589 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, paras. 5 and 7.
3.9.3.1.1 The Best Practices’ Basic Threshold and Requirements

In its role as an administrative authority, the Commission is required to make a decision within an appropriate or statutory time limit. Therefore, the submission needs to meet a certain threshold. Among other things, there are certain minimum technical requirements that the economic analysis needs to meet.

According to the Commission, any theoretical claim has to be supported, explicitly or implicitly, by an economic model that relies on assumptions that are consistent with the facts of the industry under consideration. Occasionally these assumptions should be stated clearly in the submission in order to check its logical consistency or to use the model as the theoretical basis for an empirical estimation. The Best Practices make it explicitly clear that:

By their very nature, economic models and arguments are based on simplifications of reality. It is therefore normally not sufficient to disprove a particular argument or model, to point out that it is "based on seemingly unrealistic assumptions". It is also necessary to explicitly identify which aspects of reality should be better reflected in the model or argumentation, and to indicate why this would alter the conclusions.

The statement should not be taken to diminish the value that economic models can provide. These models are of course indispensable tools in the overall competitive assessment and the fact that they are simplifications does not automatically mean that they are incorrect. Typically, the most useful economic theories are uncomplicated and clear. The inherent quality of economic models is determined by their scientific underpinnings, but also how well the underlying assumptions match the corresponding economic facts. As such, it is essential to detect the relevant empirical data on which the economic theory rests as well as to consider the possibility that data may either not be available or be distorted in some way. According to the Best Practices,

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590 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, para. 10.
591 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, para. 12.
failure to observe the aforementioned does exclude the application of the model, but the conclusions or inference should be treated with caution.595

According to Bishop and Walker, any empirical analysis presented before the antitrust agency should be based on the four cumulative criteria of being based on a clear economic theory, which implies the use of testable propositions that are intuitive and replicable.596 The evidentiary value that economic theory provides is the development of testable hypotheses against the collected data. Thus, the economic analysis seeks to accept or reject the likelihood of competitive harm based on empirical data. For instance, according to the Guidance Paper, the Commission will assess the probability of anticompetitive foreclosure grounded in economic empirical data relating to cost and sale price of the accused undertaking.597

3.9.3.1.2 Empirical Support and Methodological Choices
Regulation 1/2003 authorises the Commission to gather evidence based on quantitative (numerical variables) and qualitative (categorical variables) records. According to Article 18 of the Regulation, the Commission can instruct the accused firm to submit relevant information. Article 19 of the Regulation also empowers the Commission to take statements in order to secure reliable information, which must be recorded.598 This is implying that quantitative variables fall outside the scope of Article 19 for the purpose of evidence gathering. Consequently, the Commission can only use Article 23 of the Regulation to fine a firm for providing numerical misleading information, which is consistent with the privilege against self-incrimination or the right of silence.

The Best Practices make it clear that the relevant and reliable evidence can consist of quantitative or qualitative data during the administrative procedure.599 In its enforcement, the Commission has used both numerical and non-numerical variables as evidence and submission of qualitative evidence by the dominant firm has to be verifiable,600 which has to be regarded as an obvious

595 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, para. 23.
599 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, para. 2.
requirement. One important shortcoming of the Best Practices is that they only set out the methodological choices regarding quantitative analysis. The most apparent empirical evidence of anticompetitive effects in the market is to quantifiably disclose the correlation between the alleged abuse and actual competition on the relevant market. However, since Article 102 TFEU is a prophylactic rule, it is enough to show that the conduct is capable of or potentially liable to oust competition. Consequently, the existence or departure of competitors can yield mixed results. The fact that the dominant undertaking’s competitors show growth under the alleged abuse should indicate that the practice was not capable of producing anticompetitive effects. The General Court held in British Airways that quantitative data regarding some positive gains by competitors is not enough to alter the conclusion of the practice’s capability. As such, it is important to frame the quantitative evidence so it accurately describes the measurement of anticompetitive effects.

One specific issue with evidence-based investigations is that quantitative data is not always available, which does not signify that facts are absent altogether. Instead, evidence has to be obtained based on a qualitative approach. Note that there is no scientific rule that stipulates that data must emanate from quantitative measurements. Reliable data can equally spring from qualitative observations, such as names, symbols and/or perceptions. For instance, assessing demand substitutability is not limited to arithmetical data, it can also include non-quantifiable factors such as product characteristics and intended use. In AstraZeneca, the qualitative data displayed evidence regarding the assessment of competitive constraints and that the source of inertia stemmed from non-quantitative factors. Indeed, certain inquiries are strengthened through the use of both quantitative and qualitative evidence and data analysis (mixed method or triangulation method).

601 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, paras. 24-31.
602 “In any event, it is worth noting that it appears from the documents before the Court that Forbruger-Kontakt managed to maintain its distribution network despite losing the volume of mail related to the three customers involved and managed, in 2007, to win back the Coop group’s custom and, since then, that of the Spar group.” See, C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 39.
603 “Moreover, the growth in the market shares of some of BA’s airline competitors, which was modest in absolute value having regard to the small size of their original market shares, does not mean that BA’s practices had no effect. In the absence of those practices, it may legitimately be considered that the market shares of those competitors would have been able to grow more significantly” See, T-219/99, British Airways v Commission, ECLI:EU:T:2003:343, para. 298.
605 Commission Notice on the definition of the relevant market for the purpose of Community competition law, OJ 1997 C 372/5, para. 7.
The use of numerical and non-numerical variables as sources of facts when conducting investigations is not without controversy. One side of the spectrum uses statistical techniques and large sample sizes to make generalisations about some phenomena. Conversely, the opposite side of the spectrum uses small-scale samples and interrogation techniques to understand and extract facts about the complex socio-political phenomena. Triangulation methods have gathered a strong use in social and behavioural research, e.g. accounting and psychology. The purpose of multi-methodology is to incorporate conceptual matters from a variety of academic disciplines and to combine quantitative and qualitative data assembly and analysis. This builds stronger and more robust theoretical frameworks. For instance, all quantitative methods are underpinned by certain assumptions, or the peer reviewer will most likely assume certain facts about the quantitative analysis.

To avoid misunderstandings and suspicion, the empirical report should clearly state which assumptions have been made or which deviations from well-established measurements or tests have been done. For example, if an α level (alpha level) other than .05 has been used, the report should clearly state the reason for the deviation and why the higher or lower significance level has been chosen. According to the Best Practices, significance levels around .10 should not be ignored. But, only relying on numerical examples has its limits. Adjudicators are unlikely to be impressed by quantitative mathematics and terminology alone. A more effective approach is to present and describe why the findings are statistically significant, i.e. that the probability of the finding could have other explanations is extremely remote.

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611 The α level or significant level is the probability of making a type I error, i.e. rejecting the null hypothesis (H₀) when it is true.
612 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, para. 34.
3.9.3.2 The Submission of Accounting and Finance Profitability Data

One noteworthy feature of the Best Practices is the lack of guidance regarding accounting data and how it will be reviewed. Because the cost assessments differ between economics and cost accounting, there is an obvious risk of various types of errors that can be made by the Commission. Additionally, economic theory does not provide any satisfactory methods for detecting fraudulent profit information supplied by the undertaking. The UK Competition & Merger Authority (CMA) Best practices offer far more guidance and transparency in this matter. According to the CMA document, accountants within the CMA instead of economists, will review some economic models that deal purely with accounting data, such as profitability models. According to the CMA, the submission of profitability data should contain the following:

- Explanatory notes should be provided, including a clear explanation of the approach taken to the modelling and why this is to be preferred over other approaches; a clear explanation of how the spreadsheet model has been constructed, including the use of any macros; and an explanation of the sources of data used as inputs to the model. All assumptions should be clearly listed and the derivation of these assumptions should be fully explained.

- An explanation of how input data can be traced back to or reconciled with audited financial data should be provided. Where this is not possible, it is important to explain the reasons for this. Consideration will also be given to whether the input data and assumptions are used by the business in reviewing its financial performance.

- The full spreadsheet model should be submitted, including integral formulae, to enable the model to be replicated by the CC.

3.9.4 Empirical Analysis and Statistical Concepts

The application of statistical techniques in antitrust law can play an important role. The contribution of statistics is that it offers objective and quantifiable measurements about the relationship between variables. For example, it can establish a connection between an impugned conduct and its actual or potential effects on the market on empirical grounds. The probative value is that it

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can either confirm or refute the probability of a statement by showing the intensity or strength in the proclamation. When assessing the strength with regards to alleged pricing abuses, the Court of Justice has declared that the evidentiary standard is low. Establishing anticompetitive effects is often a complex assessment, but the aim is to determine the likelihood of the alleged outcome; an outcome which often is based on future projections.

Economists as well as cost accountants have embraced the use of statistical concepts, theories, and methods. The use of statistical analysis in cost accounting is to produce cost information and manage risk as well as uncertainty. Statistical and econometric techniques are important tools in forensic investigations. The result or finding produced by the forensic analysis (measurements and observations of undertaking’s internal accounts) frequently requires additional processing. The result may be subject to further forensic testing and/or forensic interpretation, depending on the nature of the conclusion. Forensic interpretation is the process whereby the result is further analysed to understand the meaning and explanation. The usefulness of statistics is that it can eliminate false competing propositions and interpretations. In addition, by projecting how a firm’s revenue and cost structures are likely to change over time the analysis can measure the likelihood of anticompetitive effects. Analysing and projecting anticompetitive effects is nonetheless a difficult exercise. Market characteristics and consumer preferences might change rapidly with the consequence that a strategy that prima facie looked anticompetitive in actuality most likely never had a realistic probability of producing unfavourable effects. The legality of a company’s strategy should thus be founded on a comparison of probable outcomes based on empirical findings. According to Bishop and Walker, relying on broad guidelines or decisions relating to other industries is not adequate, a robust empirical analysis

614 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 64.
must describe the real world situation and the likelihood of anticompetitive effects by hypothesis testing.\textsuperscript{621}

3.9.4.1 Hypothesis Testing

Hypotheses are absolute statements about a certain phenomenon.\textsuperscript{622} Whilst, it is easy to believe that the terms hypothesis and question are interchangeable, they are not one and the same. A hypothesis is rather a statement about the relationship between variables. Within social science research the hypothesis is a specification of what is going to be tested given the research question. In the context of competition, it could be formulated as such:

- **Null Hypothesis**: There will be no statistically significant difference in probability ratio between pricing against average avoidable cost and average variable cost.

- **Research Hypothesis**: There will be a statistically significant difference in the probability ratio between pricing against average avoidable cost and average variable cost.

- **Research Question**: Is there an abuse of dominance by the dominant firm prices under some measure of cost?

Hypothesis testing is well established in scientific fields such as accounting, economics, and behavioural inquiries.\textsuperscript{623} The term is however derived from statistical theory. The purpose of statistics is to measure the robustness or significance between at least two independent variables by means of hypothesis testing. Hypotheses are therefore binary concepts; either the hypothesis is true or it is not true. For example, either the impugned pricing behaviour is anticompetitive or procompetitive. In addition, there are two main types of hypotheses: null and alternative hypothesis. A null hypothesis ($H_0$) will be maintained unless there are strong grounds for its rejection. If, and only if, the null hypothesis is rejected will the alternative hypothesis ($H_a$) be accepted and taken as true.\textsuperscript{624} Illustratively, $H_0$: prices below average avoidable cost will


\textsuperscript{622} Note that developing a research hypothesis can be cognitively constrained by “combinatorial space” and the need to be “computationally rational.” Accordingly, the investigatory hypothesis can be warped unintentionally and test something different than what the inquiry was supposed to scrutinise. See, I. Dasgupta, E. Schulz and S. J. Gershaman, *Where do Hypothesis Come From?*, 96 Cognitive Psychology 1, 2017.

\textsuperscript{623} Statistical models are well established research techniques, e.g. economics, business, social science, psychology and hard science (quantitative method).

foreclose an equally efficient rival. $H_0$: prices below average avoidable cost will not foreclose an equally efficient rival.

### 3.9.4.2 Regression Analysis and its Variables

The basic idea with regression analysis is to examine the relationship between at least two variables.\(^{625}\) Depending on the inquiry, different types of regression techniques can be used for modelling and synthesising the empirical investigation,\(^{626}\) but the overall appreciation is the same.

The goal is to estimate, showing and explaining the direction and strength of the relationship between dependent and independent variables.\(^{627}\) The dependent variable represents the predicted outcome or output, whereas independent variable represent input or causes (reasons for variance) to predict the value of the dependent variable.\(^{628}\) In statistics and econometrics, dependent and independent variables are often referred to as endogenous and exogenous variables. The terms endogenous and exogenous are used to describe which elements are inherent in a model or theory and which are not (respectively).\(^{629}\) However, the term endogenous is also used to describe when variables are correlated, and if the factors are uncorrelated then the term exogenous will be used.\(^{630}\)

### 3.9.4.3 Different Types of Statistical Errors

In the legal literature, the use of type I and type II errors is discussed in the context of over- and under-enforcement. Typically, a type I error refers to a situation when enforcement agencies condemn a strategy as anticompetitive when it de facto was procompetitive, whereas a type II error occurs when agencies allow a conduct due to its procompetitive features when it was de facto anticompetitive.\(^{631}\) However, these concepts have other connotations in statistical theory.

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\(^{627}\) Observe that statistical correlation only measures the linear relationship and therefore no matter how strong the correlation is it does not describe the curved relationship. See, D. S. Moore, G. P. McCabe and B. A. Craig, *Introduction to the Practice of Statistics*, 8th edition, Freeman, 2014, pp. 105-107.


\(^{631}\) Note that some scholars call these errors for false convictions and false acquittal, false positives and false negatives or over-inclusive and under-inclusive. See, e.g. P. Akman, *The Concept of Abuse in EU Competition Law: Law and Economic Approaches*, Hart Publishing, 2012,
• **Errors of the First and Second Kind**
According to statistics, the definition of a type I error is defined as when the null hypothesis is rejected when in fact it was true (incorrectly rejecting the null hypothesis), for example because the inquiry wrongly assessed the relevant cost base. Conversely, a type II error occurs when the null hypothesis is accepted when it in fact should have been rejected, because it was false (incorrectly accepting the null hypothesis). In addition, there are type III and IV errors.

• **Errors of the Third and Fourth Kind**
According to Kimball, a type III error is committed when the hypothesis is modulated to give the right answer to the wrong question. This usually occurs because the wrong model was used or because the model is based on poor theory. In contrast, a type IV error occurs when the correct hypothesis is made to formulate the right question but gives the wrong answer. Typically, this is because of aggregation bias or running the wrong set of test data. Aggregation bias occurs because the inquirer wrongly assumes that the terminology is universal. The purpose of the concepts of type III and IV errors is to create stronger theories and limit the possibility of drawing incorrect conclusions. This is especially true if the theory of harm attempts to measure the harmful effects that go beyond any foreseeable time horizon, or when the cost and profitability projections have no limits. In those cases, the EU courts’ judicial review seems to intensify.

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635 Because antitrust authorities have the duty to verify the concrete effects of the abuse or agreement. See, D. Maresca, *Regulation of Infrastructure Markets: Legal Cases and Materials on Seaports, Railways and Airports*, Springer, 2013, pp. 15 and 20.
636 For example, in *Tetra Laval* there the Court of Justice held: “[w]hilst the Court recognises that the Commission has a margin of discretion with regard to economic matters, that does not mean that the Community Courts must refrain from reviewing the Commission’s interpretation of information of an economic nature. Not only must the Community Courts, inter alia, establish whether the evidence relied on is factually accurate, reliable and consistent but also whether that evidence contains all the information which must be taken into account in order to assess a complex situation and whether it is capable of substantiating the conclusions drawn from it. Such a review is all the more necessary in the case of a prospective analysis required when examining a planned merger with conglomerate effect.” See, C-12/03 P, *Commission v. Tetra Laval*, ECLI:EU:C:2005:87, para. 39. See also Opinion of Advocate General Tizzano, C-12/03 P, *Commission v. Tetra Laval*, ECLI:EU:C:2004:318, para. 88.
which raises the bar on the quality of economic evidence and the use of ex ante presumptions.

3.9.4.4 Significance Levels and Errors: Understanding Hypothesis Testing

Significance is typically understood as meaning either important or substantial. In statistical theory, the notion of significance has a special meaning; it refers to the probability of committing errors during the hypothesis testing.

According to statistical theory, the objective is to establish a result that is statistically significant, which means that the result is unlikely to have occurred due to other factors, i.e. the likelihood that the result would be different or influenced by alternative explanations are very slim.

A result is statistically significant when the probability value is less than the significance level ($p < \alpha$).

The $p$-value is the probability of finding a similar result if the null hypothesis is true. Significance or alpha level ($\alpha$), on the other hand is the mathematical probability of committing an error. The alpha level is thus the probability of making the wrong decision when testing the hypothesis, i.e. rejecting the null hypothesis ($H_0$) when it is true (type I error).\(^{637}\) The alpha level is always chosen before collecting empirical data and is typically set at 0.05 (5 per cent).\(^{638}\) However, a deviation from a significance level of 0.05 does not mean that the researcher has committed a voluntary fault. The 0.05 level is not derived from any mathematical or scientific approach, it emanates from convenience.\(^{639}\) The traditional alpha level is thus a standard and not a rule per se and the only important thing is that the definition is clearly stated.

The importance of statistical significance should not be exaggerated because the concept is not the same as clinical significance, i.e. the practical importance of the finding.\(^{640}\) For example, there may be statistical significance between two types of conducts when forecasting the anticompetitive effect, however the differences are so immaterial that they do not alter the practical finding of abusive behaviour. Moreover, statistical significance is a binary concept, i.e. something cannot be almost significant. Consequently, there is a risk of data mining, where the researcher runs a number of different tests and picks the one that produces the statistically significant result.

\(^{637}\) Conversely, the beta level ($\beta$) is the probability of accepting the $H_0$ when it de facto was false (type II error).


\(^{640}\) Statistically non-significant results can still be important. According to Tukey statistics should not be used to prove something that can be observed with the naked eye (statistical sanctification). See, Tukey (1986).
3.10 Summary

The aim of this chapter was to provide a forensic account of the legal properties that underpin the law on exclusionary abuse. The main rationale for the survey is that the Article 102 TFEU is an open-ended Treaty provision. As a result, the law on exclusionary abuse is the result of an incremental process developed by the Court of Justice though the construction of different legal tests. Indeed, although the notion of legal tests is mainly connected to the content of substantive provisions, the legal tests are nevertheless modulated in a broader sense that ultimately seeks to secure the effective application of Article 102 TFEU. Therefore, the legal tests also incorporate procedural norms. The legal tests on exclusionary abuse are legal hybrids.

The chapter started with defining what a prima facie exclusionary abuse is. A prima facie exclusionary abuse refers to the situation where the plaintiff has overcome the presumption of innocence. The analysis was necessary to understand what types of arguments can be incorporated in the concept of exclusionary abuse. Next, the relevant structure of analysis was reviewed, which revealed either a two- or three step approach. The key difference between the approaches is that the latter outlines what happens if the defendant challenges a presumption of prima facie abuse. This is a first indicator of what kind of social science-based arguments that will be accepted and in what sequence. Next, the concepts of legal certainty and profitability were analysed. This was necessary to understand the limitations of the social science-based arguments. Next, the burden of proof, presumptions and enforcement were analysed. This enabled a deeper understanding regarding the use of social science-based arguments. The analysis indicates that if the plaintiff has used concepts that are ambiguous, the EU courts may strike down the usage if the social science-based arguments have resulted in a manifest error of assessment, e.g. because of legal certainty. The analysis also indicates that antitrust procedural law is harmonised indirectly. The chapter ended with a primer on evidence in antitrust procedures. The analysis indicates that the Commission has taken steps to standardise the submission of economic evidence, but the analysis also implies a failure on the part of the Commission to recognise accounting and financial arguments. A discussion on empirical and statistical analysis was also conducted because of the role of expert and scientific evidence in courts. A discussion on admissibility of scientific evidence and in particular the Daubert principle was conducted. The Daubert principle is foreign to many European countries, but because the EU courts apply an unfettered analysis of the evidence, the principle can be a useful tool in EU antitrust law. The principle determines what type of evidence that will be allowed, but because the law on exclusionary conducts arises out of the facts, the principle can be used to guarantee legal certainty. The Daubert principle essentially prohibits arguments that cannot be scientifically verified. The principle, applied to Article 102 TFEU, would limit the social science-based arguments that can become part of the legal norm and thus provides legal certainty ex ante.
Based on the analysis, the explanation for these legal hybrids seems to be entrenched in the notion of type I and II errors on the one hand and cooperative federalism on the other hand. The former is based on the notion that Article 102 TFEU should be interpreted and applied in a manner that safeguards the competitive process. The EU courts have chosen a structure of analysis where the plaintiff and defendant are responsible for providing legal arguments upon which the EU courts base their decision. The law arises from the facts in an incremental fashion. The latter is based on the notion that Article 102 TFEU should be enforced and applied by the national courts in a consistent and effective manner. Accordingly, when applying Article 102 TFEU it is the national courts that operate on behalf of the EU objectives. The issue is that the procedural law is not harmonised and there may be an imminent danger that national courts apply the provisions in a manner that does not guarantee an undistorted competitive process. As a result, the EU courts have imposed restrictions on the procedural autonomy, which imposes a legal obligation on national courts to derive the burden of proof as well as the standard of proof from the legal tests (instead of national procedural rules).
4 Forensic Source-Based Arguments in Court

4.1 Introduction
The forensic method seeks to provide a systematically coherent interpretation of the law in force. As described in chapter 2, forensic sources are auxiliary interpretative sources based on accounting and financial theories and insights. This means that forensic sources do not provide a description of what the law is at a given time and space, they only provide informative accounts of how the law should be interpreted and applied at a given time and space.

A description of these forensic sources is a necessary starting point to fully realise the types of arguments that can be invoked before the courts. Following the Court of Justice’s ruling in Intel, the likelihood of such arguments being introduced has increased. Notwithstanding the foregoing, the significance of having the necessary comprehension is that these sources enable a critical assessment of Article 102 TFEU. As such, the forensic arguments serve as an analytical backdrop to assess if the legal construction of exclusionary abuse is coherent by e.g. ensuring that when an existing legal overlap is quashed, it does not create a new legal gap (or vice versa).

The chapter starts with describing and analysing the underlying rationale for using cost measurements in economics, accounting and finance. This is necessary to identify their possible legal use.

The chapter will then analyse business models and competitive strategies. As these concepts are closely related, the analysis will focus on how they may change the relevant cost measurement. This appreciation is important as the relevant cost yardsticks will change accordingly. The notion of managerial control will be analysed next. This concept is fundamental in business planning in order for a company to achieve its aim and objectives. An understanding of these control mechanisms is important because the relevant cost item will change depending on the notion of control, in particular where the enterprise is decentralised into different responsibility centres.

The chapter will then analyse the notion of rationality. The concept is fundamental in economics, accounting, and finance theory, but the concept inherently different as well as difficult to pinpoint in each scientific field. It is therefore important to understand how decision-making is affected by these differences. Next, an analysis of accounting calculation and costing methods is conducted. These methods are a significant step when understanding the relevant cost measurements, how they are estimated and determined. Based on the

analysis of costing and allocation methods, an analysis of pricing and profitability methodologies will be conducted. The purpose is to analyse the relevant methods that underpin pricing decisions.

Next, an analysis of capital budgeting or investment appraisals will be conducted. The analysis will start with an introduction to financial statement analysis, which is important as it provides a quick financial assessment of the enterprise’s financial health. The analysis will then move on and provide a description of the rationale, investment appraisal methods and criteria, e.g. net present value (NPV), discounted cash flow (DCF), discount rate cost of capital, and minimum rate of return. Based on these descriptions, the analysis aims to identify cost benchmarks that can be used to analyse price practices where a significant part of the costs is attributable to the firm’s long-lived fixed assets, e.g. initial cost, maintenance and repair, depreciation cost and depreciation expense. These cost benchmarks can be particularly useful to apply in markets where variable cost is an insignificant part of the production or the supply, e.g. service-based markets and network industries.

Next, an analysis of performance metrics will be made. The purpose is to identify how the costs and profits are calculated depending on the responsibility centres. An analysis of different profitability performance metrics will also be made. The purpose is to identify which cost measurement is used to calculate certain profit margins. Moreover, an analysis of transfer pricing will be conducted. The concept refers to the price and cost at which intra-company transactions between responsibility centres occurs. The concept can be useful when identifying and tracing the “true” costs associated with the pricing practice to consumers. The aim is to identify relevant cost yardsticks that can inform such an analysis.

A summary will close off the chapter.

4.2 Background to Accounting and Financial Decision-Making Concept and Principles

4.3 The Use of Cost Analysis in Exclusionary Abuse

The logic of using cost benchmarks builds on the appreciation that they can set objective yardsticks that pinpoint when a dominant firm’s pricing can harm
equally efficient rivals. As the law stands, the general rule is that cost inquiries into the effects of an impugned price practice should be based on dominant firms’ own costs. The EU courts have justified their approach based on legal certainty. The implication is that the applicable efficiency yardstick is the dominant undertaking itself. Consequently, whether the dominant undertaking should be more efficient is irrelevant for the legal conclusion.

Cost is a fundamental concept in economics, accounting and finance, yet cost is a slippery concept. The core issue is that there are different costs for different purposes. As a legal concept, economists and managers insights into cost measurement(s) is of great value, but their views on what constitutes a relevant cost benchmark for antitrust purposes is not.

A good cost benchmark for antitrust purposes should spell out what is regarded as unlawful and should be practically possible to comply with.

As a result, the relevant cost measurement is dependent on the relevant antitrust question. The relevance of the inquiry should be limited to the context

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642 Cost analysis can also be used for the purpose of assessing dominance, inter alia, if the firm can set significantly higher prices over costs in the long-run or if the firm, faced with competition, is incurring much higher costs than its rivals (X-efficiency). See, e.g. A. P. Lerner, The Concept of Monopoly and the Measurement of Monopoly Power, 1 Review of Economic Studies 157, 1934, and H. Leibenstein, Allocative Efficiency vs “X-Efficiency”, 56 American Economic Review 2392, 1966.

643 See, e.g. C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 44.45.


647 See, e.g. P. Atrill and E. McLaney, Management Accounting for Decision Makers, 10th edition, Person, 2021, p. 44.


in which the alleged abuse is said to have occurred or is occurring. The relevant cost benchmark will be the result of the conditions on the relevant market as well as the nature of the product or service under investigation. These criteria can provide courts with sufficient conditions to objectively ascertain the relevant cost yardstick(s).

### 4.3.1 The Roles of Costs in Economics and Accounting

Costs are a cornerstone in economics, accounting and financial theory. Yet, pricing decisions and cost analysis have been debated between economists and managerial accountants over the years. The common denominator between economists and accountants is that cost data should identify and measure profitability. However, economists and accountants usually disagree about which cost measurement(s) should underline firms’ decision-making. As a result, the notion of what should count as a relevant cost can vary significantly.

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4.3.2 Background to Economic Cost

4.3.2.1 The Concept of Economic Cost and Basic Cost Taxonomy

The theory of the firm in neoclassic economics and/or industrial organization states that firms only exist and make decisions to profit-maximise (so-called maximizing hypothesis).\textsuperscript{654} Therefore, economists tend to use costs to allocate and rearrange production resources to identify efficiency improvements and thus enhancements in profitability.\textsuperscript{655} For these purposes, economists use economic cost, which is the cost of utilizing the firm’s resources in production.\textsuperscript{656} But because the measurement is intended to optimise production efficiency,\textsuperscript{657} the economic cost measurement contains both explicit and implicit resources.\textsuperscript{658} Implicit or hidden costs are not obvious, but reflect the foregone opportunity of not putting the resource to its best alternative use. As a result, economic cost is in fact an opportunity cost measurement.\textsuperscript{659} Opportunity cost has been used by the Commission to readjust the cost base ex post.\textsuperscript{660}

The Commission’s point of view is that economic cost\textsuperscript{661} compiles the relevant cost yardstick when assessing exclusionary effects.\textsuperscript{662} As a result, economic cost is an important enforcement tool to establish a prima facie exclusionary abuse. On this point, there are five economic cost taxonomies that can or have been used by the Commission as the relevant benchmark.\textsuperscript{663}

\textsuperscript{661} See, Commission Decision AT.39711 – Qualcomm (predation), 2019, recital. 804.
**Variable, Fixed and Total Costs**

Variable costs are costs that vary (proportionately) with the level of production output. Fixed costs are costs that do not vary with level of output, they are constant and must be incurred regardless of the level of output. Total costs are the sum of variable and fixed costs.

**Marginal and Incremental Costs**

Marginal cost (MC) is closely related to variable cost, but the with the key difference that it only measures the cost of producing one more unit of output.\(^{664}\) Marginal cost does not include any fixed costs. If the addition of output surpasses one additional unit, then the measurement is usually referred to as incremental cost by economists.\(^{665}\) Marginal- and incremental costs are often used interchangeably by economists as they are closely related as long as the increase in output is almost the same, but will vary significantly if the increase is substantial.\(^{666}\)

**Avoidable and Sunk Costs**

Costs (both variable and fixed) that would not be incurred if operations were to be terminated are called avoidable costs.\(^{667}\) The avoidable cost yardstick covers all variable and product-specific fixed costs.\(^{668}\) As such, the avoidable cost excludes all fixed costs that sunk before the exclusionary practice was implemented.\(^{669}\) The avoidable cost yardstick is used by economists as a shutdown rule as the measurement seeks to identify instances where a firm would be better off by ceasing production.\(^{670}\) The avoidable cost benchmark is intended to be used as a flexible proxy for variable cost.\(^{671}\) Sunk costs are costs that cannot be recovered and should therefore

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For the purpose of applying the avoidable costs as a benchmark, a crucial part of the analysis will be on whether a fixed cost will be regarded as recoverable or non-recoverable. Common and joint costs are unique to multi-product firms. Common costs are costs that cannot be directly attributed to the production of any particular product. Common costs can be both variable and fixed, but tend to be mostly fixed. Joint costs (a closely related concept) are costs that occur when the production of one product calls for the production of another product, e.g. they occur simultaneously or are inseparable by-products. Common and joint costs occur in the presence of economies of scope. An important problem with these cost concepts is that they can be difficult to apply as economic theory lacks a suitable allocation method. Nonetheless, stand-alone costs are costs that are only attributable to a specific product. The stand-alone cost assumes that a proper allocation from common- or joint cost can be performed.

Long-run incremental cost includes not only costs that are incremental in the short run, but also product-specific fixed costs over the long run. The measurement includes product-specific fixed costs that are either sunk or not when the investigation starts. As a result, where avoidable cost is the lower floor, the long-run incremental cost is the upper ceiling.

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run incremental cost standard is particularly useful in the case of multi-product undertakings where there are fixed costs common to a number of different activities, resulting in economies of scope. The long-run average incremental cost can be a good proxy for average total cost, especially in industries where there are large fixed costs but low, or even negligible, variable costs, e.g. the main cost is the provision of a network, as in telecom.

4.3.2.2 Problems with Using Economic Cost Concepts

The basic cost definitions for antitrust analysis have conventionally been picked from microeconomic theory. The appreciation is straightforward, a rational profit-maximising firm will price at a level that ensures that revenue exceeds the relevant cost since, otherwise, it will go out of business. But, there are a number of different cost measurements and categories that identify profit-maximising behaviours by monopolists in economic theory.

Note that notion of economic costs is significantly different from the managerial concept of costs. Perhaps one of the most important differences is that all concepts of economic cost seek to identify the welfare implications of firm’s decision-making. The concepts are therefore deeply rooted in the level of production output. The legal implication is that the analysis will boil down to the optimal profit-maximising production level of output.

From a pure welfare perspective, economic costs are superior as they are moulded to identify market failures. But, even if it were to be accepted that the correct notion of costs ought to be based on economic theory, they can nonetheless be impossible to comply with. The relevant information that is needed to transform economic cost into workable proxies are unlikely to be available and it is therefore highly questionable that firms can act according to them. In addition, the issue is that it will be insurmountably difficult to

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apply them with any legal certainty. As the law stands, there is no legal requirement to show consumer harm, as the harm is inferred from the pricing that causes harm to an as efficient competitor.

4.3.3 Background on Accounting and Financial Costs

4.3.3.1 Basic Roles of Accounting and Financial Costs

Cost information is an important competitive component and major influence on pricing decisions. The role cost plays is that it provides a quick and straightforward floor that a sustainable price cannot go below in the long run, so-called cost-based pricing. In this respect, accounting cost is used to, inter alia, determine the profitability of products and/or services. The issue is that the managerial accounting literature provides different cost-based pricing methods and so the underlying cost measurement can vary significantly.

The basic term cost is intended to reflect the monetary sacrifice that is needed to achieve a specific objective. However, managers face a plethora of different costs in their day-to-day operations and it is therefore important to observe the multiple uses cost information has for management decisions.

According to WhiteCotton et al. if the cost yardstick is intended to determine the profitability of a product or service, then the relevant cost will depend on the nature of the product or service and the applicable costing method. If the cost information is intended to be used for decision-making purposes, then the relevant cost will depend on how the managerial decision affects the cost behaviour or changes. If the cost data is intended to be used to evaluate the performance, then the relevant cost is what managers directly control.

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Given the multiple use of the term cost, to determine the relevant cost, an objective point of departure is to start with an analysis of the cost object that is under investigation.\textsuperscript{693} A cost object is any activity or process to which a discrete monetary amount is attached,\textsuperscript{694} e.g. a flight seat or an internet subscription.\textsuperscript{695} For competition purposes, the cost object can be defined extensively or narrowly. Consider an Internet service provider (ISP) that offers internet connectivity. Narrowly, the cost object comprises of the monetary value of the internet subscription. Extensively, the cost object consists of the financial value of the subscription and the additional resources needed for providing the service.\textsuperscript{696}

Calculating and determining the cost of the cost object is done based on the classification of different cost labels and terminologies, which sort cost into different cost buckets. The antitrust use of these buckets is that they can provide forensic insights into which costs are of significance for identifying exclusionary price practices. Note that the term cost assignment is often used to describe how different costs are dispersed to a cost object.\textsuperscript{697} The process of cost-revenue assignment or costing and revenue allocation methods will be highlighted in chapter 4.4. For now, the basic concepts will be described.

4.3.3.2 Terminology and Cost Buckets

Relevant and Irrelevant Costs and Revenues
Determining what cost information that is relevant is a cornerstone in managerial accounting analysis. Relevant costs and revenues are those that are forward-looking and vary between alternatives.\textsuperscript{698} A cost is relevant because it can potentially influence a course of conduct,\textsuperscript{699} which tends to affect the

\textsuperscript{693} That is, the value of financial resources that need to be covered by the charged price.
\textsuperscript{698} See, e.g. C. Drury and M. Taylers, Management and Cost Accounting, 10th edition, Cengage Learning, 2021, p. 35.
\textsuperscript{699} See, e.g. S. WhiteCotton, R. Libby and F. Phillips, Managerial Accounting, 4th international edition, McGraw-Hill/Irwin, 2020, p. 20
firm’s cash flow. This cost is sometimes termed as outlay cost or out-of-pocket cost because it involves a financial sacrifice to achieve the firm’s mission and objectives. The terms outlay cost and out-of-pocket cost will hence by used interchangeably. In contrast, irrelevant costs and revenues are backwards-looking and/or cannot be altered by a decision. For this reason, historic, sunk, and past costs are always classified as irrelevant costs because the financial sacrifice has been incurred and cannot be reversed.

**Examples of Relevant and Irrelevant Costs**

The terms incremental or differential costs are sometimes used in place of relevant costs as they indicate that they vary between alternatives. The incremental cost includes both additional variable and fixed costs that change with the alternative. The key difference between incremental cost-revenue and marginal cost-revenue lies in the level of activity. The former concept measures the additional cost-revenue that results from a batch or set of output, whereas the latter measures one additional output of unit.

Another set of terms that is used instead of relevant and irrelevant costs is avoidable and unavoidable costs. The avoidable costs refer to costs that can be saved by not choosing a particular alternative, whereas unavoidable costs cannot be saved. It follows that only avoidable costs are relevant. Sunk costs that have already incurred are irrelevant and thus unavoidable, e.g. investment and depreciation costs. Another irrelevant cost is committed cost, which is

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the cost of an irrecoverable decision to incur a cost in the future, but that have not yet been paid. However, as will be argued later, the notion that, inter alia, sunk, and committed costs are irrelevant for managerial purposes is predicated on the appreciation that there is no distinction between investment and profit centres. That is, the business unit is responsible for deciding which investments should be accepted as well as the price charged to the firm’s customers. As will be seen in chapter 4.12, these units are separated and their decision-making is to an extent autonomous from each other, because they transfer activities to each other, so-called transfer pricing. The price will be recorded as revenue for the supplying unit and a cost for the buying unit. This means that the unit that is responsible to oversee that the firm’s investments are profitable must cover the sunk and committed costs, whereas these costs are irrelevant for the procuring unit when making its pricing decision.

This implies that although sunk and committed costs may be irrelevant for some managerial purposes (pricing to end-consumers) they may nonetheless be relevant for antitrust purposes. This can particularly be the case where the price practice is implemented in a service-based sector. A specific feature of service-based markets is that a significant portion of firm’s cost structure is made up of fixed costs attributable to the supply of the service in question. As such, in order to determine the relevant costs, there may be circumstances where it will be necessary to trace the costs to the relevant decision.

Another contended cost is opportunity cost and depending on the constraints within the business, the cost can be relevant or irrelevant. Opportunity cost is often ignored in business records as the cost does not represent an outlay cost and that the cost is difficult to assess in imperfect conditions.

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710 See, e.g. P. Atrill and E. McLaney, Management Accounting for Decision Makers, 10th edition, Person, 2021, p. 49.
711 See, C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, paras. 33-34.
712 In management accounting, opportunity costs represent the monetary value of not doing something, whereas out-of-pocket costs symbolise an actual monetary cash payment. The opportunity cost becomes relevant when managers are faced with the decision of choosing one thing over another. This is implying that opportunity cost is only relevant when resources are limited, e.g. either using the labour force to pack the products or to deliver them to the address. See, e.g. S. WhiteCotton, R. Libby and F. Phillips, Managerial Accounting, 4th international edition, McGraw-Hill/Irwin, 2020, p. 21, P. Atrill and E. McLaney, Management Accounting for Decision Makers, 10th edition, Person, 2021, p. 46, and C. Drury and M. Taylers, Management and Cost Accounting, 10th edition, Cengage Learning, 2021, pp. 37-38.
Lastly, some costs have limited managerial use, e.g. manufacturing, non-manufacturing, service, period costs, and expenses. These costs are mostly relevant for management to the extent that they have to produce external financial reporting.

**Direct and Indirect Costs**

Costs that are assigned and/or allocated to cost objects are classified as either direct or indirect costs. Classifying a cost as direct or indirect tends to be

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715 Nonmanufacturing costs are cost that are not associated with the manufacturing (because these costs are needed to run the day-to-day operation), e.g. marketing, selling, and general administrative expenses. See, e.g. S. WhiteCotton, R. Libby and F. Phillips, *Managerial Accounting*, 4th international edition, McGraw-Hill/Irwin, 2020, pp. 19-20.

716 Service costs are the costs of performing tasks or activities for customers by using the firm’s resources, e.g. intangible knowhow of the workforce and/or tangible facilities. A key feature of service providers is the offering of perishable assets, i.e. services cannot be stored for future use. See, e.g. M. M. Mowen, D. R. Hansen and D. L. Heitger, *Managerial Accounting: The Cornerstone of Business Decision Making*, 7th edition, Cengage Learning, 2018, p. 37, and C. Drury and M. Taylors, *Management and Cost Accounting*, 10th edition, Cengage Learning, 2021, p. 27.

717 Costs can be classified according to timing, e.g. expense is the cost incurred when the asset is used for revenue purposes. Product and period costs are often used to describe the timing of when a particular expense is recognised. A substantial feature of manufacturing costs is that they are inventoriable. The use of manufacturing or product cost is for inventory purposes, when the inventory shrinks as a result of products being sold, product costs are reclassified as cost of goods sold. This is why manufacturing cost is called inventoriable cost. Period costs are costs that are not product costs and are classified at the time they are incurred, e.g. research and development, selling, and administrative costs. Period costs are in force another term for non-manufacturing costs. The use of inventoriable and period costs are for financial accounting purposes. See, e.g. M. M. Mowen, D. R. Hansen and D. L. Heitger, *Managerial Accounting: The Cornerstone of Business Decision Making*, 7th edition, Cengage Learning, 2018, p. 38, R. W. Hilton and D. E. Platt, *Managerial Accounting: Creating Value in A Dynamic Business Environment*, 12th international edition, McGraw-Hill/Irwin, 2020, p. 37, and S. WhiteCotton, R. Libby and F. Phillips, *Managerial Accounting*, 4th international edition, McGraw-Hill/Irwin, 2020, p. 20.


dependent on how traceable the cost is. The central qualifier lies in whether the costs are traceable or need to be allocated. Costs that are directly and easily traceable to the cost object are direct costs, e.g. direct material and direct labour.\textsuperscript{720} Costs that cannot be traced or are not worth the effort of tracing\textsuperscript{721} to the cost object are indirect costs or overheads,\textsuperscript{722} e.g. administrative, marketing, research and development, and depreciation costs.\textsuperscript{723}

**Cost Behaviour: Total, Variable and Fixed Costs**

The term cost behaviour refers to the changes in cost as a result of activity level, whereas the term cost structure refers to the relative portion of each cost type that the firm has.\textsuperscript{724} Total cost is straightforward: it is the sum of all variable and fixed costs. Variable and fixed costs describe how costs change as a result of a managerial decision. Variable cost is a cost that changes proportionality as a direct consequence of something else changing, e.g. increasing the level of activity or sales volume expands.\textsuperscript{725} Fixed costs are constant regardless of the activity level,\textsuperscript{726} e.g. wages and depreciation.\textsuperscript{727} The principal difference between variable and fixed costs lies in whether the cost item alters as a result of changes in activity level.\textsuperscript{728} The unit cost item can be highly deceiving and lead to the incorrect application of Article 102 TFEU. The mistake can be that, although the per-unit fixed cost changes as a result of an increase in output (e.g. per-unit fixed cost cuts from € 1 to € 0.7) the cash

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outlay is the same.\textsuperscript{729} The variable and fixed cost classification is subject to time.\textsuperscript{730} As such, costs are only fixed over a particular activity range, the so-called relevant range.\textsuperscript{731} The relevant range refers to the level of activity where the costs classification is likely to be valid, i.e. the cost relationship is assumed to be sound.\textsuperscript{732} The fact that fixed cost is subject to change does nevertheless not make it morph into variable cost, the cost item is still regarded as fixed, but at a new (higher or lower) level.\textsuperscript{733} Variable and fixed costs are important concepts as they provide useful information for, inter alia, short-term managerial decisions, e.g. cost-volume-profit analysis.\textsuperscript{734} Suffice it to say, the cost behaviour helps managers to compute the contribution margin and assess how changes in price, cost, or volume impact the profits (the cost-volume-profit analysis and contribution margin will be outlined in chapter 4.6). The contribution margin is an important tool to determine selling price and as long as the margin is positive, the price contributes to cover fixed cost.\textsuperscript{735}

**Step-Cost Behaviour: Mixed and Step-Fixed Costs**

Step-cost behaviours are characteristics of certain clerical tasks,\textsuperscript{736} i.e. the step-cost concept refers to the “jump” in cost level as a result of changes in activity level. Mixed or semi-variable costs are cost items that contain both variable and fixed costs,\textsuperscript{737} e.g. sales representatives,\textsuperscript{738} or items that must be purchased in bulk.\textsuperscript{739} Mixed costs are often caused by contractual obligations, such as a key account manager that gets a bonus on the extra sales (variable cost) in addition to the salary (fixed cost). Step-fixed or semi-fixed costs on the other


hand, are the gradual (increased or decreased) costs for a specific activity level over a given period,\textsuperscript{740} e.g. the added design capacity which is necessary to update existing products,\textsuperscript{741} or expansion in infrastructure.\textsuperscript{742} The mixed and semi-fixed costs imply that businesses are not faced with a strict categorisation of variable or fixed costs in the real world.\textsuperscript{743} Indeed, many costs that are traditionally classified as fixed are in fact semi-fixed, e.g. discretionary fixed costs.\textsuperscript{744} Applying either semi-variable or semi-fixed cost concepts in a specific situation depends on the nature of the cost object and the scope of the relevant operating range.\textsuperscript{745}

**Sticky Cost Behaviour: Cost Stickiness**

A consequence of the step-cost concept is that the traditional theory on cost behaviour, described in the economic and accounting literature, does not hold water. The conventional view assumes that there is a proportionate change between variable cost and activity level.\textsuperscript{746} The implication of the assumption is that the level of variable cost changes proportionally as activity levels increase or decrease. However, the seminal work of Anderson et al\textsuperscript{747} on sticky cost shows that costs are in fact asymmetric in behaviour, so-called sticky cost,


\textsuperscript{744} Discretionary or managed fixed costs that are caused by an annual decision to spend a discrete amount on fixed cost items, e.g. advertising, research, public relations, management development programs, and internships for students. See, e.g. P. C. Brewer, R. H. Garrison, E. W. Noreen, *Introduction to Managerial Accounting*, 8th edition, McGraw-Hill/Irwin, 2019, pp. 33-34.


asymmetric cost stickiness. Sticky costs refers to when costs respond asymmetrically to changes in activity, i.e. if cost increases more when activity rises than they decrease when activity falls with the equal volume.

**Investment Appraisal: Cost of Capital and Weighted Average Cost of Capital Cost**

In corporate finance, cost of capital is a key concept. The concept is the building block in the investment appraisal or capital budgeting process. The cost of capital represents the minimum expected rate of return that is required by the investor or shareholder. The financial yardstick is a proxy for the investor’s opportunity cost in a similar investment with similar risk.

The concept can be used for antitrust purposes to identify whether a dominant firm’s investment in fixed assets is expected to be profitable. The specific issue is that a firm tends to have different sources of capital. The weighted average cost of capital (WACC) aims to provide an overall picture of a firm’s sources of funding. The weighted average cost of capital is often used as a benchmark to assess a firm’s financial performance. For antitrust analysis, the fundamental component is the cost of equity, which is the minimum required return (MRR) or minimum acceptable rate of return (MARR) a shareholder is willing to invest for. To objectively assess and calculate the cost of capital and cost of equity, there are a number of well-established methods in corporate

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749 “[Anderson et al label] this type of cost behavior “sticky.” Specifically, costs are sticky if the magnitude of the increase in costs associated with an increase in volume is greater than the magnitude of the decrease in costs associated with an equivalent decrease in [volume, e.g.] SG&A costs increased 0.55% per 1% increase in revenue but fell only 0.35% per 1% decrease in revenue.” See, M. C. Anderson, R. D. Banker and S. N. Janakiraman, *Are Selling, General and Administrative Costs “sticky”?*, 41 Journal of Accounting Research 47, 2003, p. 48.


finance theory, e.g. the capital asset pricing model (CAPM), and the free cash flow to equity (FCFE) method, or the flow-to-equity (FTE) method.

The antitrust use of these financial costs is to assess the competitive effects of dominant firms’ investment decisions, but the relevant financial cost benchmark is the cost of equity. The antitrust purpose of the cost of equity is to identify a private investor’s hurdle rate or minimum required return. The antitrust use of the hurdle rate is to enable an analysis into an investment project’s profitability. Indeed, as will be discussed in chapter 6.5.3, it will be necessary to check the profitability of a dominant firm’s investment decision when the bulk of cost is attributable to its fixed assets. However, the financial investment appraisal is limited to check if an investment project is profitable and as a result it cannot be used to ascertain if the investment is financially sustainable. An investment is financially sustainable if it is first profitable in the long-run and second also covers the relevant short-run fixed (overhead) cost of using the fixed asset.

**Investment Appraisal: Investment and Depreciated Costs**

To be able to assess the profitability and financial sustainability of an investment, the antitrust analysis should be based on three distinct cost yardsticks. First, the relevant accounting cost that is required to buy or acquire the investment. Second, the relevant accounting costs that are necessary to make and keep the investment operational. Third, the relevant accounting cost that is necessary to identify the cost of using the investment.

An outlay cost is an amount of money that needs to be spent to achieve an objective. The issue with outlay cost is that it may be too broad for antitrust purposes. Acquisition cost is an outlay cost that refers to the actual price paid for acquiring a fixed asset. The antitrust issue with the cost benchmark is that it negates other costs that are important in order to get the acquired fixed asset operational. Initial or original cost refers to the acquisition cost as well as all

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755 The free cash flow to equity is the money that can be distributed to shareholders. See, e.g. P. Vernimmen, P Quiry, M. Dallocchio, Y. Le Fur and A. Salvi, *Corporate Finance: Theory and Practice*, 5th edition, Willey, 2018, p. 565.


costs that are necessary to get and keep the asset operational, e.g. installation, repair and maintenance costs. As will be argued in chapter 4.8.7.2, original cost is a good and necessary starting point to analyse the competitive effects, but it will be necessary to include installation, repair, and maintenance costs. The third relevant accounting cost benchmark is depreciation and amortisation costs. Depreciation and amortisation costs measure the wear and tear or the cost of using the fixed assets over their economic lifetime, i.e. depreciation systematically allocates the acquisition cost with the revenues that the asset has facilitated. The antitrust utilisation of depreciation cost is especially useful on a service-based market or markets where investment in fixed assets are deemed to amount to a significant barrier to competition, e.g. investment in network infrastructure or significant investment in R&D.

The essential subject-matter that depreciation cost can be used for is to determine the relevant indirect fixed cost that is imputable to the use of a fixed asset. The depreciation cost is arguably a necessary and sufficient condition to apply the as efficient competitor test and thus to assess the financial sustainability of the dominant firm’s commercial practice. Depreciation and how to calculate the cost will be further discussed in chapters 4.8.7.2. and 4.8.7.4.

Note that depreciation cost is, as a general rule, regarded as an irrelevant cost in management accounting theory. However, there is an exception. Blocher et al argue that even though these costs are historical they can impact the future cash flow of the firm. This implies that depreciation cost is a relevant cost as it affects the firm’s profits during the period.

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In addition, as will be discussed in chapter 4.8.6.4, the essential difference between depreciation and amortisation is the nature of the fixed asset. Depreciation refers to tangible or physical long-lived assets, whereas amortisation refers to intangible or non-physical long-lived assets.

**Timing and Classifications: Classifying Revenues and Expenses**

An important factor when determining the accounting classification of price and costs is timing. The matching or expense recognition principle is an accounting concept that states that expenses and revenues should be reported as they relate to each other during the same period.\(^\text{766}\) This means that on the one hand the selling price will be reported as revenue during the period when the sale takes place or the service have been performed to the customer.\(^\text{767}\) Costs on the other hand will be reported as expenses during the period when the sale takes place, i.e. an expense is the cost that the firm incurs to generate the revenue.

Consider, e.g. the investment in or acquisition of fixed assets. As stated previously, the relevant managerial accounting cost is the initial or original cost. But for reporting purposes, the original cost will be booked as a capitalised cost at the time of procurement in the firm’s budget or financial statement.\(^\text{768}\) This is because capitalised simply means that the firm’s asset account will be debited, i.e. increased, with the same amount the firm pays for the asset. As the investment is used to generate revenues, maintenance and depreciation costs will be booked as expenses in the firm’s income account.

As stated above, the migration from cost to expense is a consequence of the matching principle.\(^\text{769}\) Note however that accountants sometimes use expense, cost incurred, and incurred cost interchangeably. The reason for this intermingling is that an expense refers to the cost incurred when the resource is used up for the purpose of generating revenues.\(^\text{770}\) The terms expense, cost incurred, and incurred cost will be used interchangeably in the dissertation.


\(^{768}\) To that effect see, e.g. T. L. Miller-Nobles and B. L. Mattison, *Horngren’s Financial & Managerial Accounting: The Financial Chapters*, 7th global edition, Pearson, 2022, pp. 514 and 518.


Product and Period Costs

Based on the distinction between costs and expenses, the terms product and period costs are often used to describe the timing of when expenses are recognised.\textsuperscript{771} Product costs or inventoriable costs include all costs that are necessary in the production or manufacturing of goods and/or services.\textsuperscript{772} Thus, product costs refer to the forward-looking manufacturing costs, e.g. direct materials, direct labour, and factory overhead,\textsuperscript{773} that are projected to be incurred during the period when the product is produced and stored in the inventory.\textsuperscript{774}

The managerial accounting purpose of product costs is to calculate and report the periodic internal profits.\textsuperscript{775} The antitrust use is to identify the relevant forward-looking costs that must be covered for the production to be financially sustainable.

However, product costs are also used for external financial accounting purposes, namely to value the inventory of manufactured goods until the goods are sold. During the period of the sale, the product cost will be reclassified as an expense known as cost of goods sold,\textsuperscript{776} or cost of sales.\textsuperscript{777} The terms cost of goods sold and cost of sales are often used interchangeably.\textsuperscript{778} Nevertheless, in the dissertation the term cost of goods sold will be used in reference to firms that manufacture or sell tangible goods that can be stored, whereas cost of sales or cost of revenue will be used in reference to service-based firms.

The antitrust use of cost of goods sold and cost of sales should be shuffled. First, not every economic operator carries inventory. The use of cost of sales assumes that the dominant firm produces tangible goods that are inventoriable, e.g. merchandisers and manufacturers.\textsuperscript{779} However, the assumption does not extend to service-based firms. Services are by definition intangible acts that

are produced and consumed simultaneously, which means that they cannot be stored for future use. This characteristic makes them perishable in nature, e.g. airline seats are perishable services because once the aircraft takes off, the airline seat cannot be stored and sold at a later date. Based on the matching principle, service-based firms calculate the cost of sales with how much it costs to produce the service that is being delivered. The fact that service-based firms do not have any tangibles will have a peculiar effect on their financial performance. Nothing will be listed on their (budgeted) balance sheet and (budgeted) income statements. As stated above, cost of sales is a reclassification of when product cost is listed as an expense. As such, cost of sales as well as cost of sold goods seek to track how much it costs the firm to produce the item based on the change in inventory value. The issue is that service-based firms do not carry any inventory, which means that there is nothing to list on the (budgeted) balance sheet. The financial effect of not having any inventory means that there is nothing to list on a (budgeted) income statement.

Brignall et al argue that the product cost, unlike cost of goods sold, is used by service-based firms to calculate periodic internal profits. Second, the cost of sale is a poor antitrust proxy for variable cost. Higgins et al. argue that when analysing firms’ profitability, it is usually safe to assume that cost of goods sold represents the variable costs. However, they also note that cost of goods sold is used when constructing an income statement. This means that cost of sales symbolises the cost of all items sold during a year. As a result, cost of sales is a backwards-looking measurement that quantifies what actually occurred, not what the firm intended to occur. Furthermore, because the yardstick represents the cost of all goods sold in a year, it lacks the necessary precision to identify the variable cost based for specific products. This creates a particular issue when the impugned price-based practise only covers a specific product in the dominant firm’s portfolio. The shortcoming results from the fact that cost of goods sold cannot be used to trace, with the necessary specificity, the inventoriable items.

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Period costs are costs that are not product costs, i.e. all costs that are not product costs are period costs. Specifically, product costs are non-manufacturing costs that are not related to the manufacturing or acquisition of goods or providing services that generate revenues. Period costs therefore cover the forward-looking non-manufacturing costs such as wages of sales and maintenance workers, advertising, depreciation, R&D, selling and/or administrative costs. As a result, period costs are a reclassification of the forward-looking non-manufacturing costs when booked as expenses on the income statement during the period they are incurred. It follows that timing is an important distinction between the costs. As just mentioned, a period cost is classified and reported by the period when it is incurred, whereas product costs are classified and reported when the products are completed and ready to be sold.

This means that period costs, unlike product costs, will not be included in the inventory. Hence, period costs are not part of cost of goods sold. Drury and Taylers argue that there are two main reasons for this. First, because product costs are ex ante non-manufacturing costs and the latter yardstick does not provide any guarantee for future revenue, it does not denote any

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added value.\textsuperscript{796} Second, because of the timing, non-manufacturing costs are not incurred when the product is produced and being stored.\textsuperscript{797}

The antitrust use of period costs is to identify the relevant time period during which the managerial forward-looking non-manufacturing costs are likely to be incurred. The cost yardstick is therefore particularly useful when the impugned price policy is said to occur in sectors where the cost structure is characterised by a significant portion of fixed costs, e.g. service-based sectors such as aviation and telecom. As will be addressed in chapter 6.5, where the main part of costs is derived from the dominant firm’s fixed asset(s), the period cost yardstick is a key component in order to correctly assess a price-based practice.

4.3.3.3 Problems with Using Accounting and Financial Cost Concepts

From a legal certainty perspective, accounting and financial costs are superior as they are designed for managerial purposes, in particular when management is faced with uncertainty about production levels. It is therefore tempting to assume that the law should allow the dominant undertaking to rebut the prima facie conclusion of anticompetitive effects based on its management accounting costs. But such an argument leapfrogs the actual legal issue. Accounting and financial costs are intended to provide managers with the relevant information so as to achieve the undertaking’s mission and objectives.\textsuperscript{798} The antitrust issue is not what cost(s) the firm has used; it is what managerial cost that ought to be used as the relevant benchmark to establish an exclusionary abuse.\textsuperscript{799}

Accounting and financial insights become part of the legal process when the dominant undertaking seeks to rebut the authority’s prima facie finding of anticompetitive effects. It follows from the Court of Justice’s ruling in Intel that the as efficient competitor can become a part of the legal analysis.\textsuperscript{800} The

\textsuperscript{799} To that effect, see the Court of Appeals for the Tenth Circuit’s line of reasoning in AMR: “The government first responds to American’s criticism by arguing that cost allocation is a key component of managerial accounting and a relevant and sensible method by which to assign costs for decision-making purposes. While the government may be correct, this court is not presented with the question of whether cost allocation is a reasonable accounting method or a technique which provides businesses with reliable data to evaluate business decisions. Because the government asserts that Test Four measures average avoidable cost, this court must instead determine whether that assertion is correct.” See, \textit{United States v. AMR Corporation}, 335 F.3d 1109 (10th Cir. 2003), at 1119-1120.
significance of the as efficient competitor is that it is a defensive measure. \(^{801}\) The accused dominant firm can rebut a finding of prima facie anticompetitive effects by submitting supporting evidence. \(^{802}\) The Court of Justice’s legal solution is based on procedural grounds, \(^{803}\) and the underlying logic is that it will essentially force agencies to perform an effects-based analysis. \(^{804}\)

The fact that accounting costs can be part of the legal analysis does not mean that the EU courts can and/or should attach any weight to whichever cost measurement is supplied by the dominant firm. But, the relevant yardstick is not necessarily the costs that the dominant undertaking, or even the industry as a whole, uses. The fundamental query is what the relevant legal cost benchmark ought to be, not what the dominant firm regards as appropriate for it to be profitable.

Cost methodology for establishing the relevant legal benchmark requires the identification of key properties, e.g. putting the relevant question and identifying the market characteristics as well as the relevant test. In this regard, the Intel ruling does not provide any guidance about which test should be applied. The Court of Justice pointed out in Post Danmark II that the as efficient competitor test is one of several tools that can be used if the market characteristics allow it. \(^{805}\) Accordingly, not every cost measurement will do. In addition, there is nothing in the Intel judgment suggesting that the right to submit supporting evidence is intended to override the Commission’s discretion. As a result, the Commission can still disregard the cost measurement if it deems it to be irrelevant.

4.3.4 Business Models and Competitive Strategies

4.3.4.1 The Concepts of Business Model and Competitive Strategy
The terms business model and competitive strategy are often used interchangeably. However, it is important to distinguish them. The former concept

\(^{801}\) The judgment clarifies that the as efficient competitor test is the core benchmark when analysing exclusionary effects. However, antitrust authorities are not legally obliged to perform the test on their own volition, rather the test will become part of the process as a defence measure by the dominant undertaking. See, e.g. M. Kadar, *Article 102 and Exclusivity Rebates in a Post-Intel World: Lessons from Qualcomm and Google Android Cases*, 10 Journal of European Competition Law & Practice 439, 2019, pp. 443-444.
is a description or a narrative on how the enterprise is planning to make capital revenue gains by matching its flow of costs, whereas the latter outline or explains how the business intends to align its resources against its competitors. Put differently, a business model has the objective to encapsulate a firm’s mission and objective by consolidating how it creates and captures value from its target. Conversely, a competitive strategy aims to keep as much as possible of that value from competitors.

According to Magretta, a business model is a story that communicates how the economic entity intends to make financial gains. A business model is thus a set of assumptions or hypotheses that connect the narrative to its numbers in the marketplace. A good business model should have at least two properties according to Magretta:

1. It shall include all the activities associated with making something, e.g. designing it, purchasing raw materials, manufacturing.

2. It shall also incorporate all the activities associated with selling something, e.g. finding and reaching customers, transacting a sale, distributing the product, or delivering the service. A novel business model may turn on designing a new product for an unmet need or on a process innovation.

Although Magretta’s statement is highly abstract, it appears *prima facie* to be consistent with the four chief factors that shape managerial pricing decisions. According to Hilton and Platt, the appropriate approach to achieve optimal pricing is to understand and recognise the main underpinnings of pricing decisions. The four major factors that affect pricing decisions are customers, competitors, costs, and political, legal and image related issues.

One key to designing a sustainable business model and to remain not only relevant, but even superior over competitors is to evaluate how markets and industries evolve over time. These evolutions should be incorporated into

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812 One cognitive pitfall is to put emphasis on the wrong profitability measurement, such as past performance. The key to success will happen in the future. See, D. R. Hansen, M. M. Mowen
and update the current business model and competitive strategy. Competitive superiority in the social media industry means to solve the sophisticated choices that consumer face. A proper understanding of the market is vital to stay competitive by first identifying consumers’ needs, then defining or limiting the scope of the geographic market that is to be served, and finally deciding whether the whole or just a specific segment of the geographic market should be explored. It is in this context that the optimal pricing decision has to be made, suggesting that the notion of optimal is not an absolute but a relative concept that is made concrete by its surroundings. Due to the essential market characteristics, a firm may elect a pricing strategy, or a mixture of several, to target effectively each segment of the market (price discrimination). This is denoting a tangible connection between cost calculations and customer-profitability analysis (instead of analysing profit margins by product or services). However, companies may target a consumer segment that is initially unprofitable because it can help to increase overall profitability due to economies of scales.

The aforementioned implies that an implemented pricing decision varies according to the underlying issues of the particular market. Consequently, the correctness or acceptability of a chosen cost standard varies with the firm’s pricing purpose. To limit the possibility of enforcement errors, assessing the financial impact of a chosen policy that a firm can reasonably anticipate from its operations will require at least an accurate market analysis. The question is whether the indicated cost yardstick embodies the underlying economics of the chosen market to generate maximal profits. The conclusion is consistent with Clark’s discussion regarding different costs for different purposes, and

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the correctness of a specific calculation is dependent on the pricing strategy that supports the economic entity’s business model.\textsuperscript{819}

The analysis can provide additional evidence regarding the likelihood of the creation or maintenance of artificial barriers to competition (these barriers will be analysed in chapter 5.8.7). Nonetheless, one particular and evident issue is that assessing the market for business managerial purposes is not the same as assessing it for economic reasons. According to the Commission notice on the definition of relevant market, the purpose of a market definition is to identify which firms exercise competitive constraints to prevent unilateral behaviours, and therefore the notion of the relevant market differs significantly from industry or sector specific accepted definitions of the market.\textsuperscript{820}

As such, there is an inherent risk of constructing a once sustainable business model into an irrational and myopic competitive strategy. This is because some part of the overall market segments are ripped out of its business model context. This may cause the pricing decision to reflect a loss-making strategy because the cost calculation does not reflect or consider such substantial shift in environment, e.g. the airline industry. Thus, risking to erroneously substituting a business model for exclusionary acts. The problem is complicated by the special responsibility doctrine, which stresses the dominant undertakings’ culpability on neglect.\textsuperscript{821}

The concept of a business model seems to lack any theoretical footing or understanding in economic theory. According to Teece, economic theory tacitly assumes that one of costumers’ main interests is getting a deal at the absolute lowest price, therefore there is no need to understand a business model because the self-correcting market will solve the very purpose that business models are created to unscramble.\textsuperscript{822} The issue is that such assumptions are missing the key the model seek to resolve, which is to pinpoint and distinguish between profitable and unprofitable consumers. For example, a firm that adopts a cost leadership strategy will equivalently focus on cost reductions by gaining market shares and achieving economies of scales.\textsuperscript{823} However, the


\textsuperscript{821} “A finding that an undertaking has a dominant position is not in itself a recrimination but simply means that, irrespective of the reasons for which it has such a dominant position, the undertaking concerned has a special responsibility not to allow its conduct to impair genuine undistorted competition on the [internal market].” See, C-322/81, Michelin v Commission, ECLI:EU:C:1983:313, para. 57.


strategy assumes completely indistinct consumer preferences. This is an assumption that can be true or false depending on the specific market and industry.

Note that the fact that wealth is transferred from consumers to industrialists and other stakeholders is irrelevant for economists, since they believe that passing judgement on this is only supported by moral values.\textsuperscript{824} Instead, economists argue that exclusionary strategies that lead to allocative inefficiency should be prohibited.\textsuperscript{825} A forensic accountant would on the other hand look for myopic behaviours. A myopic behaviour occurs when decision makers overemphasise short-term performance that harms the firm in the long-term.\textsuperscript{826} Such type of behaviour can occur at different levels within an organisation.\textsuperscript{827}

Economic theory holds that a monopolist firm will engage in strategies that either raise its prices above the competitive level, limit output or unilaterally harm competition.\textsuperscript{828} Nevertheless, there is more to the notion of strategy than economic theory suggests. As such, economic theory is a necessary, but not a sufficient, condition to ascertain a hegemonic firm’s exclusionary incentives. Conversely, the academic field of business research has produced established theories and concepts about the notion of strategy that alters the perception of exclusionary incentives. Analysing the competitive strategies of firms through a business lens can enhance the robustness and precision of Article 102 TFEU, which is especially important in due process.

The origin of strategy emanates from the military, since strategy refers to the art of coordinating resources against the enemy.\textsuperscript{829} To achieve success the objective is to place the commercial enterprise in a position where it can use its competitive advantages. Strategy is not a simple long-term design, it is an on-going pattern that integrates the firm’s major goals, policies and activities

into a cohesive whole. The overriding aim of a strategy is thus to generate consumer satisfaction, by offering additional value.

To gain profitable customers the firm must position itself accordingly, by identifying the right target consumer as well as the right market segment. Traditionally, increasing market shares and customer profitability have been the core objectives for a company. Acquiring growth in market shares is only a mean, it does not tell anything about the financial outcome. According to Kaplan and Norton, firms can only achieve financial improvement and economic growth if target customers are satisfied (customer value proposition). Customer value propositions represent the underlying attributions that create value from a customer perspective. As such, it is critical for a company to identify the value chain process that enhances value to the customer and to implement its strategies accordingly.

Firms may add additional value to customers and consumers by enhancing its own process value chain, for example in terms of price and quality. Price and cost efficiency are of course essential to superior performance, but the notion of operational effectiveness is not limited to efficiency. An over-emphasis on operational effectiveness may lead to further concentrating the market (competitive convergence). Instead, strategic positioning encompasses performing different activities from competitors or performing the same activity in a different way (differentiation).

Skinner contends that focusing on just cost efficiency is not a sustainable strategy, because too much emphasis is put on economies of scale, which does not aid the firm in designing its competitive strategy. As long as the enterprise does not have any unique advantages over its rivals, it has no reason to exist (Gause’s principle of competitive exclusion). Paradoxically, since economists measure short-run welfare in terms of economies of scale, such rivalry in itself will limit competition and

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833 The innovation process is of course a long term value creation, since it represents the identification of new products or services, new customers, and consumers, and decreasing time in R&D as well as the finalisation when the new product enters the market, See C. Drury, *Management and Cost Accounting*, 8th edition, Cengage Learning, 2015, pp. 13-14 and 604
lead to mutual destruction.\textsuperscript{837} This implies that companies put emphasis on
differentiation and economics of scope.

Competition in quality is notoriously difficult to assess because quality is
highly subjective. Economists usually refer to price as a proxy for perceived
quality.\textsuperscript{838} Whilst price could be used as an indicator for observed consumer
satisfaction, quality of production is not limited to price.\textsuperscript{839} Accordingly, busi-
ness theory holds that quality envelops delivery time and post-sales services.\textsuperscript{840}
Improvement in quality has long-term effects on a firms’ financial perform-
ance because it increases consumer satisfaction and reduces costs.\textsuperscript{841} This
implies a trade-off. A dominant firm may be forced to incur a higher cost at
some levels to keep quality cost as low as possible (cost-benefit analysis).\textsuperscript{842}
An obvious example is the airline industry where low-cost carriers compete
with airlines that also include business class consumers on the same route.
Under such conditions the business class airline may consider that keeping
time of arrival is more important, since it enhances consumer satisfaction.

4.3.4.2 Business Models and the Importance of Market Context
Strategic factors are typically viewed as identification, evaluation, and selec-
tion of market opportunities for growth.\textsuperscript{843} To capture potential opportunities
and gain additional monetary growth, firms must make sound customer anal-
yses. In theory, the commercial entities must consequently focus and align
their resources to satisfy customer’s needs by offering value in terms of new
or improved offerings or competitive pricing. One source to superior market
capitalisation is how effective the firm is when implementing its business
model in the target market. The business model’s effectiveness is however
dependent upon how well management can streamline and create goal con-
gruence among the model’s four properties. Although the two most important

\textsuperscript{837} H. Mintzberg, J. Lampel, J. B. Quinn and S. Ghoshal, The Strategy Process: Concepts, Con-
\textsuperscript{838} S. Wied-Nebbeling, A Puzzling Story: The Cyclical Behaviour of Price-cost Margins, 218
\textsuperscript{839} C. T. Horngren, s. M. Datar and M. V. Rajan, Cost Accounting: A Managerial Emphasis,
\textsuperscript{840} C. T. Horngren, s. M. Datar and M. V. Rajan, Cost Accounting: A Managerial Emphasis,
Learning, 2015, p. 606.
\textsuperscript{841} A. Bhimani, C. T. Horngren, S. M. Datar, and G. Foster, Management and Cost Accounting,
\textsuperscript{842} P. Atrill and E. McLaney, Management Accounting for Decision Makers, 8th edition, Per-
sion, 2015, p. 42.
properties of a business model are the capitalisation of customer value proposition in accordance with its profit formula (consumer surplus),\textsuperscript{844} the additional elements are the entity’s key resources and key processes.\textsuperscript{845}

1. **Key Resources**
   Key resources are those that are required to create customer value. It is vital that the analysis considers the market context when identifying the firm’s key resources. This is because generally, a resource is often synonymous with real assets, e.g. buildings and machinery, but also with logistical infrastructure.\textsuperscript{846} The categorisation changes significantly when analysing the service industry. Of course, service companies need a certain amount of physical assets to operate, but the industry is characterised by its vast amount of intangible assists, e.g. human resources. These types of resources are fundamental to R&D and know-how properties.\textsuperscript{847} Nonetheless, although Google and Facebook operate in the service industry, their key resources are not necessarily the same,\textsuperscript{848} and hence, the profit calculation may differ substantially.

2. **Key Processes or Key Activities**
   Key processes are operational and/or managerial action activities that allow a firm to deliver its value to targeted customers in a way that can be repeated and increased on a larger scale. In production sectors, key processes often relate to the design of the production plant and its distribution system, whereas in network industries, key action tends to relate to monitoring and service provision to enhance the customer experience.\textsuperscript{849} Note that just as with key resources it is extremely important to consider market context when seeking to identify key processes. One specific problem is that key resources and key processes more often than not are almost indistinct from each other. This is because there is a strong relationship between them and a company’s need to align them to deliver its value in the most effective and efficient way possible.\textsuperscript{850}

\textsuperscript{844} This was reviewed in chapters 1.7.2.1 and 1.7.3.1.
Consequently, when analysing a firm’s profit margins to identify a potential abuse, their intertwined nature should be respected. This is especially important when analysing the dominant firm’s cost structure to ascertain its avoidable cost.

Before moving on, a caveat is in order. Note that an existing business model can inhibit a firm severely. It is true, that a firm may have the financial as well as the said key resources to explore new business portfolio opportunities, but a firm may also lack the ability to innovate its model. Although Apple has gained a financial resurgence during the last century, its financial attainment can be contributed to its ability to innovate its business model by identifying how customer value propositions can be enhanced and captured. According to Chesbrough, one significant source of business model innovation barriers originates from cognitive impediments, such as risk aversion. The aversion creates a cognitive trap that hinders the discovery of business model innovation, and thus the commitment to new financial projects. Williamson seems to lend support in favour of Chesbrough’s conclusions. According to Williamson, no commercial entity is immune to business model innovation, especially entrenched incumbents. Not only has the area of global competition expanded with the establishment of the internal market, but competition has also intensified specifically from emerging markets. The conventional wisdom that underpins entrenched business models are therefore under threat. Williamson suggests that in order to break conventional economic wisdom and improve growth as well as profitability, cost innovation is necessary (cost innovation will be reviewed in chapter 4.8).

The conclusion is grounded on the fact that in some industries a particular set of business activities have undergone a metamorphosis towards the phenomena of servitisation. According to this business model, firms blur the

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line between material and immaterial artefacts by offering a fuller market package, \textsuperscript{857} a downstream value chain, which gives them a unique competitive cost advantage.\textsuperscript{858} The emergence of servitisation can arguably be described as a form of innovation, hence dynamic efficiency. However, the implementation of servitisation clauses by a dominant operator should not be permitted per se. An automatic exception of these clauses can lead to significant enforcement errors due to pro-innovation bias (which will be reviewed in chapter 4.3.7).

The abovementioned key properties imply that an economic operator’s financial attainment is determined by how well its business model aligns its key assets to efficiently correspond to customers’ needs in a cost-efficient manner, whilst also considering responses from competitors. The latter requires the modulation of a strategy. This suggests the use of two different cost measurements. However, it follows from well-established cost accounting theory that the relevance of cost items depends on their purposes, which suggests that the relevant cost base for antitrust purposes should be induced from strategic cost analysis. This conclusion is of course falsified if the EU legislator or the Court of Justice were to clarify and require direct evidence of consumer harm.

4.3.5 Competitive Strategy and its Process of Selection

4.3.5.1 The Five Forces Framework: Dynamics that Shape an Industry

The five forces framework is a well-established business tool for analysing competition and profitability within an industry. Note that the model is drafted from industrial organisation theory and should be used to spot strategic positioning to capture the value within the sector.\textsuperscript{859} The framework is based on the notion that there are five fundamental forces driving and determining competition and profit margins in a sector.\textsuperscript{860} The framework is useful to identify where power is situated in a commercial context based on the industry’s underlying economic structure (industry structure).\textsuperscript{861} This allows management to identify the key drivers of an industry’s profitability. By conceptualising


what competition is in a broad sense, how an industry works and how it creates value, management can develop sustainable strategies that capture the monetary value and give the firm a competitive advantage.\textsuperscript{862} This is what Porter calls generic strategies. By extension, it follows from his argument that the effectiveness of a strategy arises out of the particular industry structure. This is suggesting that market characteristics have a profound impact when a firm chooses a strategy and makes financing decisions.

According to Porter, the key competitive drivers that form every industry are:\textsuperscript{863}

1. \textit{Rivalry Among Existing Competitors}  
The state of competition is a key driver of industry profitability. Rivalry amongst existing peers tends to be about positioning by using different tactics, e.g. price competition, product information and advertising.\textsuperscript{864} Important characteristics are that exit barriers are high and growth of the industry tends to be stagnated, with the consequence that market shares are the main competitive component. Price competition is most likely to occur if existing rivals offer near replicas, switching costs for the buyers are low while fixed cost are high and marginal or variable costs are low.\textsuperscript{865}

2. **Threats of Substitute Products or Services**
Substitution of product or services is another key component that determines industry profitability. A price ceiling in an industry is set by substitutability. Threats of alternates limit the overall profitability and industry growth, independent of the state of economy. The risk of substitutes is high if they offer viable price-performance trade-offs to the existing industry products and services while buyers’ switching costs are low.

3. **Threats of New Entrants**
High profit margins attract new entrants, which increase industry capacity. The threat of new entries is particularly likely from neighbouring markets that allow the new competitor to diversify and leverage existing capabilities and cash flow to erode profitability, unless there are significant barriers to entry. It is the potential threat of entry that puts a price squeeze on the industry.

4. **Bargaining Power of Suppliers**
Profit potential can be gripped out of an industry by powerful suppliers. The possible value of the sector is captured by these entities by charging higher prices or shifting costs to other participants in the industry.

5. **Bargaining Power of Buyers**
In contrast to powerful suppliers, the bargaining power of buyers reduces profitability because the value is kept by buyers. This interplay is known as the “balance of terror”, which is ample in some EU member states where the sales of retailers’ private-labels or own-labels are high. This is a trend which is predicted to rise, e.g. on the Swedish

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Bargaining power reduces the overall profitability of an industry by taking advantage of existing competition and forcing the price downward.\textsuperscript{874}

### 4.3.5.2 SWOT Analysis

The SWOT analysis is a common strategic tool that allows a company to systematically organise information about its competitive position in an industry. The analysis contains four categories as well as two elements or sections. The categories follow from the acronym SWOT, which stands for: strengths, weaknesses, opportunities, and threats,\textsuperscript{875} whereas the two elements are internal and two are external. The aim is to identify and link the categories with the relevant sections and develop critical processes that deliver value to customers.\textsuperscript{876}

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<tr>
<th>Firm’s Perspective</th>
<th>Positives</th>
<th>Negatives</th>
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<td>Internal</td>
<td>Strengths</td>
<td>Weaknesses</td>
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<tr>
<td>External</td>
<td>Opportunities</td>
<td>Threats</td>
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According to Bromiley and Rau, typical generic features of these are:\textsuperscript{877}

- **Strengths**
  Strengths or core competencies usually refer to the company’s ability to align its resources or invest in new projects in a way that is better than or superior to its competitors. Firms should not only strive to enhance economic efficiency but also to utilise their assets in a new and improved manner.

- **Weaknesses**
  Weaknesses are the opposite of strength. Strength has the odd inherent effect of creating biases, since people tend to ignore the trade-off between getting proficient and efficient.

- **Opportunities**


Opportunities refer to the ability of creating value, but it could be argued that they can be categorised as the proposition a firm makes to convert its weaknesses into strengths. By identifying how customers perceive a firm’s specific weakness, the company can invest in new technology and add more value to its customer base. A change in regulations, policy or substantive law can also constitute a competitive opportunity.\textsuperscript{878}

- \textit{Threats}

Obviously, threats are the opposites of opportunities. These include things or changes that could have a negative impact on the company. This means that changes in regulations, policy or substantive law can pose important threats. Other examples are intensity of competition by a new entrant, bargaining powers of customers and suppliers.\textsuperscript{879}

For the firm, the approach is to find a strategic way to link or fit its resources to its environment.\textsuperscript{880} The production of data allows the firm to act accordingly and develop a sustainable strategy, i.e. positioning itself in the most competitively favourable way. This is achieved by allowing the firm to consider how to foster its controllable assets and to align them as much as possible with its uncontrollable situation, e.g. social and political conditions.\textsuperscript{881}

The power of the SWOT analysis rests on its flexibility. The method can be modulated to fit all types of firms in all types of industries.\textsuperscript{882} The generic type of the model has the significant consequence that its application should be approached on a case-by-case basis when assessing a pricing policy by a dominant undertaking. That is, what forms a strength or threat will depend on the specific situation, which is subject to an analysis of the individual firm and the competitive threats in the particular industry.\textsuperscript{883}

4.3.5.3 Generic Strategies: The Cost Leadership Strategy

According to Porter, there is an interplay between the economic structure of an industry and the effectiveness of a competitive strategy.\textsuperscript{884} Porter concedes

that the effectiveness of a strategy can be achieved though different means, but most effective strategy is one that positions the firm in defence against the five forces. To achieve such an important strategic position, a firm should assess its strengths and weaknesses.\textsuperscript{885} Knowledge of the company’s capabilities enables it to assess the partitioning of a market and to choose a course of action that enables it to effectively combat and overcome the five forces.\textsuperscript{886} However, Porter’s analysis is based on the assumption that competition in and for the market is grounded on industry.\textsuperscript{887} This is implying that market characteristics determine competition and by extension a company’s ability to shape its strategic choice. The notion underpinning competitive strategy is therefore the ability to make choices,\textsuperscript{888} a situation that gives the undertaking a competitive advantage over its rivals. Monopolising a market is by definition a strategically infirm choice that will lead to below average performance according to Porter.\textsuperscript{889}

For the purpose of assessing exclusionary pricing behaviours, the cost leadership strategy is of the highest interest.\textsuperscript{890} A cost leadership policy or cost-based strategy can broadly be categorised into overall and focus. The main difference is that an overall approach is industrywide and broadly targeted, whereas a focus strategy is targeting, in the narrow sense, a particular segment or consumer group.\textsuperscript{891}

\textsuperscript{885} Compare Porter’s argument with key resources and activities in addition to the SWOT analysis.
\textsuperscript{887} As a result, concluding that strategic positioning is to identify a market segment where the company can outperform its rivals by using general strategies. Such analysis explains why firms may contest the Commission’s finding of dominance. See, Commission Notice on the definition of the relevant market for the purpose of Community competition law, OJ 1997 C 372/5, paras. 2-3.
\textsuperscript{888} As will be reviewed and discussed in chapter 4.3.7, strategic choice is stifled by theory of bounded rationality, which gives support to Porter’s assertion that the five forces shape the firm’s ability to choose a competitive strategy.
\textsuperscript{890} Note that Porter discusses three generic approaches to competitive advantages, which can broadly be categorised into cost leadership and differentiation strategies (these can be overall or focus oriented). The essential difference is that cost leadership exploits customers’ price sensitivity, whereas differentiation strategy is most effective when customers are not price-sensitive and the purchase decision is influenced by experience (about the product or service, irrespective of if such believes are right). Differentiation could be subject to antitrust probes, but for exploitative reasons. See, P. Bromiley and D. Rau, \textit{Behavioural Strategic Management}, Routledge, 2018, pp. 68-71, and M. E. Porter, \textit{Competitive Advantage: Creating and Sustaining Superior Performance}, Free Press, 1985, p. 14.
Businesses that pursue a cost leadership approach seek to establish a competitive advantage by offering the lowest cost of operation in the targeted sector or segment.\textsuperscript{892} The aim is to outperform rivals by identifying and exploiting all sources of cost advantage that are inherent in the particular industry structure, because the sources depend and vary accordingly.\textsuperscript{893} Three interesting implications follow from this. First, an analysis of the particular industry characteristics is important in order to identify the specific source(s) of cost advantage, e.g. even markets that are characterised as network industries can vary significantly.\textsuperscript{894} Second, such analysis can pinpoint the relevant cost yardsticks for pricing decisions in that particular market or determine whether such indexes are subject to ex ante regulatory measures. Third, the logic underpinning the notion of strategy can help to identify when a dominant incumbent cost leader is using its price as an instrument to fight off aspiring cost leaders.\textsuperscript{895} These allusions will be reviewed in chapters 6.3 and 6.5, where an analysis of the airline and telecommunication sectors will be explored. By analysing the industry’s legal and economic features, in the light of the aforementioned,\textsuperscript{896} it will be demonstrated that the pricing decision-making process varies significantly. The examination should provide sufficient evidence that tilts the legal conclusion towards different cost indexes.

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\textbf{Competitive Scope} & \textbf{Competitive Advantage} \\
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Broad Target & Overall Cost Leadership \\
\hline
Narrow Target & Cost Focus Leadership \\
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\textsuperscript{896} Note that the economic literature distinguishes between networks that have direct and indirect network effects. Network industries are typically associated with direct network effects through communications between its users, but there are also markets that are categorised through indirect network effects because of the system(s) such network creates. See, H. Koski
It should be recognised that the cost leadership approach is most effective when it is implemented in connection with formal control. A company that wishes to adopt a low-cost strategy must constantly improve its operations, which requires constant feedback from its different departments. The exercise of managerial control enables cost and performance visualisation. However, on the other hand too much control is not always an appropriate method to achieve profitability.

4.3.5.4 Sources of Cost Advantages
Pinpointing a firm’s strategic pricing behaviours within the cost-based strategy calls for an understanding of what sources are available to cost advantages. Not only is such an indulgence important for tactical reasons, but also because it can create superior business models that offer greater consumer value for lower prices. This appreciation can have important legal implications when performing an as efficient competitor test to an alleged abuse.

Porter’s framework helps to discover an industry’s structure and is suitable as a point of departure. The profit equation of the model is as follows:

\[ \text{Profit} = \text{Price} - \text{Cost} \]

Although the equation is straightforward, it is inherently ambiguous. One interpretation of the equation is that it reminds management to stay focused on the overarching goal of the business, and costs may include all types of resources used in competition. Such a definition is nonetheless too vague and divisive for legal purposes. It does not pinpoint any relevant cost measurements for pricing decisions and which cost items that can contribute to a competitive advantage when the company seeks a cost-based strategy. According to the literature, there are six important sources of cost advantages even when firms compete with similar artefacts. However, there is an addi-

1. \textit{Size Differences, Economies of Scale, and Returns of Scale}

Economies of scale are perhaps the most cited source of cost advantage. A firm that pursues a cost leadership strategy by economies of scale seeks to establish a competitive price through utilising the lowest point on the cost curve (minimum efficient scale). To effectively employ the strategy, companies are required to appropriately identify the optimal point of production through economies of scale. At such point, ceteris paribus, companies will have a constant return of scale. Producing beyond the optimal frontier will result in a competitive disadvantage because of diseconomies of scale.\footnote{D. Besanko, R. Braeutigam and K. Rockett, \textit{Microeconomics}, 5th International Student Edition, Wiley, 2015, p. 244.}

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The theory of economies of scale holds that the size of a business can give rise to significant competitive advantages over rivals if it is a single producing firm.\footnote{J. Barney, \textit{Gaining and Sustaining Competitive Advantage}, 4th international edition, Pearson, 2014, p. 197.} The concept of economies of scale can therefore have several implications, e.g. economic efficiency is a relative concept,\footnote{C. Yu, \textit{Airline Productivity and Efficiency: Concept Measurement, and Applications}, in J. D. Bitzan, J. H. Peoples, W. W. Wilson (eds), \textit{Advances in Airline Economics, Vol. 5: Airline Efficiency}, 2016, p. 13.} and explain why some firms can be more profitable than others even though they are competing in the same industry.\footnote{D. Besanko, R. Braeutigam and K. Rockett, \textit{Microeconomics}, 5th International Student Edition, Wiley, 2015, p. 244.} According to economic theory, there is a relationship between the range of scale and the economic sacrifice. As the volume of production ramps up the average cost per unit shrinks (economies of scale). The concept asserts that when a quantity of
items equals Q and total cost of producing this quantity equals TC(Q), then average cost of producing the quantity equals AC(Q). It follows that a firm’s operations and costs build on a straight-line mathematical formula:

\[ AC(Q) = \frac{TC(Q)}{Q} \]

Economies of scale occur as long as AC(Q) decreases when Q increases.\(^908\) To accurately analyse a firm’s economies of scale it is important to appreciate that as the proportion of input changes the straight line of expansion no longer holds. This phenomenon depends on the closely related concept of return of scale.\(^909\) Return of scale captures the economic impact an output increase will have if inputs are constantly proportional, whereas economies of scale capture the economic occurrences when inputs vary in proportion to production.\(^910\) If productivity increases by more than the proportional change in all inputs, an increase in return of scale has occurred, e.g. research suggests that airport traffic consolidation lowers the long-run average cost of airport operations.\(^911\) Return of scale measures a firm’s long-run average cost and how it relates to output manipulations, whereas economies of scale captures how average cost decreases as output increases.\(^912\) Note that economies of scale are often measured in terms of cost-output elasticity or cost elasticity (cost elasticity measures how total cost responds to changes in output).\(^913\)

Although firms attempt to exploit sizable volumes of production to increase profitability there are different economic sources that lower the average cost per unit, e.g. specialised machinery, manufacturing operations, specialisation of employees and reduction of overhead costs.\(^914\) Specialised machinery and specialisation of employees reduce costs by utilising efficiency. The incentive is to invest in activities or equipment that are highly specialised in operations, but specialisation also implies inflexibility which enhances organisational inertia (something that will be discussed in chapter


4.3.7). The organisation may suffer in terms of a weakened ability to exploit business opportunities and shielding itself from competitive threats, in accordance with the SWOT analysis framework.

Note that what constitutes a minimum efficient scale varies substantively between industries,\(^9\) which loops back to Porter’s argument. Taken at face value, this is inferring that competitive effects of a cost-based strategy can result in anomalous conclusions, e.g. a too mechanical application of economies of scale in the technology sector (tech sector or industry) can be highly misrepresentative.\(^9\) Such analysis can provide an inaccurate accounting picture with the result that an implemented cost-based strategy is profitable albeit the market cannot function competitively. Consequently, a possible legal implication is that the competitive assessment ought to take into account the industry’s structure because of its substantial influence on production costs, business strategy and by extension price. The influence of the industry’s structure will be assessed in chapters 6.3 and 6.5 according to the specified sectors, but although it falls outside the scope of this inquiry, an interesting issue surfaces. The issue is what are the forensic consequences – in terms of substantive law and procedural aspects – when the Commission’s theory of harm builds on monopolistic leveraging\(^9\) between markets that are substantively distinct from each other based on industry characteristics?

2. Size Differences and Diseconomies of Scale

Although production scale is an important competitive source, it nonetheless possesses an intrinsic quality that can result in a competitive disadvantage for the firm, relative to its smaller rivals.\(^9\) This consequence is known as diseconomies of scale. The concept describes the inverse economic effect of economies of scale, i.e. as production value increases the cost of requiring the extra amount surges substantially.\(^9\) Production beyond a certain volume increases the average cost per unit.\(^9\) Barney’s suggestion that for most industries an expansion of manufacturing facilities

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\(^9\) Note that Pindyck and Rubinfeld argue that economies and diseconomies of scale occurs when the difference is doubled. A firm enjoys economies of scale when it can double its output for less when twice the cost. Conversely, diseconomies of scale arise when the doubling of output requires an excess of twice the cost. See, R. S. Pindyck and D. L. Rubinfeld, *Microeconomics*, 9th global edition, Pearson, 2018, p. 264.
will always lead to economies of scale, can be incorrect. This implies caution on account of systematic bias (which will be reviewed in chapter 4.3.7). Nonetheless, one possible source of diseconomies of scale that may follow from size is limitation in physical space. This does not imply that investment in physical plants and other technologies are the sources of diseconomies, rather it has to do with the (physical) design of the operations.

Perhaps the most important source of increasing costs are managerial diseconomies. Management diseconomies are a consequence of organisational size. As the firm grows and seeks to increase its revenue, it often develops in complexity which makes it difficult to control and operate efficiently. To address the issue and exercise the appropriate level of control, the pool of management needs to increase. A third source of diseconomies is the motivation of workers. According to this perception, there is a relationship among the size of an organisation, the employees’ degree of specialisation, and their motivation. Investing in employee training has the effect of making them more efficient, but only at a particular task. Research on motivational theories however suggest that such tasks can be highly demotivational, with manufacturing productivity suffering as a consequence. A last possible source is dexterity between suppliers and buyers. As a firm grows and enters new markets, its logistical costs of transporting the goods increases, which puts an additional emphasis on controlling supply network dynamics. In addition to the increasing overhead cost that results from additional holding costs, another major source is disturbance in the supply chain caused by the bullwhip effect. A company’s incentives to lessen the bullwhip effect can explain the use of discount. A legal implication under such circumstances is the difficulty to infer anticompetitive intent from discounts based on a formalistic approach (even though they are characterised as exclusive and/or fidelity-inducing). But the incentive to assuage the bullwhip effect does not automatically lessen the dominant firm’s special responsibility for the likelihood of foreclosure effect. Lastly, the scale concepts are industry as well as firm specific, with the consequence that their costs behave very differently, e.g. a firm in the electric

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power industry. Diseconomies of scale can occur even in such an industry, but it will do so at an output level which is beyond the effective market. This may occur because of the particularities in the industry’s cost structure, meaning that the economic characteristics of the market will naturally tip towards one producer (natural monopolies).

3. **Economies of Density**

Economies of density and economies of scale are similar, but different concepts. The notion of economies of density describes and identifies possible cost savings caused by spatial proximity of suppliers and consumers, whereas cost advantages resulting from economies of scale have no link to relating properties. However, the cost savings caused by economies of density result from compactness of the network. The facts that cost declines in proportion to consumer demand increases or when service area size expands are not results of economies of density. The source of cost advantage is the exploitation of nodes and density in the network by increasing output consumed by existing customers. As a result, the concept has profound influences on the design of a network or logistic system, because it stimulates network externalities.

4. **Experience Differences and Learning Curve Economies**

Another possible source of cost advantage is the cumulative levels of experience in production. The theory is that the firm with the most production

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experience will have a cost-based advantage. The link between cumulative volume output and cost behaviour is known as the learning curve. As managers and workers accumulate knowledge over time through learning by doing, they become more efficient in task performance and organising production. Engineers may also benefit from the learning effect by enhancing optimisation in design as well as process flow, which will lower average costs. The cost advantage from learning by doing can be explained in terms of extension in relation to economies of scale. As economies of scale focuses on the link between volume of production at a specific point to exploit the lowest possible average unit cost, the learning by doing effect enables the average unit cost to fall beyond the specific point of production.

The learning by doing is an important tool of analysis when a firm wants to predict cost of production for a novel product. The rationale of the learning curve straightforward. The firm that successfully moves swiftest down the curve will gain a cost-based competitive advantage over its peers. This is implying that there is a link between learning curves and the first-mover advantage. Research has shown that a first-mover can gain significant sustainable advantages, due to the possible barriers to entry that learning by doing can create. Although there are disadvantages with

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941 A sustained competitive advantage, unlike a generic one, is an advantage which is persistent over time. This is often the case when the advantage is difficult to duplicate or replicate, e.g. patents. See, J. B. Barney, *Firm Resources and Sustained Competitive Advantage*, 17 Journal of Management 99, 1991.
the first-mover strategy, the timing of entry has shown to be important, especially in network industries. The possible cost-based advantage that follows the learning curve is not without strategic issue. In an industry characterised by traditional manufacturing, producers face a trade-off. As average unit cost declines, resulting from the learning effect, the holding cost of inventory can ascend significantly. To exploit the learning curve and drive down unit cost, a firm must obtain the necessary customer base (market share) to merchant its production at an appropriate cycle time.

Profit sacrifice can be a rational strategy in an industry that is characterised by significant learning by doing effects. However, the strategic aim the dominant firm seeks to achieve is not to eliminate its rivals, but to improve its own competitive position by preventing its peers from moving along the learning curve. The legal issue that follows is how to identify such intentional sacrifice to the adequate legal standard.

5. **Differential Low-Cost Access to Productive Inputs**

Differential low-cost access to factors of production can create sizable cost differences between competing firms in the same industry. Factors of production are any inputs used by a company in its business activities, e.g. labour, capital, land, and raw materials. The logic of the differential low-cost, in creating a competitive advantage, is to achieve the smallest input cost in relation to the total cost, compared to rivals in the sector. Low-cost access to productive inputs is a central cause of maintaining or enhancing the profitability and performance of a firm. The strategy is in many ways, the actions to secure a strategically important production input, which creates value for the firm. The factors that produce the value should be difficult for competitors to replicate. However, in receiving the value, the firm must balance the cost of acquiring and any additional cost that may

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follow, since a competitor may gain an advantage if its total cost is lower in the end.\textsuperscript{951}

6. **Technological Advantages Independent of Scale**

An extraneous source that may lead to cost advantage is a difference in technologies. Traditionally, technology-based cost advantages are often discussed in relation to physical investments that increase a firm’s efficiency in production. However, such cost-based advantages reflect a firm’s ability to exploit economies of scale, albeit the concept of technology-based advantage is broader.\textsuperscript{952} The notion of technology contains any tools or instruments used by a firm to manage its business activities, which means that it captures physical as well as any other processes that are used, i.e. hard and soft technology.\textsuperscript{953} Soft technology encapsulate the social complexity with a firm, e.g. the interconnection between workforces and managers, organisational culture, and the quality of managerial control. The technology is an important source in cost-based leadership and may increase the effectiveness of the strategy, if cost control is exercised appropriately.\textsuperscript{954}

7. **Policy Choices**

The last source is reduction of costs based on policy choices. Cost-reducing choices are typically not based on efficiency, unlike the previous sources, instead this tool focuses on which product or service the firm is selling. Up until now, the antecedent review has been focused on cost advantages based on similar production and artefacts. A consequence of, inter alia, economies of scale and learning curves, is that firms mimic each other. The mimicking effect of the cost-based leadership strategy is that firms tend to produce, in general, highly standardised artefacts. The focus is to have a high volume of transactions to exploit the possible reduction in costs. The choice to use volume production as a competitive weapon has significant effects on a firms’ operations.\textsuperscript{955}

The underpinning of this policy choice is that further cost reduction can be made with existing technology. It will be incumbent upon all managers


and employees to reduce costs. This is suggesting that the aim is to identify all types of bottlenecks that occur through a firm’s operations and eliminate those that are not value-adding, e.g. labour costs that are unavoidable because a portion of their time are non-value-adding.

4.3.6 Problems Underlining the Implementation of a Competitive Strategy

4.3.6.1 The Principal - Agency Dilemma

The neoclassic theory of the firm is built on the idea that a firm is simply a technical unit of production. This black box perspective of firms assumes that the objectives of its owner and members are perfectly aligned to pursue profit-maximisation. However, top managers must, depending on size of the entity, delegate a substantial portion of the operating tasks to the members of an organisation. Hence, information within the box becomes crucial.

Information decentralisation and competing objectives inside an organisation both challenge the classic hypothesis that market behaviours can only be explained by private interest. Conversely, private incentives are cultural experiences that are underpinned by self-interest. Thus, the rationale of a company’s strategy can differ significantly depending on the context and organisational culture.

The notion of self-interest and its potential consequences are important to observe mainly for two reasons. First, such understanding can be a determinant factor when assessing liability. Second, to avoid that the application of Article 102 TFEU resulting in sub-optimal performance for the accused undertaking.

According to contract theory, the principal-agent dilemma or simply the agent problem arises from the asymmetric information between two parties.

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The agency theory tries to resolve two types of problems that can occur between the principal (the delegator) and the agent (the performer). The first is when the parties have different goals or objectives that clash and it is difficult for the principal to verify the agent’s actions. The second is when there are different opinions or attitudes towards risk. Accordingly, due to diverse risk aversion, different actions and strategies may be implemented or rejected. The latter could potentially be a case for whistle blowing, which falls outside the scope of this dissertation.

In economic theory, the principal-agent approach is used to deal with incentives and opportunistic behaviours due to adverse selection. Agency theory also relaxes some of the earlier underlying assumptions in neoclassic theory because of moral hazard as well as bounded rationality owing to the asymmetrical nature of intelligence. The principal-agent dilemma can have important implications regarding the notion of profit-maximisation.

According to neoclassic theory, profit-maximisation assumes that a firm will act in a monolithic behaviour with only one aim. Nonetheless, some economists have come to question the behavioural underpinning. According to behavioural theory of firm, the entity is represented by different clusters with self-interests that can hurt the organisation’s ability to maximise its profits.

### 4.3.6.2 Managerial Control and the Controllability Principle

Managers use different technologies to assess the progress of an organisation, its limitations, proficiencies and differing requirements of the market. By constantly checking and evaluating the entity’s performance, executives attempt to secure that the firm achieves its mission and objectives. Accounting methods such as probability analysis are not only used for setting competitive prices, but also as a feedback loop of internal control, because it helps managers to evaluate past information and make informed estimation about the

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The feedback loop of control includes decisions about allocating resources within the organisation, coordinating activities between business divisions, compensation, and incentive programs (cybernetic control). Malmi and Brown argue that control should be perceived as a broad holistic scheme encompassing all types of accounting techniques as well as confirming that the behavioural actions of humans are in congruence with the organisation’s objectives. This implies that the economic agency theory provides some implication for management control, because both ideas seek to regulate the same incentive problem.

The concept of accounting control can be distinguished between strategic and managerial control. Whereas strategic control emphasises external mechanism, control for managerial purposes is concerned with the internal aspect of the firm. There are essentially three different types of control mechanisms, but for the purpose of this dissertation the two most meaningful will be explained and developed.

The first type consists of behavioural or action mechanisms of control. The purpose of behavioural or action control is to constrain employees by preventing them from making decisions and performing actions that fall outside their scope of competence. One form of behavioural control is action accountability, which refers to a set of formal rules that stipulate acceptable vis-à-vis unacceptable behaviours. Although controlling actions by applying preventive measures are the ideal form of control, such mechanisms have limits due to reliance on underlying cause and effect connections. Behavioural control is only effective when the cause and effect relationship is well established.

The second type is made up of result or output mechanisms of control. Result or output control, unlike behavioural control, focuses on the financial

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mean to achieve a desirable result. Instead of using formal rules as control instruments, output control has a habit of relying on monetary devices, such as revenues, cost, profit and return on investment ratios.

The notion of management accounting control is thus built on formal long-term strategy and performance metrics, as well as establishing responsibility centres. Responsibility centres enable managers to exercise control, e.g. when the organisation is decentralised or if the market is volatile. The aim is to assign costs and revenues to each responsibility centre so accountability can be measured for deviations from performance targets. The idea of responsibility is built on the controllability principle, which holds that a centre should only be responsible for variable(s) it can actually control. As will be argued in chapter 4.12, the controllability principle can have substantial implications for the assignment of cost. Nonetheless, Selto argues that for the purpose of assigning responsibility the deciding factor should be on the centre or person that actually controls the information. According to Chenhall, the size of the organisation dictates the quantity of information as well as its flow. In addition, the larger an entity becomes, the more austera its relationship with its stakeholders becomes, which implies that tracing responsibility may be difficult in some situations.

4.3.6.3 Harmful Effects of Managerial Control
The employment of control and the divisionalisation of responsibility centres can result in harmful side-effects for the undertaking. The control mechanisms

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979 The role that budgets play in an organisation is to implement the entity’s strategic plan in terms of financial numbers. In addition, budgets must have the properties of controlling the process, coordinating the different responsibility centres within the organisation, communicating, motivating, and evaluating the performance ex post. See, P. Atrill and E. McLaney, Management Accounting for Decision Makers, 8th edition, Person, 2015, pp. 183-212.
981 Note however that Selto also recognises that such boundaries of the principle create additional problems, e.g. that establishing the right set of information might be impossible or daunting. See, F. H. Selto, The Controllability Principle in Responsibility Accounting, 4 The Accounting Review 700, 1988.
983 Observe that Chenhall argues that formal rules are not automatically a sufficient condition in all types of organisations. The appropriate control mechanism will vary from firm to firm. See, R. H. Chenhall, Management Control System Design within its Organisational Context: Findings From Contingency-Based Research and Directions for the Future, 28 Accounting, Organizations and Society 127, 2003.
might foster employees to engage in undesirable conducts such as myopic behaviour and/or goal incongruence.⁹⁸⁴

Accounting techniques can result in short-term decision-making, e.g. to restrict or expand output,⁹⁸⁵ and because reward and compensation schemes⁹⁸⁶ are often connected to extrinsic values,⁹⁸⁷ employees have an incentive to only serve their self-interest.⁹⁸⁸ Moreover, Ridgway argues that using a single indicator, such as cost for performance and control, may lead to dysfunctionality, since such an indicator signals short-run profit-maximisations, which can hurt long-run profit-maximisation.⁹⁸⁹ The use of single indicators can explain the facilitation of myopic behaviour with the organisation. This is implying and highlighting the importance of tracing the actual source and implementation of the alleged antitrust violation. For example, the information flowing from the strategic apex may not reveal anything of interest while the production manager might at the same time have implemented a below-cost strategy. On the other hand, the undertaking can be structured in such a way that information from one source must be supplemented with additional behavioural evidence.


⁹⁸⁵ Nonetheless, managerial calculations can also have impact on long-term strategies. See, J. Mouritsen, A. Hansen, C. Ø. Hansen, Short and Long Translations: Management Accounting Calculations and Innovation Management, 34 Accounting, Organizations and Society 738, 2009, pp. 752-753.

⁹⁸⁶ Rewards are often ex post control devices and stipulates which behavioural outcomes are desirable for a specific person. See, E. G. Flamholtz and T. K. Das, Toward an Integrative Framework of Organizational Control, 10 Accounting, Organizations and Society 35, 1985, p. 43.


⁹⁸⁹ V. F. Ridgway, Dysfunctional Consequences of Performance Measurements, 1 Administrative Science Quarterly 240, 1956.
Goal congruence is a well-established accounting concept\(^{990}\) and refers to the level of consistency between the goals of the organisations' various stakeholders.\(^{991}\) By communicating and implementing the firm’s mission and long-term strategy to the different organisational departments, overall performance enhances, thus implying some form of economic efficiency consideration.

Ideally, an organisation should have perfect alignment, which for obvious reasons is not feasible. Instead, goals must be as consistent as achievable with the goals of its workers.\(^{992}\) Depending on the organisational context – history, purpose, technology, environment, and employees – achieving successful alignment will depend on which objectives and control mechanisms that are used.\(^{993}\) In this setting, the latter is arguably the most important. Result control can lead to goal incongruence if the decided result is unspecified or ambiguous. The problematic effect is that it can promote or expound behaviours that negatively affect the organisation's overall strategy and consequently profitability.\(^{994}\)

### 4.3.7 Rationality and its Limitations

The focal assumption in economic theory is rationality. According to this concept, consumers and market players have perfect information about each other and, more importantly, they can process this knowledge without friction. The implication of this assumption is that they will always pursue maximisation of their own self-interests and satisfactions (profit maximisations).\(^{995}\) Neoclassic economics is thus founded on the assumption that firms with market power will employ exclusionary tactics in order to foreclose their competitors and strengthen their market power over their customers and consumers.

\(^{990}\) Parker recognised more than forty years ago that goal congruence had become part of accountants' conventional wisdom. See, L. D. Parker, *Goal Congruence: A Misguided Accounting Concept*, 12 Abacus 3, 1976.


\(^{993}\) According to Broadbent and Laughlin, a performance system is underpinned by different forms of rationalities and they point out that it is the “middle range” that provides important insights in designing such a system. The middle range seems to be a middle ground between communication rationality (different stakeholders coming up with a consensus on common objectives to be achieved) and substantive rationality (quantifiable measurements of performance indicators). See, J. Broadbent and R. Laughlin, *Performance Management Systems: A Conceptual Model*, 20 Management Accounting Research 283, 2009, pp. 283-295.


The theory is however arbitrary, since this would also mean that once the dominant undertaking raises its prices, new competitors emerge and put competitive constraints on the incumbent. Hence, market equilibrium is restored and the self-correcting market hypothesis might be correct from an economic point of view. Enforcement of antitrust law usually occurs before an actual market failure. The rationale is that even though markets might become competitive again, the welfare losses would be too great in the meantime. Therefore, Article 102 TFEU excludes the self-correcting markets hypothesis from application in these cases.

In contrast, strategic management theory holds that strategy is an on-going process to achieve the commercial objective by placing and keeping the firm at a competitive advantage.

In stark contrast to neoclassic economic theory, strategic management theory holds that economics' notion of rationality is just a theoretical footing with no empirical evidence. Scholars such as Child contend that all undertakings, either internal or external, experience some form of action and/or environmental determinism. The notion of action determinism is that external forces shape firms' strategic decisions. The extrinsic sphere is bound by decision-makers' cognitive limits to process the information flow (bounded rationality). This may mean that even though decision-makers have perfect information about each other, something that is highly unlikely, they face two problems.

First, there is the problem with the timing of relevant information that shall be the basis for managers' strategic decision-making, and second, there is the problem of coping with ambiguous information. This is especially true if the information is incomplete and consequently unreliable. Moreover, the environmental aspect builds on the knowledge that an undertaking faces threats from its competitors. Therefore, the competitive choices that a manager has to make vis-à-vis the environment are constrained by their bounded rationality. In addition, the environment is constantly changing in a rapid manner, and as such no one can take control over it. Mintzberg advocates the view that the only means remaining for a firm is to evaluate gradually its strategies and its


Accordingly, bounded rationality is a more accurate description of the real world and as such, it has gained academic support and traction (behaviour economics or behaviour antitrust).\textsuperscript{1000}

The notion of rationality has significant implications for the determination of liability. Fault determination is based on strict or negligent liability. Depending on the basis, selling below some cost measurement yields different interpretations. According to economic theory, the only rationale for a dominant firm to price below cost is to foreclose its competitors, because such strategy is inconsistent with profit-maximisation. This assumes perfect information ex ante. However, since the relevant cost is calculated on a prediction ex ante, the forecast may turn out severely different ex post since markets are highly unstable and demand may hastily decline. Thus, the company might employ the contribution margin approach.\textsuperscript{1001} At first glance, it would appear that the dominant firm is selling at a deficit, but a deeper analysis would show a positive return, since its contributions cover the overhead costs. Therefore, it is not an elevation of market power; it can be a race towards survival. Moreover, profit-maximisation is an ambiguous concept since it could also mean limiting one’s losses. Importantly, cost assessments in combination with the notion of rationality underpin the theoretical framework of the theory of harm. A variation in these variables can cause the theory of harm to measure the wrong things.

4.3.7.1 Behavioural Explanations for Irrational Interpretation of Data

Passing judgments and making decisions in a specific economic context requires information. The idea is that given the information, the cognitive human will choose the “best” alternative between at least two outcomes (decision theory or rational choice theory). However, people deviate from classical decision theory by erroneous reasoning (fallacy).\textsuperscript{1002} Whilst classic or normative decision theory prescribes how humans ought to behave in a given context

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\textsuperscript{1001} C/P = P-V/P = Unit Contribution Margin/Price = Total Contribution Margin/Total Revenue. The contribution margin is part of the CVP analysis.

to reach the ideal state, descriptive decision theory makes general propositions regarding how people actually behave and make decisions.\textsuperscript{1003} The notion of profit-maximisation builds on the normative approach, which aims to establish deductively ideal rules of theoretical economically optimal behaviours. Conversely, descriptive decision theory builds on observable patterns, which can inductively establish how actual decision-making is done.\textsuperscript{1004} Moreover, to arrive at a sound judgment decision-makers need to make informed decisions that will have an impact in the future beyond the viable information.\textsuperscript{1005} Predicting the future typically involves a qualitative assessment, whereas judgments embroil quantitative estimates.\textsuperscript{1006} But, normative and descriptive theories— as well as deductive and inductive reasoning— are subject to fallacies. These errors can lead to significant errors in the judicial decision-making process.

Note that the above conducted discussion has strong connections with fallacies and biases that consequently can affect the statistical modelling and its inferred conclusions thereof. The conventional wisdom of antitrust analysis limits itself to the premise that actions or decision-making errors are due to the incorrect substantive standard. Habitually, these false positives and false negatives are often referred to as type I and type II errors. However, the principles derive from hypothesis testing, which is the very underpinning of scientific knowledge and often referred to as synonymous with quantitative inquiries and statistical analysis.\textsuperscript{1007} Nevertheless, hypothesis modulation and testing is not restricted to the aforementioned errors and due to bounded rationality, fallacies and biases additional species of errors have emerged.\textsuperscript{1008}


\textsuperscript{1007} For an analogy between judicial decisions and statistical testing see, A. Banerjee, U. B. Chritins, S. L. Jadhav, J. S. Bhawalkar and S. Chaudhary, *Hypothesis Testing, Type I and Type II Errors*, 18 Industrial Psychiatry Journal 127, 2009.

4.3.7.2 Fallacies and Biases Explained

Note that both fallacies and cognitive biases hew to the notion of heuristics,\textsuperscript{1009} which makes them almost indistinct from each other. However, they are not interchangeable even though their end-products produce the same sub-optimal decision-making. To clarify, fallacy refers to erroneous argumentation, whereas biases relate to the patterns of flawed logical conclusion. Arguably, systematic distortion may be related to limited knowledge or faulty facts, whereas invalid reasoning does not necessarily involve an innocent conclusion. The palpable issue is that such avowal is neither falsifiable nor refutable, which makes such claims impossible to disprove as they represent a product of ideology rather than established scientific fact. These unfalsifiable claims are closed or circular in nature (closed circle argument).\textsuperscript{1010} The assertion or inference that originates from unproven scientific testing does not represent scientific facts; it represents pseudoscience.\textsuperscript{1011} Thus, the application or implication of a particular theory becomes a type of conformation bias since it incorporates all possible consequences as compatible with the theory as a for-gone conclusion.\textsuperscript{1012}

According to psychological theory, the human mind transforms empirical data into useful items of information.\textsuperscript{1013} However, one significant design feature of the mental process is that it can easily systematically deviate from what is rational, logical or statistically probable.\textsuperscript{1014} These mental errors result from

the inherent unconscious cerebral activities of simplifying information processing, which consequently sequel in predictive deviations from rationality (heuristics). These systematic information-process distortions in decision-making are known as cognitive biases.

Nonetheless, according to Pohl, cognitive illusions have four distinctive characteristics: (i) they are deviations from normative standards, (ii) which deviate in a systematic and predictable fashion, (iii) appear without any intention or meditative will, and are (iv) difficult, if not impossible, to avoid. The heuristics and biases approach to analysing decision-making is based on Kahneman and Tversky, who established theoretical frameworks to understand the limitation of the human decisions. The consequence of bias occurrence is that individuals draw conclusions or adopt beliefs from evidence that does not support such accounts.

- **Pro-innovation Bias**

  Pro-innovation bias refers to the belief that an innovation is so ground-breaking and flawless that it should be adopted by the entire society without any or further alteration. The implication of pro-innovation bias is that it is intellectually destructive. Decision-makers and researchers within an organisation become blind and ignore the relevance of innovation dynamics, incremental improvement of the innovation and/or reject the discontinuance of innovations. Discontinuance is critical because it underpins companies’ overall profitability strategy.

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• **Hindsight Bias**

Hindsight bias, theory-induced blindness, or creeping determinism refers to a person’s tendency to view an occurrence as predictable without any or little objective basis for the prediction.\(^\text{1022}\) Conversely, when the outcome is known the person postulates that he/she knew the outcome before it actually occurred. People therefore tend to consistently argue that they could have anticipated the event in foresight.\(^\text{1023}\) The concept of hindsight bias conceptualises how the human mind can perceive the memory of past events. One consequence of the bias is that legal liability is accredited if the adjudicators determine that harm was foreseen ex ante. According to Oeberst and Goeckenjan, the hindsight bias may result in a systematic risk of judicial decision-making errors.\(^\text{1024}\) This is because the bias can produce prejudiced judicial standards. Judges tend to falsely recognise negative events as more foreseeable and consequently construct the legal standard so the accused person is required to foresee the harm in the same manner as he/she would have in hindsight.\(^\text{1025}\)

• **Outcome Bias**

Outcome bias is similar in nature to hindsight bias since both provide explanations regarding distortions in the cognitive process. However, outcome bias, unlike hindsight bias,\(^\text{1026}\) does not involve distortions of past events. Instead outcome bias ascends from past outcomes of previous decisions.\(^\text{1027}\) Outcome bias occurs because people make assessment errors when the result of a decision is already known. The quality or correctness of a historical decision will exclusively be weighed on previous outcomes. The harmfulness of outcome bias is that decision-
makers exclusively draw attention to the outcome and not to the process that led to the outcome. Differently put, the bias produces blind information spots.

- **Anchoring Bias**
  Anchoring or focalism bias refers to the human tendency to rely too heavily on first piece of information that is offered when making choices. The bias occurs because the decision-maker tends to rely exclusively on the first fragment of data (anchor) when making decisions that will occur in the future. Consequently, future decisions and judgments may become distorted due to reliance on the wrong initial data.

- **Belief Bias**
  Belief bias denotes the tendency to accept or reject an argument based on the person’s beliefs, irrespectively whether the conclusion necessarily follows from the premises, i.e. the tendency to reject a conclusion as invalid irrespective of logical validity. The belief bias has its roots in logic argumentation (syllogism), where the conclusion is inferred from two or more added premises (assumption that something is true). Thus, the belief builds on deductive reasoning which can easily create mental errors because of the tendency of rejecting something that goes against prior knowledge or conclusions that do not align with one’s beliefs, and therefore illogical.

- **Confirmation Bias**
  Confirmation bias or confirmatory bias is the tendency to examine or deem information as relevant only if it confirms one’s pre-existing beliefs. Confirmation bias, unlike belief bias, arises from the systematic error of inductive reasoning. People who display confirmatory bias

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tend to remember selective information or interpret empirical evidence in a biased manner, i.e. interpret information in a way that only supports their existing opinion, which contributes to overconfidence. This bias has direct implications for question statement and hypothesis (resulting in possible type 3 and 4 errors) as well as failing to acknowledge negative information about investments.

- **Aggregation Bias**
  Aggregation bias refers to the tendency of wrongly assuming or inferring that an observation can have the same consequence or effect outside of its actual context. The systematic error transpires due to simplifications or overconfidence in the decision-maker’s cognitive abilities. For example, enforcement agencies may assume a universal application of a certain measurement or principle when analysing a dominant firm’s competitive strategy, and therefore ignore the specific drawbacks of such assumption due to aggregated data to the specific market context. Accordingly, the bias occurs most often in cross-level settings. According to deterrence research, utility maximisation deals with the likely expected behaviour of individuals in the presence of potential lawful and illegal gains and costs. The modelling and the more economic approach by the Commission suggests at first glance that this type of bias is inherent in the economic modelling. However, there is empirical support that the bias emits from the presentation of statistical results, which implies measuring or reporting bias.

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• **Sunk Cost Fallacy**

According to conventional wisdom, a sunk cost is irrelevant for decision-making and thus irrational to pledge to the sunk cost fallacy or sunk cost effect.\(^\text{1041}\) The judgment error is nonetheless quite common.\(^\text{1042}\) According to the fallacy, the decision-maker rationalises its decision in retrospect even though it clashes with the generally accepted theory. The bias therefore reflects the propensity to invest additional future resources instead of rationally regarding the additional investment as an avoidable cost.\(^\text{1043}\) Alternatively, the sunk cost fallacy can be described as the status quo due to the inertia\(^\text{1044}\) of ongoing commitments.\(^\text{1045}\) However, the tendency to commit the fallacy appears to be correlated with size of the sunk cost,\(^\text{1046}\) in monetary terms but not with regards to time.\(^\text{1047}\)

• **Nirvana Fallacy**

The nirvana fallacy refers to the affinity for benchmarking actual observations with unrealistic and/or idealistic alternatives.\(^\text{1048}\) The nirvana fallacy emanates from the human tendency of building its logical reasoning from ideology rather than science, implying that the fallacy represents a closed circle argument.\(^\text{1049}\) The fallacy produces a false dichotomy that can be used to disfigure facts to represent one’s opinion. One

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particular problem with the fallacy builds on unrealistic conditions, since it assumes a perfect solution to a particular problem. The distorted dichotomy of the fallacy tends to result in reasoning that lacks connection to the real world because there is always a theoretical perfect or ideological solution to the problem. The theory of perfect competition is often described as such a state and attaching any significance to the model is by definition a nirvana fallacy. This is implying that a proper understanding of market characteristics is essential to eliminate the fallacy.

4.3.7.3 Possible Implications of Fallacies and Biases

The implications of fallacies and bias occurrence in antitrust is that these cognitive distortions can result in different types of judicial decision errors. By observing and understanding how biasability can alter the conclusion of the economic operator’s profitability decision ex ante, the stronger, more reliable and accurate conclusions can be drawn about the dominant firm’s competitive behaviour ex post. Forensic assessment of cognitive falsifications can reduce the fallibility and balance out false positives vis-à-vis false negatives. But, it is important to identify which actor(s) in the due process that have become subject to cognitive alterations.

Consumers are often accused of behaving irrationally by showing some form of bias. Mental distortions can nevertheless potentially affect all types of human behaviour. The notion of cognitive falsifications is therefore not limited to e.g. end consumers and companies when making financial decisions. Its application encompasses all actors, all types of decisions in a potential lit-

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1052 In forensic science the term refers to the potential effects biases and other irrelevant information can have on decision-making. See, I. E. Dror and D. C. Murrie, *A Hierarchy of Expert Performance Applied to Forensic Psychological Assessments*, 24 Psychology, Public Policy, and Law 11, 2018, p. 11.
1053 Reducing biases is a complex issue, but there are some steps that can be taken to mitigate their effect. See, P. A. Zapf, J. Kukucka, S. M. Kassin and I. E. Dror, *Cognitive Bias in Forensic Mental Health Assessment: Evaluator Beliefs About Its Nature and Scope*, 24 Psychology, Public Policy, and Law 1, 2018.
1054 There is an extensive range of biases, but only those that can have an impact on or affect the outcome of ex post judicial review will be reviewed. For a short review of 37 different biases see, D. Arnott, *Cognitive Biases and Decision Support Systems Development: A Design Science Approach*, 16 Information Systems Journal 55, 2006, pp. 60-61.
igation process. Hence, the framework also applies to judicially binding conclusions.\textsuperscript{1055} This can have substantive implications on the outcome of litigation due to the special procedural characteristics of the EU antitrust enforcement system before the EU courts.

The Commission, as enforcer of the EU competition law framework and solicitor before the EU courts, has been empowered with a combination of functions and powers involving investigatory and prosecutorial functions. The powers enjoyed by Commission contain adjudicatory decision-making powers that enable it to adopt legally binding infringement decisions and to impose remedies that effectively end the abusive conduct.\textsuperscript{1056} It follows from Article 263 and 288 TFEU that an infringement decision is subject to judicial review. However, the EU courts can only examine the legality of the challenged decision (limited or light judicial review), meaning that suitability assessments fall outside the scope of judicial review. As such, there is a distinction between limited and full judicial review on the one hand and de novo judicial review on the other hand. The unlimited or full review means that a court is authorised to evaluate legal as well as factual issues, whereas de novo signifies that a court also is delegated the power to re-evaluate and substitute, where it deems appropriate, the authority’s assessment for its own. Nevertheless, the EU antitrust procedural structure builds on particular division of powers, which can be classified as tribunals of fact and law respectively.

The General Court, in its role as first instance in antitrust matters, has exclusive jurisdiction to establish and assess the facts of the case, whereas the Court of Justice has jurisdiction to review the legal characterisation of those facts and what legal conclusions that can be drawn from them.\textsuperscript{1057} But, as long as certain fundamental measures have not been breached, such assessment does not constitute a question of law that can be reviewed by the Court of Justice.\textsuperscript{1058} The EU antitrust judicial system could therefore by analogy be described as what is generally known in common law jurisdictions as tribunals of law and fact.\textsuperscript{1059} The separation builds on the notion that different institutions should be responsible for different tasks in a trial. The General Court can

\begin{itemize}
\item \textsuperscript{1056} Regulation 1/2003.
\item \textsuperscript{1057} C-167/04 P, JCB Service v Commission, ECLI:EU:C:2006:594, para. 106.
\item \textsuperscript{1058} “[T]he] Court of Justice has no jurisdiction to find the facts or, as a rule, to examine the evidence which the [General Court] accepted in support of those facts. Provided that the evidence has been properly obtained and the general principles of law and rules of procedure in relation to the burden of proof and the taking of evidence have been observed, it is for the [General Court] alone to assess the value which should be attached to the evidence produced to it. That appraisal does not therefore constitute, save where the clear sense of that evidence has been distorted, a point of law which is subject, as such, to review by the Court of Justice. “See, C-167/04 P, JCB Service v Commission, ECLI:EU:C:2006:594, para. 107.
\item \textsuperscript{1059} R. Glover, Murphy on Evidence,15th edition, Oxford University Press, 2017, p.16.
\end{itemize}
thus be described as an exclusive tribunal of facts, whereas the Court of Justice represent the EU equivalent to tribunal of law.

The separation in itself seems unproblematic. The potential problems instead arise partly from the margin of discretion that the Commission enjoys with regard to complex economic assessments (which was discussed in chapter 3.8.1.1), and partly from the functional and decision-making powers owned by the Commission. Differently expressed, as guardians of the EU antitrust framework the Commission has the power to act as investigator, judge, and jury. This fusion can arguably cause the EU antitrust enforcement system to foster different kinds of enforcement errors due to prosecutorial bias. According to Wils, the sources of prosecutorial bias can be traced back to confirmation bias, hindsight bias and productivity or policy bias.

4.4 Accounting Calculations and Costing Methods

To estimate further profitability, a first step is to ascertain the relevant costs by using the proper and/or relevant costing method. A key step in that process is to understand the nature of the product or service that is under the loupe. This has to do with the fact that companies tend to manufacture or provide services that are either bespoke (customised or unique) or clocklike (standardised or homogenous). Cost objects that exhibit these characteristics have traditionally been subject to either job order costing or process costing methods. The difference between the two methods is that job order costing applies where the nature of the cost object is bespoke, whereas the process costing is used to standardised products or services.

The competitive environment has changed significantly over the years and many production industries now exhibit four main characteristics:

1. Capital-intensive and machine-based production,

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2. A high level of indirect costs relative to direct costs,

3. A highly competitive international market, and


The traditional costing methods are unsuitable tools in the new competitive environment. An important reason is that they tend to use output activity as the cost driver. It follows from well-established accounting theory that traditional costing methodology using volume output as the cost driver tends to distort the cost data.\textsuperscript{1065} As a result, the traditional full cost methods do not provide the necessary allocation or apportionment methods to assign indirect or overhead costs,\textsuperscript{1066} and in particular service-based activities.

To address the shortcomings of traditional costing methods and to provide stronger and more robust analytical tools, scholars have suggested the use of activity-based costing (ABC),\textsuperscript{1067} or time-driven activity-based costing (TDABC or time-driven ABC).\textsuperscript{1068}

### 4.4.1 Activity-Based Costing

Activity-based costing is a method that assigns overhead costs to a cost object based on the activities that are needed to produce or supply the product or service in question.\textsuperscript{1069} The activity-based costing system is often an integral part of a firm’s pricing decisions.\textsuperscript{1070} Activity-based costing was developed to

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\textsuperscript{1070} Activity-based costing has successfully been extended into capital-budgeting, so-called activity-based investments. Angelis and Lee argue that activity-based investment methods can provide decision-makers with an effective tool which can achieve the firm’s strategic goals. See, D. I. Angelis and C-Y. Lee, *Strategic Investment Analysis Using Activity Based Costing*
provide decision-makers with a more accurate tool for planning and control purposes. The strength that activity-based costing has over the traditional costing methods is that the former can use a plethora of cost drivers, whereas the latter only use a single cost driver based on output. This is the reason why the latter sometimes is referred to as volume-based cost systems.

The activity-based costing system follows a two-step process to assign indirect costs:

1. **Identify Costs**

   The first step is to identify the direct and indirect overhead costs that are needed to manufacture the product or service and assign them respectively. This done by identifying any activity that causes consumption of overhead resources and assigning each overhead cost to the relevant activity cost pool. The activity cost pool is a bucket in which costs are collected according to activity. To enable and facilitate the cost tracing as much as possible, the activity-based costing method is modelled on a cost hierarchy approach.

   - Unit level. Activities performed on each unit produced.
   - Batch level. Activities performed whenever a batch of units is processed.
   - Product level. Activities targeted at a specific product or product line.
   - Facility level. Activities carried out for an entire facility.

2. **Identify Cost Driver**


The second step is to identify and choose the relevant cost driver. A cost driver is any activity that causes a change in costs for a particular activity. Cost drivers are intended to allocate the correct cost and amount to a particular cost item. The relevant cost driver(s) are then used to allocate the overhead costs from the activity cost pool to each product or service line in proportion to the level of activity it consumes.

The activity-based costing method (and its cost hierarchy approach) has been of particular importance when performing customer-profitability analysis. According to Cooper and Kaplan, the system allows managers to trade sustainably and enhance profitability, because the system provides the necessary information to manage costs. The point that Cooper and Kaplan are trying to make is the ironic nature inherent in the traditional costing methods. These volume-based costing methods provided the wrong information because under these systems, a product could in fact be profitable but appear as if it was not due to the fact that the biggest bulk of cost was actually overhead. As a consequence, management could discontinue the product instead of reducing the indirect costs. The antitrust implication of Cooper and Kaplan’s findings is that inept tools will likely result in wrong legal conclusion.

Identifying the appropriate cost driver is fundamental in activity-based systems. According to Artill and McLaney, there are two types of cost drivers: activity drivers and resource drivers. The activity driver is a measurement of frequency, i.e. how frequently the activity is performed, e.g. the number of orders. Resource drivers on the other hand, measure the amount of resources consumed when performing an activity, e.g. the number of support activities the buyer consumes. Note that cost drivers build on the notion that they are identifiable through a cause-and-effects analysis, i.e. there is a clear link that enables a systematic tracing between the activity and the cost.

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1081 That is, type I and II errors.
Activity-based costing is particularly useful in the service industry because the greater bulk of the total cost tends to be overheads,\footnote{See, e.g. P. Atrill and E. McLaney, \textit{Management Accounting for Decision Makers}, 10th edition, Person, 2021, p. 161.} and because customers and clients often demand different levels of attention.\footnote{See, e.g. S. WhiteCotton, R. Libby and F. Phillips, \textit{Managerial Accounting}, 4th international edition, McGraw-Hill/Irwin, 2020, p. 173.} Correctly implemented, the activity-based costing system should provide sufficient cost data, which allows the firm to price according to the client’s individual need.


Despite these flaws, what Cooper and Kaplan’s activity-based costing method showed was that volume-based cost drivers are arbitrary and thus provide the wrong set of information. The fundamental antitrust insight of Cooper and Kaplan is that economic costs that are based on volume output are likely
to result in enforcement errors. As will be discussed in chapter 6.2.6.2.1.2, the Court of Justice’s ruling in AKZO is based on the appreciation that the relevant costs are to be ascertained purely in relation to volume of output. As a result, the law on predatory pricing is based on the wrong set of analytical tools to proficiently prohibit likely anticompetitive pricing.

4.4.2 Time-Driven Activity-Based Costing

Based on the insights that activity-based costing is costly to design and implement, the adoption rate has been low. All costing systems are based on the same core principle, they should provide decision-makers with necessary and timely information as relatively cost efficiently as possible. Hence, when identifying the relevant cost drivers, a trade-off between accuracy and the costs of collecting the information needs to be made. Kaplan and Anderson have ascribed the low adoption rate of the activity-based costing method to five key reasons:

1. It was time consuming and costly.
2. The data was very subjective and difficult to validate.
3. The system was often local and integrated on an enterprise level.
4. The system could not be updated easily to accommodate to changing circumstances.
5. The system was theoretically incorrect when it ignored the potential for unused capacity.

To remedy these issues and enhance the adoption rate of the activity-based methodology, Kaplan and Anderson proposed a simpler approach, namely time-driven activity-based costing. According to Kaplan et al, the time-driven activity-based costing method is based on two steps. First, identify all

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costs that will be incurred by the activity. Second, identify the utilisation rate of each resource’s capacity that is used by the activity.\textsuperscript{1096}

The way that time-driven activity-based costing is seeking to utilise performance is of a single cost driver. According to Hoozée and Hansen,\textsuperscript{1097} although the systems are based on the same accounting information, the activity-based and the time-driven activity-based costing methods accumulate the costs differently.\textsuperscript{1098} The time-driven activity-based costing method, unlike the activity-based costing method, which is based on a two stage process, only depends on a single stage. The core of time-driven activity-based costing is the use of time as the cost driver, which makes it possible to directly allocate and measure the resource consumption without an in-depth analysis of cost pools.\textsuperscript{1099} The select partition of activity-by-resource information approach make time-driven activity-based costing, not only cost efficient, it makes it more accurate.\textsuperscript{1100}

Drury’s accounting of the time-driven activity-based costing method implies that an important advantage that the method has over its peers is the use of time as the relevant cost driver.\textsuperscript{1101} This is what makes it more accurate as it provides an objective measurement, which enhances the precision.

Dalci et al\textsuperscript{1102} have applied time-driven activity-based costing in hotel settings. They find that time-driven activity-based costing enables hotel managers to implement customer profitability analysis with more accuracy. The findings of Dalci et al imply that time-driven activity-based costing is an effective method to identify which customers are profitable and at the same time get important information about the how well the firm is utilising its capacity in relation to its implemented strategy.\textsuperscript{1103} A key finding in their study is that under activity-based costing some customers were found to be unprofitable.

\textsuperscript{1100} S. Hoozée and S. C. Hanse, A Comparison of Activity-Based Costing and Time-Driven Activity-Based Costing, 30 Journal of Management Accounting Research 143, 2018, p. 162.
but with the time-driven activity-based costing they were found to be profitable.\textsuperscript{1104}

4.4.3 Life-Cycle Costing

Life-cycle costing (LCC), whole-life cost or total life-cycle costing, unlike the previously mentioned, is a long-run appraisal method that compiles all costs that will be incurred over an asset’s life-cycle or life-time.\textsuperscript{1105} Life-cycle costing was traditionally introduced as financial appraisal tool.\textsuperscript{1106} The method is based on a cost-benefit approach that seeks to optimise the cost of acquiring, owning and running the investment over its useful life.\textsuperscript{1107}

Atrill and McLaney contend that life-cycle costing covers three main phases or periods:\textsuperscript{1108}

1. \textit{The Pre-Production Period}
   This is the period that precedes the production of the product or service. The phase includes research and development costs, the cost of design of the product and/or service, and the necessary production facilities and with advertising and promotion.

2. \textit{The Production Period}
   This is the manufacturing or production period and includes production and customer related costs. Note that it is in this phase that the previously reviewed costing methods are being employed.

3. \textit{The Post-Production Period}
   The post-production period includes after-sale activities, e.g. cost of quality – the product did not live up to expectation. This third period

\textsuperscript{1106} M. Andhov, R. Caranta and A. Wiesbrock (eds), Cost and EU Public Procurement Law: Life-Cycle Costing for Sustainability, Routledge, 2020, p. 7. Note that the Commission views the life-cycle costing method as an important tool to analyse if a public authority has awarded a contract based on the most economically advantageous tender (MEAT), as prescribed by Article 68 in the public procurement directive. See, https://ec.europa.eu/environment/gpp/lcc.htm.
\textsuperscript{1108} P. Atrill and E. McLaney, Management Accounting for Decision Makers, 8th edition, Person, 2015, pp. 169-172.
may overlap with the second period because these costs may be incurred before the product has been discontinued. During this period costs may also be incurred as a result of closing production at the end of the products or service’s life.

Based on Atrill and McLaney’s account, it follows that the life-cycle costing method links or bridges the capital budgeting process with the return on investment performance analysis (these will be discussed in chapter 4.8) to estimate the sustainability of a firm’s return on investment pricing strategy.\textsuperscript{1109}

According to Kaplan and Atkinson, target return on investment pricing or target-return pricing is a cost-based pricing strategy based on a specific rate of return on the investment.\textsuperscript{1110} Baker et al argue that life-cycle costing is an indispensable managerial tool to grasp the importance of both life-cycle costs and profitability.\textsuperscript{1111} Baker et al argue that an effective price strategy should be based on two essential properties. First, firms should actively manage the trade-off between price and volume (or profit and market share) to maximise returns. Second, firms must make pricing decisions in the context of their broader product portfolios since when they have multiple generations of a product in a market, a price move for one can have important implications for others, e.g. cannibalisation. This implies that there is an interconnection between volume and the appropriate product or portfolio mix.

The cost classification under life-cycle costing can be as follows:

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Sub-categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunk Cost</td>
<td>Made prior to the LCC study and thereby not included in the analysis</td>
</tr>
</tbody>
</table>
| **Initial Investment** | • Conceptualisation  
                         | • Design  
                         | • Planning  
                         | • Acquisition (of land, for instance) |
|                     | • Installation and testing  
                         | • Training  
                         | • Financing of the operation phase |

\textsuperscript{1109} To that effect see, e.g. A. Bhimani, C. T Horngren, S. M Datar and M. V. Rajan, Management and Cost Accounting, 7th edition, Pearson, 2019, p. 388.


Use-phase Costs

- Operating Costs
  - Staffing
  - Energy and materials
  - Insurance payments
  - Interest on loans and taxes of different kinds (including environmental)
  - Security
  - Personnel training
  - Increases in working capital when needed
  - Depreciation (solely for tax deduction purposes)

- Maintenance Costs
  - Repair
  - Cleaning
  - Painting
  - Corrective and preventive maintenance

- Replacement Costs
  - Components, sub-systems, entire machinery, and equipment

Disposal costs

- Removal, restoration
- Salvage value (this is a negative cost – a benefit in other words)
- Remediation of contaminated soils
- Release of any unused working capital

Table 3-1: The cost categories and sub-categories in an LCC

4.4.3.1 The Product Life-Cycle
The product life-cycle is a distinct-but-related concept. The concept can be used broadly or narrowly. Broadly, the concept is interchangeable with life-
cycle costing\textsuperscript{1112} whereas narrowly, the concept simply refers to the length of time from the introduction of a product to its removal from the market.

The product life-cycle is based on four stages:\textsuperscript{1113}

1. \textit{Introduction Stage}
   This stage comprises of substantial investments in advertisement and marketing campaigns to introduce and make consumers aware of the product. The bulk of costs go to creating demand for the product and it is unlikely that the production will be efficient or profitable.

2. \textit{Growth Stage}
   This stage is characterised by the growth in demand for the product. Production increases to meet expectations and availability. Scale economies are starting to take effect and the product should start to be profitable. To boost demand, additional investment is made in promotional activities.

3. \textit{Maturity Stage}
   This state is the most profitable period for the product. The product is firmly established and the aim is to maintain the acquired market share the firm has gained. However, competition is fierce and incremental improvements should be made where feasible while increasing marketing activities.

4. \textit{Decline Stage}
   This stage is commonly known as the harvest period. The stage is characterised by declining sales due to e.g. the market becoming saturated or customers switching to a different product.

The antitrust implication of the product life cycle is that it can be a useful conceptual framework for describing the different stages of a product and how markets usually develop over time. The concept should nonetheless not be used as a standalone because forecasting product performance as well as implementing price strategies in a timely manner is difficult.\textsuperscript{1114}


4.4.3.2 Relevant Life-Cycle Costs

The relevant life-cycle costs will depend on whether the antitrust analysis is to be based on whole value chain (life-cycle costing) or the bulk of the value chain (product life-cycle). In short, Porter’s value chain or the value chain is a concept that describes the various links from the idea to the taking the product off the market.\textsuperscript{1115}

The cost life cycle focuses on the costs that are associated with each activity.\textsuperscript{1116} Notwithstanding the difference between life-cycle costing and product life-cycle, both are forward-looking and as a consequence, a fundamental point is how costs are estimated to be incurred over product or service life-cycle.

The two most relevant cost concepts are committed and discretionary costs. Committed or locked in costs are long-run fixed costs that will be incurred in the future as a result of a decision made.\textsuperscript{1117} Committed costs are irrelevant for decision-making purposes because the decision is irrevocable.\textsuperscript{1118} The decision to incur the outlay cost in the future cannot be altered. The cost is treated as a sunk cost. The references to sunk cost can be misleading. Normally, a sunk or past cost represents a cost that has already been incurred and that is unaffected by the level of production, e.g. the procurement of airplanes or the legally binding contractual commitment of leasing the airplanes. The latter represents (future) sunk costs as they have not yet been incurred, but will be in the future as operations continue. Sunk costs that will be incurred at a later stage are often called committed, lock-in, or designed-in costs.\textsuperscript{1119}

Discretionary costs are short-run fixed costs. As the name implies, discretionary costs refer to the exercise of discretion over the level of financial spending that the manager has in the short run.\textsuperscript{1120} This implies that discretionary costs are fixed avoidable costs for antitrust purposes.

For an airline company, the commitment costs of leasing the airplanes constitutes infrastructure costs, which are irrelevant for decision-making and thus

unavoidable. A managerial decision to lower the total cabin crew is a discretionary cost and thus avoidable over the relevant period.

The pre-production committed costs tend to be a substantial part of total costs that will be incurred over an investment’s life-cycle, e.g. 80 per cent of the total costs.\footnote{P. Atrill and E. McLaney, *Management Accounting for Decision Makers*, 10th edition, Pearson, 2021, p. 170.} Indeed, a very small portion of the total life-cycle costs are incurred at the time they are locked in.\footnote{A. Bhimani, C. T Horngren, S. M Datar and M. V. Rajan, *Management and Cost Accounting*, 7th edition, Pearson, 2019, p. 368.} Note that, although a significant portion of the costs will be incurred during the manufacturing stages, they can still be classified as locked-in costs and not discretionary costs. Normally, a majority of forward-looking manufacturing and service costs are planned at the design stage and span into the post-production stage,\footnote{P. Atrill and E. McLaney, *Management Accounting for Decision Makers*, 10th edition, Pearson, 2021, p. 171.} making them difficult to alter.\footnote{See, e.g. C. Drury and M. Taylers, *Management and Cost Accounting*, 11th edition, Cengage Learning, 2020, p. 620.}

### 4.4.3.3 Strategic Price Implications of the Life-Cycles


Price skimming refers to the gradual skimming of levels in the market. Pricing of the new product seeks to maximise the firm’s profit directly from the starting block. The aim is to identify consumers that are likely to pay a premium price for being amongst the first. The price skimming strategy is essentially a revenue maximising strategy in the short-run, but as the price declines over time, the strategy will become profitable in the long-run as the customer
base grows. The strategy only makes sense under certain conditions. The product must be viewed as carrying a high quality to support the high price, the costs of producing a small volume cannot be too high and there must be barrier to entry so competitors cannot immediately undercut the high price.\textsuperscript{1129}

Penetration pricing is the direct opposite. The aim is to set a low initial price to quickly penetrate the market as deeply as possible. The objective is therefore to set a low price to attract as many customers as possible in as short of a time frame as possible. The advantage is that the product becomes profitable fairly early as economies of scale can commence quite rapidly, which will build up a strong customer base and facilitate temporal barriers to entry. For market penetration to work, the market must be fairly sensitive to low prices so the market can grow, economies of scale and the strategy should keep competitors out of the market.\textsuperscript{1130}

\subsection*{4.4.4 Common and Joint Cost Allocation Methods}

The Commission states in the Guidance Paper that one of the key cost benchmarks is the long-run average incremental costs.\textsuperscript{1131} The cost benchmark is essentially an economic shorthand for identifying whether the dominant firm has sacrificed or made unsustainable choices in its life-cycle appraisal. Consequently, life-cycle costing in combination with e.g. activity-based or time-driven activity-based costing methods could provide a managerial methodology to make the long-run incremental cost yardstick specific and concrete. As a result, they are important forensic source-based arguments.

Many economists favour the long-run incremental cost benchmark for an antitrust analysis, because the measurement aims to capture all costs that are necessary for the dominant firm to implement the exclusionary act, e.g. all product-specific costs including variable and pre-production costs.

Bolton et al\textsuperscript{1132} argue that the long-run incremental cost is the superior yardstick when the accused undertaking is a multiproduction firm. They argue that the benchmark does not require any allocation of common and joint costs.\textsuperscript{1133} Bolton et al, summarise the heart of the discussion about how to treat common costs in the US. In essence, the US approach towards common costs tends to

\begin{itemize}
\end{itemize}
be to ignore them, because they will be part of the incremental cost test anyway and common and joint costs are not part of management equation, thus all efforts that seek to allocate shared internal costs are “nonsense”.  

The statement is nonetheless flawed. First, leapfrogging the question of common and joint costs risks leading to type II errors. A potential rival firm would face a significant competitive disadvantage if it is only committed to compete on a single product line and the dominant firm could easily outperform the rival due to its economies of scale. Second, allocation of common and joint costs has important managerial strategic objectives, in particular to calculate and control the profitability of individual products.

There are well-established methods to allocate common and joint costs in accounting theory. It is important to recall that there are different costs for different purposes and that cost allocation can serve these purposes in a multifractionated manner.

4.4.4.1 Common Costs

As discussed in chapter 4.3.2.1, a common cost is an operational cost that is shared by two or more users, e.g. facility and activity. According to Bhimani et al, the two most established methods are: stand-alone cost-allocation and incremental cost-allocation methods.

- **The Stand-Alone Cost-Allocation Method**
  The stand-alone cost-allocation method is based on the notion that common costs should be allocated in proportion to the stand-alone activity. The method’s objective is to separate and weigh each cost object and allocate the costs that would have been incurred by each user. The aim is to achieve fairness as each department bears the proportionate share of the total costs relative to their individual stand-alone costs.

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• **The Incremental Cost-Allocation Method**

The incremental cost-allocation method is more complex than the stand-alone method.\(^{1140}\) The incremental method is based on a system ranking the individual cost objects and then allocating the costs to their respective cost objects based on their ranking. The method tabulates the different departments or activities in terms of first-ranked cost object or primary party and allocates the costs up to the stand-alone level.\(^{1141}\) The second ranked cost object or incremental party is allocated the additional costs and so on.\(^{1142}\) Typically, the primary party receives the highest potion of common costs under the incremental cost-allocation method. The incremental party base tends to be substantially larger. The strategic rationale for this can be that a new product line or sales territory should not be burdened with a relatively high common cost in the introduction and growth stages.\(^{1143}\)

It should stand fairly obvious that these methods are inappropriate for antitrust analysis because of their subjective nature. The stand-alone cost-allocation and the incremental cost-allocation methods are nonetheless important to recognise since they could potentially be raised before the courts.

### 4.4.4.2 Joint Costs

A joint cost is the cost that arises from producing more than one distinct product from a single manufacturing process or the same product process.\(^{1144}\) A joint production process is a single process that simultaneously produces a group of distinct individual products from the same input to the point that they

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are distinguishable. Costs that appear before the split-off point are the joint costs, whereas costs of each product after the split-off point are separable processing costs or separable costs.

The central criterion for decision-makers is the split-off point. Past the split-off point, the managerial decision is whether to sell or further process the separate products, i.e. adding to the separable costs. Prior to and until the time that the split-off point is reached, all joint costs are sunk and thus irrelevant.

Indeed, there are established cost accounting methods to allocate joint production costs, but all methods are arbitrary and at the most provide a reasonable proxy. In addition, allocating joint costs is irrelevant for managerial decision-making because the aim of joint cost allocation is to satisfy inventory purposes. As a result, joint costs are used for financial accounting purposes and can therefore be an important metric for indirectly measure the profitability of the firm by external users.

4.5 Cost Behaviour and Cost Estimation Methods

Based on the above, the relevant costs for profitability are determined by the appropriate costing method. This chapter focuses on the relevant cost for decision-making purposes. The relevant cost for decision-making is based on three steps. First, the cost is determined based on how it behaves. Second, the appropriate cost estimation method is chosen. Third, the result is computed and a pricing decision is made by utilising the contribution margin and cost-

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volume-profit analysis. Accordingly, costs will therefore be classified according to how they behave in response to changes in activity levels or cost driver, e.g. variable, fixed mixed costs.\textsuperscript{1152} As has been stressed, accounting theory has disregarded the single cost volume-based driver. Many modern accounting theories are based on models that recognise that cost drivers are underpinned by a bucket of managerial choices consisting of, inter alia, business model, product markets, product designs, value, revenue, and profit drivers.\textsuperscript{1153}

In addition, predicting or estimating cost behaviour based on the volume-based method does not always produce a robust result. The method is based on a strict mathematical operation. However, as described supra, Andersen et al have shown that some costs do not behave according to the numerical assumption.\textsuperscript{1154} Bhimani et al argue that the most critical step in cost estimation is to identify the cause-and-effect relationship between the relevant cost driver and the resulting costs.\textsuperscript{1155} 

4.5.1 Cost Estimation Methods

According to Hilton and Platt,\textsuperscript{1156} cost estimation is the process of determining how a certain cost is likely to behave in the future.\textsuperscript{1157} There are a number of different methods which vary in complexity, but all seek to provide a result that can be used for decision-making. Note that all methods presuppose that

\begin{footnotesize}
\end{footnotesize}
the cost behavioural pattern has been established by using the appropriate cost driver(s), the time period and the relevant range has been determined.\textsuperscript{1158}

- **Account-Classification Method**
  The account-classification method or account analysis is based on a two-step approach. First, the method classifies cost in terms of variable, fixed or semi-variable by examining the firm’s cost accounting system. Second, based on the classification, the costs are estimated by using the relevant cost drivers, e.g. bills and labour time. For semi-variable costs in particular, the cost estimation uses one of several systematic methods. The account-classification method uses backwards-looking cost data to make predictions about how the cost will behave in the future. A cornerstone of the method is that it is based on the fundamental assumption that the analyst has the relevant knowledge about the firm.\textsuperscript{1159}

- **Visual-Fit Method**
  The visual-fit method applies under certain conditions. The cost is classified as semi-variable if the analyst is unsure of the cost item’s behaviour. The method aims to plot the necessary cost data at various levels of activity in order to make the cost visual in a scatter diagram. The scatter diagram is then used to visualise the cause-and-effect relationship between cost and the level of activity or cost driver. The appeal of using the visual-fit method is that it is quite easy to understand, even for an outsider, as the scatter diagram shows a clear cost pattern. The method is particularly useful to identify data points that are too remote and thus irrelevant for the cost analysis (so-called outliers). The severe shortcoming with the method is its obvious lack of objectivity.\textsuperscript{1160}

- **High-Low Method**
  The high-low method seeks to estimate the costs by identifying and computing variable and fixed costs. The method uses two data points of entry, the highest and the lowest observed values of the cost drivers within the relevant range.\textsuperscript{1161} The high-low method is a simple approach to identify the variable cost per unit (the slope of the line) and the total


fixed cost (the intercept). The method can be especially useful when dealing with mixed costs, and provides objective cost predictions. The method has nonetheless a major shortcoming: because it relies on two data points it fails to identify the underlying cause-and-effect relationship between the data points.

- Least-Squares Regression Method
The least-squares regression method is a statistical technique that can be used to objectively detect cost patterns using two sets of data variables. The method is based in a simple regression analysis which estimates the relationship between the dependent variable and the independent variable, e.g. variable cost per unit and total fixed cost. The strength of the least-squares regression method is in its objectivity, but one issue is that it can miss the true underlying cause-and-effect relationship.

- Multiple Regression Method
The multiple regression method is based on the same statistical notion as the least-squares regression method. The difference is that multi regression method aims to determine the statistical relationship between the dependent variable and multiple independent variables. The problem with the multiple regression method is that the data collection can be highly complex and time consuming.

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1171 E.g. missing data, outliers, mismatched time periods, trade-offs in choosing the time period, allocated and discretionary costs, and inflation. See, R. W. Hilton and D. E. Platt, *Managerial
• **The Engineering Method**
The engineering method of cost estimation, industrial engineering method or the work-measurement method aims to estimate the cost behaviour by studying the process that results in cost incurrence. Cost patterns are established by determining the actual steps that are required by workers to perform a particular task.\(^\text{1172}\) The method is very accurate but time-consuming and should not be implemented in highly shifting industries.\(^\text{1173}\)

### 4.5.2 Forensic Remarks on Cost Estimation Methods

The above-mentioned cost estimation methods are used by forensic accountants and financial forensic investigators.\(^\text{1174}\) Crumbley et al argue that account-classification, visual-fit, and high-low methods should be used for preliminary purposes.\(^\text{1175}\) This implies that they should be used as screening tests in the initial phase of an antitrust investigation. Indeed, although they are non-conclusive, they provide quick and fairly inexpensive approaches to preliminary verify or rule out if an abuse has been committed by the accused firm.

Weil et al argue that properly employed, least-squares regression and multiple regression methods can produce valid and robust cost estimations, e.g. incremental cost.\(^\text{1176}\) However, they highlight that it is vital that regression actually measures costs within the relevant range and that accountants and economists define and use costs differently.\(^\text{1177}\) The implications of Weil et al is that least-squares regression and multiple regression methods should be approached with caution. Indeed, these methods will be important to establish a conclusion about the alleged abuse, they should be used in a highly transparent

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manner. The use of statistical techniques should be welcomed, but they have to be packaged and presented before the courts in a clear, transparent and structured manner,\textsuperscript{1178} in particular in investigations on abuse of dominance.

Roberts argues that relying on statistical evidence alone is not sufficient to draw any correct conclusions about a potential exclusionary abuse.\textsuperscript{1179} Roberts therefore suggests that a triangulation approach should be adopted. Triangulation uses multiple sources of data and information to answer a core question.\textsuperscript{1180} A possible implication of the argument is that statistical methods do not capture other important criteria that are necessary to assess the conduct, e.g. the underlying strategic motivation of the impugned price practice.

Nonetheless, whilst it will be necessary to perform and present based on triangulation, when using regression to estimate the costs, the core issue is that the analysis can make perfect statistical sense without being economically plausible. A reliable and robust cost estimation that uses regression analysis should, inter alia, show economic plausibility (the predation should make economic sense).\textsuperscript{1181} That is, because regression analysis only seeks to measure the correlation between variables, it can miss the true cause-and-effect relationship. The economic plausibility test aims to verify that the statistical result actually measures the relationship between costs and their cost drivers.\textsuperscript{1182}

4.6 Pricing and Profitability Analysis using the Cost-Volume-Profit Method

The cost-volume-profit (CVP) analysis is a basic accounting method that aims to provide decision-makers with a quick and sweeping financial overview of the planning process.\textsuperscript{1183} The method is straightforward, the cost-volume-profit

analysis allows decision-makers to examine if the impact of changes in activity is likely to cause profits. This is ascertained by analysing the cause-and-effect relationship between volume and a mix of units sold, prices, variable and fixed costs and profit. Based on the information, the financial outcome of different output levels can be predicted. The comprehension of this relationship is important because it enables one to identify the break-even point.

The break-even point is the critical point at which total revenue and total costs result in zero profits. The mathematical relationship between total revenue and total cost is the positive, zero or negative profit and is the net operating income in financial terms. The break-even analysis is a variant of target profit analysis. Break-even analysis is the most straightforward way of conducting a cost-volume-profit analysis, whereas the target profit analysis is a sophisticated version of performing a break-even analysis. According to WhiteCotton et al, the aim of the former is to determine the level of sales that is needed to breakeven, while the latter permits managers to ascertain the number of units or total sales revenue to meet a target profit.

The cost-volume-profit analysis is a simple and effective short-term tool to make predictions about the future, typically one year or less, to choose amongst alternatives and to implement and set a target profit. A fundamental concept when performing cost-volume-profit analysis is the contribution margin. The concept measures the amount of revenue that contributes to covering the costs and, as a result, the profit or loss. As will be examined in chapter 6.2.6.2, the AKZO test rests on the assumption that a negative contribution margin qualifies the price-based conduct as exclusionary. However, there are different methods to calculate the contribution margin.

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4.6.1 Assumptions

Notwithstanding effectiveness of the cost-volume-profit analysis in making forward-looking predictions, the tool is based on a number of assumptions.\textsuperscript{1192}

1. The relevant revenue and cost drivers are the number of output units.

2. Total costs comprise of fixed and variable costs.

3. The behaviour of total revenues and total costs is linear or constant in relation to output units within the relevant range.

4. The unit selling price, unit variable costs, and fixed costs are known and are constant.

5. The analysis either covers a single product or assumes that the proportion of different products when multiple products are sold will remain constant as the level of total units sold changes.

6. Adding and comparing revenues and costs can be done without taking into account the time value of money.

7. Changes in the level of revenues and costs arise only because of changes in the number of products (or service) units produced and sold.

4.6.2 The Contribution Margin and Pricing Decisions

The contribution margin is a simple but effective tool to analyse whether the price of a product or service is competitive. In essence, the contribution margin aims to identify if the charged price contributes to cover the fixed costs.

The contribution margin is based on a straightforward calculation:

\[ \text{Contribution Margin} = \text{Revenue} - \text{Variable Costs} \]

Gallo’s account is that firms use the tool for several types of decisions, e.g. pricing product or services, adding or discontinuing product lines.\textsuperscript{1193} The most


common use is for benchmarking and to determine which widgets to keep and which ones to drop. This is done on the basis that if the contribution margin is positive, the widget is most likely worth keeping. On the other hand, if the margin is negative, the widget should probably be discontinued or a price hike is needed.\textsuperscript{1194} In the latter, the firm is losing money on each unit of sales.

The contribution margin presupposes that the necessary cost data is correctly estimated. Gallo’s account is that the pitfall is a correct cost classification. The issue, as was described in chapter 4.3.3.2, is that classifying costs as variable or fixed is not always a candid exercise, and that mixed and/or step-fixed costs add to the complexity.\textsuperscript{1195} This implies that it will be necessary to establish a relevant time period over which the costs are assessed.

Based on the mathematical operation, the contribution margin implies two decision-making rules:

1. Continue production if the widget provides a positive contribution margin.

2. Discontinue production if the widget offers a negative contribution margin.

Gallo’s account accentuates that managers tend to drop products that have a too low contribution margin but before such decision is taken, managers should consider the fixed costs that are allocated to the widget. The main takeaway of Gallo’s account is that contribution margin should also be considered in relation to other measurements as well.\textsuperscript{1196} Based on the analysis in chapter 4.4, where common and joint costs were described, the antitrust analysis will shift significantly as a result of how the cost allocation has been performed. This extends to fixed, mixed, semi-fixed costs, and to the notion of avoidable costs.

According to Spaller, the contribution margin is an effective tool to be utilised and assist in making pricing decisions.\textsuperscript{1197} The tool provides an analytical approach on how cost behaviour may impact the firm’s profitability. Spaller argues that the contribution margin can be used by service firms to identify the “exact price point” that must be met to cover the variable cost.\textsuperscript{1198}

\textsuperscript{1194} A. Gallo, Contribution Margin: What It IS, How to Calculate It, and Why You Need It, 95 Harvard Business Review 2, 20017, p. 4.
\textsuperscript{1195} A. Gallo, Contribution Margin: What It IS, How to Calculate It, and Why You Need It, 95 Harvard Business Review 2, 20017, pp. 4-5.
\textsuperscript{1196} A. Gallo, Contribution Margin: What It IS, How to Calculate It, and Why You Need It, 95 Harvard Business Review 2, 20017, p. 5.
A fundamental part of Spaller’s argument is based on getting the cost classification right. Spaller’s account of cost classification is uncontroversial, but he argues that the classification is only meaningful under a relevant range of volumes during a pre-defined time period. Spaller argues that if volume range and time are disregarded, then all costs are semi-variable. Spaller uses a “run/rise” analysis over which the costs should be analysed and classified.

Spaller used one year as the pre-determined time. The run is a proxy for the relevant range of volume and the rise aims to identify the magnitude of increase or decrease in costs. The results are unsurprising, but they have interesting implications for profitability and pricing.

Spaller notes that the profitability implications of the contribution margin are:

- Choosing the appropriate activity or cost driver is fundamental.
- Agents and/or product managers should only be accountable for the costs and revenues they can control or influence.
- Controllable cost accountability should result in better product and pricing management.

Spaller argues that using the contribution margin for pricing decisions can bring significant advantages, which makes it possible to maximise profitability:

- The contributing margin can help to identify unused operational capacity and enable operating efficiency by maximising economies of scale.
- By identifying the relevant volume range, firms can lower fixed unit costs by maximising the volume output, which also benefits common and join costs.

Spaller concludes, whilst the contribution margin is an effective tool, it is not a be-all and end-all tool. It is important to carefully assess if the potential additional costs can be associated with an increase in volume. If mix and step-fixed costs are not monitored, the costs can quickly get out of hand and what

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was a good pricing strategy on canvas may turn out in bankruptcy. The contribution margin is one tool in the managerial toolbox and should be implemented with care.\textsuperscript{1203}

4.6.3 Cost-Volume-Profit Methods

There are three basic methods to calculate profits based on the cost-volume relationship. These methods essentially seek to answer the same question, but their relevance depends on what data that is available:\textsuperscript{1204}

- **The Profit Equation Method**
  Profits under the profit equation method are defined as the difference between total sales revenue and the total fixed and variable costs.\textsuperscript{1205} The method does not make any distinction between the cost concepts and simply states that total costs need to be covered for a product to be profitable.

- **The Unit Contribution Margin Method**
  The unit contribution margin method is an alternative method that can be used. The method measures how much each sold unit's variable costs contribute to cover the fixed costs.\textsuperscript{1206} Accordingly, what remains after the fixed costs have been covered is profits.

- **The Contribution Margin Ratio Method**
  The third method is the contribution margin ratio method. This method is based on the notion that the ratio of sales revenue should be used as the measurement to establish the contribution margin.\textsuperscript{1207} The method uses a percentage of euros or dollars to calculate the ratio of contribution each sale is generating. That is, the contribution margin ratio


method provides a measurable imprint of the degree to which sale revenue is consumed by variable cost.¹²⁰⁸

4.6.4 Break-Even Analysis

The break-even analysis is used to identify the relevant activity level that is needed to avoid incurring losses. The two most established methods are: the equation and the formula methods.¹²⁰⁹

- **The Equation Method**
  The equation method is the most general and most straightforward approach to compute break-even.¹²¹⁰ The method aims to provide decision-makers with the relevant quantity. The method first sets a targeted profit and then calculates the number of sale units that is needed to reach the target.¹²¹¹ Performed correctly, the equation method and unit contribution margin method should provide the same number.¹²¹² As a consequence, they could be used to test the robustness of the provided evidence.

- **The Formula Method**
  Another method is the formula method. This method aims to essentially achieve the same result as the equation method, but it does so by indirectly calculating the number of sale units needed.¹²¹³

4.6.5 Cost Structure and Operating Leverage

Cost structure refers to the relative portions of variable and fixed costs. An essential accounting query, which also has antitrust implications, is whether a

firm is better off with a high variable and low fixed cost structure or the opposite. Cost structures will vary significantly across industries,\textsuperscript{1214} e.g. the telecom industry is subject to high fixed costs due to investment in non-recurring assets. This implies that the relevant industry can provide a first indicator of whether variable or fixed costs are to be used.

Garrison et al\textsuperscript{1215} argue that there is no single answer and that it all depends on the firm’s strategic assessment, e.g. long-term sales, year-to-year sales fluctuations and how risk averse the owners are.\textsuperscript{1216} The argument advanced by Garrison et al suggests that once the industry has been established, operating leverage can be used as a benchmark to assess the sustainability of the imputed price practice and indirectly identify manipulations in cost structure.

Operating leverage refers to the degree of fixed costs that a firm is carrying.\textsuperscript{1217} The higher the portion of fixed costs in the cost structure, the higher the operating leverage will be. Operating leverage or degree of operating leverage refers to a firm’s ability to make, at a given level of sales, an increase in net income when sale revenue increases, i.e. how a change in sales will affect profits.\textsuperscript{1218} The rule is that the higher the portion of fixed costs are, the higher the profits will be due to the change in sales volume.

Consider firms A and B:

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>500,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Variable Costs</td>
<td>100,000</td>
<td>350,000</td>
</tr>
<tr>
<td>Contribution Margin</td>
<td>400,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Fixed Costs</td>
<td>300,000</td>
<td>50,000</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Break-Even</td>
<td>375,000</td>
<td>166,667</td>
</tr>
</tbody>
</table>

At first glance, it appears that B has an advantage, but only to an established threshold. Once the threshold is surpassed, A will have a significant leverage. The reason is that A will have a significantly higher profit than B, because each sale provides a higher contribution margin ratio for A than for B.

The Contribution Margin Ratio = (Sales − Variable Costs) ÷ Sales

<table>
<thead>
<tr>
<th>Contribution Margin Ratio</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.80</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Accordingly, A will have a much higher contribution margin ratio than B, which means that A has an incentive to increase sales.

There is nonetheless a cost-benefit issue with cost structure and operating leverage. Hilton and Platt argue that there is a trade-off between the benefits of carrying a high operating leverage and the risk of carrying high fixed costs.\(^ {1219}\)

4.6.6 Incremental Profit Analysis and Abandonment Decisions

The cost-volume-profits analysis can be utilised to quickly provide decision-makers with relevant accounting data about, e.g. products, services, segments and/or geographic territory. Managers must constantly review and make decision regarding keeping or dropping certain products or services, the so-called abandonment decision. A decision to keep or drop a product or service line follows a series of questions that should be addressed:

- Which products or services are most profitable?
- Are the products or services priced accurately?
- Which products or services should be promoted and advertised most intensely?

The short-run managerial decision will focus on relevant costs and if based on the cost-volume-profit analysis, a widget is not profitable – does not contribute to cover the fixed costs – the production line should be dropped. However, ceasing a service line can have significant implications for the overall profitability of the firm. If nothing replaces the abandoned service line, the contribution is lost and the firm is left with the fixed costs regardless.\(^ {1220}\)

Incremental, differential analysis or relevant costing seeks to provide decision-makers with an analytical approach to determine how the relevant costs

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and revenues are likely to impact the profits. The incremental analysis is based on a comparison between at least two different alternatives that occur in the future. The relevant cost concept, when performing an incremental analysis, is the incremental or differential avoidable cost. In the relevant costing analysis, a cost is avoidable because it can be cut by choosing another decision. The line of reasoning applies to revenue. The aim is to identify the incremental increase or decrease in revenue that is expected to occur as a result of a chosen alternative. In addition, Blocher et al argue that when considering to drop a product line, the decision should include an analysis of the long-run strategic consequences it can have on profitability by analysing each product’s potential sales growth.

4.6.7 The Limitations of the Cost-Volume-Profit Analysis

It should be quite clear that the cost-volume-profit analysis is of limited relevance for antitrust analysis. Indeed, whilst the concept clearly outlines the business rationale for pricing accordingly to the analysis, the concept can indicate and provide the wrong information. The concept exclusively uses variable and fixed costs and as a result will under-appreciate the cost base in certain markets where fixed costs are high and variable costs tend to be a fraction of the cost structure, e.g. airline and telecom industries.

The legal issue is engulfed in the definition of variable and avoidable costs. As long as the variable cost is correctly assessed, the cost-volume-profit analysis should provide a robust result which can be used as the base for the antitrust conclusion.

4.7 Pricing and Customer Acquisition

Drury argues that the business environment has changed significantly during the last few decades, e.g. competition has intensified and product life-cycles

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have shortened. As a result, the management accounting practice has shifted towards customer-based approaches. A significant implication of the customer-oriented focus has been that accounting and finance practices aim to tighten the transactions between buyers and sellers by determining the financial value of each customer, segments and/or groups. These pricing decisions are not based simply on production costs, but also on the cost of acquiring the customer in order to procure its customer lifetime value.

### 4.7.1 Customer Lifetime Value

Customer lifetime value (CLV) refers to the total value of the all future discounted cash flow that a customer will bring to a firm, or accounting profits in the long run, i.e. profitability. The concept is forward-looking. Kotler describes customer lifetime value as:

[T]he present value of the future profit stream expected over a given time horizon of transacting with the customer.

The concept is firmly established in managerial accounting theory and is used for customer profitability analysis, or customer accounting. A particular problem occurs when the widget is profitable, but the customer consumes additional costs, which consequently makes the overall cost object unprofitable.

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The basic customer lifetime value calculation is as follows:

$$CLV = \text{Total Revenue} - (\text{Acquisition Cost} + \text{Retention Cost})$$

The aim of customer profitability analysis is to ascertain which customer-related costs that must be covered for the customer to be profitable for the firm. It is in this context, activity-based and time-driven activity-based costing methods will be of importance to ascertain the relevant costs.

Haenlein et al note that the value is determined by the specific industry features, e.g. the presence of high switching costs. The digital economy has had major implications for managerial pricing decisions.

### 4.7.2 Customer Lifetime Value Pricing

Ancarani argues that the Internet has allowed firms to use their pricing as a lock-in device and firms should use customer lifetime value pricing to track and manage consumer relationships as proficiently as possible.

Customer lifetime value pricing or customer-centric pricing allows firms to use their pricing to create and/or procure the intrinsic financial value that a customer will generate to a firm over its lifetime. The aim is to price at the relevant time and place. This implies that customer-centric pricing can be either anticompetitive or procompetitive depending on the circumstances.

The digital economy has transformed the traditional business models, e.g. subscription-based business models. Bonacchi and Perego argue that one of the key properties of the customer lifetime value model is the type of relationship – contractual or non-contractual – the business model is based on. One type of contractual business model is the subscription-based business model.

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The model is based on customers paying a subscription fee to have access to the firm’s products or services. The subscription-based model is particularly effective in sectors such as telecom, cell phone, Internet service providers, cable TV, online storage, social networking, and online games.

The subscription-based model makes it possible for the provider to oversee the acquisition and termination of customers in a timely and efficient fashion. The customer lifetime value can be applied in a number of different settings. The concept is perceived to be an effective tool to measure how proficient a business marketing spending activities are and the value they bring in selling the widgets over the Internet (eCommerce). Firms often apply the so-called customer contribution margin or customer margin to find out much each customer contributes to the lifetime value. The customer margin is as follows:

Customer Margin = Revenue per Customer – Direct Cost of each Order

The customer margin is a short-term measure that is used to predict the future value that a retained and/or new customer will bring. The customer margin is an easy and straightforward tool to identify customers that are unprofitable or have a too low contribution. It is firmly established in the academic literature that firms should actively identify unprofitable customers and demark or fire them, because they drag down financial performance and thus impact shareholder’s value, so-called unprofitable customer management.

Haenlein et al. and Ancarani nonetheless argue that customer-centric pricing implies that firms can use bait pricing or selling below-cost to lock-in customers when the subscription renewal period starts.

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4.7.3 Does Customer Lifetime Value Pricing Result in Higher Prices?

Dubé et al nonetheless reject that switching costs make markets less competitive. They argue, based on empirical data, that the firms have a strategical incentive to lower their price to invest in customer acquisition, instead of profit-maximising the existing customer base. They conclude that the source of switching costs is psychological as they create a form of inertia, which makes the consumers “sticky”. They conclude that for the switching costs to be anticompetitive, they need to reach a certain level of brand loyalty. This implies that the price has to be so low that it can break the brand loyalty.

The finding of Chen et al is consistent with Dubé et al; whilst an increase in switching costs should result in consumer stickiness, the opposite can turn out to be true. Chen et al also argue that customised pricing that aims to lock customers in long-term relationships to increase switching costs, may in fact lower profits as competition intensifies.

4.8 Capital-Budgeting and Investment Decisions

4.8.1 Introduction to Corporate Financial Statements Analysis

Typically, all companies that are publicly trading are required to produce three financial statements: balance sheet, income statement, and statement of cash flows. Together they form the Conceptual Framework of financial reporting by providing a general depiction, meaning that some key financial information is not communicated to external users. The purpose of these statements is

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to allow investors and creditors to make informed economic decisions regarding the company’s financial performance as well as position. Nonetheless, most companies will also have a financial plan for the future (budget). The key difference between financial statements and budgets is that the former represents what has occurred (backward-looking), whereas the latter denotes to a future financial plan of action (forward-looking).

As a result, budgets can be viewed or regarded as statements of intentions, that are expressed in quantitative terms regarding the acquisition and consumption of resources during a specific time period.

Nonetheless, there are different types of budgets. A master budget or profit plan is an all-inclusive financial blueprint for the year and covers all segments of the organisation. To make the master budget manageable, it is typically divided into more detailed and concrete accounts, such as operating and financial budgets. The operating budget estimates the firm’s activities that generates income, whereas financial budget approximates the inflow and outflow of cash. The outcome of these budgets is often referred to as sui generis budgeted financial statement, pro forma or as if financial statements.

Pro forma financials are similar to traditional statements, but with the key difference that they are modulated on estimated data and not historical events. Pro forma financial statements are an integral part of the overall budgeting process as well as of business planning. They encompass income statements (operating budget), balance sheets, and cash flow statements

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1259 Thus, they are represented by their form, but with estimated data and not historical data. See, D. R. Hansen and M. M Mowen, and L. Guan, Cost Management: Accounting and Control, 6th edition, Thomson South-Western, 2009, pp. 250-251.
(financial and cash budgets). However, these tools have one significant difference. Budgets are an integral part of the mechanisms that enable managers to exercise control and allocate responsibility, whereas pro forma financials aim to identify and appraise the financial effect of an investment. Budgets and forecasted financial statements are often used simultaneously due to their symbiotic nature. Pro forma financials reflect the predicted economic state of the enterprise ex post a capital investment transaction (capital budgeting), whereas budgets often are employed to control and reduce the variance between projected (ex ante) and actual (ex post) outcomes (variance analysis or feed-forward control).

Arguably, pro forma financial analysis together with cost accounting theory can provide useful and important tools for analysing the dominant firm’s economic position and thus identify actual or potential anticompetitive acts.

Generally, traditional and pro forma financial statements provide the necessary framework to track the undertaking’s financial operations. Nonetheless, the three different statements provide different intelligence regarding the undertaking’s value-maximisation process. For example, the balance sheet provides useful information regarding the firm’s financial position, whereas income statements offer evidence about its financial performance, while the statement of cash flows provides intelligence about the company’s financial substance. Therefore, they each provide knowledge about, inter alia, the entity’s ability to meet its monetary obligations in the short run (liquidity), profits and losses in relations to sales and investments, as well as the actual amount of cash it has generated or is expected to make from its operating and investment activities. Note however that the quintessence of all profit seeking enterprises’ financial wellbeing is cash and how it is converted. Relying

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1266 Note that in the context of budgeting control, feed-forward control refers to the prediction that can go wrong and what steps should be taken to avoid these unnecessary and undesirable outcomes. See, P. Atrill and E. McLaney, *Management Accounting for Decision Makers*, 8th edition, Person, 2015, p. 229.
exclusively on one source of statement or data can therefore be highly misleading. To draw the appropriate financial conclusions, it is essential to assess the Conceptual Framework as a whole.

Note that all financial statements are based on the going concern assumption and that financial transactions are recorded on an accrual basis.\textsuperscript{1270} According to the going concern assumption, monetary information – reporting and measuring – assumes that the economic entity will operate or exist long enough to make use of existing assets, i.e. the intention is to operate on existing scale and there is no need or intention to liquidate the company.\textsuperscript{1271} Reporting on an accrual basis means that events and other transactions are recorded when they occur, i.e. cash outlays and cash payments do not occur at the same time as they are displayed in the records.\textsuperscript{1272} As will be showed later, the ultimate measurement of performance is the actual cash,\textsuperscript{1273} according to well-established financial principles.

From now on, the terms balance sheet, profit and loss statement, and cash flow statement will refer to the forward-looking concepts (i.e. budget and pro forma), unless otherwise expressly stated. Budget, budgeted, and pro forma will be used synonymously.

4.8.1.1 The Balance Sheet

The balance sheet or statement of financial position lists the entities’ assets and liabilities,\textsuperscript{1274} at a specific point in time.\textsuperscript{1275} The terminology or name of balance sheet comes from the relationship that assets must be in balance according to its claims, i.e. claims to the assets.\textsuperscript{1276} The accounting equation follows as:

\begin{equation}
\text{Assets} = \text{Liabilities} + \text{Equity}
\end{equation}

\begin{tabular}{ll}
\textsuperscript{1273} E. McLaney and P. Atrill, \textit{Accounting and Finance: An Introduction}, 8th edition, Person, 2016, p. 554. \\
\textsuperscript{1274} J. Berk and P. DeMarzo, \textit{Corporate Finance}, 2nd global edition, Person, 2011, p. 22. \\
\end{tabular}
\[\text{Assets} = (\text{Liabilities} + \text{Owners' Equity})\]

The equation makes clear that statements of financial position contain two sides, i.e. total assets on the one side and liabilities and shareholders’ equity on the other.

- **Current and Non-Current Assets**
  Assets are typically divided into current and non-current assets (total assets). Note that fixed assets are sometimes used instead of non-current assets.\(^\text{1277}\) Current assets are either cash or assets that can straightforwardly be converted into cash within one year.\(^\text{1278}\) Typically, current assets are categorised into four main categories: \(^\text{1279}\)

1. **Cash** and low-risk securities that can be sold and converted into cash within one year.

2. **Accounts receivable**, which refers to the amount of cash a firm expects to collect from its customers that have purchased artefacts from the company on credit.

3. **Inventories**, which covers raw materials, works-in-progress, and finished goods.

4. **Other current assets**, which is a catch-all category and typically includes prepaid expenses or prepayments (expenses that has been paid in advance).\(^\text{1280}\)

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In contrast, non-current or long-term assets produce tangible benefits for the holder beyond the time horizon of one year. The three main components of non-current assets are:

1. **Property, plants, and equipment (PPE)**, occasionally referred to as fixed or tangible assets. These types of assets are long-lived and physical in nature. Thus, over their useful lifecycle they carry an economic benefit. The term fixed or tangible refers to physical substance of the assets because they can be observed by their material manifestation, which is often fixed in place, and since consumption of the resources does not destroy them or at least does not alter their physical appearance.

2. **Intangible assets** are also long-lived in nature, but do not take physical form, e.g. patents, trademarks, goodwill, and airport slots. These assets typically arise from intellectual property rights.

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3. Other non-current assets, which is also a catch-all category, but usually comprise of long run prepayments and other non-current financial assets.\textsuperscript{1290} Consequently, because these properties are not destroyed and instead tend to reduce in value and become obsolete over time, they are subject to depreciation (tangible assets), amortisation or impairment change (intangible assets).\textsuperscript{1291} Confusingly enough, a depreciation cost or impairment change is not an actual cost because it does not represent an actual expense that the company must pay. Instead, it is a way of identifying and accepting that some assets are subject to devaluation or downgrade.\textsuperscript{1292} Book value or carrying amount is therefore a representation of this phenomena. The book value equation follows as:\textsuperscript{1293}

\textit{Book value of a company} = \textit{Total assets} - \textit{Total liabilities}

For clarity, note that depreciation is an accounting method to allocate the cost over the asset’s useful lifetime. The aim is to match cost against income as the asset’s value declines over time. By matching cost and income in this way, the financial information should display a fairer and more accurate picture of the company’s health. This will be further discussed in chapter 4.8.6.4.

- \textit{Current and Non-Current Liabilities}

Liabilities are also subdivided into current and non-current liabilities due to different time horizons. Current liabilities denote to a period of one year, whereas non-current or long-term liabilities refer to a time span of more than one year.\textsuperscript{1294} The typical examples of current liabilities are:\textsuperscript{1295}

1. Accounts payable, which refers to the monetary amount that the company owed to its suppliers for goods and/or services purchased on credit.

\begin{itemize}
\end{itemize}
2. **Short term debit or notes payable**, but also **current maturities of long-term debt** (which refers to the portion of the firm’s liabilities that are pending within the next 12 months).

3. **Accrual items** and/or **other liabilities** such as wages or cash outflows that have not yet occurred. In addition, pre-collected revenue due to collection of payment without delivering the product or services (deferred or unearned revenue).\(^\text{1296}\)

### 4.8.1.2 The Profit and Loss Statement

The profit and loss account or income statement shows a company’s revenues and expenses for a particular period. The primary purpose is to show how much wealth the business has generated or how much losses have been incurred over the specific time phase.\(^\text{1297}\) Note that wealth is typically used synonymously with profit, but as will be discussed later there are significant differences between the concepts.

The income statement contains two important financial concepts that are used to measure the financial alteration of the company’s assets. The first is revenues, and the second is expenses. The form and type of revenues and expenses may vary depending on the enterprise’s everyday operations.\(^\text{1298}\) Whilst the profit and loss statement is similar to the balance sheet they are not interchangeable but achieve different objectives at specific moments in time.\(^\text{1299}\) The balance sheet represents a snapshot of the wealth a company held at the beginning of the reporting period, whereas the income statement refers to the stream of wealth or profits that the firm’s daily operations have gathered at the end of the reporting period. They are thus closely related.\(^\text{1300}\)

Revenue measures the inflow of economic benefits that follow from the firm’s daily operations. The financial effect that the revenue stream has on the firm’s assets is that it either increases or decreases the company’s cash, amount owed by its customers, or its liabilities. Conversely, expenses measure the outflow of economic benefits that follow from the regular operations.

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Again, an increase or decrease in expenditure outflow will have financial effects on the firm’s assets. This could come in the form of changes in either cash or liabilities, e.g. amount owned to its suppliers. Basically, the income statement shows the total amount of revenues and the expenses incurred to generate that revenue for the specific time frame. Profit or loss are thus calculated by simple deduction between the two properties:

\[ \text{Profit (or Loss) for the Period} = \text{Total Revenues for the Period} - \text{Total Expense incurred in generating that Revenue} \]

The mathematics of the profit and loss formula are not complicated but can lead to erroneous decision-making. A key issue in management and financial accounting is the problem with timing. The inflow and outflow changes characteristics depending on when the activity is recorded by the accounting system. An auxiliary dimension of the problem is the changing classification of items as they are processed and move through the undertaking (flow of costs), e.g. from receiving unprocessed good and/or materials to finished items. The timing issue also extends to revenues, but with a key difference. The fact that an item has been recorded in the revenue account does not imply that the company has received the actual payment. The recording period will have profound impact on the firm’s profits and financial wealth.

Accounting-wise, the timing issue has the consequence that same outflow can be classified as an expense or cost, whereas the inflow will be categorised as profit making or wealth building, depending on the recording.

### 4.8.1.3 The Cash Flow Statement

The cash flow statement or statement of cash flow shows how much cash a firm has generated over a specific period. The essential objective is to display the inflow and outflow of cash in numerical terms and how it has been allocated during the period. The cash flow, unlike the income statement, captures the entity’s liquidity and long-term solvency. The purpose of data in the income statement is to enable profit or loss calculations based on revenues and expenses for the specific period. The limitation is that it does not actually display the financial health of the company. Profits that are calculated using data from the income account do not necessary imply that the company is solvent and liquid. In fact, the actual addition of cash and profits hardly go hand-in-

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Firms typically tend to sell on credit, so the income statement will therefore usually not match to the actual cash a firm holds in the same period. This is a result of the accrual accounting method or the matching principle, which aims to match corresponding transactions regardless of when the genuine cash transaction occur.

A statement of cash flows is typically sorted in three sections according to activities: financing, operating and investment.

1. **Financing Activities**
   Financing activities have two meanings and purposes. One for accounting and another for corporate finance. As to the former, financing activities refer to the recording of transactions that are directly concerned with the financing plan of the firm. For instance, the inflow of cash if the firm has issued new debt or equity or the cash outflow if the firm has retreated any of its debt or a bought back any of its stock. An outflow is also an activity such as payment of preferred or common dividends. In addition, the cash flow statement also contains cash exchanges due to exchange rate movements. Cash flow analysis of financing activities should be irrelevant or play a minuscule role for establishing an abuse of dominance. However, for the purpose of corporate finance, financing activities refer to the cash flow identity, which mirrors the profit-making firm’s need to generate enough cash from its actions so it can pay either its creditors or its owners.

   Note that the cash flow identity is somewhat different than the standard financial accounting statement of cash flow. The cash flow identity displays the change in cash flow and its monetary effects, which is somewhat different.

2. **Operating Activities**
   This section summarises the in- and outflow of cash from the firm’s normal day-to-day trading activities. The net cash flow is however different from the amount of net income for the same period. The difference between the income and cash statements is a consequence of

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the matching principle.\textsuperscript{1312} This is because it shows the actual cash transactions after adjustment for non-related operations, e.g. tax paid or equity and borrowing costs (financing costs).\textsuperscript{1313} The adjustment can be performed with the support of the direct and indirect methods, which are well-accepted accounting methods.\textsuperscript{1314}

3. Investment Activities
This section records the cash transactions that are used for investment in fixed assets, such as the cash needed to acquire the equipment, the sale of it and/or the cash needed to maintain the equipment or keep it up-to-date.\textsuperscript{1315} These types of cash outflows are often referred to as capital expenditures, upfront costs, maintenance costs etc. According to Foerster, analysing the relationship between capital expenditure and depreciation can be indicative of a firm’s long-run competitive position.\textsuperscript{1316} The idea is that there is a correlation between company growth and capital expenditure. If growth has stagnated, this usually means that depreciation and capital expenditure are equal. However, there is an exception to this financial principle in that it does not hold if the firm has become more efficient, implying growth and profitability even though capital expenditures are less than depreciation.\textsuperscript{1317}

4.8.2 The Business Rationale for Capital Investment Decisions
Capital budgeting or investment appraisal decisions are concerned with managerial decisions to allocate the organisation’s financial resources in projects or assets to achieve corporate objects. The corporate endgame is to create or maximise the value for the owner.\textsuperscript{1318} To value-maximise, the long-term business plan is to invest in projects (e.g. plant and machinery, research and development, advertising and facilities) that increase profitability.\textsuperscript{1319}

\textsuperscript{1316} S. Foerster, Financial Management: Concepts and Applications, Person, 2015, p. 61.
\textsuperscript{1317} S. Foerster, Financial Management: Concepts and Applications, Person, 2015, p. 61.
\textsuperscript{1319} The increase tends to be a result of either increased revenue or cost reduction.
Investment decisions involve long-term planning and one of the most important financial decisions a manager is faced with, as they set the business core operation, the business model, and competitive strategy over a significant timeframe. According to Artill, investment decisions are characterised by risk and timing. These concepts are fundamental in the investment appraisal decision-making process and need to be considered when assessing how the project is likely to impact the firm’s profitability. The risk arises from large amounts of outlay costs that hopefully will generate financial benefits in the future. As such, there is an element of ex ante uncertainty. The timing issue results from the relative long timeframe between cost and benefit. The concept of timing refers to the fact that time affects the value of money. The time-value principle is essential in financial decision-making as it recognises that the value of money depends on when the cash flow occurs. That is, the value of € 100 today is not equivalent to the value of € 100 received in ten years.

4.8.2.1 A Note on Cash Flows
Note that although the aim of all capital budgeting methods is to identify if the investment will maximise free cash flow, cash flow is used arbitrarily. Taillard defines operating cash flow or operating activity cash flow as the increase or decrease in cash that results from the firm’s primary functions. Free cash flow, on the other hand, represents the incremental amount of cash that is left after the investment outlay cost has been deducted. That is, the amount of cash resulting from the investment that is available for the firm to e.g. make new projects and investments.

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investments and/or pay out to investors as dividends.\textsuperscript{1329} From a financial perspective, accounting earnings can be used to measure a firm’s performance, but they do not represent financial (cash) profits.\textsuperscript{1330}

\subsection*{4.8.2.2 A Note on Cash vs Earnings}
Earnings is a financial accounting term that refers to net income and is used to calculate the profits for a specific period.\textsuperscript{1331} The term is often used synonymously with net earnings, net profits or bottom line, because it can be found in the bottom line of a firm’s income statement. Indeed, whilst earnings are important to provide financial accounting profits, the use of cash flow is to measure the financial health of the firm by providing liquidity and quick ratios to determine if the firm has enough cash to pay for its activities.\textsuperscript{1332}

The term earnings, in corporate finance, is used to indicate the share of the profits that can be distributed to shareholders, so-called distributable profit.\textsuperscript{1333} The earnings, unlike cash flow, include non-cash charges, e.g. depreciation, but excludes the capital costs of investment,\textsuperscript{1334} i.e. the capital budgeted outlay cost. As been stated in chapter 4.3.3.2, as a general rule, depreciation is not a relevant cost for management accounting decision-making purposes, but there is an exception, namely when it impacts the calculating of future cash flow.\textsuperscript{1335}

\begin{itemize}
\item \textsuperscript{1331}E. McLaney and P. Atrill, \textit{Accounting and Finance: An Introduction}, 10th edition, Pearson, 2020, pp. 84 and 86.
\item \textsuperscript{1333}D. Watson and A. Head, \textit{Corporate Finance: Principles and Practice}, 8th edition, Pearson, 2019, p. 50.
\end{itemize}
4.8.3 Investment Appraisal Methods

Investment appraisal or capital budgeting methods can be classified in discounted and non-discounted methods.\textsuperscript{1336} The former considers the time-value principle, whereas the latter ignores it. It is well-established in financial theory that the discounted methods are superior to the non-discounted methods.\textsuperscript{1337} However, many firms use a combination of both methods when making their accept or reject decision.\textsuperscript{1338} The reason for this is that the methods measure different things and therefore provide different types of information.\textsuperscript{1339} Accordingly, whilst many of the methods are modelled to identify investments that create value for the company’s owner, the Commission’s view is that they are not necessarily relevant for the purpose of identifying exclusionary price practices.\textsuperscript{1340}

4.8.3.1 Discounted Cash Flow Methods

Discounted cash flow methods are viewed to be academically superior over non-discounted cash flow methods. The discounted methods are based on cash, instead of accounting profits, which makes it possible to assess the real value of the future cash flows to compare if the value is greater or equal to the investment cost.\textsuperscript{1341} Thus, they offer sound and robust financial guidance.

All discounted methods are based on three important concepts. First, the aim of projecting all cash flows resulting from the investment is to permit a comparison between alternatives.\textsuperscript{1342} Second, the relevant cash flows (CF) are those that occur under the investment’s economic lifetime (t).\textsuperscript{1343} Third, the aim is to calculate the present value (PV) of all cash flows and since cash is


subject to value reduction over time, the cash has to be discounted using the appropriate discount rate or rate of return \((r)\).^{1344}

The Net Present Value Method

The net present value (NPV) method is an approach that seeks to estimate the value of an investment based on its expected future cash flows. The method attempts to make this projection based on the future expected total cash flow the investment will provide, i.e. the investment is worth the total amount of transactions that are caused by investment.\(^{1345}\) The projected cumulative cash flows are calculated to the present monetary value they would have today by using the relevant discount rate.\(^{1346}\) The NPV is then compared with the investment outlay cost.\(^{1347}\) The NPV is calculated:

\[
NPV = PV(Total\ cash\ flows) - PV(Investment\ outlay\ cost)
\]

If the NPV is zero or greater, the project or product should be accepted because it maximises the shareholders’ wealth, the so-called NPV decision rule.\(^{1348}\) Consider, e.g. an investment that has an expected economic life of five years. The acquisition cost of purchasing the investment is €10,000 and it is projected that the cash flow of each year is €2,200, which will result in a total cash flow of €11,000. Clearly, a first analysis would be to conclude that the investment would generate a profit of €1,000 ((€2,200 × 5 = €11,000) – €10,000). However, the analysis is premature as it does not include a valuation of the present value of the future cash flow. Consider the same calculus, but with a 15 per cent discount rate. The financial analysis of the NPV will be to reject the project because it will result in a €435 financial loss ((€2,200 ÷ 1.15^5) – €10,000).\(^{1349}\)

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The NPV method has been criticised for being arduous to understand and that it may not be possible to exactly project the cash flow. Watson and Head argue that these concerns are connoted to the investment appraisal in general and not the method itself.\textsuperscript{1350} The real disadvantage, according to Watson and Head, is that it may only be possible to apply the method under certain market conditions.\textsuperscript{1351} Note that the net present value and discounted cash flow (DCF) methods are often used interchangeably,\textsuperscript{1352} but this is obviously not true. The DCF is a method to calculate the present value of the cash flow, whereas the NPV is a method to guide an investment decision,\textsuperscript{1353} i.e. all NPV assessments use the DCF method, but the DCF does not prescribe for or against a financial decision. Another way of thinking about this is that the DCF is a necessary financial tool to calculate the NPV. As will be described in chapter 4.8.5.2, there are well-established methods to determine an investment’s minimum discount cash flow rate in corporate finance theory, but as it will be argued the

\begin{center}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline
\textbf{Financial Analysis} & Period 1 & Period 2 & Period 3 & Period 4 & Period 5 \\
\hline
Acquisition Cost & 10,000 & - & - & - & - \\
\hline
Analysis without Discounted Cash Flow & & & & & \\
\hline
Cash Flow & 2,200 & 2,200 & 2,200 & 2,200 & 2,200 \\
\hline
Total Cash Flow & 11,000 & - & - & - & - \\
\hline
Profit and Loss & 1,000 & - & - & - & - \\
\hline
\hline
Analysis with a Discount Rate of 15 Per cent & & & & & \\
\hline
Cash Flow & 1,913 & 1,913 & 1,913 & 1,913 & 1,913 \\
\hline
Total Cash Flow & 9,565 & - & - & - & - \\
\hline
Profit and Loss & 435 & - & - & - & - \\
\hline
\end{tabular}
\end{center}

relevant discount rate or minimum rate or return on investment is cost of equity and the relevant approach to calculate cost of equity is the capital asset pricing model (CAPM).

**The Internal Rate of Return Method**
The internal rate of return (IRR) is a financial benchmark that aims to assist investment decision-making. The IRR represents the investment opportunity return that an investment will bring. The IRR is used as benchmark for the lowest required return that can be accepted.\(^{1354}\) The IRR is therefore a fundamental component in the calculation of the NPV. As described supra, the NPV decision rule states that an investment should be made if the NPV equals zero. The IRR sets the internal rate when discounting and calculating the NPV.\(^ {1355}\) That is, the IRR is used as the discount rate of the future cash flow.\(^ {1356}\) The IRR rule states that a firm should accept an investment if the opportunity cost of capital is less than the internal rate of return.\(^ {1357}\) The project will therefore be accepted if the NPV is positive. The similarity between the IRR and NPV, often causes financial analysts to call the IRR the discounted cash flow return.\(^ {1358}\) Accordingly, the higher the IRR is the more valuable the investment is.

As stated above, it will be described and argued that the relevant discount rate is the cost of equity. The cost of equity represents the minimum return a private investor requires for financing the investment. The crucial difference in using the IRR or the cost of equity as the relevant discount rate is that the cost of equity is always higher because it includes a risk premium. As will be discussed and argued in chapter 4.8.5.2, the capital asset pricing model (CAPM) is relevant when determining the risk premium.

Consider, e.g. an investment that has an expected economic life of five years. The acquisition cost of purchasing the investment is €10,000 and it is projected that the cash flow of each year is €2,500, which will result in a total cash flow of €11,500. The IRR is set to 15 per cent. The investment will result in a €0 profit or loss ((2,300 \div 1.15^5) − €10,000). Accordingly, the investment should be accepted. However, consider that the cost of equity is 18 per cent (the investor requires a 3 per cent risk premium). The investment will result in a €254 loss ((2,300 \div 1.18^5) − €10,000). The investment should be rejected.

It follows that even though IRR is a well-established financial method to calculate an investment’s profitability, the method should nonetheless be rejected for antitrust purposes as the IRR does not include the relevant source of finance (cost of equity) and the risk that is associated.

**The Profitability Index Method**

The profitability index (PI) or the benefit-cost ratio is an alternative method.\(^{1359}\) The profitability index aims to describe the relationship between costs and benefits of the proposed investment project. The method provides this representation as an index which states the ratio of return for each € an investment is likely to generate.\(^{1360}\) The method calculates the index based on the NPV of the future cash flow divided by the investment outlay.\(^{1361}\) The profitability index rule is that project with highest (PI) should be expected.\(^{1362}\)

### 4.8.3.2 Non-Discounted Methods

**The Accounting Rate of Return Method**

The accounting rate of return (ARR) is a simple but essential investment method.\(^{1363}\) The ARR method aims to provide or reflect the estimated percentage rate of return from an investment project by calculating the annual average operating profits divided by the average investment. The operating profits are the annual revenue minus the depreciation expense.\(^{1364}\) The average investment is the initial cost of investment plus the disposable salvage value of the investment divided by the number of years.\(^{1365}\) The issue with the ARR method is that it does not account for the time value. As a result, the method can over- or under-appraise the investment depending on when the bulk of cash flow occurs in the product life-cycle.\(^{1366}\)

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The Payback Period Method

The payback period (PP) method aims to estimate the time it will take to recover the investment outlay by identifying the time it takes to reach the breakeven point. The PP is based on the simple notion that the shorter the payback period is, the more attractive the investment is for the investor. That is, the payback rule states that an investment should be accepted if the payback period is less than some specified cut-off period.\textsuperscript{1367} Indeed, albeit that research has shown that the PP method is the most popular investment appraisal method, the method has severe shortcomings. According to Brealey et al, the payback method should never be a rule.\textsuperscript{1368} Watson and Hard rage that the PP method should only be used as a screening test.\textsuperscript{1369} Like the accounting rate of return method, the payback period method disregards the time value of money. This makes the PP method attach equal weight to all cash flows, regardless of when they occur within the payback period.\textsuperscript{1370} Another setback with the method is that it does not consider cash flows that occur outside the period; thus the method fails to incorporate cash flows that occur throughout the whole lifetime of the project.\textsuperscript{1371}

4.8.4 Primer on Rate of Return: Assessing Risk and Reward

Based on the different investment appraisal methods, an essential step in the investment appraisal process is to determine the investment’s rate of return. The rate of return refers to the gain or loss of an investment over a specific time period. The concept is fundamental in financial theory. The basic appreciation is to identify projects or investments that will be worth more (at point 1) than they cost to acquire (point 0).\textsuperscript{1372} The financial benchmark when determining whether an investment should be accepted is the hurdle rate. The hurdle rate represents the minimum acceptable rate of return.\textsuperscript{1373} The hurdle rate tends to be used interchangeably with the terms required return, appropriate

\textsuperscript{1372} An investment is profitable if it will earn back more than initial outlay cost over its lifetime.
discount rate, cost of capital, or carried interest. The fundamental thing to recognise is that all mentioned terms aim to identify the minimum required reward from an investment which carries the same risk.

The hurdle rate is therefore an objective yardstick that aims to assess whether an investment is financially beneficial in comparison to an equally risky investment in the stock market. The latter is the so-called opportunity cost of an investment, or opportunity cost of capital.

4.8.4.1 Factors Affecting the Rate of Return

Time
As been stated supra, all discounted methods are based on the present value (PV) of the cash flow. The PV is based on the notion that inflation will erode the value or the purchasing power of each €. The longer the future time period the more the value of each € depreciates.

Discount Rate
Discount rate or risk-free interest rate is a measure that aims to compensate the investor for allowing the use of its resources during the investment. The discount should reflect the investors’ time compensation, i.e. the discount rate is the same as risk-free interest rate from financial institutions, e.g. central banks. The risk-free interest rate is a useful benchmark to determine the rate of return on a risk-free investment.

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Systematic Risk
The systematic risk, non-diversifiable risk or beta (\(\beta\)), measures how unpredictable the investment is compared to the overall market.\(^{1383}\) The beta seeks to compensate the investor for its risk-taking, i.e. the investor will only be compensated by additional returns from the non-diversifiable risk element of the total risk.\(^{1384}\)

4.8.4.2 The Relevant Cost as the Minimum Rate of Return
In corporate finance theory, there are well-established methods to determine an investment’s minimum discount rate. Determining the minimum rate or return or hurdle rate is important because it provides an objective yardstick which will be compared with the relevant profitability measurement, e.g. the IRR must be higher than the hurdle rate.\(^{1385}\) The reason why the hurdle rate must be higher is because the investment methods only take into account the time value of money (as the discount rate is the risk-free interest rate), but this ignores the risk premium the investor must be compensated with for taking the additional risk.\(^{1386}\) The antitrust problem is to identify the relevant source of finance that will be used to determine the appropriate discount rate.

Cost of Capital
Cost of capital is the most basic way to determine the costs associated with raising a firm’s capital. The basic notion is that cost of capital measures the amount of spending the firm makes in its activities and that the minimum rate of return can be calculated. However, firm’s financial capital structure is composed of a mixture of debt and equity. The cost of capital covers of the cost of debt and cost of equity:\(^{1387}\)

\[
\text{Cost of Capital} = \text{Cost of Equity} + \text{Cost of Debt}
\]

Based on the calculation, debt should be unimportant for antitrust analysis because the cost of debt usually represents interest payments to lenders, e.g. banks. Equity on the other hand tends to refer to shareholders’ equity, i.e. the


\(^{1386}\) To that effect, see, e.g. J. Berk and P. DeMarzo, *Corporate Finance*, 5th global edition, Pearson, 2019, p. 854.

amount of free cash flow that should be paid back to the owners. The issue is that cost of equity covers more than the free cash. This implies that cost of capital should not be used to analyse exclusionary behaviours. In addition, Ross et al argue that the primary point with cost of capital is how the company used the cash, not the source of it (it is a common trap to think that the cost of capital for an investment depends on how the capital has been raised).

**The Weighted Average Cost of Capital**

The weighted average cost of capital (WACC) is a common method to calculate the expected cost of capital. The WACC represents the expected average cost of all sources that the firm has used to finance its operations. The essential difference between the WACC and cost of capital is that cost of equity and cost of debt are weighted proportionally using the WACC. The WACC is widely used to calculate the hurdle rate. The WACC is particularly useful when determining the discounted rate for free cash flow, but since the concept is more or less the same as cost of capital it cannot chisel out the relevant antitrust information.

**Capital Asset Pricing Model**

The capital asset pricing model (CAPM) is a forward-looking risk and return-based method that aims to describe the relationship between systematic risk and expected return for a particular investment. CAPM is one of the most common or important methods to estimate the cost of capital.

CAPM is based on seminal research made in the late 1950s and 1960s. The aims were to measure the relationship between risk and return; knowing

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that people wish to get the highest possible return whilst taking as little risk as possible. CAPM is based on the understanding of risk-reward trade-off and is used in many types of financial decision-making.\footnote{C. J. Zutter and S. B. Smart, \textit{Principles of Managerial finance}, 16th edition, Pearson, 2022, p. 432.}


CAPM is usually expressed as follows:

\[
\text{Required Rate of Return} = \text{Risk-Free Rate} + \beta \times \text{Market Risk Premium}
\]

It follows that the required rate of return or hurdle rate reflects the time value of money (the risk-free rate), the reward for bearing the systematic risk (the market risk premium or risk premium) in relation to the amount of systematic risk (the beta).\footnote{See, e.g. S. A. Ross, R. W. Westerfield and B. D. Jordan, \textit{Fundamentals of Corporate Finance}, 12th edition, McGraw-Hill/Irwin, 2019, p. 374.} The risk premium is the difference between the expected return and the risk-free rate.\footnote{M. Taillard, \textit{Corporate Finance for Dummies}, 2nd edition, John Wiley & Sons, Inc., 2022, pp. 209-210.} The risk premium is the additional return the investor requires for bearing the risk.\footnote{See, e.g. C. J. Zutter and S. B. Smart, \textit{Principles of Managerial finance}, 16th edition, Pearson, 2022, pp. 313-314.}

CAPM is a common and useful method to determine the relevant cost of equity. The cost of equity is relevant because it provides an objective financial yardstick to assess the hurdle rate, i.e. whether the investment is profitable.

\subsection*{4.8.4.3 Free Cash Flow to Equity}

As stated supra, the aim of corporate finance is to maximise shareholders’ value or wealth. The discussion about capital budgeting has thus far been based on the appraisal methods to establish the relevant profitability and costs.

Based on those insights, an antitrust issue is how to determine if the investment under investigation is profitable for the investor, i.e. whether the charged price could be converted to cash available for the investors in the long-run.
The term free cash flow to equity or leveraged free cash flow refers to the cash generated from the firm’s operations that is available to the stockholders.\textsuperscript{1403} The term is used to measure the effectiveness of a firm’s operating decisions by computing how much of the firm’s sales are converted to cash that is potentially payable or available to shareholders.

The essential difference between free cash flow and earnings is that the former is what is left after all financial obligations have been met,\textsuperscript{1404} whereas the latter is the earnings for a specific period.\textsuperscript{1405} The issue with earnings is that they cannot be used for any financial decisions and thus an important part of the capital budgeting process is to estimate the cash implications.\textsuperscript{1406}

The free cash flow to equity formula is as follows:

\textbf{Cash from Operations} – \textbf{Net Capital Expenditures} + \textbf{Net Debt Issued}

The net capital expenditures, Net CapEx or simply CapEx is the difference between capital expenditures and depreciation.\textsuperscript{1407} Net CapEx is a measurement of how fast the firm is expected to grow.

As been pointed out above, depreciation is not, as a general rule, a relevant managerial cost, but although depreciation is a non-cash charge it has a significant impact on free cash flow to equity analysis.\textsuperscript{1408} That is, depreciation can be viewed as an internal cash flow that pays from some or all of the capital expenditures.\textsuperscript{1409} As will be argued in the following chapter 4.8.6.4, depreciation cost is one of several cost measurements that should be used when analysing the potential competitive effects and by extension, qualifying an imputed price-base conduct.

\begin{itemize}
\item \textsuperscript{1406} J. Berk and P. DeMarzo, \textit{Corporate Finance}, 5th global edition, Pearson, 2019, p. 281.
\item \textsuperscript{1409} “Depreciation is not a cash expense that is paid by the firm. Rather, it is a method used for accounting and tax purposes to allocate the original purchase cost of the asset over its life. Because depreciation is not a cash flow, we do not include it in the cash flow forecast. Instead, we include the actual cash cost of the asset when it is purchased.” See, J. Berk and P. DeMarzo, \textit{Corporate Finance}, 5th global edition, Pearson, 2019, p. 281.
\end{itemize}
4.8.5 Forensic Remarks on Investment Appraisals

The forensic purpose of profitability analysis is to determine the competitive effects when the bulk of fixed costs are attributable to any of the dominant firm’s long-lived assets. The above chapter described the financial methods and concepts that are used to make investment appraisals or calculate the profitability of an investment (traditional profitability analysis). However, for antitrust purposes, the traditional profitability analysis is inadequate. This is because the analysis is tethered to answering the financial question of whether an investment should be accepted, not whether a price policy is financially sustainable during the investment’s lifetime.

Based on the insights from the previous chapter, the investment will be profitable if the NPV is at least zero, using the hurdle rate or minimum acceptable rate of return (MARR) to calculate the discounted cash flow. Consider, e.g. a dominant firm that is faced with an investment decision. The investment is expected to have a useful lifetime of five years. The initial investment cost is € 350,000 and generate a cash flow of € 100,000 each period. To calculate the net present value of each period’s cash flow or discount factor, the hurdle rate is set at seven per cent. As a result of the discount factor, the DCF of each cash flow will be € 71,000.

<table>
<thead>
<tr>
<th>Period</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Investment</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cash Flows</td>
<td>-</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
</tr>
<tr>
<td>Discounted Cash Flows</td>
<td>-</td>
<td>71,000</td>
<td>71,000</td>
<td>71,000</td>
<td>71,000</td>
<td>71,000</td>
</tr>
<tr>
<td>Cash Flows’ NPV</td>
<td>355,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Profit or Loss</td>
<td>5,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

It follows that the investment should be accepted because it will be profitable in the long run by generating a profit of € 5,000, but the analysis overlooks a fundamental step. The investment appraisal analysis is based on the assumption that the only relevant cost is the cost of acquiring the investment. The shortcoming with the analysis is that there are other associated costs that

are necessary to consider when ascertaining whether the investment is financially sustainable. To be financially sustainable, the discounted cash flows ought to cover the relevant costs during the investments’ lifetime.

The aim of next chapter is to determine the relevant accounting costs that should be used to forensically analyse the sustainability of a price practice. But before proceeding to the next chapter, note first that profitability, as a forensic tool, should be used to determine the competitive effects by answering the antitrust query: is the dominant undertaking making outright losses or artificially low profits on its business operations that are attributable to its investments in fixed assets? Second, to be able to analyse the competitive effects of an impugned price-based conduct, where the main part of fixed cost bulk stems from the use of long-lived asset, applying an investment appraisal analysis is only a necessary means to that end. Third, because the antitrust analysis seeks to identify the competitive effects, the forensic endgame is to analyse if an investment is financially sustainable, making the determination of relevant costs a sufficient condition to avoid type I and II errors.

4.8.6 The Relevant Investment Costs to Analyse the Competitive Effects

4.8.6.1 Primer on the Antitrust Issue with Investment Costs
As pointed out in the previous chapter, an investment must fulfil two conditions to be incapable of resulting in anticompetitive effects. First, the investment must be profitable. Second, the investment must be financially sustainable. The Court of Justice pointed out in Post Danmark I that when a price policy covers the great bulk of costs attributable to the supply of the goods or services in the short-term, it will likely be financially sustainable in the long haul.\footnote{\textit{“Indeed, to the extent that a dominant undertaking sets its prices at a level covering the great bulk of the costs attributable to the supply of the goods or services in question, it will, as a general rule, be possible for a competitor as efficient as that undertaking to compete with those prices without suffering losses that are unsustainable in the long term.”} See, C-209/10, \textit{Post Danmark v Konkurrencerådet}, ECLI:EU:C:2012:172, para. 38.} This implies that a fundamental cost yardstick in the analysis is the fixed cost that is attributable to the uses of fixed asset.

As pointed out in chapter 4.3, accounting costs are different from costs that are used in microeconomic theory, in particular the treatment of costs that are associated with the acquisition and operation of non-recurrent assets. In the previous chapter the notion of investment appraisal was outlined, and the different financial methods were described. The most common and academically sound methods are the discounted cash flow methods. The aim of these methods is to assess the profitability of long-lived assets by analysing how time
affects the value of money. However, the textbook application of these methods assumes that the only relevant cost is the purchasing of the long-lived assets.

Indeed, the cost base of an asset includes the amount paid for it, but also all costs that make the investment operate during its useful lifetime. This creates a particular antitrust issue as the costs will occur at different periods.

Before embarking on how accounting can be used to solve the issue, a primer on the most essential cost yardstick will be described. The aim is to outline the relevant cost items that need to be covered for an investment to be profitable during its useful lifetime. That is, to identify the relevant fixed cost measuring the use of the investment.

### 4.8.6.2 Investment Costs

As pointed out in chapter 4.4.3, where life-cycle costing was described, the relevant investment costs in fixed assets include all costs that are necessary to get a project up and running. Consequently, the cost base usually refers to all costs that will be associated with implementing an investment decision. However, as described previously, there are different costs for different purposes.

**Outlay Cost**

An outlay cost is the amount of money that must be spent to achieve an objective.\(^{1412}\) The concept is forward-looking, but will be classified as a historical cost when the actual cost is known.\(^{1413}\) An issue is that the concept is too abstract and as a consequence it can be difficult to predict how courts will qualify the cost measurement. Therefore, the cost measurement should be avoided, but if it is used for antitrust purposes, it will be important to identify the objective the firm aims to achieve with the monetary sacrifice (other than the exclusion of competitors). In order for the outlay cost to be relevant, the cash sacrifice should relate to an improvement in the firm’s operations, e.g. investments to improve and/or increase the firm’s capabilities.\(^{1414}\) The important thing is that the outlay cost aims to result in lower production costs or in new...

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and improved product offerings, e.g. new machinery and equipment or research and development (R&D). However, as was pointed in chapter 4.3.3.2, outlay cost is a generic term and can be too arbitrary for antitrust purposes.

**Acquisition Cost**
Acquisition cost refers to the actual price paid for acquiring a fixed asset. As such, the cost measurement is in fact an outlay investment cost. However, acquisition cost provides an incomplete financial picture when analysing the financial sustainability of the dominant firm’s capital-budgeting. The acquisition cost is limited to only measure the momentary outlay sacrifice of acquiring the long-lived asset. That is, it only measures the actual price paid.

As such, the cost yardstick is of limited use for antitrust purposes, because it excludes other important cost items, e.g. instalment, service and repairs.

Note that replacement cost is sometimes used instead of acquisition cost. Replacement cost refers to the actual cash outlay the firm must spend to replace an asset. This means that if the firm can partially finance the acquisition of a new asset with the income it gets from selling of the existing asset that will be replaced, the replacement or acquisition cost will be the actual cash outlay it will have to make. Consider a firm that needs to replace its existing machine. The price for new a new machine is €100,000. The firm has been offered €10,000 for its existing machine. The replacement or acquisition cost for the firm will therefore be €90,000, i.e. the actual de facto price paid is €90,000.

As was pointed in chapter 4.3.3.2, the antitrust issue with acquisition cost is that it negates other costs that are important in order to get the fixed asset operational.

**Initial and Original Cost**
Initial and original costs are often used interchangeably as they are based on the same notion. Thus, initial and original costs will be used as synonyms henceforth. The yardstick covers all costs that a firm must incur to acquire, operate and get the non-recurrent fixed asset to perform its intended function, e.g. acquisition, installation, repairs, maintenance and improvement costs. As the names imply, initial cost is forward-looking and covers all costs at the time when the investment decision is made. Note that the yardstick seems to be limited to investment outlays that are needed to develop new and improved products as well as producing them. Consider, R&D costs. Hilton and Platt argue that in managerial accounting, R&D costs cover all costs of developing new products or services, e.g. acquiring and running laboratories.

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building prototypes and testing new product offerings. Note however that original cost does not include selling costs, e.g. salaries, bonuses, travel costs for sales staff, and shipping costs. As highlighted in chapter 4.3.3.2, original cost is a good starting point to analyse investment decisions as it contains, inter alia, aquation, installation, repairs, maintenance, and improvement costs. Acquisition cost was described above. Installation costs are costs that the acquiring firm must incur to get the asset operational. Repairs, maintenance, and improvement costs will be explained under the coming header. The antitrust use of the original cost is two-fold. First, the cost benchmark contains the acquisition cost. The acquisition cost is necessary to calculate or assess the profitability of the fixed asset under investigation by using the net present value (NPV) described above. If the NPV is at least zero, the investment is deemed profitable in the long haul. Second, the cost yardstick contains costs that are necessary to make the investment operational during its useful life, e.g. installation, repairs, maintenance, and improvement costs. These yardsticks are necessary to answer the antitrust query of whether the investment will be financially sustainable in the short and medium terms. That is, the relevant cost measurements that must be covered during the periods when the fixed asset is in operation.

Before embarking on the concepts of repairs, maintenance, and improvement costs, note two things. First, to conduct a robust financial as well as competitive assessment, the antitrust inquiry should contain depreciation and/or amortisation costs. As will be described soon, these cost concepts represent the cost of using the fixed asset, i.e. the short-run fixed cost. Second, the fact that the original cost concept does not contain selling costs – such as, salaries, bonuses, travel costs for sales staff and shipping cost – is unproblematic at this stage. These costs are associated with sale, outlet and/or circulation of the product or service and are therefore irrelevant when calculating the profitability of an investment. This does not imply that selling costs are unimportant, it only means that they are not relevant when analysing investments.

Repairs, Maintenance, and Improvement Costs
Repairs, maintenance, and improvement costs are cash outlays that are necessary to keep fixed assets operational or to enhance their productivity. Repair and maintenance or ordinary repair costs are small recurrent cash outlays that are required to maintain fixed assets’ productivity capacity during a current

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accounting period. The aim of these small cash outlays is to maintain the physical performance of the asset and they occur on a regular basis. They do not, directly, extend the useful life, operating efficiency, or capacity of the asset.

Improvement costs or extraordinary repair costs, on the other hand, are large cash outlays that occur irregular and seek to augment or boost the useful life, operating efficiency, or capacity of the asset. Improvement cost, unlike maintenance and repair, seeks to extend the asset’s usefulness by increasing efficiency or useful life. Libby et al argue that improvement costs cover, inter alia, major overhauls, complete reconditioning, and major replacements and improvements, e.g. the replacement of an engine on an aircraft. Consider, e.g. an airline. One of the most important factors in airline financial performance is fuel efficiency. However, as will be described in chapter 6.3.6.3 acquiring an aircraft is a 25-year commitment. This means that airlines have an incentive to commit to extraordinary repair costs by swapping the jet engines on its aircrafts. The improvement means that the aircraft has the same body, but more fuel-efficient engines. Guzhva et al argue that jet engines can maintain a significant portion of their useful life if properly maintained. The maintenance costs are calculated according to the number of flight cycles, flight hours, or by calendar months. Note that the aviation industry is subject to scrupulous safety standards that can be used as objective benchmarks to ascertain repair and maintenance costs in the particular case.

**Up-Front Cost**
Up-front cost is a district-but-related cost measurement to initial and original costs and can be viewed as a specific form of outlay cost. Arthur argues that up-front cost is cash outlay that a firm needs to be spent (today) in order to realise the necessary capabilities to stay competitive or enter a market (in the

future).\textsuperscript{1426} As a result, in high-tech, network, and traditional service industries, up-front costs tend to exhibit increasing returns because the larger customer base a firm has, the more it can spread its up-front costs.\textsuperscript{1427} This implies that up-front cost is in fact a fixed cost (to use the traditional antitrust nomenclature). The increase in returns is a result of economies of scales and the argument is that there is a correlation between customer base size and unit costs. However, Arthur’s description of up-front cost implies that the initial outlay cost is not recorded as an investment, but as a direct cost of production in firms’ business plan. This implies that Arthur’s description of up-front cost is broader than initial and original costs as it seems to cover the life-cycle costing’s first and second periods.

As was described in chapter 4.4.3, life-cycle costing is a long-run forward-looking method that seeks to identify all costs that are likely to be incurred over an asset’s useful life-time. The first is the pre-production period, which covers, inter alia, R&D costs. The second is the production period, which includes manufacturing and customer related costs. Arthur’s description seems to include both periods, as the up-front cash outlay aims to enhance, inter alia, a firm’s capabilities to acquire a larger customer base. Consequently, Arthur’s description can be used either extensively or narrowly.

Narrowly, the cost benchmark only includes cash outlays for investments that enable the firm to produce products and/or service offerings that are necessary to boost the customer base, e.g. investments in production plants to lower unit costs or produce new products or services. This implies that the narrow definition is interchangeable with the original cost. Extensively, the cost yardstick contains the narrow definition, but also any cash outlays that are necessary to boost sales, e.g. selling, advertisement and promotion costs. This means that the extensive definition covers both initial and selling costs.

The antitrust implication of the aforementioned is that the extensive definition should not be used, but the narrow could be used when the aim is to ascertain whether an investment decision could have anticompetitive effects. However, since the narrow definition is more or less the same as the original cost, it would be preferable to use the latter in order to avoid confusion and thus increase legal certainty.

Primer on Depreciation and Amortisation Costs

As stated above, original cost is a good starting point to analyse investment decisions. However, in order to reach a robust conclusion, the assessment should utilise depreciation and/or amortisation costs.

Depreciation and amortisation costs are based on the same idea. Both are intended to provide quantifiable measurements of the gradual cost reduction

The costs are used in accounting to quantify the wear and tear (damage or charge) that is caused by using the asset. Albeit that both costs seek to achieve the same objective, they are underpinned by two key differences. First, depreciation and amortisation measure different assets. The former is used for tangible or physical assets, e.g. machines. The latter is used for intangible or non-physical assets, e.g. copyright, goodwill, trademarks and patents. Second, to ascertain the relevant depreciation and/or amortisation cost(s), different methods must be used.

Chapter 4.8.6.4.3 will provide a description of the relevant methods, but note that the description and analysis will henceforward refer to depreciation.

The antitrust use of these costs is to provide relevant cost yardsticks to determine if an investment decision is financially sustainable. That is, depreciation cost is the relevant portion of fixed cost that is attributable to the use of the firm’s long-lived asset and which the firm must cover during the specific period in order to be financially sustainable.

Note, as pointed out in chapter 4.3.3.2, that depreciation and amortisation costs are, as a general rule, classified as irrelevant costs in management accounting theory. The reason is that they are deemed to be historical and unchangeable, but there is an exception to this rule. Blocher et al argue that even though these costs are historical they can still impact the future cash flow of the firm. This means that these costs are relevant where they provide a future financial benefit for the firm, e.g. by reducing taxable income and thus tax expense. It follows that courts should accept that depreciation and amortisation costs are relevant measurements when seeking to qualify an impugned price practice.
4.8.6.3 The Relevant Investment Costs: Timing and Classification

Based on the insights from the above chapter, the relevant costs are original and depreciation costs (or amortisation cost depending on the fixed asset). This means that it will be necessary to identify all costs that a firm must incur to acquire and operate the fixed asset, e.g. acquisition, installation, repairs, maintenance improvement costs. As described above, the acquisition cost is the relevant cost to calculate the NPV. The acquisition cost should be unproblematic to determine because it is the price paid for fixed asset. Even though the acquisition cost concept is straightforward, an issue is nonetheless that yardstick is subject to multiple reclassifications in firm’s financial planning, e.g. budgets.

The acquisition cost will be classified as a capitalised cost in the balance sheet. As the asset is used, the acquisition cost or capitalised cost will be reclassified as depreciation and/or amortisation costs over the asset’s useful life. Thus, depreciation cost is a part of the period cost on the profit and loss statement in the period in which it is incurred.\textsuperscript{1436}

As stated previously, the depreciation and amortisation costs are relevant to analyse if an investment decision is financially sustainability. The antitrust purpose and use of the yardstick(s) is to identify the relevant cost of using the fixed asset and which must be covered over the fixed assets useful life for the price practice to financially sustainable.

Installation, repair, maintenance, and other related costs are also relevant but at different periods during the fixed asset’s useful lifetime. Installation cost, as the name implies, will appear and be incurred at the time the fixed asset is installed. On the other hand, repairs and maintenance costs will be incurred to keep the fixed asset operational. These costs will be accounted for during the period they are incurred or expensed.

An objection that could be raised against original and depreciation costs is that the yardsticks exclude the costs of producing the selling item, e.g the variable production and selling costs. The objection is however unfounded at this stage of the analysis. The aim here is to identify the relevant costs to analyse an investment, and not the production, sale, outlet, and/or circulation of the product or service.

4.8.6.4 Depreciation: Definition and Methods

As argued in chapter 4.3.3.2, having the relevant indirect fixed cost is a precondition to correctly assess whether an as efficient competitor could be extruded from the market, in particular on service-based markets. Based on the insights on depreciation cost, the antitrust utilisation of the concept is twofold.

First, to determine the relevant indirect fixed manufacturing cost that is attributable to the consumption of long-lived fixed assets. Second, to assess whether the dominant firm is cloaking the cost of using the fixed asset(s) during the relevant period.

Before diving into the actual calculation of the depreciation cost, it is worthwhile to pause and appreciate what the concept seeks to achieve and why it is important to include it in the antitrust analysis.

Note that recovery of cost or cost recovery is often used as synonyms for depreciation, and will be used interchangeably in the dissertation.

Indeed, it is often contended that depreciation is an approach to value assets, but in fact, it is a cost allocation methodology. The concept is based on the notion that all long-run fixed assets have a limited useful life, during which they can generate revenues. As the fixed asset is used to produce goods and/or services, its useful life or ability to generate revenues shrinks. As a consequence of the economic wear and tear, depreciation is the systematic process of matching or allocating an asset’s original cost to the revenue in the current period. As stated in chapter 4.3.3.2, it follows from the matching recognition principle that incurred costs and revenues should be reported as they relate to each other during the same period. From this perspective, depreciation can be understood as a distinct application of the matching or expense recognition principle. This is because depreciation seeks to match the cost of using the asset(s) with the gathered revenues. Thus, depreciation cost

is a systematic cost as it allocates the cost of using the fixed asset to the financial periods when the firm is expected to receive or receives the revenue.\textsuperscript{1444} The accounting definition and use of depreciation is not always palpable for laymen and the term recovery of cost is often used as a synonym.\textsuperscript{1445}

Based on the above insight, the antitrust value of the concept is straightforward. The use of depreciation is a mean to avoid type I and II errors. Consider, e.g. the financial consequence of procuring a long-lived fixed asset with or without depreciation. The acquisition outlay cost is € 10,000. The fixed asset is projected to generate € 5,000 over period 1 until period 4, respectively. The financial consequence of not using depreciation is that the acquired fixed asset will immediately be written off in full by period 1.

The scenario, without depreciation, will display in the firm’s financial statements as follows:

<table>
<thead>
<tr>
<th>Budget without Depreciation</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Capitalised or Acquisition Outlay Cost</td>
<td>10,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Loss</td>
<td>5,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Profit</td>
<td>-</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
</tr>
</tbody>
</table>

The financial consequence of the procurement is projected to lead to a € 5,000 loss in period 1, but since the long-lived asset is written off in full by period 1, each following period is projected to generate a € 5,000 profit.\textsuperscript{1446}


\textsuperscript{1445} J. R. Grinyer, \textit{A New Approach to Depreciation}, 23 Abacus 43, 1987, p. 43.

\textsuperscript{1446} The exclusion of depreciation and the financial consequences that follow are the result of cash-based accounting or cash-based budgeting. They are grounded on the notion that monitoring cash flow balance (i.e. the cash in and out flow) provides sufficient information to measure financial performance. Philips et al argue that whilst cash-based accounting can gauge financial performance, the cash flows need to be in fairly close proximity to each other. The issue is that most firm’s do not operate under such conditions because there usually is a significant delay between the cash in- and outflows. The cash-based accounting is therefore fine for managing private finances, but not for running a business because it distorts the analysis the firm’s financial performance. This is particularly true in relation to investments where here is a significant time delay between the cash outflow (price paid for the asset) and cash inflow (payments from its customers). Applying the cash-based accounting method to investments usually means that the firm will report a significant loss when acquiring the asset, but substantial profits the following periods. It follows that the cash-based method is unsuitable for antitrust purposes due to the diction in firm’s financial performance. See, e.g. F. Philips, S. Clor-Proell, R. Libby and
Interpreted literally or period-by-period, the financial loss in period 1 can easily be considered a sign of below-cost pricing, but such legal conclusion has the intrinsic tendency to lead to type I error.1447 This is because the period-by-period analysis omits one important factor, which is the need to allocate the acquisition outlay cost over a number of periods. In fact, Niels et al suggest that the traditional price-cost test is not equipped or designed to analyse investment decisions.1448 They argue that firms, which are faced with substantial investment costs, have a need to allocate the “up-front investment” cost over the asset’s useful life.1449 This implies that depreciation can be a useful forensic tool to mitigate type I errors.

Based on the above, the antitrust query is what key difference depreciation will have for the financial result. Consider the same procurement but with the key variance that the firm depreciates the acquisition outlay cost with the same amount each period starting with period 1 until period 4.1450 Note that this example only seeks to show a simplified version of the financial effect. A more elaborated example will be provided in the following chapter.

The scenario, with depreciation, will display in the firm’s financial statements as follows:

<table>
<thead>
<tr>
<th>Budget with Depreciation</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Capitalised or Acquisition Outlay Cost</td>
<td>10,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

1450 The accounting implication of allocating the investment cost is that financial result will be based on accrual accounting. Accrual-based accounting or accrual-based budgeting provides a remedy to the issue with financial performance under cash-based accounting. The accrual-based accounting method is rooted in the idea that revenues and expenses are reported when services are provided, regardless of when the cash is received or paid. The method is firmly established in the accounting community as it provides a more accurate picture of when the profits occur from the firm’s activities.1450 Accrual-based accounting is the preferable method when the analysis seeks to ascertain the profit margins of goods or services that stem from the used of long-lived fixed assets. That is, accrual-based accounting provides the necessary tool to analyse whether a dominant firm’s price policy is financially sustainable to recover the costs that are associated with the acquisition of the fixed asset. See, e.g. A. Sangster and L. Gordon, *Frank Wood’s Business Accounting, An Introduction to Financial Accounting*, 15th edition, Pearson, 2021, pp. 131-132.
The financial consequence of allocating the capitalised cost is that the firm is making a profit each period. Each period is therefore financially sustainable as the profits will be used to recover the initial acquisition outlay cost.

Having described what depreciation is and what it seeks to achieve, Alexander and Nobes note that the concept is subject to three common misconceptions. The first misconception is that depreciation is an accounting technique for valuation purposes. Alexander and Nobes argue that the source of the misconception is that deduction of accumulated depreciation from cost of the asset is recorded as net book value (NBV). The net book value is also referred to as written-down value or carrying amount of the asset. Net book value, written-down value and carrying amount of the asset will be used interchangeably. The written-down value is intended to represent the portion of depreciation that remains to be expensed plus the residual value. The net book value is therefore not intended to represent the monetary amount that a firm could get if it sold the asset at the balance sheet date. The fact that the written-down value may coincidence with the market value of the asset at the end of its useful life is a mere coincidence.

The second misconception is that depreciation is a financial instrument for providing the necessary funds for the replacing the depreciated asset. Alexander and Nobes argue that a source of the misjudgement stem from net book value. The double entry of accumulated depreciation against the asset does not have a direct effect on cash or investment. The amount of cash that potentially can be available at the end of the asset’s economic life, i.e. the estimated residual value, is typically not enough to replace the depreciated asset. They

<table>
<thead>
<tr>
<th>Depreciation Expense</th>
<th>2,500</th>
<th>2,500</th>
<th>2,500</th>
<th>2,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Profit</td>
<td>2,500</td>
<td>2,500</td>
<td>2,500</td>
<td>2,500</td>
</tr>
</tbody>
</table>

---

also argue that even if cash was available, it is unlikely that the firm would buy an identical asset because of advances in technology.\textsuperscript{1459}

The third misconception is that depreciation is for tax purposes. Alexander and Nobes argue that although there can be a close relationship between tax and accounting depreciation, they seek to achieve different aims.

4.8.6.4.1 Calculating Depreciation Cost for Antitrust Purposes

The calculation of the depreciation cost or cost to depreciated,\textsuperscript{1460} is based on key choices: acquisition cost, useful life, residual value, and depreciation method.\textsuperscript{1461} This approach, which is in fact a methodology, seeks to calculate the depreciation cost for specific periods by allocating the cost of the asset.\textsuperscript{1462}

To avoid miscommunication, the terms depreciation cost and cost of depreciation will be used synonymously and refer to the asset's cost that is to be allocated during the asset's useful life. The terms depreciation expense, periodic depreciation cost and periodic expense\textsuperscript{1463} will be used interchangeably and refer to the amount of depreciation cost that will be charged in each accounting period. For decision-making purposes, depreciation expenses are classified as manufacturing overhead costs which are indirect fixed costs.\textsuperscript{1464}

Total Cost of the Asset

The first is to choose the relevant cost benchmark. For the purpose of calculating the depreciation cost, the relevant cost yardstick is the total cost of the asset.\textsuperscript{1465} Total cost of the asset includes all costs incurred by the firm to acquire and getting the asset operational, e.g. the cost of acquiring the asset, any delivery costs, installation costs.\textsuperscript{1466}

A particular grapple that can arise before the courts is the content of the cost yardstick. The Commission and the dominant firm often pursue different

\textsuperscript{1464} See, e.g. R. H. Garrison, E. W. Noreen and P. C Brewer, Managerial Accounting, 17th edition, McGraw-Hill/Irwin, 2021, pp. 29 and 34
objectives with their cost analysis, and so have competing views about the content of the total cost benchmark. As previously stated in chapter 4.3.3.2 and 4.8.7.2, the initial or original cost concept covers the acquisition, delivery and installation, ordinary as well as extraordinary repair costs. The subject-matter of the dispute between the Commission and the accused undertaking is likely to be whether ordinary and/or extraordinary repair costs are part of the total cost of the asset concept. That is, if both repair cost concepts are systematic costs or if only one is and the other one is not by virtue of being a period cost. The incandescent difference is on the one hand a higher depreciation cost, but on the other hand the exclusion of period costs. Contrariwise, the other view provides a lower depreciation cost, but the inclusion of period costs.

Loughran argues that improvement costs are systematic costs, but repair and maintenance are not. This implies that whether the cost item should be classified as a systematic or period cost will depend on whether the cost extends the economic life and/or improves the efficiency of the fixed asset.

The Useful Life
The second is to estimate or choose how long the asset is expected to be used, so-called useful life or economic life. The term useful life refers to the economic benefits the long-lived fixed asset is estimated to provide to the firm. One important thing to observe is that useful life is not synonymous with the actual or physical life of the asset. This usually means that an asset’s economic life is shorter than its physical life, e.g. the useful life is four years, whereas the physical life is eight. Note, it is the economic life that determines the asset’s useful life and that is used to calculate the depreciation cost.

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1469 Another way of posing the query is: can or should initial cost be used instead of or as a proxy for total cost of the asset?
An asset’s useful life can be expressed or measured in different terms, e.g. months or years, or usage, such as units produced, hours used (for machinery), or miles driven (for a vehicle). The economic life of an asset is nonetheless affected by technological progress, by changes in demand for the firm’s output or by changes in the way that the firm operates. These changes can have serious consequences for the assessment of the asset’s useful life. Consider, e.g. a power or charging connector that is used for electronic goods. To charge a laptop or smartphone, manufacturers use USB or Lightning. As technology advances, e.g. power output as well as data transfer increase, these connectors will turn antiquated and redundant. This also highlights the stark difference between useful and physical life. The connector could be in pristine physical condition, but nonetheless have no economic usage.

To estimate the economic life, managers tend to base their estimates on experience and judgment. The aim is to come as close as possible to an estimate that best matches the asset’s deterioration or use, e.g. weighing the costs and benefits of replacing the asset to maintain the firm’s competitiveness. These characteristics are hard to translate into practical criteria that correctly estimate the economic life ex ante.

Based on the previous discussion between ordinary and extraordinary repair costs, it is important to note that the former cost yardstick is a period cost and the latter is systematic cost. As stated in chapter 4.3.3.2 and 4.8.7.2, ordinary repair costs are costs that are necessary to incur periodically in order to keep the asset in workable condition. This means that the cost item aims to preserve the asset’s physical life. Extraordinary repair costs are non-periodical costs which aim to maintain, extend, or increase the asset’s economic life. Accordingly, ordinary repair costs are necessary to secure that an asset can physically deliver its expected economic life, but they can never alter the economic life.

The Residual Value

The third is to estimate the residual value of the fixed asset, which is the expected value at the end of the asset’s economic life. The term residual value refers to the expected value the company can obtain when the asset is disposed

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of, e.g. selling or scrapping,\textsuperscript{1481} at the end of its useful life. The residual value is also called disposable, salvage, scrap value or the asset’s expected value if sold to another user.\textsuperscript{1482} These terms will be used interchangeably.

The estimated residual value is calculated as follows:\textsuperscript{1483}

\[
\text{Estimated Residual Value} = \text{Total Cost of the Asset} - \text{Depreciation Cost}
\]

The residual value is very difficult to predict ex ante. Atrill and McLaney nevertheless argue that a common proxy is to base the value on past experience of similar assets sold on the market.\textsuperscript{1484} Note that Atrill and McLaney’s argument assumes that the salvage value of the asset has a market value. Indeed, although the residual value can be the expected trade in value if the firm plans to swap the used asset for a new one, it can also be zero.\textsuperscript{1485} Consider the above discussion about economic contra physical life. If technology has progressed to a state where the old charging connectors have become antiquated, machines that are used to manufacture the obsolete connectors have little value, if any.

\textbf{4.8.6.4.2 How Depreciation Affects the Financial Analysis}

Before exploring the how depreciation cost is calculated and the different methods that are used to compute the relevant depreciation expense, it can be useful to be aware of how depreciation affect the financial analysis.

As stated above, depreciation is a method of allocating the cost of a long-lived asset over its useful life. This means that the procurement of the asset is booked as a capitalised cost in the balance sheet. The price of the procurement will be recorded as a reduction on the cash flow statement.

Predicated on the matching principle, as the asset is used in manufacturing, the economic wear and tear is allocated to the accounting period where the

revenues are collected. The depreciation that is allocated to the relevant accounting period is often called depreciation expense.\textsuperscript{1486} However, because depreciation is a non-cash transaction – the investment outlay cost was booked on the cash flow statement at the time when the asset was paid for – the concept does not directly affect the cash flow statement.\textsuperscript{1487} Notwithstanding that depreciation does not affect the cash flow, it will impact the balance sheet as well as the profit and loss statement.

As the depreciation expense is charged to a particular accounting period, the financial transaction will be noted on the balance sheet and profit and loss statement. The depreciation expense will be booked on the profit and loss statement, which, as was described in chapter 4.8.2.2, is an account where the costs and revenues are recorded for a particular accounting period. The prime purpose is to show how much profit or loss the firm has made during the specific period. The depreciation expense will also be recorded on the balance sheet, but in a specific or separate account, namely accumulated depreciation.\textsuperscript{1488}

Accumulated depreciation is an account where the cumulative depreciation expenses are recorded. As the asset is used up, the depreciation expense is charged to the accumulated depreciation account on the balance sheet. Accumulated depreciation accounts are sometime called contra or contra asset accounts because they are used to record the use or deduction of fixed asset on the balance sheet.\textsuperscript{1489} This means that the accumulated depreciation account is the opposite to the fixed asset account. The purpose of these accounts is to display the financial effect of using the asset on the balance sheet. As the fixed asset is used, the accumulated depreciation account increases, and the increase is deducted or balanced from the acquisition cost of the asset.

Consider the procurement described above. The total cost of the asset is €10,000. The fixed asset is projected to generate €5,000 over period 1 till period 4, respectively. The firm projects that the asset’s economic life is four years and allocates the total cost of the asset with €2,000 each period starting with period 1 until period 4. The residual value is estimated to €2,000 (€10,000 − €8,000 = €2,000). The accumulated depreciation will increase in €2,000 increments, whereas the fixed asset account will decrease in €2,000 increments. The net book value will shrink in relation to the accumulated depreciation, e.g. the net book value in period 1 is €8,000 (total cost of the asset of €10,000 − accumulated depreciation of €2,000 + the residual value of €2,000).

\textsuperscript{1487} Eventually the depreciation will be added back onto the cash flow statement, but such review falls outside the of this dissertation.
The scenario, with contra account, will be displayed in the firm’s financial statements as follows:

<table>
<thead>
<tr>
<th>Budget with Contra Account</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Total Cost of the Asset</td>
<td>10,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Depreciation Expense</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Loss</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Profit</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>2,000</td>
<td>4,000</td>
<td>6,000</td>
<td>-</td>
</tr>
<tr>
<td>Fixed Asset Account</td>
<td>6,000</td>
<td>4,000</td>
<td>2,000</td>
<td>-</td>
</tr>
<tr>
<td>Net Book Value</td>
<td>8,000</td>
<td>6,000</td>
<td>4,000</td>
<td>2,000</td>
</tr>
</tbody>
</table>

4.8.6.4.3 Accounting Depreciation Methods

To allocate the original cost through the asset’s economic life, accountants generally use one of three main depreciation methods.\textsuperscript{1490} The first two are time-based, whilst the third is predicated on physical use.\textsuperscript{1491} Although these methods allocate the original cost by different amounts, they will result in the same total at the end of the asset’s economic life.\textsuperscript{1492} The subject-matter for antitrust is not whether these methods will have the same end result, but whether the applicable depreciation method reflects the economic consumption of the asset during the relevant time period.

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Straight-Line Method
The straight-line method allocates equal portions of the asset’s depreciation cost to each accounting period over the asset’s estimated economic life. The straight-line is calculated as follows:

\[
\text{Depreciation Expense} = \text{Depreciation Cost} \times \text{Depreciation Rate}
\]

As stated above, the cost to be depreciated is the total cost of the asset – residual value. The depreciation rate or straight-line rate is the depreciation cost/economic life. The economic life is expressed in the number of periods the asset is expected to be used when calculating the depreciation rate, e.g. x years or y months. Consider, e.g. the depreciation expense of a machine. The total cost of the machine is € 100,000. The estimated residual value is € 4,000 and the estimated economic life is four years. The annual depreciation expense is calculated as follows:

\[
€ 24,000 = (€ 100,000 – 4,000) \div 4
\]

Based on the financial numbers, in the above case, the annual depreciation expense is € 24,000. That is, the level of fixed costs linked to the usage of the asset and which must be covered during the accounting period for the firm not to make a loss is € 24,000. The forward-looking yearly depreciation expense is used to develop and implement a financial plan which seeks to achieve the goal of the firm over the annual accounting period.

The Commission pointed out in Telefónica that the straight-line depreciation method is common business practice, but the method can be inappropriate for antitrust purposes. The Commission emphasised that due to market characteristics there can be valid reasons to defer a larger or smaller amount of depreciation expense at later years than the straight-line method acknowledges. The Commission did nonetheless accept the straight-line method but
made adjustments ex post. The Commission uses months as the depreciation rate. This is not an issue in and of itself, the problem arises from the fact that the month-by-month approach restricts the scope for error. Consider, e.g. that the dominant firm has calculated the yearly depreciation expense to be €24,000 (as calculated above). This means that as long as the yearly revenues equal €24,000, the price practice is financially sustainable. However, suppose that the Commission applies a month-by-month approach ex post. This means that monthly depreciation expense will be €2,000 (€24,000 ÷ 12). The issue is that the underlying demand of the market may not allow the dominant firm to collect €2,000 of revenues each month. The demand may in fact allow the dominant undertaking to collect significant portions of the necessary revenues at the start and/or end of the year, which means the revenues will flatline in-between.

**Declining-Balance Method**

The declining-balance method allocates a larger portion of the asset’s depreciation cost at the start of the asset’s life and a smaller portion at the end of its economic life. The double-declining method is based on the notion that the asset is most efficient in its early years and as the years pass by, the asset becomes less efficient. The declining-balance method is also called the double-declining-balance method or reducing-balance method. The declining-balance method, the double-declining-balance method and reducing-balance method will be used interchangeably.

The declining-balance method is an accelerated depreciation method (or accelerated cost recovery method). As the name implies, accelerated depreciation methods fast-track or boost the allocation of cost to be depreciated at the beginning of the asset’s useful life. The declining-balance method has amount of the cost recovery to later years than allowed for using straight-line depreciation.” See, Commission Decision, COMP/38.784 – Wanadoo España vs. Telefónica, 2007, recital. 344.


a higher depreciation rate and is often twice of the straight-line method.\textsuperscript{1504} The reducing-balance is computed as follows:\textsuperscript{1505}

\[
\text{Depreciation Expense} = \text{Net Book Value} \times \text{Double Depreciation Rate}
\]

To calculate the depreciation expense, the reducing-balance method uses the net book value rather than depreciation cost. As described in chapter 4.8.7.4, the net book value or carrying amount of the asset is the accumulated depreciation cost - fixed asset account. The depreciation rate is \(2 \times \text{depreciation rate} \div \text{economic life} \) (i.e. \(2 \times (1 \div \text{economic life} \) or simply \(2 \div \text{useful life} \)).\textsuperscript{1506}

Note that when using the declining-balance method to compute depreciation expense, the residual value is ignored. But the net book value cannot fall below residual value of the asset. If the final year depreciation expense should go beyond the residual value, the expense can only be the amount that brings the asset to its residual value.\textsuperscript{1507} This means that the residual value serves as a financial stop block.\textsuperscript{1508} As a result, at the end of the asset’s economic life, its book value should be equal to the residual value.\textsuperscript{1509} This “financial rule” applies even when firms use assets beyond their useful life.\textsuperscript{1510}

The financial effect of using the double-declining-balance method is that in the first year of an asset’s life, the beginning balance in the accumulated depreciation is zero.\textsuperscript{1511} But, as the years pass by, the accumulated depreciation grows and as a result the contra account shrinks. The financial cause-and-effect is that the depreciation expense declines each year.\textsuperscript{1512}

To illustrate the depreciation expense and financial effect when using the double-declining-balance method, consider the procurement of an asset with the total cost of €10,000. The firm projects that the asset has a useful life of four years. This means that yearly depreciation rate is $2 \times \left(\frac{1}{4}\right) = 2 \div 4 = 0.5$.

The depreciation expense calculus is $(€10,000 - €0) \times 2 \times (1 \div 4)$. Thus, in year one the depreciation expense will be €5,000, in year two €2,500 $(€10,000 - €5,000) \times 2 \times (1 \div 4)$, in year three €1,250 $(€10,000 - €7,500) \times 2 \times (1 \div 4)$ and in year four €625 $(€10,000 - €8,750) \times 2 \times (1 \div 4)$.

The scenario, with the declining-balance method, will display in the firm’s budget as follows:

<table>
<thead>
<tr>
<th>Declining-Balance Method</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost of the Asset</td>
<td>10,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Net Book Value</td>
<td>10,000</td>
<td>5,000</td>
<td>2,500</td>
<td>1,250</td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>-</td>
<td>5,000</td>
<td>7,500</td>
<td>8,750</td>
</tr>
<tr>
<td>Depreciation Expense</td>
<td>5,000</td>
<td>2,500</td>
<td>1,250</td>
<td>625</td>
</tr>
</tbody>
</table>

**Units-of-Production Method**

The units-of-production method allocates the original cost according to the estimated physical use of the asset.\(^\text{1513}\) To allocate the cost to be depreciated, the method uses the production output or activity level,\(^\text{1514}\) e.g. miles, kilometres, units, hours etc.\(^\text{1515}\) The units-of-production is calculated as follows:\(^\text{1516}\)

\[
Depreciation\ \text{Expense} = \text{Unit Rate} \times \text{Activity Level for the Period}
\]

---


To calculate the unit rate or depreciation unit rate,\textsuperscript{1517} the cost to be depreciated is divided by the total estimated production or activity level, i.e.:

\[
\text{Unit Rate} = \frac{\text{Depreciated Cost}}{\text{Estimated Total Production Units}}
\]

As described previously, depreciation cost is the initial cost - residual value. The estimated total production units can be swapped to estimated activity level for the period.\textsuperscript{1518} Based on the calculated unit rate, the depreciation expense for the period is computed by multiplying the unit rate with the actual production or activity level for the period.\textsuperscript{1519}

Consider, e.g. a long-lived asset with the total cost of €10,000. The firm uses kilometres to allocate the capitalised cost. The firm projects that asset’s economic life of 100,000 kilometres and a residual value of €2,000. As stated above, at the end of the asset’s useful life, its residual value will equal its net book value. The cost to be depreciated is €8,000 (€10,000 – €2,000 = €8,000). The unit rate is €0.08 per unit or kilometre (€8,000 ÷ 100,000 kilometres). The firm uses the asset for 10,000 kilometres in period 1, 30,000 kilometres in period 2, 40,000 kilometres in period 3, and 20,000 kilometres in period 4. As a result, the depreciation expense is €800 for period 1, €2,400 for period 2, €3,200 for period 3, and €1,600 for period 4.

The scenario, with the unit-of-production method, will display in the firm’s budget as follows:

<table>
<thead>
<tr>
<th>The Unit-of-Production Method</th>
<th>Period 1</th>
<th>Period 2</th>
<th>Period 3</th>
<th>Period 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost of the Asset</td>
<td>10,000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Depreciation per Unit/Kilometre</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
<td>0.08</td>
</tr>
<tr>
<td>Number of Kilometres</td>
<td>10,000</td>
<td>30,000</td>
<td>40,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Depreciation Expense</td>
<td>800</td>
<td>2,400</td>
<td>3,200</td>
<td>1,600</td>
</tr>
<tr>
<td>Accumulated Depreciation</td>
<td>800</td>
<td>3,200</td>
<td>6,400</td>
<td>8,000</td>
</tr>
<tr>
<td>Net Book Value</td>
<td>9,200</td>
<td>6,800</td>
<td>3,600</td>
<td>2,000</td>
</tr>
</tbody>
</table>


The unit-of-production method uses both estimated (before) and actual (after) activity levels when calculating the depreciation expense for the period. The notion is that it will lead to a more effective recovery of the original cost. This is because the (projected) usage is a better allocation driver to match the expenses with revenues over the asset’s economic life.\footnote{262} The fluctuation in revenues can often vary significantly from period to period.\footnote{1520} As such, the method provides a significant financial advantage as it can charge the appropriate level of depreciation expense in relation to production demand. In addition, the incorporating before and after activity levels does not impact previous depreciation expenses, i.e. if a change in estimate is necessary, there is no need to modify or adjust already recognised depreciation expenses.

An implication of the unit-of-production method is that level of depreciation expense will most likely vary from period to period.\footnote{1522} As such, using the method will cause depreciation expense to be classified as a variable expense as it fluctuates directly with production or use. This does not mean however that the depreciation expense should be classified as a variable cost for the purpose of applying the AKZO test. The fundamental characteristic still remains, the relevant cost is fixed, which is the original cost and that cost is unaffected by the production level.

### 4.8.6.4.4 Depreciation Methods and Antitrust Implications

Based on the above insights, depreciation is an accounting methodology which seeks to allocate a long-lived asset’s original cost over its useful life. The methodology is used to calculate the depreciation cost ex ante. The antitrust use of depreciation cost can be to provide an objective benchmark for the relevant period, i.e. the period over which costs are to be considered variable vis-à-vis fixed. The Commission has indeed applied the concept to allocate the costs that should be recovered at a later date.\footnote{1523} The Commission found in France Télécom that the relevant period was four years to allocate the costs, which was equal to the commercial depreciation,\footnote{1524} but held that the time period for the recovery of cost was 48 months.\footnote{1525} The latter period was based on France Télécom’s average customer subscribing length.\footnote{1526} This means that the periods do not coincide, but instead are separate antitrust concepts.

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\footnote{1523}{See e.g. Commission Decision, COMP/38.233 – Wanadoo Interactive, 2003.}

\footnote{1524}{See e.g. COMP/38.233 – Wanadoo Interactive, 2003, recitals. 76}

\footnote{1525}{COMP/38.233 – Wanadoo Interactive, 2003, recital. 77.}

\footnote{1526}{COMP/38.233 – Wanadoo Interactive, 2003, recital. 77.}
It follows that depreciated cost does not in and of itself provide any useful meaning. In order to assess whether a price policy is capable of fabricating foreclosure, the relevant fixed cost measurement could be the depreciation expense. The use of depreciation expense is justified on the ground that it facilitates legal certainty ex ante, since it allocates the cost to be depreciated to each accounting period. A particular antitrust turmoil is which depreciation method that should be used to ascertain the amount of depreciation expense.

The Commission pointed out in Telefónica that whilst straight-line depreciation is a common business practice, the method may nevertheless offer a misleading result. The Commission emphasised that due to market characteristics there can be valid reasons to defer a larger or smaller amount of depreciation expense to later years than the straight-line method acknowledges. This implies two things. First, the straight-line depreciation method may provide the dominant firm with an unfair advantage. The method allows the dominant firm to use economies of scale to outperform competitors as the fixed overhead cost shrinks with each produced unit. The dominant firm may take advantage of this and overproduce as it can sell the excess items once the competitors have left the market. This argument is however based on the notion that the period of one year is too long when calculating the depreciation rate. Second, market characteristics play an important role for the determination of the relevant depreciation method. That is, the economics of the market provide an objective benchmark when determining the appropriate and relevant depreciation method. In applying the straight-line method, the market characteristics provide an objective benchmark to analyse if the dominant firm has overproduced based on objective factors. Notwithstanding the above criticism, the Commission has nonetheless recognised that the straight-line depreciation method is common in business practice.

Nonetheless, as stated above, regardless of which depreciation method that is chosen, the total amount of depreciation expense over the asset’s economic life is the same. From an antitrust perspective, the appropriate depreciation method is the one that corresponds with the economic underpinnings of the

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1528 “[Investments] are capitalised so that their recovery is allowed to spread over a period of time using standard accounting techniques, usually through straight-line depreciation. However, while the utilisation of the capacity of the physical assets is low in the first years of the product’s life, straight-line depreciation implies an equal recovery of the initial investment in each year of the specified life and that the cost of capital employed is larger in the initial years than in later years, because the capital employed declines over time as the asset is depreciated. There could sometimes be reasons why it might be reasonable to defer a larger or smaller amount of the cost recovery to later years than allowed for using straight-line depreciation.” See, Commission Decision, COMP/38.784 – Wanadoo España vs. Telefónica, 2007, recital. 344.
market, e.g. demand fluctuation or the maturity of the market. This implies a difference in which object and/or factor(s), i.e. market and/or asset features, that should be used when deciding on the relevant depreciation method for antitrust purposes as opposed to e.g. accounting purposes.

Based on the above, the relevant accounting depreciation method should be the one that matches the underlying market conditions best, provided that this can be done in a systematic and predictable manner. If demand causes the economic benefits to be consumed evenly over the asset’s useful life, the straight-line method is appropriate, e.g. buildings and machines. If the asset loses its efficiency over time or the economic benefits consumed decline over the asset’s economic life, then the accelerated depreciation method (such as declining-balance) is appropriate, e.g. computers and telecom infrastructure. If production output levels are uncertain or difficult to estimate ex ante, then the units-of-production method is appropriate, e.g. travel and transportation.

The methods and their effect on depreciation expense is summarised as follows:

<table>
<thead>
<tr>
<th>Method</th>
<th>Asset Characteristics</th>
<th>Effect on Depreciation Expense</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight-Line</td>
<td>Generates revenue evenly over time</td>
<td>Equal amounts each year</td>
<td>Building and machines</td>
</tr>
<tr>
<td>Declining-Balance</td>
<td>Produces more revenue in early years</td>
<td>Declining amounts over time</td>
<td>Computers</td>
</tr>
<tr>
<td>Units-of-Production</td>
<td>Depreciates due to wear and tear rather than obsolescence</td>
<td>Varying amounts based on production level</td>
<td>Travel and transportation</td>
</tr>
</tbody>
</table>

A problem that may arise from the foregoing between the Commission and the dominant firm is whether the analysis should be done ex ante or ex post, i.e. if the revenue will cover the calculated depreciation expense or if the revenue has covered it. The issue is that the dominant firm is in a position where it must base its business decision on a forward-looking appraisal on how it perceives the market to develop. On the other hand, basing the legal qualification on actual market development ex post puts dominant firms in a position where they cannot appreciate the legal consequences of their own behaviours ex ante. As stated above, the Commission has recognised that the straight-line

---

depreciation method is very common. However, in applying the method, the Commission consistently applies the backwards-looking period-by-period analysis or method. As stated previously, the period-by-period analysis is an ex post profitability analysis into whether the dominant firm has recovered the relevant costs during the investigate period. In applying the period-by-period analysis, the Commission uses the straight-line depreciation method to determine if the dominant firm has in fact covered its actual costs.

The period-by-period analysis is not consistent with standard accounting methods. The fact of the matter is that the Commission applies the analysis in a manner which treats the costs and revenues prejudicially. This is because, the Commission uses months as the depreciation rate when calculating the depreciation expense using the straight-line method. This is not an issue in and of itself, the problem arises from the fact that the Commission applies the same approach for the revenues. As a result, in order for the dominant undertaking to avoid infringing Article 102 TFEU, its revenues must cover its costs on a month-by-month basis. This means that the dominant firm cannot readjust or fill-up a cost deficit with revenues from another period.

Consider, e.g. a firm which procures a long-lived fixed asset. Suppose that the cost to be depreciated is € 10,000 and the estimated economic life of four years. The firm uses the straight-line depreciation method with a yearly depreciation rate. This means that the yearly depreciation expense is € 2,500 (€ 10,000 ÷ 4). Suppose that the firm is active on a market where demand fluctuates significantly from period to period. This causes the firm’s revenue stream to be volatile. The yearly revenue streams are as follows; first quarter revenues are € 300, second quarter are € 850, third quarter are € 700 and fourth quarter are € 650. The firm’s total revenues are € 2,500 each year. The firm’s investment will be profitable over its economic life. Suppose that the Commission investigates the firm and applies the period-by-period analysis and uses months as the depreciation rate to calculate the straight-line depreciation expense. This means that the monthly depreciation expense is approximately € 208 ((€10,000 ÷ (12 × 4)). The yearly depreciation expense will be approximately € 2,500, which is more or less the same as the firm has calculated. The issue that arises is that the first quarter’s monthly revenues are € 100 (€ 300 ÷ 3), the second quarter’s monthly revenues are approximately € 283 (€ 850 ÷ 3), the third quarter’s monthly revenues are approximately € 233 (€ 700 ÷ 3) and the fourth quarter’s monthly revenues are approximately € 217 (€ 650 ÷ 3). Based on the period-by-period analysis, the firm has committed a
potential exclusionary abuse by trading at a financial deficit the three first months each year.

This suggests that the period-by-period analysis is inadequate, as a single tool, to identify and determine whether an abuse has been committed.

The antitrust issue is perhaps not with the straight-line depreciation method itself, but how it is applied. Indeed, whilst the total depreciated expense will be the same regardless of which depreciation rate that is used, the rate should nonetheless not be too truncated. As will be argued in chapter 6.2.6.1.3, it is of equal importance to establish the period to be used when assessing the profits, i.e. which revenues can be or cannot be taken into account.

4.9 Performance Measurement and Evaluation

Profit ratios, such as profit margins, are of particular importance as they tend to mirror the effectiveness of the firm’s pricing strategy and ability to control operating costs. The aim of this chapter is to outline different types of profitability ratios, which will be done in three steps. First, the notion of responsibility accounting will be painted. Second, some of the most common profitability indicators regardless of industry will be presented. Third, some industry specific performance metrics will be portrayed. This acquaintance is a necessary touchstone to segue into the forensic assessment of SAS Norway.

The design was chosen on the basis of the airline industry. A particular characteristic is its network effects. To assess the profitability of SAS it was particularly important to observe that SAS operates in a hub-and-spoke network. To maximise profitability and evaluate performance, companies tend to create different divisions throughout the network. Such a tactic is an important control mechanism and seeks to secure long-run profitability.

Take special note that a specific purpose of ratio analysis is to allow an outsider to quickly assess a firm’s financial condition by connecting the various items in the financial report. Although they provide a financial narrative, no single metric can automatically provide the reader with a definitive answer. The reason is that financial reports only provide data on an aggregated level, which is of insignificant value for the management’s decision-making process. As such, profitability ratios should be approached and treated with some caution due to their intrinsic margin of error.

4.9.1 Performance Evaluation and Responsibility Centres


- \textit{Cost centre(s) – the unit is only responsible for costs.}
  Typical examples of cost centres are the manufacturing or internal service departments, since these activities usually only incur cost without directly generating revenue.\footnote{J. J. Wild, K. W. Shaw, and B. Chiappetta, \textit{Financial \& Managerial Accounting: Information for Decisions}, 7th edition, McGraw-Hill Education, 2018, p. 988.} Note that cost centres and cost pools are
used interchangeably, and depending on the organisational structure and/or chosen costing method a number of different cost centres can be subject to performance evaluation. However, each individual cost centre will only be accountable for its designated costs that are associated with its activities. It is in this context that the notion of controllable and uncontrollable costs should be understood. When evaluating the financial performance of a particular centre, the only relevant costs are those that are directly controllable by the unit.

- **Revenue centre(s) – the unit is only accountable for revenue**
  The centre is primarily responsible for hitting the target level of revenue for the unit. However, in addition to the revenue, the centre is often tasked with the timing of the revenue stream received, the mix of products and services sold, discounts awarded and the creditworthiness of customers. The division is therefore often in a position that allows it to influence the price, market and volume of the product or service.

- **Profit centre(s) – the unit is responsible for revenue and costs**
  A profit centre, as the name implies, is accountable for production and sales performance, implying that a profit centre is a mixture of the two previous ones. Subject to the scope of the centre, it could be responsible for balancing potential conflicts between profit-maximisation for the organisation. The unit would be in control of production costs and methods, suppliers, pricing and market strategy. The broad scope of the unit is because it is in charge of generating income and

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1549 An example of such approach is full costing, which is also known as absorption costing. Many firms use the method of assigning indirect costs to the cost object on department-by-department basis. See e.g. P. Atrill and E. McLaney, *Management Accounting for Decision Makers*, 8th edition, Person, 2015, pp. 107 and 117.
controlling costs.\textsuperscript{1556} Profit centres can be assigned profit responsibility on different bases, e.g. geographical location, product line and customer service.\textsuperscript{1557} Although the scope of responsibilities covers a vast range of activities and a division can be assigned fixed assets to generate profits,\textsuperscript{1558} these centres have no authority to make capital investment decisions.\textsuperscript{1559}

- *Investment centre(s) – the unit is accountable for investments, revenue and costs*

Investment centres are the most sophisticated form of responsibility centres as they usually tend to be regarded as a business within a business.\textsuperscript{1560} An investment centre can be assigned a geographical area, local division or a whole enterprise within the organisation.\textsuperscript{1561} The scope of discretion covers, inter alia, capital expenditures, working capital, decisions regarding production and sales performance, bonus pay-outs, distribution to shareholders, and reinvestment in research and development.\textsuperscript{1562}

To reiterate the obvious, when evaluating the performance of divisions or centres, it is only the controllable costs that are of importance.\textsuperscript{1563} Responsibility accounting is underpinned by the controllability principle which states that


units should only be evaluated on activities they can influence. Before embarking on the financial performance bucket, let us visualise and connect the most common concepts.

<table>
<thead>
<tr>
<th>Types of responsibility</th>
<th>Control over</th>
<th>Main performance measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost centre</td>
<td>Control over costs.</td>
<td>Variance analysis: efficiency measures.</td>
</tr>
<tr>
<td>Revenue centre</td>
<td>Control over revenue.</td>
<td>Variance analysis: target goals.</td>
</tr>
<tr>
<td>Profit centre</td>
<td>Selling price (including transfer prices) and output volumes.</td>
<td>Cost and profits.</td>
</tr>
<tr>
<td>Investment centre</td>
<td>Costs (controllable), selling price (including transfer prices), output volumes and investment in non-recurrent assets.</td>
<td>Return on investments (ROI). Residual income (RI) and other financial ratios.</td>
</tr>
</tbody>
</table>

Lastly, a common misconception is that specific labels are tantamount to certain forms of partitioning, e.g. profit centres are always decentralised, whereas cost centres are always centralised. The classification between different responsibility centres and business units should instead be regarded as ranks in organisational hierarchy.

4.9.2 Key Performance Indicators

Key performance indicators (KPIs) or ratio analyses are quick look diagnostic tools. The objective is to swiftly provide an assessment of the organisation’s financial health, ex post. That is, they provide financial criteria that allow a reviewer to evaluate how well the entity has utilised its resources, ex post. This is implying that ratio tools are methods to measure a firm’s level of efficiency.

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The term efficiency, when performing financial analysis, refers to a firm’s productivity in terms of utilising its assets. While productivity and efficiency often are used interchangeably, the approach assumes that the performance metric has been benchmarked against some other yardstick(s).

For the purpose of establishing performance metrics (and ultimately assessing profitability), the two concepts need to be specified. Productivity is the ratio between output and input, whereas productivity gain means the increase in outputs relative to inputs. In contrast, the concept efficiency, which is also a ratio metric, measures the relative performance of a firm given the best practice or the maximisation of output accessible from a given product technology.

To reiterate, accounting ratio analyses as well as key performance indicators are tools that build on the relationship between two or more financial variables. Keep in mind that these are used for two purposes. First, ratios measure the financial success factor of the firm, i.e. profitability. Second, they are used as control devices, i.e. governing the responsibility centres to meet the targeted goal. Typical examples of such management control tools are: variance analysis, transfer pricing, full cost, material-, labour- and equipment yield.

Nevertheless, depending on the purpose, the analysis can yield different results. This is because different performance indicators assess different profitability measurements. That is, some profitability ratios are designed to measure pure financial performance (in quantitative terms), whilst others link or combine financial with non-financial metrics, e.g. customers’ responsiveness and needs. One cause is arguably the underlying economic structure of the industry, i.e. different sectors display dissimilar cost and revenue drivers. Customer satisfaction has proven to be an important revenue driver.

Within management accounting theory, the identification and control of drivers is a key for profitability, e.g. the cost-volume-profit analysis. As stated in chapter 4.4.1, a cost driver is any factor that affects cost, whereas a revenue driver is any factor that affects revenues. The cause-and-effect of

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such drivers have had the natural consequence that some sectors, e.g. the airline industry, have developed their own performance metrics.\textsuperscript{1576}

Danger arises if the wrong metric is applied, fallaciously qualifying a pricing policy and leading to over- or under enforcement. Of significant importance is that ratio analysis is a mathematical formula. As a result, profitability metrics should be approached with some caution. To approximate a firm’s financial health, it is suggested to use a combination of, inter alia, different ratios, the economic context, the firm’s competitive strategy, and trend analysis.\textsuperscript{1577} For that reason, it is important to distinguish between applying performance ratios and interpreting what they express. A sudden drop in a set of ratios may only signal that something is wrong, but not what caused the problem.\textsuperscript{1578}

To avoid erroneous judicial decisions, the search for profits ought to take into account (the relevant) revenue drivers and cost drivers,\textsuperscript{1579} as well as the underlying economic foundation of the industry. A reviewing court should scrutinise any submission suggestions to ascertain the validity of a submitted profitability analysis or where such analysis has been used by the Commission. Albeit the use of such tools falls within the Commission’s margin of discretion, the use ought to fall within the scope of judicial review to check if the Commission has committed a manifest error of assessment.

4.10 Common Profitability Ratios

4.10.1 Profit Margins

Profit margins, essentially, measure the rate and/or degree to which the organisation makes cash on its activities. A profit margin represents the fraction of each euro of sales that is turned into profits, usually expressed as a percentage of sales. There are three main profitability margins that are mirrored in a business’s income statement. However, as was stated supra, a financial report is an accumulation of a company’s operational cost(s) and price(s) data. As a result, the accounts cannot discriminate between variable costs and fixed

\textsuperscript{1576} See e.g. G. Demydyuk, \textit{Optimal Financial Key Performance Indicators: Evidence from the Airline Industry}, 3 Accounting & Taxation 39, 2011.
\textsuperscript{1579} As stated in chapter 4.4.1, a cost driver is any factor that affects cost, whereas a revenue driver is any factor that affects revenues.
costs. To tackle the problem, financial analysts assume that a large portion of cost of goods sold is variable, while other operating costs are fixed. Accordingly, the analyst uses cost of goods sold as a proxy for variable cost.\textsuperscript{1580}

Precedent shows that gross profit margins have been used in EU antitrust procedures. The General Court applied the financial metric to perform the AKZO test in Tetra Pak II.\textsuperscript{1581} The technique has also been used by the Commission. In Intel, the Commission used, prima facie, Intel’s cost of goods sold as a substitute for its variable costs. The aim was to establish the foreclosure effect of Intel’s discount scheme by assessing its gross profit margin.\textsuperscript{1582}

**Gross Profit Margin**
Gross profit margin assesses the financial health and effectiveness of a company’s business model.

\[
\text{Gross Profit Margin} = \left(\frac{\text{Net Sales} - \text{Cost of Goods Sold}}{\text{Net Sales}}\right)
\]

The gross profit shows how well the business is creating or providing products or services relative to its competitors (with the same product or services and/or same business model). If the metric is negative, it usually means that the firm is unable to pay for its operating expenses.

**Operating Profit Margin**
Operating profit margin, operating margin or return on sales (ROS) measures how profitable the firm’s core business is, i.e. the profits generated from the firm’s primary business function. The metric is a useful indicator, since it provides data about the firm’s profitability potential. The metric provides a good indicator about how efficient the firm is in converting profits from its sales. The operating profit margin is expressed as a percentage.

\[
\text{Operating Profit Margin} = \left(\frac{\text{Operating Earnings}}{\text{Total Revenue}}\right)
\]

The metric shows the level of revenue that is available to cover non-operating costs. The reason for this is that when calculating the return on sales, the operating earnings are calculated using earnings before interest and taxes (EBIT). Accordingly, the metric shows how much revenue that is left to cover overhead costs.

**EBIT and EBITDA**

Operating profits are also referred to as operating income, earnings before interest and taxes (EBIT) as well as earnings before interest and taxes minus depreciation and amortisation (EBITDA). EBIT is usually calculated as follows:

\[
\text{Operating Income} = \text{Gross Income} - \text{Operating Expenses}
\]

\[
\text{Gross Income} = \text{Revenue} - \text{Cost of Goods Sold}
\]

\[
EBIT = \text{Revenue} - \text{Cost of Goods Sold} - \text{Operating Expenses}
\]

EBIT can alternatively be expressed as:

\[
EBIT = \text{Net Sales} + \text{Interest} + \text{Taxes}
\]

EBITA is frequently computed as follows:

\[
EBITA = \text{Operating Profits} + \text{Depreciation} + \text{Amortisation}
\]

EBITDA can alternatively be expressed as:

\[
EBITDA = \text{Net Sales} + \text{Interest} + \text{Taxes} + \text{Depreciation} + \text{Amortisation}
\]

The purpose of both EBIT and EBITDA is to make financial analysis more representable. The financial rationale behind operating profit is that it enables an apples-to-apples comparison. By only focusing on how well the firm is able to generate profits on its core operation, the assessment only aims to establish the corporation's ability to make profits without taking into account ancillary dynamics, e.g. supplementary investments, costs of capital structure and tax liabilities. The operational profit margin should therefore tell the story of how successful the profit seeking undertaking is in converting its essential operation into profits without leveraging its cost of capital, tax expenses as well as depreciation and amortisation expenses.\(^{1583}\)

**Net Profit Margin**

Net profit margin or return on sales measures how much of each euro in revenue can be collected or turned into profits. Because the ratios measure profits as a percentage of revenue, net profit margin equals net income.\(^{1584}\) The higher a company’s net profit margin is, the more productive it is in converting each

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euro of sales in to profits. Hence, the reference return on sales.\textsuperscript{1585} Although net profit margin can mathematically be expressed in two ways, for the most it is expressed as:

\[
\text{Net Profit Margin} = \frac{\text{Net Income} \ (\text{Revenues} - \text{Sales})}{\text{Revenues}}
\]

The net profit metric is an important indicator of a firm’s financial health, as it quickly assesses whether current business is working or not. A main contributor to the net profit margin is the company’s level of efficiency, i.e. differences in spread indicates efficiency.\textsuperscript{1586} The main difference between gross profit and net profit is that the former only measures profitability based on cost of goods sold, whereas the latter calculates profits from revenue after accounting for all expenses, costs and cash flow items.

4.10.2 Profitability on Assets and Investments

To properly assess a company’s financial wellbeing, the search for profitability – and eventually identifying potential exclusionary behaviours – needs to go beyond the profit and loss statement and include the balance sheet. Contained, the balance statement is often used to measure the liquidity and solvency of a company, but it also holds an important piece of the firm’s ability to generate profits. The balance sheet is said to represent the locomotive power and efficiency of the firm as it provides indicative data regarding the mechanical force production in terms of profits.\textsuperscript{1587}

The objective of operational financial ratios is to measure how successful and/or efficient the firm is in utilising its fixed assets to generate value in terms of profitability. Although there are a number of different ratios that measure the profitability of resources, the most common are: return on equity,\textsuperscript{1588} return

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on assets, and return on investment. A modified version of return on invest-
ment is the cash flow return on investment ratios which can be used as a proxy
for economic return, as it mimics the internal rate of return.

Return on equity or return on common stockholders’ equity (ROE) measures the euro return of the net income a firm makes for each euro invested
by the stockholder. The metric can be used as an alternative tool to measure
the firm’s profitability and compute the rate of efficiency with which the firm
is generating profits based on the shareholders’ investments.

\[ \text{Return on Equity} = \frac{(\text{Net Income} - \text{Preferred Dividends or Shares})}{\text{Average Common Stockholders’ Equity}} \]

The return on equity formula does not include preferred shares and divi-
dends. If a company has preferred shares outstanding, the value will be sub-
tracted from the net income. The aim is to get the net income recognised to
shareholders. That is, if the firm does not have any preferred shares, the for-
mula changes.

\[ \text{Return on Equity Absent Preferred Shares} = \frac{\text{Net Profits}}{\text{Average Equity}} \]

The subtraction is logical as preferred shares have nothing to do with the
firm’s ability to convert investments into profits and the rate at which it can
do so.

Return on assets or return on total assets is a widely used metric and is often
combined with return on equity. Return on assets measures the firm’s profita-
bility compared to its total assets. The metric provides important insights
into how efficiently the firm’s assets are used to generate profits.

\[ \text{Return on Assets} = \frac{\text{Net Income}}{\text{Total Assets}} \]

The significant difference between return on assets and return on equity is
that the former also includes the company’s total liabilities.

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Total Assets = Total Liabilities + Shareholders’ Equity

One of the most common financial performance ratios is return on investments.\textsuperscript{1594} The metric assesses the financial consequence an investment is likely to have on the firm’s cash flow, i.e. the profitability of the investment. Note that a value greater than zero mirrors net profitability.

\textit{Return on Investment} = \frac{Profits \text{ from Investments}}{Cost \text{ of Investment}}

The return-on-investment ratio can be used for different purposes, e.g. profitability of production, the efficiency level of a firm’s capital management and pricing. Although the metric has a broad application, it has its shortcomings.

According to Kaplan and Atkinson, the main advantage of using the return-on-investment pricing method is that it takes into account the capital investment required for the production and distribution of a product. On the other hand, the disadvantage is that the method tends to automate decision-making that should be carefully evaluated, e.g. different products face different demands, bottlenecks and other resources.\textsuperscript{1595} In addition, Knight argues that it is important not to lose sight that profits are not synonymous with cash. Consequently, the financial outcome will depend on which calculating method\textsuperscript{1596} that is used to assess return on investment.\textsuperscript{1597} The differences are a direct result of how time affects the value of money.

4.1.1 Key (Lead) Profitability Ratios

Defining and identifying competitive injury becomes unintelligible without analysing the specific conditions in which the conduct occurs. Key profitability metrics are conditional on the sector in which the undertaking operates. The fundamental goal of all financial performance ratios is to measure how efficient the firm is in utilising its resources and administers its operations.\textsuperscript{1598} However, they suffer the equivalent problem as costs. Traditional financial

\textsuperscript{1596} There are well-established evaluating methods in corporate finance theory, e.g. payback, net present value, internal rate of return.
measurements are characterised as being too historical or backward-looking. The critique is that historical accounting data has nothing to say about which factors that actually drive profitability. In addition, there is scientific evidence that backward-looking financial ratios form people’s opinions about an organisation’s forward-looking performance, the so-called halo bias.

The raw form of ratio analysis simply expresses a mathematical relationship between variables. According to Walsh, key performance indicators should be decomposed into key performance outcomes and key performance drivers. Key performance outcomes measure what is expected of the company, whereas key performance drivers measure which factors that have a direct influence on the outcome. That is, the former are lag indicators, while the latter are lead indicators. It is the lead indicators that provide the means to business success. The operational aim is to pick the right financial indicators that assist the company in achieving its business objectives and in identifying the key profitability drivers in the industry in which it operates. It is important for the company to establish a cause-and-effect link between its objective and what drivers it needs to achieve that objective.

Profitability drivers are variables that have a positive or negative effect on the firm’s ability to generate value. However, market structure promotes significant differences in cost and revenue drivers. It is the exploitation of these drivers that facilitates a sustainable competitive advantage.

Lead profitability drivers, unlike traditional financial ratios, are drivers that generate economic value (they are forward-looking). Lead indicators are often referred to as nonfinancial performance measurements. However, in theory

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these drives are used as proxies for financial measurements as they are assumed to be more informative, timely, and better suited for predicting what drives revenue.\textsuperscript{1607} Revenue drivers can be classified in four levels of foci.

According to Shields and Shields, the four levels of revenue drivers are the following:\textsuperscript{1608}

- **Customer Level**
  Customer revenue drivers are characteristics that allow the firm to vary between customers by analysing how they affect revenue, e.g. customer satisfaction. However, customer loyalty is not synonymous with advances in cash flow and profits.\textsuperscript{1609}

- **Production Level**
  Production revenue drivers are features that distinguish products from one and other and how these attributes impact revenue, e.g. price and quantity.

- **Organisational Level**
  Organisation revenue drivers are causes or events in the organisation’s resources that change the revenue and/or activities by employees that affect revenue, e.g. competitive strategy or product innovation.

- **Industry Level**
  Industry revenue drivers are the underlying characteristics of an industry which influence or dictate the forces of competition in terms of price and volume in a sector, e.g. competition, economies of scale and regulatory measures. The modality is comparable to or links to Porter’s five forces thesis and his theory of competitive advantage.

Although each level is distinct, they are related and can therefore have direct or indirect effects on revenue drivers,\textsuperscript{1610} and by extension cost drives.

From an economic point of view, in industries that are characterised by near zero marginal cost, a profit-maximisor should seek to amplify its revenue


\textsuperscript{1608} F. Shields and M. D. Shields, *Revenue Drivers: Reviewing and Extending the Accounting Literature*, 14 Advancements in Management Accounting 33, 2005.


Profit-maximisation on an industry level is a careful evaluation, even if distinct industries are underpinned by the same attributes, e.g. network effects. Profitability in the airline industry is not only significantly different from counterparts such as the telecommunication and postal sectors, but also in terms of business models, competitive advantages and structural regulations. The airline industry is characterised by three key variables: unit costs, unit revenues or yields and load factors. While a review of the content and intended measure of lead performance indicators in the airline sector will follow in chapter 6.3.7, the most common are, according to Demydyuk: available seat kilometres, revenue passenger kilometres, passenger load factor, passengers carried, and yield and cost per available seat kilometres. The theoretical economic objective is to maximise revenue and load factor. Demydyuk nonetheless argues that empirical evidence suggests that operating profit per passenger kilometre is the most significant ratio to predict airline profitability. This irrespective of business model and operating geographic scope.

4.12 Transfer Pricing

4.12.1 Introduction

An important but possibly overlooked issue in antitrust law is how the law on below-cost pricing should handle internal transfers between divisions within a dominant firm. As stated in chapter 4.9.1, many businesses are organised based on a decentralised model where each unit, division, segment, department and/or responsibility centre is autonomous in their day-to-day operations. An important feature of decentralisation is that these entities interact by internally selling and buying products and services from each other. The

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serving and acquisition of intra-company resources is known as transfer pricing.\textsuperscript{1617} The transfer price will represent sales revenue for the division that transfers the goods or services and a cost for the receiving division.\textsuperscript{1618}

Transfer pricing is sometimes called intra-company pricing, intra-firm pricing, or related-party transaction pricing,\textsuperscript{1619} but from time to time, the concept is also referred to as transfer cost, cost transfer or cost of transfer.\textsuperscript{1620} The just mentioned terms will be used interchangeably.

Transfer pricing can be an important forensic tool to determine the relevant costs as it enables profit or cost attribution to a specific lieu or location. This is because it provides a method to treat a subsidiary to a parent company as a separate profit centre and to analyse its profits. That is, how profits are allocated amongst divisions.\textsuperscript{1621} The antitrust significance of applying transfer pricing it that it admits an analysis of the potential competitive effects across a dominant firm’s supply chain at each level.

The telecom industry is a case where cost-based transfer pricing can be particularly instrumental in the finding of unlawful margin squeeze. As the law stands, to ascertain if a dominant network telecom operator has engaged in margin squeeze, the profit margin of its retail subsidiary is to be analysed.\textsuperscript{1622} As will be discussed in chapter 6.5 (forensic case study of the TeliaSonera case), a main characteristic of the European telecom industry is that it comprises of former legal monopolies.\textsuperscript{1623} These legacy telecom network carriers are often vertically integrated, which means that they operate the whole value chain. That is, they are active at the back end of the value chain as they control


\textsuperscript{1620} To that effect see, e.g. P. Atrill and E. McLaney, \textit{Financial Accounting for Decision Makers}, 10th edition, Pearson, 2022, p. 61.


the necessary infrastructure as well as the front end of the value chain as they operate on the retail market. The decentralisation makes the retail subsidiary an autonomous profit centre from the parent company.\textsuperscript{1624} The retail subsidiary, as an independent profit centre, is responsible to contribute to the overall network profitability. The cost-based transfer pricing framework can be used for profit attribution, which enables the identification of the retail subsidiary’s relevant costs.\textsuperscript{1625}

Note, when calculating transfer prices, the opportunity cost concept may be of relevance. As described in the chapter 4.3.3.2, opportunity cost refers to the monetary value of not choosing a more profitable course of action, i.e. the cost incurred as a result of choosing a particular course of action. However, as stated previously, in accounting, the cost concept may become relevant in two situations. First, opportunity cost is only relevant if the company has excess or idle capacity.\textsuperscript{1626} This means that opportunity cost is only relevant if the selling unit has sufficient idle capacity to satisfy the demand of outside buyers without sacrificing any sales to its regular customer,\textsuperscript{1627} e.g. the buying unit. Second, opportunity cost can be relevant when measuring how well the intra-firm price between the units has performed.\textsuperscript{1628} That is, the managerial use of opportunity cost is to provide an appropriate benchmark to evaluate how effective the calculated intra-company price is in achieving profits that are goal congruent. As such, opportunity cost is not intended to result in profit-maximisation.

\textsuperscript{1624} K. Fjell and O. Foros, \textit{Access Regulation and Strategic Transfer Pricing}, 19 Management Accounting Research 18, 2008, p. 19.


The managerial purpose of transfer pricing is to support the economic operator in achieving its goals,\textsuperscript{1629} such as being profitable and maintaining its competitiveness in the long run.\textsuperscript{1630} To achieve these aims and be relevant for antitrust purposes, transfer pricing seeks to promote three principal objectives.\textsuperscript{1631}

First, the optimisation of profits for the business.\textsuperscript{1632} Transfer pricing should provide relevant economic information to decision-makers that assist them in maximising their profits.\textsuperscript{1633} The notion is that the subunit is closer to the market, and thus in the position to accurately evaluate which costs are relevant and how to maximise operating income.\textsuperscript{1634} Transfer prices should be set at a level that promotes not only the subunit but improves companywide profits.\textsuperscript{1635}

Second, the assessment of divisional performance.\textsuperscript{1636} Transfer pricing should provide necessary information that is useful to evaluate the divisional performance.\textsuperscript{1637} It is however possible to distinguish the objectives further by dividing them in four or even five. For example, it could of course be argued that transfer pricing should promote tax minimisation as well. However, such an examination falls outside the scope of this dissertation as measuring profits for tax purposes is based on other considerations. Profits for tax purposes seek to identify the companywide profits, whereas profits for antitrust purposes seek to identify profits on a product-by-product or service-by-service basis. See, e.g. C. Drury and M. Taylers, \textit{Management and Cost Accounting}, 11th edition, Cengage Learning, 2020, p. 546, and C. Drury and M. Taylers, \textit{Management and Cost Accounting}, 11th edition, Cengage Learning, 2020, p. 546.


The transfer price is an important metric to calculate the profits of each subunit. The subunit’s level of profit is often used to allocate resources to segments that can then serve the market as efficiently as possible, e.g. segments where demand is high and the firm’s products and/or services can be priced appropriately.\textsuperscript{1638} Third, promoting goal congruence.\textsuperscript{1639} As described previously in chapter 4.3.6.3, goal congruence refers to situations where individual segments select actions that maximise company-wide profits.\textsuperscript{1640} However, as was described in chapters 4.3.4, 4.3.6, and 4.3.7, a core managerial issue is how to outline and implement the firm’s competitive strategy in a manner that is not counterproductive and does not lead to decreased profitability, so-called sub-optimisation.\textsuperscript{1641} Garrison et al argue that sub-optimisation occurs when responsibility centres profit-maximise their own interests before the firm as a whole, which results in foregoing company-wide profits,\textsuperscript{1642} due to a raise in firm-wide total costs.

Consider, e.g. subunits A and B. Subunit A produces an input, which it sells to subunit B. The transfer price is set to € 30 and will have an impact on both A’s and B’s income statements. The transfer generates revenues to subunit A, increasing its income. Clearly, subunit A wants the transfer price to be as high as possible. However, at the same time, the transfer is a cost for subunit B, lowering its income. Obviously, subunit B wants the transfer price to be as low as possible. As long as the transfer price is set at a level that net out the company transaction as a whole (revenue – cost = zero) the internal transaction does not have a negative effect on company-wide profits. However, owing to profit-maximisation, subunit A wishes to set its transfer price at € 30, even though the input costs € 24 to produce. Subunit B may have an incentive to refute the transfer price if it can obtain the input from an external source for € 28. Subunit B will make a cost saving of € 2 per unit (€ 30 internal price – € 28 external price). The transfer price at € 30 can have a negative impact on profitability because it raises total cost for the company as a whole. This is


because, to avoid the rise in total cost, subunit A must offset the lost transaction to subunit B with an external sale of at least €4 per unit (€28 external cost - €24 internal cost). Indeed, whilst maximising profits is good for the individual subunit, it can be bad for the firm as a whole, e.g. restricting the firm’s ability to compete effectively due to higher total costs and lower total profits.

The intra-company pricing issue is often said to occur as a result of the principal-agent problem (or simply agent problem),\textsuperscript{1643} i.e. the lack of goal congruence is a result of the agent problem. As was described in chapter 4.3.6.1, the agent problem refers to the situation when the agent pursues goals that only service its self-interest, such as profit-maximising the performance of its own unit. The agent’s self-interest is associated with additional costs, so-called agency costs.\textsuperscript{1644} Agency costs arise, in this context, when the segment does not seek to maximise firmwide value and top managers must implement monitors to oversee and constrain the independence of the segment.

A well-designed transfer pricing system will eliminate agency costs and promote goal congruence in a manner that allows subunits to only focus on their own financial performance without considering the other units.\textsuperscript{1645}

### 4.12.3 The General Transfer Pricing Rule

In general, there are three main methods to calculate a transfer price that achieves its objectives, in particular goal congruence.\textsuperscript{1646} Note however, whilst there is no single rule to calculate a transfer price that meets its aims, the general rule is that a well-designed transfer price should be based on both outlay


and opportunity costs that are incurred as a result of a transaction, so-called the general transfer pricing rule. As explained in chapter 4.3.3.2, outlay cost refers to the monetary amount that must be sacrificed to achieve a specific aim. The outlay cost is the cost the selling unit must incur as a result of the transaction, e.g. direct variable cost of manufacturing and indirect labour cost. The opportunity cost, which also was described in the chapter 4.3.3.2, refers to the cost incurred as a result of choosing a particular course of action. The opportunity cost is intended to represent the contribution of profit the selling unit sacrifices as a result of the transaction. The notion is that opportunity cost is an appropriate benchmark to measure maximisation of performance that achieves goal congruence.

This suggests that use of outlay and opportunity cost yardsticks has the objective to set the floor or minimum as well as the ceiling or maximum intra-company price, at least in theory.

The rationale for applying the general transfer pricing rule is that it is predicated on two cumulative conditions, which together act as internal checks and balances to promote firmwide profit-maximisation. The first condition seeks to balance so the firm does not produce items with a total cost that exceeds its final selling price at the retail level. The second condition seeks to check so that the cost of internal production does not exceed what the firm would have to pay to buy it in the marketplace. This implies that the second condition provides incentives for the manufacturing unit to be cost efficient, which provides a stronger competitive advantage for the firm as a whole.

Consider, e.g. subunits A and B, which are part of firm X. Subunit A manufactures widgets that are transferred to subunit B, which in turn sells the

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widgets to end-consumers. Suppose that subunit A’s manufacturing outlay costs comprise of variable costs of € 6 and that subunit A can sell its widgets to an external buyer for € 10. The sale would generate a contribution margin of € 4 (€ 10 − € 6 = € 4), but if the sale does not take place, the foregone contribution results in a € 4 opportunity cost for subunit A. Subunit A will maximise its performance as long as the minimum transfer price is € 10 (€ 6 − € 4). That is, € 10 is the lowest transfer price subunit A should accept.  

Suppose now that subunit B can sell the widgets for € 25 per piece to end-consumers and has operational outlay costs of € 12 per piece. This means that an intra-company price of € 13 (€ 25 − € 12 = € 13) is the maximum subunit B would be willing to pay. A transfer price of € 13 does not necessarily allow subunit B to maximise its performance. As long as subunit B is able to procure the widget from an outside supplier at a lower cost than € 13, it will maximise its performance. Accordingly, € 13 is the highest transfer price subunit B can accept, but a lower transfer price will maximise performance.

Now consider how firm X should design the transfer price between subunits A and B. As stated above, a well-designed intra-company price will generate the highest firmwide profits possible. To achieve the desirable, the transfer price should be based on two cumulative conditions. First, the total cost to firm X to manufacture the widgets internally must be less than the widgets’ value to firm X. That is, subunit A’s total cost of € 10 (variable costs of € 6 − opportunity cost of € 4) must be less than the maximum intra-company price of € 13 that subunit B is willing to pay (price of € 25 − operational outlay costs of € 12). Second, the selling division’s total costs should be less than the price the procuring division would have to pay to an external supplier. That is, subunit A’s total cost of € 10 must be less than the price an outside supplier would offer. It follows that the intra-company price should be set at € 10.

The rationale for setting the transfer price at € 10 is the two cumulative conditions. The first condition seeks to secure that a firm does not produce items with a total cost that exceeds the final selling price to end-consumers. This means that the transfer price could be set between € 10 and € 13. But, the second condition seeks to ensure that the cost of internal production does not exceed what the firm would have to pay to buy it in the marketplace. This means that an outside supplier would need to price its items below € 10. An intra-company price of € 10 is the only price level that does not provide an incentive for subunit B to procure the items elsewhere, which would result in a loss of internal sale for firm X.

As stated above, outlay and opportunity costs imply that they should be used to set the appropriate level of a transfer price. As such, they seek to make the cumulative condition operational by acting as its ceiling and floor.

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4.12.4 The Problem in Implementing the General Transfer Pricing Rule

The assertion that the general transfer pricing rule will result in goal congruence is predicated on the notion that the rule can in fact be implemented correctly. Hilton and Platt raise two arguments as to why the rule can be difficult or even impossible to implement due to the use of opportunity cost. R. W. Hilton and D. E. Platt, *Managerial Accounting: Creating Value in A Dynamic Business Environment*, 12th international edition, McGraw-Hill/Irwin, 2020, p. 593.

First, opportunity cost is notoriously difficult to measure correctly. To correctly measure the opportunity cost, the market price cannot be subject to imperfect competition. As stated previously, the opportunity cost is the result of forgone contribution, which means that its cost level is dependent on the quantity sold to external buyers. The interaction between quality sold and imperfect competition may make it impossible to accurately determine the opportunity cost caused by a transaction. R. W. Hilton and D. E. Platt, *Managerial Accounting: Creating Value in A Dynamic Business Environment*, 12th international edition, McGraw-Hill/Irwin, 2020, p. 593.

Second, the uniqueness of the transferred widget. The widget’s peculiarity can make it extremely difficult to calculate the opportunity cost since e.g. the manufacturing process may need special equipment and/or the producing unit may have to buy design and R&D technology from other departments. This makes it very challenging to ascertain the opportunity cost that is associated with each of these related outputs. R. W. Hilton and D. E. Platt, *Managerial Accounting: Creating Value in A Dynamic Business Environment*, 12th international edition, McGraw-Hill/Irwin, 2020, p. 593.

The general transfer pricing rule is intended to provide a theoretical model when calculating intra-company prices but is difficult or impossible to implement in practice. This suggests that the general transfer pricing rule is not appropriate for antitrust purposes. The antitrust shortcoming of the model is that it is tethered to the notion that the market for the intermediate product is subject to competition. The relevant query then becomes if the general transfer pricing rule can be applied where the dominant company is a monopoly input supplier. As mentioned above, a significant feature of the EU telecom industry is that it is occupied by legacy network carriers operating at both ends of the supply chain. These legacy telecom firms, as former legal monopolies, tend to have a strong hold over the retail market due to their control over the necessary infrastructure. As a result, access to the infrastructure is often a necessary condition for competition in the market or open access competition. See, e.g. C. Gutiérrez-Hita, O. de la Cruz and R. Ramos-Melero, *Infrastructure Access Charges, Service Differentiation, and Strategic Competition in the EU Railway Passenger Market*, 154 Transportation Research Part B 87, 2022, p. 87.
(forensic case study of the TeliaSonera case) – it is the profits of the vertically integrated firm’s brick-and-mortar retail store(s) that should be analysed.\footnote{See, e.g. C-52/09, \textit{Konkurrensverket v TeliaSonera}, ECLI:EU:C:2011:83, para. 42.} However, in so doing, an essential cost yardstick that must be included is the access cost or access price the retail firm must pay the parent company to get necessary intermediary service.\footnote{"In particular, as regards a pricing practice which causes margin squeeze, the use of such analytical criteria can establish whether that undertaking would have been sufficiently efficient to offer its retail services to end users otherwise than at a loss if it had first been obliged to pay its own wholesale prices for the intermediary services." See, C-52/09, \textit{Konkurrensverket v TeliaSonera}, ECLI:EU:C:2011:83, para. 42.} The antitrust issue with applying the general transfer pricing rule to calculate the access price is that there is no competition for the intermediary service under the second condition. That is, because of the lack of competition at the infrastructure level, the retail unit must accept the transfer price that the investment unit sets.

Intra-firm prices that inflate the price of intermediate goods and/or services can result in competitive harm,\footnote{K. Fjell and Ø. Foros, \textit{Access Regulation and Strategic Transfer Pricing}, 19 Management Accounting Research 18, 2018, p. 19.} e.g. excessive access pricing can raise rivals’ costs.\footnote{See, e.g. S. C. Salop, \textit{The Raising Rivals’ Cost Foreclosure Paradigm, Conditional Pricing Practices, and the Flawed Incremental Price-Cost Test}, 81 Antitrust Law Journal 371, 2017, pp. 378 and 384.} The financial effect of these types of excessive transfer prices is that the legacy telecom firm will make exorbitant returns on investments whilst not contributing to the improvement of production or distribution of goods or to promote technical or economic progress and allowing consumers a fair share of the resulting financial benefit.

4.12.5 Methods of Calculating Transfer Prices

price for the transferable item, something that the latter method does not require. If there is no market for the item or if the item is difficult to replicate by an outside firm, the former methods are inappropriate to use or even inapplicable.\footnote{This is especially true for the market-based method. See, J. J. Wild and K. W. Shaw, \textit{Fundamental Accounting Principles}, 24th edition, McGraw-Hill/Irwin, 2019, p. 934.}

Following the description of the traditional accounting methods, an account of the contribution-margin transfer price method is conducted. As will be explained, the method is based on the notion that an intra-company price that shares the profit and/or revenue between the units achieves goal congruence as well as enhances productive and dynamic efficiency.\footnote{A. Chwolka and D. Simons, \textit{Impacts of Revenue Sharing, Profit Sharing and Transfer Pricing on Quality-Improving Investments}, 12 European Accounting Review 47, 2003, and T. Pfeiffer, U. Schiller and J. Wagner, \textit{Cost-Based Transfer Pricing}, 16 Review of Accounting Studies 219, 2011.} The method is especially appropriate to apply when the selling unit must make significant investments, e.g. R&D,\footnote{See, e.g. S. White Cotton, R. Libby and F. Phillips, Managerial Accounting, 4th international edition, McGraw-Hill/Irwin, 2020, p. 21, P. Atrill and E. McLaney, \textit{Management Accounting for Decision Makers}, 2nd edition, John Wiley & Sons, Inc, 2022, p. 217.} and/or investing in more efficient equipment.\footnote{T. Pfeiffer, U. Schiller and J. Wagner, \textit{Cost-Based Transfer Pricing}, 16 Review of Accounting Studies 219, 2011, p. 223.}

Keep in mind, as was stated in chapter 4.12.1, when calculating transfer prices, the opportunity cost concept may be of relevance. However, in managerial accounting, the concept is only relevant if, and only if, the company has excess or idle capacity.\footnote{See, e.g. R. H. Garrison, E. W. Noreen and P. C. Brewer, \textit{Managerial Accounting}, 17th edition, McGraw-Hill/Irwin, 2021, p. 509.} This means that opportunity cost is only relevant if the selling unit has sufficient idle capacity to satisfy demand from its regular customer,\footnote{See, e.g. C. T. Horngren, G. Sundem, W. Stratton, D. Burgstahler and J. Schatzberg, \textit{Introduction to Management Accounting}, 17th global edition, Person, 2023, p. 425.} e.g. the buying unit.

4.12.5.1 Market-Based Transfer Price Method


\[
\text{Transfer price} = \text{Variable Cost} + (\text{Market Price} - \text{Variable Cost})
\]
When applying the market-based transfer price, a core function in the equation is the market price. However, the market price equals the variable cost + opportunity cost. Furthermore, the market-based method is based on the notion that the transferred goods or services are subject to competition.

The market-based transfer price method could be viewed as a slimmed down version of the general transfer pricing rule. The core strategic difference is that the market-based method is based on variable cost, which omits or lowers certain outlay costs, e.g. selling and distribution costs. This tends to result in an intra-company price that is lower than the market price, which is called market-price-minus transfer price. The market-price-minus transfer price allows the procuring unit to acquire the intermediate items at a lower cost than it would probably had to pay to external suppliers. The fact that certain nonmanufacturing costs, e.g. marketing, delivery and selling administrative costs, can be avoided between internal units but are charged to rivals does not in and of itself imply exclusion. The Court of Justice pointed out in Post Danmark I that as long as the dominant firm covers the costs that are connected to the delivery of goods or services to a customer, such a price scheme cannot in of itself suggest that there exists an exclusionary abuse.

Indeed, the internal transfer may indicate how internally efficient the firm is in supplying its other divisions, such as its brick-and-mortar stores.

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1680 "[The] fact that the practice of a dominant undertaking may, (…), be described as ‘price discrimination’, that is to say, charging different customers or different classes of customers different prices for goods or services whose costs are the same or, conversely, charging a single price to customers for whom supply costs differ, cannot of itself suggest that there exists an exclusionary abuse." See, e.g. C-209/10, *Post Danmark v Konkurrencerådet*, ECLI:EU:C:2012:172, para. 30.
1681 Even though a comprehensive analysis of discrimination falls outside the scope of this dissertation, it can be worthwhile to notice that the mentioned type of reasoning could be applied to self-preferencing conducts, whereby the dominant firm implements non-price practices to
Needless to say, because the market-based method is premised on the same prerequisite as the general transfer price rule, the market-based approach is of limited use for the same reasons, or even unapplicable.

4.12.5.2 Negotiated Transfer Price Method

A negotiated transfer price is the intra-company price that has been agreed upon between the selling and buying divisions. Negotiated intra-firm pricing is used when there is no extremal market for the transferred product or service, or when imperfections exist in the market for the intermediate product. This implies that it is subsidiary to the market-based approach.

Generally, negotiated transfer prices fall within the so-called range of acceptable transfer prices, or bargaining range. The range is set between the floor (manufacturing or incremental costs) and the ceiling (the market price that could be obtained if sold to an outside buyer). The reason why negotiated transfer prices generally tend to fall within the bargaining range is because costs and revenues are a starting point, but not the

oust competition. That is, self-preferencing is a form of discriminatory behaviour. The key legal difference between price discrimination and self-preferencing is in the applicable legal test. However, Gaudin and Mantzari argue that even though self-preferencing is a form of non-pricing abuse, the as efficient competitor test can be an important tool to the exclusionary effects. See, e.g. T-612/17, Google and Alphabet v Commission (Google Shopping), ECLI:EU:T:2021:763, paras. 538-539, L. Hornkohl, Article 102 TFEU, Equal Treatment and Discrimination after Google Shopping, 13 Journal of European Competition Law & Practice 99, 2022, and G. Gaudin and D. Mantzari, Google Shopping and the As-Efficient-Competitor Test: Taking Stock and Looking Ahead, 13 Journal of European Competition Law & Practice 125, 2022.


That is, the system can be based on cost and revenues, but the units are not required to be based on them. The deciding factor is which measurements the units are evaluated upon, e.g. firmwide profits or customer satisfaction.

Although it is difficult to determine at what exact level a transfer price achieves profit-maximisation, the objective of negotiated transfer prices is to encourage cooperation and to maximise the firmwide profits within the bargaining range. The notion that negotiated transfer prices encourage firmwide profits is based on the system preserving divisional autonomy and managers of the division having much better information about costs and benefits of the transfer than top managers. This implies that the agreed negotiated transfer price is the result of rational decision-making owing to information exchange. However, a fundamental issue is that negotiated transfer prices often take place under asymmetric information about costs and revenues, or the market price. On the one hand, the supplying unit may e.g. amplify the transfer access price due to artificially high investment costs. On the other hand, the procuring unit may e.g. dwindle the market price to lower the intra-company access price. The party with the information advantage may use the asymmetry to get the other unit to believe it enters into an agreement at a fair intra-firm price, so-called psychological factors.

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1699 Note, Kachelmeier and Towry find that psychological factors only influence the so-called fairness-based transfer price when the negotiations take place face-to-face. Fairness-based transfer prices are less likely to occur when the parties are restricted in their negotiations, e.g. participants negotiate over a computer network with no communication other than bids, asks, and acceptances. See, S. J. Kachelmeier and K. L. Towry, *Negotiated Transfer Pricing: Is Fairness Easier Said than Done?*, 77 The Accounting Review 571, 2002.
Nonetheless, negotiated intra-firm prices are of limited use for antitrust purposes. One reason is that the method works best if there is an external market for the transferrable goods or services. The market does not have to be subject to perfect competition, it is sufficient that there is an objective benchmark for the imperfect market price. The legal issue is that the negotiated transfer pricing method is based on criteria, perfect or not, that the dominant firm is not in control over. That is, the lawfulness of the dominant firm’s price policy is predicated on what other market operators do. Another reason is that the negotiated intra-firm price may not be objectively identifiable since it is not associated with any costs of supplying the intermediate widget.

It follows that the negotiated transfer price method should only be used in very limited and explicit circumstances, e.g. when the dominant vertically-integrated firm has based its intra-company price on the negotiated transfer price method and its costs cannot be objectively verified.

4.12.5.3 Cost-Based Transfer Price Methods

A cost-based transfer price is the minimum intra-company price a supplying unit can transfer an item or service to other units for. The floor or the minimum is determined by how much it costs to produce the item or to provide the service. The financial effect of cost-based intra-firm prices is that the supplying unit transports, transfers or passes on the costs of the intermediate item to the selling or retail unit. This because, by selling the item at cost, the supplying unit makes zero profits and gives up all potential profits to the retail

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1702 "[It] cannot be ruled out that the costs and prices of competitors may be relevant to the examination of the pricing practice at issue in the main proceedings. That might in particular be the case where the cost structure of the dominant undertaking is not precisely identifiable for objective reasons, or where the service supplied to competitors consists in the mere use of an infrastructure the production cost of which has already been written off, so that access to such an infrastructure no longer represents a cost for the dominant undertaking which is economically comparable to the cost which its competitors have to incur to have access to it, or again where the particular market conditions of competition dictate it, by reason, for example, of the fact that the level of the dominant undertaking’s costs is specifically attributable to the competitively advantageous situation in which its dominant position places it." See, C-52/09, *Konkurrensverket v TeliaSonera*, ECLI:EU:C:2011:83, para. 45.
unit. As such, cost-based transfer price methods are profit mobilisers as they can move profits from division to division.

There are, in general, two types of methods to calculate an intra-company price using cost-based transfer pricing: variable or full cost.

The variable cost-based method, as the name implies, uses the variable cost of production as the floor for the transfer price. The objective of the variable cost benchmark is to represent the absolute bare minimum intra-firm price. This means that as long as the supplying unit covers its variable cost it does not make a loss but it does not make any contribution margin to cover its fixed costs. The antitrust implication of the variable cost-based transfer price method is that it can result in false positive (type I error). The method can be useful when a significant portion of the transferable item consists of variable costs. However, if a significant part of the item’s cost-base is fixed, the method will underappreciate the true cost of the item, e.g. aircraft or network infrastructure. It follows that the variable cost-based intra-firm price method can be used for antitrust purposes in certain circumstances.

The full cost-based method uses both the variable and an allocated portion of fixed costs (full costs) of production to calculate the floor of the intra-company price. The full cost-based method is predicated on the notion that it provides a good proxy for the market price. As such, the method implicitly assumes that the allocated fixed costs include profit markup, also called full cost-plus markup or full cost-plus profit. Full cost-based transfer price, full cost-plus markup and full cost-plus profit will be used interchangeably.

Nevertheless, to calculate the transfer price using the full cost-based method, two important steps are necessary. First, the relevant cost allocation method. As was described in chapter 4.3.2.1, a common cost is usually a fixed

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cost that is not attributable to a specific cost object. \textsuperscript{1714} The cost yardstick is often disregarded in economic theory since it is included in the incremental cost concept. \textsuperscript{1715} However, the concept is important in accounting theory as the yardstick is necessary to calculate the profitability of individual products. \textsuperscript{1716} Recall the discussion in in chapter 6.5.3.5.2, that by utilising the NPV and CAPM when calculating the profitability of the network investment, the result of computation includes the minimum rate of return on equity. The rate of return is the relevant markup. As a consequence, all depreciation expenses will contain a markup and it is the expenses that are to be allocated to the individual products using the relevant cost allocation method. Renda argues that the Commission should accept any cost allocation method for common costs provided that the method is reasonable and normally accepted (e.g. used by cost accountants, economists, or regulatory authorities), and is consistently used by the dominant firm itself across its different activities (where applicable). \textsuperscript{1717}

Second, the relevant cost driver, which is the cost allocation base that should be used to allocate the relevant portion of fixed costs. \textsuperscript{1718} As described in chapter 4.4, a cost driver is a method of allocating the indirect costs to a cost object (e.g. the transfer price) by identifying the activity that caused the cost (so-called cause-and-effect allocation). The level of detail or precision in the allocation will depend on what cost method is used, e.g. activity-based costing or time-driven activity-based costing. It follows that the full cost-based intra-company price method is preferable over the variable cost-based method when a significant part of the transferred goods or services cost-base is characterised as fixed. The drawback of the method is that it is time consuming as the Commission and the dominant firm can have very different opinions on which cost driver and/or costing method that should be used.

Notwithstanding these shortcomings, cost-based intra-company price systems are often employed in practice\textsuperscript{1719} when the other two methods cannot or are inappropriate to be applied, e.g. where no market price exists.\textsuperscript{1720} As described previously, the market price may also be inappropriate,\textsuperscript{1721} because e.g. there is no substitute for the product.\textsuperscript{1722}

4.12.5.4 Contribution-Margin Transfer Pricing Method
A particular issue that may arise is when the intra-company price is set at a rate that does not allow the selling unit to cover its fixed costs. Transfer pricing systems that do not allow units to cover their costs are likely to lead to lower firmwide profits due to, inter alia, production inefficiencies in the long run.\textsuperscript{1723}

As noted in chapter 4.12.5, the contribution-margin transfer pricing method is a managerial accounting method to remedy the issue, in particular the problem with underinvestment, the so-called hold-up problem.\textsuperscript{1724}

As described in chapter 4.6.2, the contribution margin is a well-known accounting tool to identify how much the revenue contributes to cover the fixed costs (contribution margin = revenue – variable cost).

A contribution-margin transfer price is the intra-firm price that is set at a level that allows the contracting units to fully cover their (initial) investment costs.\textsuperscript{1725} The contribution-margin transfer price method seeks to achieve this by sharing the necessary markups between each unit, i.e. when the firmwide contribution margin is shared to each unit, minus its variable costs.\textsuperscript{1726}

Consider, e.g. subunits A and B that are part of firm X. Suppose that subunit A is selling access to firm X’s network infrastructure. Subunit A’s variable costs are € 2 and fixed costs are € 8 for each access (total access cost is € 10). Subunit A uses the variable cost-based method and therefore the minimum

intra-firm price is € 2. This means that subunit A has a contribution margin of zero and will continue to supply the other subunits but cannot make new and more efficient investments. Suppose that subunit B is a retail store and sells wireless mobile broadband subscriptions to end-consumers. To sell the wireless mobile broadband subscriptions, subunit B buys the network infrastructure access from subunit A. Subunit B’s variable costs are € 3 and fixed costs are € 5 (including the intra-firm price) and sells each subscription for € 13. This means that each sale generates a positive contribution margin of € 10 (€ 13 − € 3), which also covers the fixed costs. As a result, subunit B makes a profit or markup of € 5 on each sale (€ 13 − € 3 − € 5).

The issue that arises is that subunit B’s markups are not sufficient to cover subunit A’s fixed costs (− € 3 = € 5 − € 8) under a profit or revenue sharing transfer price.\footnote{1727} As a result, by using the contribution-margin transfer price method, top management can distribute or allocate the necessary markups. This means that under the contribution-margin transfer pricing method, top management determines the necessary markup each division needs. The markup is often equivalent to the fixed costs.

The contribution-margin transfer price method can be a useful tool when a significant part of transferred item comprises of fixed costs, e.g. aircraft or network infrastructure. The method may nonetheless raise antitrust issues. One issue is how much of the cost to be depreciated should be assigned to the markup. As described in chapters 4.8.7.4.3 and 4.8.7.4.4, there are different methods to calculate the depreciated cost over the fixed asset’s economic life. Indeed, whilst the total amount of the cost to be depreciated remains the same, the chosen method will have a significant impact on the markup level.

Consider how the straight-line and declining-balance methods impact the markups by using the numerical examples given in chapter 4.8.7.4.3.

On the one hand, the straight-line method allocates equal portions of the asset’s depreciation cost to each accounting period over the asset’s estimated economic life.\footnote{1728} If the total cost of the machine is € 100,000, its estimated residual value is € 4,000 and the estimated economic life is four years, the yearly annual depreciation expense will be € 24,000 ((€ 100,000 − € 4,000) ÷ 4). This means that the markup level must be at least € 24,000 for each year during the investment’s economic life for it to be profitable. On the other hand, the declining-balance method allocates a higher portion of the asset’s depreciation cost at the start of the asset’s life and lowers level at the end of its economic life.\footnote{1729} If the total cost of the machine is € 10,000 and its economic

\footnote{1727} A. Chwolka and D. Simons, Impacts of Revenue Sharing, Profit Sharing and Transfer Pricing on Quality-Improving Investments, 12 European Accounting Review 47, 2003, p. 47.
life is 4 years, the yearly depreciation rate is $2 \times (1 \div 4)$, $2 \div 4$ or $0.5$. The yearly depreciation expense will be €5,000 (year 1), €2,500 (year 2), €1,250 (year 3) and €625 (year 4). This means that the markup level must be at least €5,000 during the first year, but the markup will decline over the investment’s economic use as the declining-balance method charges a higher portion when the investment is new and declines in subsequent periods.

Another (potential) issue is that the use of the contribution-margin transfer price method can trigger a difficulty in assessing whether the practice is competition on the merits or predatory pricing by unlawful cross-subsidisation or cross-subsidy. Albeit that an analysis of cross-subsidisation falls outside this dissertation, it suffices to say that the conduct is often viewed as a special form of predatory pricing. The concept of cross-subsidisation refers to the situation where the dominant firm is financing its below-cost price practice in one activity from its other activities. The core issue is that the dominant firm has engaged in “accounting manipulation” by strategically misreported how the costs or revenues have been allocated. For the predatory prac-
tice of cross-subsidisation by misallocating costs and/or revenues to be successful, there needs to be a causal link between the activities.\textsuperscript{1738} Such a connection may particularly arise in network sectors (e.g. telecom, postal services, energy, and transport) because the products or services are based on the same system or infrastructure.\textsuperscript{1739} To remedy the issue with cross-subsidisation, the EU has implemented accounting separation in some network sectors, e.g telecom and railway.\textsuperscript{1740} As will be discussed in chapter 6.5 (forensic case study of the TeliaSonera case), the aim of accounting separation is to provide a legal tool that has the objective of ensuring that the dominant network operator’s access price is the same for its own retail store as it is for downstream competitors. As a result of the accounting separation, each activity must cover its own costs, which means that revenue sharing can be classified as unlawful cross-subsidisation or unlawful tariff rebalancing.\textsuperscript{1741} This suggests that the contribution-margin transfer price method is inappropriate to use in industries where the dominant undertaking is subject to accounting separation.\textsuperscript{1742}

4.12.6 The Relevant Cost Standard when Calculating Transfer Prices

What has been discussed up until this point is the concept of transfer pricing and various methods to calculate it. The concept can be an effective tool to


\textsuperscript{1741} “Separate consideration of access charges and call charges is in fact required by the Community-law principle of tariff rebalancing. For purposes of cost-oriented pricing, access to local network lines and the offer of different categories of call are clearly separate services." See, Commission Decision COMP/C-1/37.451, 37.578, 37.579 – \textit{Deutsche Telekom AG}, 2003, recital. 120.

apply in network industries where a dominant undertaking’s price practice is alleged to cover different activities throughout the supply chain. However, as has been stressed, a core issue is what cost standard that ought to be used to hold a dominant firm accountable for its commercial actions.

It follows from firmly established accounting theory that if efficiency is of concern, then standard costs ought to be used. Intra-company prices can be calculated by using either standard or actual costs. A standard cost, unlike actual cost, is a carefully predetermined cost, i.e. it is a forward-looking cost. The notion is that this cost standard is to abet or assist management in developing, implementing, and controlling the undertaking’s operations as efficiently as possible. The managerial accounting literature is clear and luminous, the transfer prices should not be calculated using actual costs (i.e. backwards-looking costs). First, the buying unit cannot know its actual costs in advance and cannot accurately plan its costs. As a result, the firm’s price can be too high or too low, which may raise competitive concerns. Second, when actual costs are used, the cost simply passes on through the supply chain, which means that each unit has little incentive to be more cost efficient.


1747 However, Pfeiffer et al argue that whilst it is true that standard cost is the preferable standard, there is an exception. Actual cost-based transfer pricing is preferable if there is high uncertainty about ex ante cost and the buyer is sufficiently informed about the supplier’s costs. See, T. Pfeiffer, U. Schiller and J. Wagner, Cost-Based Transfer Pricing, 16 Review of Accounting Studies 219, 2011.


This means that actual costs are to be avoided because they too pass on inefficient production.\textsuperscript{1750} The use of standard costs is way to avoid the pass on problem.\textsuperscript{1751} The cost-based transfer pricing methods are therefore often used to avoid passing on inefficiencies from one division to another.\textsuperscript{1752}

It follows that the relevant standard for antitrust purposes should be the forward-looking standard cost. Not only does it enable ex ante legal certainty, but it also incentivises efficiency.

### 4.13 Horizontal Analysis

Horizontal or trend analysis is an accounting method that is used to analyse mutations in financial statements.\textsuperscript{1753} The method uses the lines of items in the financial data and traces changes on a year-to-year basis.\textsuperscript{1754} The aim is to identify important unexpected changes.\textsuperscript{1755} The changes can be expressed as amounts or percentages.

Horizontal analysis is a helpful tool that allows insights into the financial health of the company. The method is useful as it can detect the direction in which the numbers are moving.\textsuperscript{1756} Forensically, trend analysis can have two important applications. First, the movement can be a useful evidentiary tool as it can exhibit the likelihood of anticompetitive effects. Secondly, it can show if the accused undertaking’s supplied financial data can be dismissed by the Commission during its administrative procedure. That is, was it lawful for the Commission to ignore the data? The forensic aim of the horizontal analysis is to detect abnormal relationships in the financial ratios.

4.14 Summary

The aim of this chapter has been to outline possible forensic source-based arguments that may appear before the Court of Justice. The objective was to identify relevant business arguments that can be used to produce legal results, e.g. teleological or systematic arguments and/or reasonings.

The chapter started by describing and analysing the underlying rationale for using cost measurements in economics, accounting, and finance. This is necessary to identify their possible legal use. The cost items vary in use and depending on the relevant inquiry, the relevant benchmark will shift.

The chapter then analysed business models and competitive strategies. As these concepts are closely related, the analysis focused on how they may change the relevant cost measurement. The result of the analysis implies that depending on the industry, the relevant business model and strategy will change significantly. This suggests that cost measurement is affected by the type of capacity the firm needs to implement its strategy. The notion of managerial control was also analysed. The concept is fundamental in business planning in order for a company to achieve its aim and objectives. The result implies that the relevant cost measurement will depend on which control centre that is used to analyse the pricing behaviour. The chapter then analysed the notion of rationality. The result showed that business practice is based on bounded rationality, which implies that pricing decisions are made by an incremental and controllable process.

The chapter then analysed accounting calculations and costing methods. The result showed that businesses do not use volume output to determine the relevant costs. The result instead showed that businesses use a number of different cost drivers to determine the relevant costs for profitability purpose. Based on the analysis of costing and allocation methods, an analysis of pricing and profitability methodologies was made. The purpose was to analyse the relevant methods that underpin pricing decisions. The result showed that the cost-volume-profit analysis is a well-established method that is used to make informative pricing decisions.

The chapter then conducted an analysis of capital budgeting or investment appraisals methods. As described, the term investment appraisal refers to the corporate financial process to assess if a project should be pursued by calculating its profitability. The analysis is the first of two necessary steps to ascertain the relevant costs that should be covered during the long-lived fixed asset's lifetime. The analysis is of particular importance when the impugned conduct is said to take place in sectors where a significant portion of the cost structure is characterised as or consists of fixed costs, e.g. network sectors. The analysis started with an introduction to financial statement analysis, which is important to prima facie analyse an enterprise’s financial health. The analysis then moved on and provided a description of the rationale, investment appraisal methods and criteria. Based on the descriptions, an analysis of the rate of return and relevant costs was made. The result showed that there are
different methods, but that the most scientific ones are the discounted cash flow methods. These methods are firmly established in corporate finance theory. However, the result showed that there are different methods to calculate the costs of capital and that the CAPM is a preferable method when calculating the minimum rate of return of the investment. That is, the hurdle rate is the relevant cost of capital yardstick when analysing investments’ profitability, whereas CAPM is a method to calculate the relevant cost.

Based on these insights, the chapter then proceeds to analyse depreciation. As described, the concept of depreciation refers to the accounting method that seeks to allocate the initial cost of the fixed asset over its useful life. The analysis is the second necessary step to determine the relevant costs that the undertaking’s price practice should cover to be financially sustainable in the long run. The inquiry suggests that the first appropriate cost benchmark is the total cost of the asset, which refers to all costs incurred by the firm to acquire and getting the asset operational. The yardstick includes the necessary sunk (e.g. the cost of acquiring the asset, any delivery costs, installation costs) as well as committed (e.g. improvement or extraordinary repair) costs.

Based on the cost terminology in chapter 4.3.3.2, the accounting classification of these costs are irrelevant fixed costs for pricing purposes. However, the fact that the investment responsibility centre has already incurred the sunk investment cost and committed to incur the necessary improvement costs to assure that the long-lived fixed asset can perform its intended function does not mean that these costs are irrelevant. The costs are only irrelevant for the profit centre that is responsible for calculating the final price, e.g. retail stores. But the retail business unit’s price practice to end-consumers must still cover the intra-company price that the investment responsibility centre will supply for. As such, depending on the circumstances, sunk and committed costs can be relevant costs for the pricing purposes, but reclassified.

The second appropriate cost benchmark is depreciation expense. The term depreciation expense refers to the cost of using the fixed asset to produce revenue during the accounting period. The antitrust use of the yardstick is to determine if the price practice covers the fixed cost of use throughout the period. However, a core antitrust problem is to determine the correct or appropriate amount of depreciation expense that ought to be used during the investigative period. As described, there are three well-established methods to calculate the depreciation expense: the straight-line, declining-balance and units-of-production methods. The difference between them is that the two former methods use time to calculate the depreciation expense, whereas the latter is based on the level of activity. As described, the Commission is critical towards the use of the straight-line method but accepts it as it is the most common method to allocate the cost to be recovered. However, in applying the backwards-looking period-by-period method, the Commission uses months as the relevant period to ascertain if the dominant firm covers the depreciation expense. The problem that arises is that the dominant firm may have used years as the relevant pe-
period. The fundamental difference between the Commission’s and the dominant firm’s approaches is that the shorter the period is, the higher the likelihood of committing an infringement. This is because a short period does not take into account the inherent difficulty in correctly projecting future demand.

The chapter then analysed different performance metrics. The purpose was to identify how the costs and profits are calculated depending on the responsibility centres. An analysis of different profitability performance metrics was also made. The purpose was to identify which cost measurement that is used to calculate certain profit margins. The result showed that the profit margins are based on different cost items, which implies that some of the profit margins can be highly misleading in some industries.

A key step in the analysis was to review the concept of intra-company pricing. As described, the concept refers to the price charged between business units. The intra-company price can be particularly useful to apply in network sectors, e.g. aviation, railway, energy and telecom. The concept can be used to determine the relevant cost that the retail unit must cover, e.g. the access price or the access cost. That is, to attribute or allocate the relevant costs to the necessary activities that the retail unit must procure to have a final product and/or service offering, e.g. access to the network infrastructure or advertisement. Intra-company prices can therefore be viewed as forensic tool to pass on the necessary costs onto the unit under antitrust scrutiny as if it was a single cost-profit centre, to compile, and to determine the relevant cost benchmark.

As was explained, there is no single way of calculating the transfer price, but in general there are three main methods that are used to calculate the intra-firm price: market-based, negotiated and cost-based transfer prices. The two former methods were deemed inappropriate for antitrust proposes because they are based on the notion that there is an alternative to the intermediate goods or services on the market subject to competition. It was argued that if the impugned price practice is a margin squeeze in the telecom sector, it is unlikely that there is a viable alternative to the incumbent’s network. Moreover, even if there is a feasible alternative, the issue is that the legal qualification of the dominant practice is subject to benchmarks (the price practice of rivals) that does not control. An approach based on such conditions makes it very difficult or impossible for the dominant firm to oversee the legal consequences of its actions. The third approach consisted of cost-based transfer prices, which involved the variable and full cost-based transfer price methods. As described, cost-based transfer prices are widely used.

The variable cost-based method was rebuffed as irrelevant in certain circumstances, namely where the transferable item is a service that is attributable to long-lived fixed assets, e.g. access price. This was because, the variable cost-based method is highly likely to seriously underappreciate the true cost associated with the supply of the goods and/or services.

The full cost-based method was deemed to be an appropriate method because it contains both the variable and fixed costs of production. However, a potential drawback of the method is that it can be time consuming to apply in
practice. To apply the method correctly, a core step is to determine the relevant cost allocation base or cost driver to assign the appropriate amount of fixed costs. The Commission and the dominant firm may have very different opinions regarding this subject-matter.

Based on the three general approaches, the analysis proceeded by analysing an alternative intra-company price method, the co-called contribution-margin transfer price method. This method is predicated on the notion that the intra-firm price should fully compensate each unit in the supply chain for their full costs. The method’s objective is to share the firmwide contribution to the trending units by distributing the necessary markups needed to cover the units’ fixed costs. The method can be viewed as a form of intra-revenue charging scheme, not to restrict competition but to realise companywide goal congruence. Indeed, although the method can be a useful tool to identify the relevant fixed costs, it may nonetheless raise antitrust issues. One issue is the relevant markup. As was described, the markup should cover the supplying unit’s investment costs. The issue is that the markup will depend on which depreciation method that has been used. As a consequence, the Commission and the dominant firm may have very different opinions in that regard. Another issue is with the contribution-margin intra-company price method is that it can facilitate strategic misreporting about cost-revenue allocation, so-called “accounting manipulation”. The misallocation of costs and revenues can result in type I and II errors, especially in network sectors. On the one hand, the contribution-margin intra-company price may allow the dominant firm to offer products or services on certain activities that would not have been economically sustainable by themselves at a price that the consumer can accept (type I error). On the other hand, the method may give the dominant firm an unfair commercial advantage over its peers by permitting it to finance its predatory practice (type II error). As such, the contribution-margin intra-company price method may not be appropriate in network sectors and in particular where the dominant undertaking is subject to accounting separation.

The chapter on transfer pricing ended with an analysis of the relevant cost standard that should be applied, i.e. forward-looking or backwards-looking costs. The analysis revealed that forward-looking standard costs are preferable to backwards-looking actual costs for two reasons. First, forward-looking standard costs assist management in developing, implementing, and controlling the undertaking’s operations as efficiently as possible. Second, forward-looking standard costs avoid the problem of passing on inefficiencies that will ultimately result in higher consumer prices. Thus, the forward-looking standard cost does not only enable ex ante legal certainty, but it is also an incentive for efficiency.
5 Anticompetitive Foreclosure

5.1 Introduction
The aim of this chapter is to identify the relevant properties that underpin the notion of exclusionary abuse. The chapter starts with analysing the rationale that Article 102 TFEU is based on. Next, an analysis of the different standards will be made. The purpose is to identify whether a restriction of competition should be identified based on its form or its effects. An analysis of the as efficient competitor and profit sacrifice test will be made. This will be followed by an analysis of anticompetitive intent. The purpose is to review whether the intent is an adequate criterion to identify and condemn price-based conduct. Next, an analysis of the relevant standard for anticompetitive effects will be made. The analysis is important as it provides meaningful insights into the effective application of Article 102 TFEU. Next, the Commission’s concept of anticompetitive effects and relevant factors will be analysed. The concept and factors are important as they provide an account of how the Commission views the scientific state of knowledge with regards to exclusionary conduct. Next, competition and market factors will be analysed. The analysis seeks to provide objective conditions or criteria which can be used by courts to objectively assess an assertion of anticompetitive foreclosure. The chapter will end with a summary.

5.2 The Rationale for Prohibiting Exclusionary Abuse
Article 102 TFEU has been an essential part of the EU ever since the EEC. On the other side of the Atlantic, the US congress adopted the Sherman Act in 1890. Article 102 TFEU and Section 2 of the Sherman Act both seek to stop unilateral strategies employed by a firm with substantial market power. Whilst, US and EU antitrust law has converged, the rationale for stopping single-firm conduct depends on context, culture, and procedural differences.

1757 The general antitrust law provisions were introduced as part of the Treaty of Rome in 1957 (EEC). Article 85 EEC (which became Article 81 EC and now is Article 101 TFEU) interdicts restrictive agreements between undertakings. Article 86 EEC (subsequently 82 EC and 102 TFEU today) prohibits abuse by a dominant undertaking. The wording of the antitrust requirements has been unchanged since EEC.

1758 E. M. Fox, *We Protect Competition, You Protect Competitors*, 26 World Competition 149, 2003, pp. 149-165. The merging can be attributed to the modernisation process of EU antitrust enforcement, thereby viewing competition as a dynamic process instead of a static phenomenon.
The main rationale for instituting antitrust rules in the US was the fight against cartels and to minimise government economic planning, whereas in Germany the high level of cartels had contributed to Hitler’s political power, which threatened democracy. According to Gerber, EU antitrust laws are based on a European model, which can be traced back to Ordoliberalism. Nevertheless, Akman contends that the sole goal of EU antitrust ever since its creation has always been economic efficiency. Importantly, if the internal market project is based on Ordoliberal thinking this will impact the interpretation of the rules.

Article 2 and 3 of Treaty of the European Union (TEU) declares which values and objectives the EU is founded on and shall pursue. According to Article 3 TEU in conjunction with Protocol No. 27 the EU shall establish an internal market and a system ensuring that competition is not distorted. The internal market is characterised by an area without internal frontiers. This objective is so fundamental that it constitutes the raison d’être of the EU. Therefore, the merging of national markets into a single market is conditional upon all obstacles to intra-Union trade being eliminated. This implies that distortion of competition arises from the possible barriers between member states. Barriers to trade may however take various shapes and forms. Not only can trading rules be enacted by a member state (natural barriers), they can...
also arise from private entities’ commercial strategies (artificial barriers). As such, the EU injunction against private commercial powers serves two objectives. First, it is a system complementary to the eradication of synthetic obstacles to intra-union trade (negative market integration). Second, it acts as a safeguard for an open social market economy with free and undistorted competition. These two objectives render the application of Article 102 TFEU broader than its US counterpart does, but unlike the US system the EU regime specifies which economic objective the law shall pursue.

The EU goal of economic prosperity is thus built on economic development and is a long-term objective reached through sustainable improvement in productive gains and standard of living. According to Article 3(3) TEU, the Union shall endeavour for a balanced economic growth and price stability, a highly competitive social market economy and the promotion of technological advances. A fundamental key to ensure robust economic growth is stimulating the acceleration of productive growth. This implies that Article 102 TFEU also has a macroeconomic objective, since higher investment rates will increase productive evolution, which furthers the EU’s gross domestic product (GDP).

Accordingly, concepts such as effective competition, economic...
freedom, fairness, and social welfare should therefore be understood from an economic perspective because they generate economic growth. It follows from the TeliaSonera judgment that the function of EU antitrust rules is precisely to ensure the well-being of the EU.\footnote{C-52/09, \textit{Konkurrensverket v TeliaSonera}, ECLI:EU:C:2011:83, para. 22.}


The Commission, which is the guardian of the Treaties\footnote{J. F. MacLennan, \textit{Decentralized Enforcement of EC Law: Is the European Commission Still the Guardian of the Treaties?}, 91 Proceeding of the ASIL (American Society of International Law) Annual Meeting 165, 1997, pp. 165-172.} and has been assigned to enforce the EU antitrust laws,\footnote{Council Regulation (EC) No 1/2003 of 16 December 2002 on the implementation of the rules on competition laid down in Articles 81 and 82 of the Treaty, OJ L 1, 4.1.2003, p. 1–25.} contends that effective competition and market integration serves the overall objectives of the EU. First, it protects the maintenance of effective competition as a mean of stimulating productive and dynamic efficiency. The gains of this are then passed on to the wider economy, with the ultimate aim of enhancing economic welfare for

While the notions of performance competition and productive efficiency developed by Chicago imply the same thing,\footnote{M. Marinova, \textit{Should the Rejection of the “As Efficient Competitor” Test in the Intel and Post Danmark II Judgements Lead to Dismissal of the Effect-Based Approach?}, 12 European Competition Journal 387, 2016, p. 405.} economic efficiency is a broader concept. Economic efficiency encompasses not only static but also dynamic efficiency. The promotion of innovation implies that Ordoliberal ideas are updated to achieve the objectives of the EU.

5.2.1 Safeguard Effective Competition to Protect Consumers

Article 102 TFEU safeguards the proper functioning of effective competition to the benefit of consumers by prohibiting exploitative or exclusionary behaviours by a dominant undertaking.

Historically, it has been argued that the notion of abuse was intended to be interpreted narrowly, with the consequence that the rule only proscribed against exploitative behaviours.\footnote{See, e.g. R. Joliet, \textit{Monopolization and Abuse of Dominant Position: A Comparative Study of American and European Approaches to the Control of Economic Power}, University of Liege, The Hague, 1970, and P. Akman, \textit{The Concept of Abuse in EU Competition Law}, Hart Publishing, 2012, p. 84.} However, according to the exemplary list of abusive practices, Article 102 TFEU can also be interpreted more extensively to covering exclusionary abuses. Consequently, according to the wording of the rule it can cover both direct and indirect consumer harm. For example, according to paragraph (a) an abuse can in particular occur if the dominant firm imposes directly or indirectly unfair prices.\footnote{Note that Nazzini argues paragraph (b) covers purely exploitative abuses. See, R. Nazzini, \textit{The Foundations of European Union Competition Law: The Objectives and Principles of Article 102}, Oxford University Press, 2011, p. 279.} The passage may cover exploitative as well as exclusionary abuses depending on the situation. If the dominant company is able to price significantly above the competitive level, consumers are harmed directly. The economics of such pricing is that it will result in a reduction of consumer surplus, absent the exploitative abuse. Contrariwise, indirect consumer harm might arise if the dominant firm prices appreciably under the competitive level, thus forcing or marginalising the structure of the market to its advantage. The indirect consumer harm results from...
the effects such pricing schemes have, because it enables the firm to maintain or strengthen its dominance. The economic effects are that it will reduce consumer choice, lessen competitive pressure, raise or reinforce barriers to entry, and hamper efficient allocation of resources.

Former Commissioner Kroes contends that focusing on exclusionary practices makes sound enforcement policy, because exclusionary abuse is the basis for exploitation. The statement may seem paradoxical. If the basis for exploitation is exclusion itself, then enforcement should pursue the heart of the problem directly. From a legal perspective, it is not a question of whether exploitation is more harmful than exclusion (or vice versa), it is a matter of enforcement policy. For the Commission and national antitrust authorities, the question is which one is most likely to occur due to the specific market characteristics and which one is actually provable in court.

To come within the scope of exclusionary abuse, there at least has to be an anticompetitive source and that source has to be liable for negative effects on competition. In Continental Can, the Court of Justice concluded that Article 102 TFEU catches strategic interventions by a dominant undertaking which not only are injuries to consumers directly, but also unilateral conducts which harm consumers indirectly through their impact on effective competition.

The strategy that Continental Can had adopted was to buy its only competitor, thus altering the structure of the market to fettered competition. The rationale for prohibiting this type of conduct was that it would enable the undertaking to exploit its consumers. Consequently, it could therefore be argued that consumer welfare is a requirement under EU law.

The Guidance Paper make it clear that the Commission will only investigate conducts that can have negative effects on effective competition as well

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1783 “We also think that it is sound for our enforcement policy to give priority to so-called exclusionary abuses, since exclusion is often at the basis of later exploitation of customers.” See, N. Kroes, Tackling Exclusionary Practices to Avoid Exploitation of Maker Power: Some Preliminary Thoughts on the Policy Review of Article 82, 29 Fordham International Law, 2005, p. 595.


1785 “The list merely gives examples, not an exhaustive enumeration of the sort of abuses of a dominant position prohibited by the Treaty. As may further be seen from letters (c) and (d) of [Article 102 (2)], the provision is not only aimed at practices which may cause damage to consumers directly, but also at those which are detrimental to them through their impact on an effective competition structure, such as is mentioned in Article 3 (f) of the Treaty. Abuse may therefore occur if an undertaking in a dominant position strengthens such position in such a way that the degree of dominance reached substantially fetters competition, i.e. that only undertakings remain in the market whose behaviour depends on the dominant one.” See, C-6/72, Continental Can v Commission, ECLI:EU:C:1973:22, para. 26.
as adverse effects on consumer welfare (anticompetitive foreclosure). Consumer harm can however occur at the intermediate or final levels, or both. The intermediate level implies business-to-business relationships. The business literature often distinguishes between business-to-business (customer) and business-to-consumer (final consumers), but in this dissertation the terms will be used interchangeably.

A prima facie restrictive practice can be counterbalanced or even outweighed if the gains in efficiency are passed on to the consumer (procompetitive effects). This is consistent with the objective of enhancing social welfare. Additionally, fairness and protection of economic freedom are not standalone objectives. At best, if interpreted consistently, they are means to achieve long-term maximisation of social welfare. The economic freedom to outperform the dominant firm is only protected when the rival offers some additional value to consumers.

5.2.2 Harmful Effects of Monopolistic Behaviours

The microeconomic (economics) rationale for viewing monopolistic behaviours suspiciously is that they can result in welfare losses, because the dominant firm can artificially impede efficiency. Modern economists would argue that market power is a necessary but not sufficient condition for prohibition. Monopoly itself is not evidence of harm; but the employed strategies or tactics are able to result in harmful effects. If a market contains an infinite number of firms (perfect competition), competitive pressure will result in a market equilibrium (allocative efficiency) that maximises consumer as well as producer welfare (total welfare). Contrariwise, a monopolist seeks to maximise its profit by imposing higher prices, reducing output, lessening quality and hindering innovation. These types of behaviours have the effect of disturbing the efficient allocation of resources, thus lowering economic welfare in the economy as a whole. To illustrate one may consider that the economic effect of supra-competitive prices is that consumer welfare decreases. On the other

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1789 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 22.
hand, if the dominant firm sells below its own cost, competitors might have to leave the market as they cannot absorb such losses. The direct economic effect of such a pricing scheme is that producer welfare will drop. Nonetheless, some economists argue that inefficiency cannot be automatically inferred from the dominant firm’s competitive strategy without a proper economic analysis. According to these economists, not all types of behaviours employed by a dominant firm will necessarily result in anticompetitive effects. In fact, they argue that some tactics may have procompetitive effects because they improve the functioning of the market by intensifying competition and thus enhancing efficiency.

Accordingly, economists prescribe an injunction against monopolistic conducts if they result in inefficiency. However, there are conflicting views about which efficiency benchmark that is most suitable for identifying exclusionary tactics. Moreover, there are competing opinions on what actually causes inefficiency. These conflicts have led to the emergence of different schools or theories of competition that all have different philosophical underpinnings. The schools therefore offer different policy prescriptions to address market distortions. Importantly, any economic theory or model used to analyse pro- or anticompetitive effects has to build on experience. Therefore, the economic theory has to either be founded on sound economic principles or tested against the empirical facts of the case. If the theory or model is too hypothetical or theoretical, there is an obvious risk of over-enforcement. This is especially true when the Commission investigates an alleged abuse, when the EU courts exercise judicial review, or in private enforcement settings.

5.3 Restriction of Competition

Article 102 TFEU seeks to catch all types of exclusionary behaviours that may have a negative impact on competition insofar they are to the detriment of consumers. The EU antitrust regime has ever since its creation been governed by the legal norm of undistorted competition. By viewing its protective
value as structural,\textsuperscript{1795} or as a process of rivalry,\textsuperscript{1796} the concept is always evolving. This evolutionary nature is a sufficient and necessary condition in order to ensure coherence between substantive assessment and objective.\textsuperscript{1797} It follows from well-established jurisprudence that the list of abusive behaviours merely represents illustrations and that other conducts can still fall within the scope of the provision,\textsuperscript{1798} which renders the approach to the rule open-ended. The open-ended approach is not a bottomless pit filled with legal uncertainty for the economic operator,\textsuperscript{1799} it is a way for the EU courts to e.g. interpret and/or clarify the law,\textsuperscript{1800} establish the legal boundaries, as well as review the merits of the Commission’s competition policies\textsuperscript{1801} as scientific knowledge progresses.\textsuperscript{1802}

Contemporary events in enforcement policy and jurisprudence emphasise the importance of protecting the competitive process as a means to ensure consumer welfare.\textsuperscript{1803} Profitability assessments, in this context, seek to identify when the dominant firm’s financial decision has the effect of distorting the competitive process. This is because, the competitive process only works
when prices accurately signal costs and benefits.\textsuperscript{1804} As a result, perhaps one of the most important judicial decisions the Court of Justice has been faced with is the ascertainment of which legal standard or test that shall be the bright beacon in the maze.\textsuperscript{1805} This maze contains an almost unlimited amount of considerations. Nevertheless, the EU court’s evolutionary approach to its own landmark cases indicates that the purpose of Article 102 TFEU has always been to prevent the rise of anticompetitive effects on the market.\textsuperscript{1806} The fact that some specific forms of conduct have been subject to strong presumptions does not refute the aforementioned statement. On the contrary, there is empirical evidence that the EU courts have disavowed their mechanical content checking in favour for the more economic approach.\textsuperscript{1807} Consequently, the Commission and national antitrust enforcement agencies must disclose forensic evidence, to the adequate legal standard, that the conduct in question is capable of resulting in consumer harm, at least indirectly.\textsuperscript{1808} As such, it is enough to show the adverse effect is capable of causing an economic proxy for consumer harm.\textsuperscript{1809}

This is acceptable since the objective of the EU antitrust rules is to safeguard long-term economic progress and since the notion of anticompetitive conduct is not a fixed concept, but rather subject to a constant evolutionary progress.\textsuperscript{1810} What should matter is what economic effect a particular strategy can have on economic evolution since concepts such as undistorted and effective competition become hollow pomposities in the absence of any objective


analytical framework\(^{1811}\) and adding more competitors to a market place is not necessarily synonymous with a well-functioning industry.\(^{1812}\) There are of course qualifying facts for asserting that anticompetitive effects are a pre-requisite for classifying a conduct as an exclusionary.\(^ {1813}\) Nonetheless, effects analysis raises some issues, in particular which standard that should apply to identify anticompetitive effects, the legal threshold for establishing such effects and how such evidence should be disclosed in litigation scenarios.

5.3.1 Economically Optimal Rules for Identifying Symptomatic Exclusionary Behaviours: Focus on Substance over Form

In essence, there are two distinct ways to assess the economic impact of a unilateral strategy.\(^ {1814}\) The views are based on whether it is sufficient to pinpoint adverse effects by establishing the form of the strategy or if the disadvantage effects have to be established on a case-by-case analysis.

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Conduct that falls within the scope of formalistic tests is automatically deemed abusive, in the absence of objective justifications. This is because such tests are underpinned by a presumption of harm, irrespective of the actual or potential effects on the market. The logic is that a dominant firm would only engage in such conduct to strengthen its market position. Accordingly, liability for harmful effects is inferred from the purpose of such strategies. Contrariwise, tests that require some sort of analysis of effect only prohibit a strategy if it is likely to produce negative effects. However, there are two ways of assessing anticompetitive effects under the effects-based approach. An effects-based analysis in its strictest iteration requires proof of likely or actual consumer harm, which would make enforcement extremely difficult. The other approach assumes consumer harm if it is shown that a strategy is likely to have negative effects, in terms of efficiency. The rationale is that some conduct may produce welfare enhancing effects and a quick look at the form of the strategy is not decisive enough to presume the outcome on the market. Therefore, these tests require evidence of likely or actual anticompetitive foreclosure. In principle, both tests can coexist in a legal system, what matters is the likelihood of errors.

Most economists agree that the proper approach to unilateral conducts ought be some kind of effects analysis or a rule of reason approach. Whilst the Commission started its modernisation process – evaluating and rethinking its approach to the substantive assessment of business practices – in the late 1990s, the re-evaluation activity ended with Article 102 TFEU. In 2005, the Economic Advisory Group on Competition Policy (EAGCP) published a
report outlining the first step toward an economic approach to Article 102 TFEU. At the end of the year, DG Competition published a discussion paper on the modernisation reform to exclusionary behaviour (Discussion Paper). The Discussion Paper outlined a more economically based understanding of unilateral behaviours, which led the Commission to publish its Guidance Paper in 2009. The Guidance Paper makes it clear, at least in theory, that enforcement of Article 102 TFEU is probable when consumer harm is present. Although the Guidance Paper has received a lot of praise for its focus on effects, it also has received criticism from some scholars for being out of line with the jurisprudence of the EU courts, and giving the Commission too much leeway for departure from it.

5.3.2 The Balancing of Possible Errors

Formalistic and effects-based tests both have their own strengths and weaknesses. The application of mechanical standards to the dominant enterprise is traditionally attributed to the Ordoliberal thinking, although recent research suggesting that legal tradition may play an important role for the outcome. Nevertheless, according to Ordoliberal thinking, consumer harm could be assumed or inferred without any evidential support when it was established that

\footnote{“A more consistent approach would start out from the effects of anticompetitive conduct, (…), and consider the competitive harm that is inflicted on consumers. Adopting such an effects-based approach would ensure that these various practices are treated consistently when they are adopted for the same purpose. In contrast, a form-based approach creates the risk that they will be treated inconsistently, with some practices possibly enjoying a relatively more lenient attitude (e.g., because of different standards). Arbitraging among these different treatments may facilitate exclusion, or induce the dominant firm to adopt alternative exclusionary methods, which may well inflict a higher cost on consumers.” See, Report by the EAGCP, An Economic Approach to Article 102, July 2005, p. 6.}

\footnote{See, DG Competition, Discussion Paper on the Application of Article 102 of the Treaty to Exclusionary Abuses, 2005.}


\footnote{See, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, OJ C 45, 24.2.2009, p. 7–20, paras. 20–22.}

\footnote{L. Lovdahl Gormes, Why the European Commission’s Enforcement Priorities on Article 82 EC Should be Withdraw, 31 European Competition Law Review 45, 2010.}


\footnote{According to empirical data, formalistic rules and judicial decision-making that favours the Commission is significantly more likely if adjudicators with strong French influences make up the assembly of the court. See, A. H. Zhang, J. Liu and N. Garoupa, Judging in Europe: Do Legal Traditions Matter?, X Journal of Competition Law & Economics 1, 2018.}
the behaviour was likely to harm rivalry. Ordoliberal analysis of Article 102 TFEU is inherently likely to result in a type IV error, due to its bias against monopoly power. One significant advantage that form-based tests have over their counterparts is that they speed up enforcement proceedings as well as litigation. Another is that formalistic tests enhance legal certainty for dominant firms, but these tests fail to notice whether the conduct is part of legitimate competition (since it excludes any procompetitive features in its analysis). Relying on formalistic tests increases the probability of a type I error due to the difficulty of extracting the right conclusion about the likely effects on competition. But, what is more problematic is that form-based tests might establish an irrebuttable presumption (praesumptio iuris et de iure) of harm, since no successful pro-efficiency defence can alter the form of the strategy.

Effects-based tests have the redeeming feature of distinguishing between anticompetitive and procompetitive behaviours, in theory. A test that is underpinned by analysing the economic effect of a particular strategy may however result in a type II error by wrongly categorising a de facto anticompetitive practice as procompetitive. Moreover, it runs the risk of making procedures extremely complex and time consuming, because it requires a case-by-base assessment which often makes these types of inquiries extremely fact intensive. Hence, it requires the decision-maker to, on top of the legal qualifications to rule on matters of antitrust law, have a sufficient degree of insight into economic and business theory as well as knowledge of the particular sector that is being investigated.

The error-cost framework is designed to solve these aforementioned issues. The concept has been used as a tool for antitrust enforcement agencies and judges to distinguish procompetitive behaviours from anticompetitive practices (although it can be applied to all areas of law). The framework is built on the notion that adjudicators can, without prior theoretical knowledge in economics, coherently structure and weigh the possible errors when designing liability rules. From an economic point, the deciding line between type I and II errors is a judgment call for the decision-maker since there is no well-established theoretical framework to decisively measure the effects of these errors. Easterbrook argues that judicial errors due to false positives can be

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1834 A. Devlin and M. Jacobs, Antitrust Error, 52 William & Mary Law Review 75, 2010. However, economic theory can provide some insights of the likely economic impact by applying a
tolerated since the market will self-correct. Evens and Padilla contend that the appropriate standard should be a cost-benefit analysis by balancing the increase in enforcement costs against the increased costs of false acquittals as well as costs of false convictions. Østerud argues that it is difficult to predict with accurate certainty the economic impact of a strategy based on its form and therefore holds that decision makers should select the one that minimises total costs. Lastly, Marden claims that type I and II errors make up a sliding scale, it all depends on how much errors a system can tolerate and to what extent proof of harm is required.

The ongoing academic debate on whether formalistic or effects-based tests should be the operating part of substantive law will continue. Of course, it could always be argued that effects-based standards are inherently contradictory to the principle of legal certainty and that form-based standards therefore are the only ones that can remedy the problem. Such an argument does however not solve the problem with over- and under enforcement adequately. Consequently, it could be argued that this problem should be resolved through administrative court procedure, judicial procedure and/or litigation and the relative appropriate weight could be decided through the system of presumptions and safe harbours (regulating screw).

5.3.3 Outlining the Concept of Competition on the Merits: A Search for its Main Components

Applying formalistic standards may render the application of Article 102 TFEU too broad, since such analysis predominantly emphasise any rivalry counterfactual or cost-benefit analysis. See, G. Niels, H. Jenkins and J. Kavanagh, Economics for Competition Lawyers, 2nd edition, Oxford University Press, 2016, para. 1.53.

Easterbrook, Limits of Antitrust, 63 Texas Law Review 1, 1984, p. 3.


exclusion without any analysis of consumer harm. This is because harm to competitors does not necessarily entail harm to competition. In subsequent case law the Court of Justice has clarified that Article 102 TFEU does not apply to conducts that have a fostering effect on competition by enhancing consumer welfare. The use of mechanical standards could be non-compliant with the notion of protecting the competitive process for the benefit of consumers in the long run if it does not incorporate a proper economic analysis.

The Commission’s modernisation process that ended in the adoption of an effects-based approach to Article 102 TFEU has had significant implications for the notion of exclusionary abuse. Arguably, one of the most substantial consequences is that exclusionary abuse is viewed as a dynamic concept that shall be identified and established on objective criteria. According to the Commission, consumers benefit from competition through lower prices, better quality and a wider choice of new or improved goods and services, i.e. enhancements in efficiency. The Commission will therefore limit its enforcement of Article 102 TFEU to only pursue those conducts that limit efficiency between competing firms. Moreover, it follows from the Discussion Paper that the purpose of Article 102 TFEU is to prevent the dominant undertaking from adopting unilateral policies that tamper with the process of competition and result in consumer harm. According to the Guidance Paper, by protecting the effective competitive process between rivals and not individual competitors, the efficient allocation of resources is ensured, which enhances consumer welfare. As guardian of the Treaties the Commission will – as a general rule – only enforce Article 102 TFEU if the dominant firm’s implemented

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1842 The criticism mostly stems from the fact that some authors have described the use of formalistic tests as per se illegal. Per se refers to the situation when antitrust enforcers and courts condemn certain behaviour on its form rather than its anticompetitive effects. See, e.g. A. Jones, B. Sufrin and N. Dunne, *Jones & Sufrin’s EU Competition Law: Text, Cases and Materials*, 7th edition, Oxford University Press, 2019, pp. 375-376.

1843 By its very nature, the process of competition means that firms are permitted to compete more effectively or efficiently to meet consumers’ needs and hence to replace less efficient competitors by enhancing their profits and market shares. See, J. M. Strader, *Post Danmark’s Recoupment Test*, 10 Competition Law Review 205, 2014, p. 205.


1845 It is dynamic in the sense that the dominant firm’s unilateral conduct may be caught by Article 102 TFEU depending on the context and the combinations of static as well as dynamic efficiency.


The Commission’s policy statements denote two important features and implications for Article 102 TFEU. First, the references to the capability of the conducts suggest that the scope of Article 102 TFEU should limit itself to the effects of the conduct and as such the form of the conduct is less important (effects-based standard). Second, the Commission declares that the exclusionary effect must reach a certain threshold. The Commission recognises that not all types of strategies are capable of producing anticompetitive effects and that in general only behaviours that may terminate competitors that are as least as efficient as the incumbent are caught by Article 102 TFEU. The Commission’s statements build on the two-tier analysis of the Hoffmann-La Roche formula.

The Hoffmann-La Roche formula provides a conceptual framework to separate anticompetitive foreclosure and competition on the merits. Note, that the framework only represents a point of departure. It follows from the first-tier that an illegal exclusionary act is one that has the effect, to the detriment of consumers, of hindering the degree of competition existing in the market, or preventing the growth of that competition. Accordingly, the first level contains three cumulative elements in order for the conduct to fall within the scope of the prohibition, i.e. effect, consumers and the creation or maintenance of artificial barriers to competition.

However, it is sufficient to establish consumer harm indirectly, by demonstrating that the conduct can have anticompetitive (foreclosure) effects on the market. According to the Commission an anticompetitive foreclosure occurs when effective access of actual or potential competitors to supplies or markets is hampered or eliminated as a result of the conduct of the dominant undertaking whereby the dominant undertaking is likely to be in a position to

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1850 “[Recourse] to methods different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition.” See, C-85/76, Hoffmann-La Roche v Commission, ECLI:EU:C:1979:36, para. 91.
1851 For possible problems with the formula see for instance, C-209/10, Post Danmark v Konkurrenserådet, ECLI:EU:C:2012:172, para. 21.
1852 See, e.g., C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 94.
profitably increase prices to the detriment of consumers.\textsuperscript{1856} The harmful effects arise from the dominant firm’s strategic manipulation that results in artificial obstacles to competition. If the dominant incumbent prices below some measure of cost, such conduct may be liable to foreclose actual or potential competitors (strategic barriers). On the other hand, artificial frontiers can emerge from the incumbent’s manipulations of statutory and structural barriers.\textsuperscript{1857} Nonetheless, protecting the effective competitive process implies that market equilibrium is under constant evolution and that dynamic efficiency will lead to market disequilibrium. Destructive factitious frontiers triggered by the dominant undertaking’s artificial influence of the competitive process,\textsuperscript{1858} are those that competition is unable to offset in terms of market disequilibrium.\textsuperscript{1859}

According to the second-tier analytical approach, the unlawful effect must follow from a method that is different from those that govern normal competition in production and services.\textsuperscript{1860} For instance, in AstraZeneca the Court of Justice held that a system of undistorted competition prohibits a dominant operator from eliminating competition by using other means than those which fall within the scope of competition on the merits.\textsuperscript{1861} The Commission recognised in AKZO that a dominant undertaking is entitled to compete on the merits.\textsuperscript{1862} Aggressive, legitimate competition is to be encouraged and a dominant firm should not refrain from competing with its rivals even if they are smaller or have just entered the market.\textsuperscript{1863} The underlying justification for not automatically or per se prohibiting a monopolist from competition is that it would be absurd for companies to be prohibited from competing with their rivals only due the fact that they have reached a specific market power threshold.\textsuperscript{1864} The categorisation of illicit market behaviour should therefore be saved for those types of strategic interference with the process of competition that harms

\textsuperscript{1857} For a discretion of barriers to entry see chapter 5.8.7.
\textsuperscript{1861} “[A] dominant undertaking from eliminating a competitor and thereby strengthening its position by using methods other than those which come within the scope of competition on the merits.” See C-457/10 P, AstraZeneca v Commission, ECLI:EU:C:2012:770, para. 75.
consumers in the long term, not because that the dominant firm limits competition by means of superior performance.\textsuperscript{1865} Barring the dominant firm from competing on efficiency can indirectly result in price cap regulation due to the umbrella effect,\textsuperscript{1866} which hurts consumers.

The Court of Justice pointed out in Post Danmark I that Article 102 TFEU does not prohibit a dominant economic operator from acquiring or maintaining market power as long as the adopted strategy falls within the scope of competition on the merits. The rule does not seek to protect less efficient competitors from the dominant undertaking’s superiority in terms of efficiency. Consequently, not every exclusionary effect is automatically disadvantageous to the process of competition.\textsuperscript{1867} As such:

Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation.\textsuperscript{1868}

It follows that consumer welfare is protected by ensuring effective competition between efficient operators. Whilst consumer harm can be a foreseeable consequence of a rival’s exclusion, but inference of such harm is as a general rule not an acceptable approach. Consumer harm has to be established analytically by showing that the conduct is likely to oust competitors that are as efficient as the dominant firm. Nonetheless, whilst the aforementioned definition applies beyond pricing policies,\textsuperscript{1869} its application is limited to certain market characteristics.\textsuperscript{1870}

5.4 Testing for Exclusionary Acts or Competition on the Merits?

The notion of competition on the merits is supposed to provide a useful tool for identifying lawful competitive acts adopted by a single firm. The concept builds on the idea that enforcement agencies as well as courts can correctly
screen the behaviours and therefore avoid errors of over- and under-inclusions. One specific issue is that there is neither a general consensus nor a consistent methodological approach to establish the concept. The application of legal rules that proscribe against unilateral anticompetitive effects has become inconsistent between various legal systems,\textsuperscript{1871} but the unanimity is that the purpose of antitrust is to protect competition and not competitors.\textsuperscript{1872}

The vague nature of what constitutes exclusionary abuse on the one hand and competition on the merits on the other hand has led lawyers as well as economists to produce a number of different tests to analyse the possible effects of the implemented strategy. Although these tests seem straightforward, they have two important features.

First, they all seek to draw a line between anticompetitive and procompetitive conduct by determining the economic effects of the conduct in term of efficiency.\textsuperscript{1873} Second, they are two-tailed in nature. The preconception is that stress testing the conduct will ascertain or rule out competition on the merits.\textsuperscript{1874} The most cited economic tests for pinpointing exclusionary pricing behaviours are: the as efficient competitor test, the profit sacrifice test and/or the non-economic sense test.

The profit sacrifice and the non-economic sense tests build on the same economic rationale. According to these tests, a conduct will fall outside the scope of legitimate competition if it is established that it ousts competition without enhancing consumer welfare. While the profit sacrifice and the non-economic sense tests are proxies for identifying anticompetitive intent,\textsuperscript{1875} the as efficient competitor test builds on an objective assessment. Whether the dominant company intended to hurt competition is irrelevant when applying the as efficient competitor test, the lawfulness depends on whether the dominant firm has sacrificed its own efficiency in order to compete with its rivals. The consumer harm test can arguably be the most natural and correct way of assessing the possible impacts a particular strategy may have on welfare. However, whilst the test might be theoretically sound it is nonetheless time consuming and very difficult to apply in practice.\textsuperscript{1876}

Importantly, economic tests by definition do not define anticompetitive acts, they provide an analytical framework for testing the lawfulness of the

\begin{itemize}
  \item \textsuperscript{1871} OECD Policy Roundtables, Competition on the Merits, 2005, p. 5. Available at: https://www.oecd.org/competition/abuse/35911017.pdf
\end{itemize}
Moreover, there are some arguments regarding their application. One strand of commentators argues that they are universal in application, whilst another strand of commentators argues that there is no universal single test that can correctly identify all anticompetitive acts. One particularity of EU law is the prohibition against discriminatory measures. It follows from Article 18(1) TFEU that the EU antitrust rules shall be applied in a non-discriminatory manner. The lawfulness of a dominant firm’s competitive acts should therefore be assessed in the light of equal opportunities. However, assessing the welfare effects of discriminatory behaviours yields ambiguous results from an economic perspective.

5.4.1 The As Efficient Competitor

The concept of the as efficient competitor or equally efficient competitor in EU antitrust law is used as both a norm and a test. On the one hand, as a legal norm it strikes a balance between exclusionary abuse and competition on the merits under Article 102 TFEU. The Court of Justice pointed out in Post Danmark I that not every exclusionary effect is necessarily detrimental to competition and in so doing concluded the following:

Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation.

1882 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 22.
On the other hand, as a legal test it aims to identify, based on objective criteria, situations when conducts infringe on the legal norm. The test should therefore, in theory, provide the dominant firm with a safe harbour. The as efficient competitor test, unlike the profit sacrifice and non-economic sense tests (which will be reviewed in the next chapter), is based on the likely anticompetitive effects of the conduct. When assessing the capability of a practice, the as efficient competitors test is not the only tool to analyse the potential anticompetitive effects, but it can provide helpful guidance for assessing the economic circumstances surrounding an impugned practice.

The test rests on the assumption that the exclusion of rivals that are as efficient or more efficient than the dominant undertaking should be categorised as an infringement. The validity of the test is that conducts that exclude less efficient competitors would fall outside the scope of prohibition, since these competitors would not survive the process of rivalry nonetheless. The as efficient competitor test works pre-eminently in evaluating the lawfulness of a dominant undertaking’s pricing policy, but the test can also be useful to assess certain types of non-pricing strategies.

The test was originally proposed by Posner, who argued that a legal standard that protects inefficiency in the market is perverse since enhancement in

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1883 The as efficient competitor and the equally efficient competitor are often used interchangeably. However, it seems that there is a key difference between the tests. In summary, the former test aims to assess the potential impact that the defendant’s conduct can have on competition, whereas the latter aims to establish the actual effects. See, e.g. M. Katz, Exclusionary Conduct in Multi-Sided Markets – Note by Michael Katz, OECD, 2017, pp. 6-7. Available at: https://one.oecd.org/document/DAF/COMP/WD(2017)28/FINAL/en/pdf.


1886 C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651, para. 61.


efficiency should be encouraged not penalised. According to Posner, an exclusionary act by definition is one that:

[The] plaintiff must first prove that the defendant has monopoly power and second that the challenged practice is likely in the circumstances to exclude from the defendant’s market an equally or more efficient competitor. The defendant can rebut by proving that although it is a monopolist and the challenged practice exclusionary, the practice is, on balance, efficient (...) [Practices] that will only exclude less efficient firms, such as a monopolist’s dropping his price nearer to (but not below) its costs, are not actionable, because we want to encourage efficiency. Only when monopoly power is used to discourage equally or more efficient firms and thus perpetuate a monopoly not supported by superior efficiency should the law step in. Even then, it should be alert to the possibility that the exclusionary effect of the monopolist’s practice is offset by efficiency gains.

The as efficient competitor test certainly has some merits in Article 102 TFEU cases. It follows from well-established case law of the Court of Justice that, when assessing the lawfulness of a pricing conduct, a cost-price comparison is to be used. The rationale is that the hegemonic economic entity should be able to lawfully exclude competitors from the market, if such pricing reflects the company’s cost efficiency. The most obvious examples when the test has been applied are pricing conducts such as predation, margin squeeze, and selective price cuts, but also to discounts of the second kind, i.e. exclusivity or fidelity discounts.

It follows from the Guidance Paper that enforcement of Article 102 TFEU will normally only be initiated if the pricing conduct is capable of harming

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competitors that are as efficient as the dominant undertaking. This is implying that the Guidance Paper only provides a soft law safe harbour for dominant companies. The Guidance Paper also introduces a shift in the relevant cost yardsticks. According to the Commission, the relevant cost standards are the average avoidable cost standard and the long-run average incremental cost benchmark. The rationale for the shift in cost touchstones is that they are better suited to reflect the economic reality behind exclusionary acts.

The legitimacy of the as efficient competitor standard is based on two legal premises. The first is based on legal certainty, whereas the second is based on the principle of non-discrimination. In Deutsche Telekom, the General Court drew attention to the fact that a dominant operator must be able to assess the lawfulness of its own behaviours (legal certainty) and that the system of undistorted competition guaranties that various economic operators are given equal opportunity, which presumes that they are as efficient as the dominant incumbent operator (non-discriminatory).

Therefore, as a general rule, the criterion of legitimacy requires that the cost assessment is based on the accused undertaking’s own cost structure.

The as efficient competitor test rests on the economic principle that firms will always strive towards maximising their profits. One way of enhancing profitability is of course the continuous reduction of costs, i.e. maximising static efficiency. Still, firms can improve growth and hence profitability by investing in additional assets, i.e. amplifying dynamic efficiency. The financial goal is to add more value to the stream of cash flows for the undertaking. Intuitively, such an analysis should be limited to price-based behaviours, but nevertheless such an appraisal may also apply to non-price-based conducts, e.g. refusal to supply. The as efficient competitor test may apply to

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such cases (at least indirectly),\textsuperscript{1902} when assessing the replicability criterion in the Bronner test,\textsuperscript{1903} or the access fee to an essential input.\textsuperscript{1904} It is important not to lose sight of the fact that the purpose of Article 102 TFEU remains the same whether the exclusionary abuse consists of pricing or not. According to Advocate General Jacobs in Bronner, the core purpose of Article 102 TFEU is to protect the interests of consumers by safeguarding the competitive process.\textsuperscript{1905} The requirement of compulsory access seeks to preserve competition, not to protect individual competitors.\textsuperscript{1906} The replication criterion is deemed insurmountable when the cost or time required to reproduce the item is exorbitant\textsuperscript{1907} for hypothetical competitors on the same scale as the incumbent\textsuperscript{1908} and thus as efficient as the dominant incumbent. The as efficient competitor test


\textsuperscript{1904} “Article 16(3) of the Directive requires that the fee which may be collected in return for access to airport installations must be determined according to relevant, objective, transparent and non-discriminatory criteria. Therefore, that provision does not prevent the fee from being determined in such a way that the managing body of the airport is able not only to cover the costs associated with the provision and maintenance of airport installations, but also to make a profit.” See, C-363/01, Flughafen Hannover-Langenhagen, ECLI:EU:C:2003:548, para. 56.

\textsuperscript{1905} “[I]t is important not to lose sight of the fact that the primary purpose of [Article 102] is to prevent distortion of competition — and in particular to safeguard the interests of consumers — rather than to protect the position of particular competitors. It may therefore, be unsatisfactory, in a case in which a competitor demands access to a raw material in order to be able to compete with the dominant undertaking on a downstream market in a final product, to focus solely on the latter’s market power on the upstream market and conclude that its conduct in reserving to itself the downstream market is automatically an abuse. Such conduct will not have an adverse impact on consumers unless the dominant undertaking’s final product is sufficiently insulated from competition to give it market power.” See, Opinion of Advocate General Jacobs, C-7/97, Bronner, ECLI:EU:C:1998:264, para. 58.


\textsuperscript{1908} “For such access to be capable of being regarded as indispensable, it would be necessary at the very least to establish, (…) that it is not economically viable to create a second home-delivery scheme for the distribution of daily newspapers with a circulation comparable to that of the daily newspapers distributed by the existing scheme.” See, C-7/97, Bronner, ECLI:EU:C:1998:569, para. 46.
has nonetheless received some criticism. In essence, the criticism can be categorised in three lines of argument.

The first line of argument is based on the notion that the standard has no relevance for certain kinds of unilateral behaviours (vexatious behaviours). An obvious example of such conduct is abuse of the administrative or regulatory process. Whether a hypothetical competitor is as efficient as the dominant operator is immaterial when assessing the lawfulness of a deliberate misrepresentation to prolong patents (vexatious regulatory process). Another is the when the dominant entity uses legal proceedings for the sole purpose of harassing its competitors (vexatious litigation). This type of low-cost exclusionary scheme has nothing to do with the organic efficiency of the harasser and is unlikely to have procompetitive effects. According to the Guidance Paper, some conducts are so unlikely to enhance efficiency and only result in blockages to competition that anticompetitive effects can be inferred, so-called naked restrictions. According to Bessen, regulated sectors are more prone to facilitate the likelihood of vexatious strategies (rent-seeking sectors). But, naked restrictions can also arise on non-regulated markets.

The second line of argument is that the standard and/or test is inherently flawed. The prototype is that the dominant firm enjoys structural cost advantages due to its first mover benefit over new entrants, which may result from a former legal monopoly, e.g. in the telecom and postal sectors. Thus, application of the as efficient competitor test discriminates in favour of the incumbent company. The rejection of the as efficient competitor test is rooted in the impression that the incumbent can deter market entry by competitors.

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1909 There are of course important legal issues to recognise when dealing with the strategic use of the regulatory and litigation process. One such issue is what standard that should be used to distinguish genuine profit seeking attempts from malicious forestalments. See, L. Lianos and P. Regibeau, “Sham” Litigation: When Can it Arise and How Can it Be Reduced?, 62 Antitrust Bulletin 643, 2017.
that are not-yet-as-efficient because they do not enjoy the same scale advantages (not-yet-as-efficient competitor standard or reasonably efficient downstream operator).\textsuperscript{1917} The economic idea of the not-yet-as-efficient competitor standard is that the less efficient competitor can, in theory, enhance efficiency in the long term by exercising some competitive constraints the dominant firm.\textsuperscript{1918} Thus, by taking the entrant’s cost structure instead of the dominant firm as the relevant price floor, consumers will receive long-run gains.\textsuperscript{1919} The notion of protecting less efficient competitors builds on the idea that more competitors in a market will, in theory, enhance competition and thus forcing down prices and increasing allocative efficiency to the benefit of consumers.\textsuperscript{1920}

It follows from the Guidance Paper, that enforcement may be triggered due to strong network and/or learning effects causing the exclusion of less efficient competitors, which might be harmful to competition.\textsuperscript{1921} Whilst, the Commission’s approach to protecting a not-yet-as-efficient competitor can be traced to the Discussion Paper,\textsuperscript{1922} the rhetoric is the same.

The Commission will in certain situations prohibit above-cost pricing policies by a dominant firm. One problem with such a competition policy is that it may establish a de facto price regulation due to the umbrella effect and that it is very difficult to translate such economic theory into an operating legal standard.\textsuperscript{1923} Nevertheless, it seems that the Commission applied the not-yet-as-efficient competitor test in Tomra.\textsuperscript{1924}

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\item \textsuperscript{1920} However, the application of the not-yet-as-efficient competitor standard should only be used in newly liberalised markets. See, L. Lovdahl Gormsen, \textit{A Principled Approach to Abuse of Dominance in European Competition Law}, Cambridge University Press, 2000, p. 92.
\item \textsuperscript{1924} Commission Decision COMP/E-1/38.113, \textit{Tomra}, 2004, para. 165. In addition: “It is also important to note that the Commission did not examine Tomra’s costs. Although the Commission refers, at [recital] 165 [to] the Decision, to rebates leading to “very low prices, possibly even negative prices”, it did not examine Tomra’s costs in order to establish the level below which prices would be exclusionary or predatory. The implicit test in the Decision is that if Tomra’s rebates would force a competitor to charge a negative price, then this would have an
\end{itemize}
Protecting a not-yet-as-efficient competitor from an aggressive price response may lead to false positives. In TeliaSonera, the Court of Justice opened up for the possibility to apply the reasonably efficient downstream operator test in certain situations. To be in line with the long-term EU welfare objectives and avoiding over-deterrence, it has to be established that the less efficient competitor is likely to become as efficient as the dominant firm within a reasonable time frame. Nevertheless, the Court of Justice has on at least two occasion applied Article 102 TFEU is such a manner that it protects less efficient rivals without it being necessary to adduce any evidence regarding the likelihood of becoming more efficient pre-entry or within any time frame.

The application of the not-yet-as-efficient competitor test is problematic because of the legal uncertainty it brings and that it might be impossible for the dominant undertaking to provide any efficiency defence for its conduct. Moreover, although the dominant incumbent may enjoy advantages, the new less efficient entrant can have significant competitive advantages over the incumbent. This is because the incumbent is susceptible to structural responses in the evolutionary-ecological environment due to structural inertia, whereas the new entrant is free to target the most profitable demographic, but before the isomorphic processes take control over the entrant. The prototype of such competitive advantages is low-cost airline carriers (which will be analysed in chapter 6.3).

The third line of argument resembles the second one, but with the difference that due to practical issues the definition of an as efficient competitor can
be difficult to apply in some instances. The typical example is when the incumbent is an unavoidable trading partner and uses conditional or unconditional price cuts. The issue arises from how the law should treat economics of scale to determine and define an as efficient competitor.\textsuperscript{1931} Therefore, the concern is to correctly identify the effective price and the proper cost allocation base between the contestable and non-contestable part of demand, whilst respecting the principle of non-discrimination.\textsuperscript{1932} The correctness of the analysis is however dependent on the theory of harm used by the enforcement agency, i.e. are competitors harmed by predation or cheap (naked) exclusion.\textsuperscript{1933} The Commission will employ a modified version of the as efficient competitors test, seeking to remove certain advantages and ensuring that firms compete on an equal footing.\textsuperscript{1934} The test aims to establish the effective price a competitor which is as efficient as the dominant firm would have to offer customers in order to get an adjustment from the incumbent. According to the Commission, if the effective price covers the dominant firm’s long-run average incremental cost, the price cut is unlikely to have anticompetitive effects. But if the effective price is below the incumbent’s average avoidable cost the strategy is likely to have anticompetitive capabilities.\textsuperscript{1935} According to O’Donoghue and Padilla, the Commission’s test is a type of regulatory approach that seeks to diminish the dominant firm’s advantages and only emphasise equal efficiency on the non-captive part of the demand.\textsuperscript{1936}

\textsuperscript{1935} See, Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, OJ C 45, 24.2.2009, p. 7–20, para. 44.
5.4.2 The Profit Sacrifice and Non-Economic Sense

The profit sacrifice and non-economic sense tests seek to identify exclusionary acts by focusing on the dominant firm’s profitability. The tests rest on premises that a dominant company has no other interest in deliberately sacrificing or forgoing profit-maximisation unless its aim is to quash rivals. Therefore, the profit sacrifice and non-economic sense tests, unlike the as efficient competitor test, are modelled on an intent-based standard by assessing whether the strategy is profit-maximising or economically rational. The potential anticompetitive effects that can result from various types of profit sacrifice arise, in principle, because such conducts suppress competition, while not necessarily eliminating it. It follows from the first tier of the Hoffmann-La Roche formula that such unilateral behaviour by a dominant company can fall within the scope of abusive practices.

The profit sacrifice test, or “but for” test, was originally developed to provide an objective, transparent, and economically based framework for identifying exclusionary behaviours. The obvious application for the test is to identify predatory behaviours or constructive refusal to supply. According to the profit sacrifice test, the dominant firm intentionally adopts a profit reducing price policy in the short term that will be recouped in the medium to long term. The test has been unsuccessfully applied by the US Department of Justice to identify predatory pricing schemes in the airline industry. Nevertheless, it follows from the literal meaning of the Guidance Paper that the Commission intends to use the profit sacrifice test to assess askance low pricing behaviours adopted by firms with substantial market power. Ambiguously, the Guidance Paper directly retracts the account by referring to the as...
efficient competitor test, instead of analysing e.g. the learning effects when evaluating the anticompetitive capability of the adopted operation.\textsuperscript{1944} The profit sacrifice test has one fundamental shortcoming. Sacrifice is not an absolute concept and must therefore be relative to some objective benchmark.\textsuperscript{1945} The main issue is to choose the appropriate benchmark(s).\textsuperscript{1946} The difficulty is reinforced by the fact that the profit sacrifice test is not defined as a negative profit standard or designed as a loss test.\textsuperscript{1947} Instead, the test identifies deviations in profit-maximising strategies from the equilibrium state, i.e. deviations from Nash equilibrium.\textsuperscript{1948} The profit sacrifice test therefore has the inherent problem of applying the correct screening device and consequently catching procompetitive behaviours as well. Lastly, whilst the test is said to be objective, it is built on highly speculative scenarios, which is accordingly making the test extremely uncertain from a profit decision-making perspective ex ante.\textsuperscript{1949} One could therefore argue that the profit sacrifice test atrociously undermines legal certainty.

The non-economic sense test is similar to the profit sacrifice test, but tries to redeem some of the shortcomings of the profit sacrifice test by making it an administrative test. The test has been applied by the US Department of Justice in refusal to supply cases.\textsuperscript{1950} In essence, the non-economic sense test limits itself to only catching conduct that do not make any business sense, but for the tendency to eliminate or lessen competition.\textsuperscript{1951} Accordingly, the test aims to reduce some of the under-inclusion that can result from the profit sacrifice test. This is because the non-economic sense test – unlike the profit sacrifice

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catches not only short-run, but also long-run financial sacrifices.\textsuperscript{1952} One issue with the application of an intent-based standard is that it can yield ambiguous results depending on which test that is applied, e.g. in the context of investments. An investment would likely be prohibited under the profit sacrifice test, but would nevertheless pass the non-economic sense test since such outlay is prospective to gain long-term financial benefits for the dominant firm.\textsuperscript{1953} The non-economic sense test builds on a two-pronged methodology by first assessing the tendency or likelihood of exclusion and then determining whether the unilateral act has other plausible explanations \textit{but for} that anti-competitive act.\textsuperscript{1954} It should be noted that the concept of malicious intent has a specific meaning when applying the non-economic sense test. Because the test investigates the reasonably anticipated impact of an alleged conduct and not the actual effects, the notion of a deliberate unprofitable strategy builds on what a reasonable person could have expected given the economic environment in which the act occurs.\textsuperscript{1955} Arguably, one severe issue with the test is that it weakens legal certainty and excuses empirical evidence of alleged anticompetitive effects.\textsuperscript{1956}

The surrogate nature of the profit sacrifice and non-economic sense tests can easily make them indistinct from the as efficient competitor test.\textsuperscript{1957} The conceptual framework for the non-economic sense test can be traced back to the Areeda and Turner test, which specifically applies to identifying unlawful pricing acts.\textsuperscript{1958} Accordingly, it is conformable to assume that pricing below the same cost base for identifying predatory pricing must also be condemned as unlawful sacrifice under the non-economic sense test. But, such an assumption would be flawed. The tests represent different dots on the spectrum that distinguishes them by their measurement. Whilst all selling below some measure of cost constitutes a loss, not all unlawful sacrifices have to be below a specific measure of cost.\textsuperscript{1959} Consequently, the non-economic sense test is

\textsuperscript{1957} K. Fjell and L. Sørgard, \textit{How to Test for Abuse of Dominance?}, 2 European Competition Journal 69, 2006, p. 70.
more interventionist than the as efficient competitor test. Therefore, it is in their practical application that the tests differ.

The inquiry of the as efficient competitor test seeks to identify the profitability of the entire relevant line of goods or services, whereas the non-economic sense test scrutinises the profitability of the incremental behaviour. It could therefore be argued that the latter test is a form of sui generis hybrid that constitutes a mixture of below-cost and above-cost pricing inquiries. Consequently, applying the non-economic sense test in a real-world scenario necessitates careful considerations for at least two reasons. First, applying a sacrifice test requires definitions of the relevant incremental output, the incremental revenue, and which cost standard that is appropriate to apply to the inquiry. Secondly, depending on which cost yardstick that is used to ascertain the dominant firm’s profitability the act could pass the non-economic sense test but nevertheless fail the as efficient competitor test or vice versa.

The application of the non-economic sense test is however limited to profit sacrifices or outright losses. The problem with the test is that some exclusionary act can result in anticompetitive foreclosure without necessarily entailing loss. For example, some types of refusal to deal or fidelity discounts are by their nature cheap exclusions and do not entail any lossmaking by selling below cost. Another problem is the difficulty in defining what actually constitutes a sacrificing strategy in the context of a hypothetical market in order to determine the potential outcome of the act (which is the same criticism that the profit sacrifice test has received). Consequently, both the profit sacrifice and non-economic sense tests cause a very important procedural issue.

1964 Because the non-economic sense test is difficult or arguably impossible to apply to non-pricing conducts, Schrepel argues for a hybrid of the test, which he calls the enhanced non-economic sense test. According to Schrepel, the enhanced non-economic sense test applies in general to cheap exclusions and in specific to identify sham innovations (i.e. product or services that do not add or improve value to the consumers). See, T. Schrepel, The “Enhanced No Economic Sense” Test: Experimenting with Predatory Innovation, 7 Journal of Intellectual Property and Entertainment Law 30, 2018.
namely the placement of the evidentiary burden due to significant changes in market conditions.\textsuperscript{1967}

5.5 The Notion of Anticompetitive Intent and its Practical Implications

It follows from the Court of Justice’s established case law that Article 102 TFEU as a general rule rests on the as efficient competitor standard. However, there are some spores in the jurisprudence of the EU courts that the as efficient competitor standard could be substituted for an intent-based standard in some instances. The use of anticompetitive intent in EU antitrust law does not necessarily imply the use of profit sacrifice or non-economic sense tests. Instead, the EU courts have historically used the intent of the dominant undertaking to ascertain whether the impugned conduct is subject to formalistic or effects-based standard under judicial review. Accordingly, intent is not a standalone test that may trigger liability under Article 102 TFEU,\textsuperscript{1968} it is a relevant factor that can reinforce the conclusion of abuse\textsuperscript{1969} as long as the implemented practice is capable of foreclosing a competitor that is at least as efficient as the

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\item Intent has a role in EU antitrust, but should not be exaggerated. Intent is one factor amongst others that needs to be considered. See, P. A. Perinetto, \textit{Intent and Competition Law Assessment: Useless or Useful Tool in the Quest for Legal Certainty?}, 15 European Competition Journal 153, 2019, pp. 160-161.
\item “[The] existence of any [anticompetitive] intent constitutes only one of a number of facts which may be taken into account in order to determine that a dominant position has been abused.” See, C-549/10 P, \textit{Tomra v Commission}, ECLI:EU:C:2012:221, para. 20
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dominant firm based on objective factors. Furthermore, the concept of mens rea can be an explanation for a specific conduct, but not a unconnected justification for prohibition.

One intuitive way of analysing a dominant firm’s competitive strategy is through the looking glass of intent. Section 2 of the Sherman Act, unlike Article 102 TFEU, contains a specific reference to a subjective element. The passage makes clear that even an attempt to monopolise the market is prohibited under US law. Conversely, abuse is an objective concept, but the EU courts have explicitly applied an intent-based test to determine the lawfulness of the dominant firm’s pricing as well as non-pricing policies.

See the General Court’s argument in Clearstream: “Consequently, the applicants’ argument that they did not pursue an anti-competitive objective is irrelevant to the legal characterisation of the facts. In that context, proving that it was the applicants’ objective to postpone the grant of access in order to prevent a customer and competitor of the Clearstream group from providing its services effectively may reinforce the conclusion that there is an abuse of a dominant position but is not a condition for such a finding.” See, T-301/04, Clearstream v Commission, ECLI:EU:T:2009:317, para. 142. See additionally the General Court’s line of argumentation in AstraZeneca: “[Although] proof of the deliberate nature of conduct liable to deceive the public authorities is not necessary for the purposes of identifying an abuse of a dominant position, intention none the less constitutes a relevant factor which may, should the case arise, be taken into consideration by the Commission. The fact, relied upon by the applicants, that the concept of abuse of a dominant position is an objective concept and implies no intention to cause harm (…) does not lead to the conclusion that the intention to resort to practices falling outside the scope of competition on the merits is in all events irrelevant, since that intention can still be taken into account to support the conclusion that the undertaking concerned abused a dominant position, even if that conclusion should primarily be based on an objective finding that the abusive conduct actually took place.” See, T-321/05, AstraZeneca v Commission, ECLI:EU:T:2010:266, para. 359. Lastly see the Court of Justice argument in TeliaSonera: “Where a dominant undertaking actually implements a pricing practice resulting in a margin squeeze on its equally efficient competitors, with the purpose of driving them from the relevant market, the fact that the desired result, namely the exclusion of those competitors, is not ultimately achieved does not alter its categorisation as abuse within the meaning of Article 102 TFEU.” See, C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 65.

“[In] the absence of any other economic and objective justification, such conduct can be explained only by the dominant undertaking’s intention to prevent the development of competition in the downstream market and to strengthen its position, or even to acquire a dominant position, in that market by using means other than reliance on its own merits.” See, C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 88.

“The offense of monopoly under § 2 of the Sherman Act has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident.” See, United States v Grinnell Corp, 384 U.S. 563 (1966), pp. 570-571.

The application of intent has three important implications. First, the test has substantive and evidentiary elements. Second, the test ultimately determines if an effects analysis is a necessary condition to establish an abuse or if it is sufficient to establish the mere form of the conduct. Third, relying on a subjective element to proscribe a strategy poses legal certainty issues in the absence of forensic anticompetitive effects. Consequently, the use of an intentional standard might chill instead of fostering competition. The choice of the literal wording of abuse implies that the conduct should be part of some form of malicious plan to actually harm consumers by distorting competition.

5.5.1 Theoretical and Practical Approaches to Intent
Theoretically, the tests of intent can be catalogued into two different boxes that contain two different touchstones respectively. The categorisations do easily go hand in hand, but for presentational purposes a distinction will be made. The first container contains general and specific intent. General intent denotes a determination to carry out a specific strategy, whereas specific intent refers to the intentional purpose of causing harm to objects protected by the provision. The obvious example of general intent is predatory pricing where the dominant firm intentionally incurs losses. Inversely, specific intent to harm does not involve any forensic psychology, instead it attaches to the economic rationale to harm competitors. General and specific intent thus seek to establish the rationale of the undertaking by inferring the intent either from the criteria of the conduct or from the advanced effects the strategy may bring about. The second box holds objective and subjective intent. Again, under both standards intent to harm the competitive process is induced from the behaviours of the dominant firm. Under objective intent, a state of mind is
attached to the defendant based on his actions. The objective intent test seeks ultimately to determine the propensity of effects, not the actual intent to create anticompetitive effects. Subjective intent denotes liability under the condition that the wilful act has empirically been implemented in conjunction with an objective to harm. Subjective intent therefore involves the additional evidentiary element of documentation or other evidentiary methods. A particular set of problem emerges nonetheless. One essential problem is that intention to harm competitors is an essential feature of competition. The Court of Justice ascribed two important properties to abusive conducts in Hoffmann-La Roche:

1. **Abuse is an Objective Concept**
   The first limb makes it clear that the notion of abuse as an objective concept and implies that a strategy at a minimum must be capable of producing anticompetitive effects based on objective criteria. The dominant firm’s failure to cover the relevant cost measurement is one way of satisfying the first touchstone of the Hoffmann-La Roche formula. Not only are cost calculations used for strategic decision-making purposes, but they are also quantifiable measurable.

2. **Different from those that Constitute Normal Completion**
   The second limb is another way of describing competition on the merits, but the problem is that wilful acquisition as a standalone criterion does not clarify the picture. The dichotomy of intent in Article 102 TFEU can be described as a conundrum at best where single-firm conduct and collusive behaviour represent different extremes of the scale. The EU approach to intent, as a criterion for antitrust liability, rests on the idea that it can screen the lawfulness of the conduct, by comparing the impugned strategy with the notion of what constitutes normal competition. The issue is that firms typically engage in competition to squeeze and takeover their competitors’ profit margins. The intention of a dominant firm to exclude its competitor is a sign of healthy normal competition, because the

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1985 "Firms "intend" to do all the business they can, to crush their rivals if they can." See, AA *Poultry Farms Inc v Rose Acre Farms Inc*, 881 F. 2d 1396 (7th Cir 1989).
lack of wilfulness could be used by agencies to infer the intention to collude with competitors. In addition, EU antitrust law is about efficiency, and therefore any test that seeks to obtain the economic purpose must be able to assess the undertaking’s motive to oust efficient competitors in the absence of any other plausible explanation. This may create distinction problems between unlawful conducts and those that are part of competition on the merits, due to the inherent nature of competition.

5.5.2 Rationality as a Proxy for Anticompetitive Intent

The fact that case law as well as decision practices refer to anticompetitive intent, or some equivalent, is unequivocal. It could nevertheless be argued that the notion of intent is used synonymously or as a proxy for a specific form of rationality. Thematising intent is arguably just a way of analysing a strategy through rational choice theory. According to economic theory, firms

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1988 “Most businessmen don’t like their competitors, or for that matter competition. They want to make as much money as possible and getting a monopoly is one way of making a lot of money. That is fine, however, so long as they do not use methods calculated to make consumers worse off in the long run.” See, *Olympia Equipment Leasing Company and Others v Western Union Telegraph Company*, 797 F.2d 370 (7th Cir. 1986). See also judge Easterbrook’s statement in *AA Poultry Farms*: “Firms "intend" to do all the business they can, to crush their rivals if they can.” See, *AA Poultry Farms Inc v Rose Acre Farms Inc*, 881 F. 2d 1396 (7th Cir 1989).
1989 Such as anticompetitive malice, dreams of monopoly, the wilful acquisition of monopoly power, plan of elimination, pursued an anticompetitive strategy, deliberately sought to drive out a competitor, strategy aiming to exclude competitors, and pre-empt the market.
always behave in a rational manner, hence they unambiguously strive towards profit-maximisation (which was discussed in chapter 4.3.2.1). The concept of profit-maximisation as the rational choice is almost synonymous with neoclassic economics, i.e. Chicago antitrust analysis or neoclassic price theory.

The Chicago approach applies in general to cost-price analysis and specifically to cost-price relations in the context of predation. The rationale for inferring anticompetitive intent is that prices below the relevant cost measurement indicate an irrational monetary deviation from normal competition. Furthermore, in the context of cost assessments, it is submitted that the concept of normal competition should be understood as a duty or responsibility upon the dominant firm not only to cover its relevant full cost, but also to refrain from illegally financially subsidising its operations. Such interpretation is consistent with the General Court’s conceptualisation of the as efficient competitor test in Deutsche Telekom.

In AKZO, the Court of Justice held that pricing below AVC creates a presumption of harm (first limb), whereas pricing above AVC but below ATC requires the Commission to establish a plan of elimination (second limb). The logic behind the first limb is that the only plausible economic explanation for pricing below AVC is that the dominant firm seeks to eliminate competition. This is because the behaviour is irrational from the counterfactual of profit-maximisation. Consequently, intent is inferred from the objectively measurable behaviour. There is no presumption under the second limb, instead it is necessary to adduce evidence that can show the existence of a strategy aiming to foreclose a competitor that is at least as efficient at the dominant enterprise. The Court of Justice implied that such conduct may put competitors which are at the very slightest as efficient as the dominant company on an uneven playing field due to their smaller monetary resources or limited

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1992 As discussed in chapters 4.3.7, decision theory and rational choice theory has made significant progressions in later years and as will be discussed in chapter 4.3.7, departure from rationality is an issue of fact and therefore an empirical question.
1997 Such evidence traditionally consists of e-mails and/or other qualitative sources. However, in Tetra Pak II, the General Court opined that accounting and financial data can be used to show the existence of eliminatory intent: “such intent is apparent in particular from the duration, the continuity and the scale of the sales at a loss made throughout the period”. See, T-83/91, Tetra Pak v Commission, ECLI:EU:T:1994:246, para. 151. The statement suggests the use of break-even analysis as a means to show exclusionary intent.
opportunities to gain lawful capital injections.\textsuperscript{1999} Thus, the AKZO doctrine suggests the use of additional cost standards in certain situations (which will be developed in chapter 6.3).\textsuperscript{2000} The legal justification for such a conclusion is grounded on two considerations. First, the dominant firm should not be able to use its financial resources to subsidise its products or services. Second, the economic effect of such funding that results in unsustainable blow cost-pricing is over-consumption, which distorts allocative efficacy.\textsuperscript{2001} Hence, not only does such a financial bequeath diminish consumer welfare, it does so at the expense of competing products or services. Read in that light, it could be argued that normal competition to some extent is a concept of fairness that is filtered through the sundries of economic efficiency.

The conclusion that deviation from profit-maximisation is used as a benchmark for anticompetitive intent is not falsified by Compagnie Maritime Belge.\textsuperscript{2002} The fact that the application of Article 102 TFEU protected a less efficient competitor may raise criticism, but not from the point of rationality.\textsuperscript{2003} Of course, it would have been welcomed if the judgment in Compagnie Maritime Belge had fitted neatly with other decisions regarding pricing policies. Nonetheless, AKZO makes it clear that cost benchmarks are one way of establishing deviations from profit-maximisation.\textsuperscript{2004} In Compagnie Maritime Belge, the Court of Justice noticed that the alleged actions were part of a liner conference which had legally been granted to fix the rates, i.e. exemption from hardcore cartels. According to the specific regulation, firms could lawfully engage in price fixing agreements because such arrangements created stability and enhanced efficiency.\textsuperscript{2005} According to the Court of Justice, the only plausible rationale for deviating from such a fixed rate is to eliminate competition.\textsuperscript{2006} On the facts the Court of Justice applied Article 102 TFEU to prohibit selective above-cost price cuts. The ratio decidendi has a very limited application,\textsuperscript{2007} but it can nonetheless be argued that the precedent established in

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2000 & That is to say, cost of capital, cost of equity and debit and weighted average capital cost (WACC). \\
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2001 & By analogy, see A. E. Kahn, \textit{The Economics of Regulation: Principles and Institutions, Volume I}, MIT Press, 1988, pp. 69-70 \\
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Compagnie Maritime Belge may have two different consequences. The first is that the Court of Justice de facto applied some hybrid of a sacrifice test. The second is that Article 102 TFEU can be used to establish a price cap regulation, at least indirectly due to the umbrella effect the precedent establishes.2008

5.5.3 Intent as a Catalyst for Applying a Formalistic Standard

The Court of Justice has long recognised that the behavioural criterion of Article 102 TFEU is an objective concept.2009 Logically it follows that any intent to hurt competitors should not have relevance for the legal assessment. Nevertheless, it is abundantly clear from the precedents of the EU courts that some encumbrance is attached to the verification of anticompetitive intent under Article 102 TFEU. The obvious example when intent can have a significant effect is AKZO.2010 As has been argued in erstwhile sections, the criterion of intent is difficult to reconcile on its own with the idea of normal competition. A plan of a malicious act cannot by itself define an abusive action (although it can be an inherent part of it).2011 That being said, evidence of intent can aid judicial decision-makers to understand the likely effects of an implemented strategy by establishing the relevant interpretative facts and predictable sequences as long as the conduct is objectively capable of producing anticompetitive effects.2012 In Tomra the Court of Justice held that:2013

- Abuse is an objective concept, which suggests that intent is neither a necessary nor a sufficient conduction,

132. In addition, according of Advocate General Mengozzi, Compagnie Maritime Belge should be understood as an exception to the AKZO rule and only apply where the exceptional conditions are fulfilled. See, Opinion of Advocate General Mengozzi, C-209/10, Post Danmark A/S v Konkurrenserådet, ECLI:EU:C:2011:342, para. 95.
2011 In the context of cost-price assessments. Intent is of course an inherent part of the substantive test for determining vexatious litigation: “[It] is necessary that the action (i) cannot reasonably be considered as an attempt to establish the rights of the undertaking concerned and can therefore only serve to harass the opposite party and (ii) it is conceived in the framework of a plan whose goal is to eliminate competition (hereinafter ‘the two cumulative criteria’).“ See, T-111/96, ITT Promedia v Commission, ECLI:EU:T:1998:183, para. 55.
2013 C-549/10 P, Tomra v Commission, ECLI:EU:C:2012:221.
• The Commission is nonetheless under obligation to examine all the relevant facts surrounding that conduct,

• The Commission is necessarily required to assess the business strategy implemented by the accused firm and may hence refer to subjective factors, namely the underlying rationale of the conduct in question, and

• The existence of any anticompetitive intent constitutes only one of a number of facts that may motivate the conclusion of abuse, but it is not dispositive in and of itself.\(^{2014}\)

According to Advocate General Mazák, evidence of indent can be relevant for the purpose of understanding the dominant firm’s economic rationale and the likely effects of its market behaviour. This is because it places the practice in its relevant context, which permits the Commission to draw the correct conclusions about stiffening or fostering effects of the conduct.\(^{2015}\)

In Michelin II, the General Court held that the formalistic standard applies when it is established that the dominant undertaking pursues a strategy that has the purpose of eliminating competition,\(^{2016}\) suggesting that where there is evidence of intent it is enough to infer effects from the form of the conduct. Intent is thus an alternative or a proxy for unfavourable effects.\(^{2017}\) The most apparent example in support of such conclusion is Compagnie Maritime C-549/10 P, Tomra v Commission, ECLI:EU:C:2012:221, paras. 16-28.

"Nonetheless, it is true that the evidence of intent is not altogether irrelevant insofar as it may actually be relevant to the assessment of the behaviour of a dominant undertaking, which requires an understanding of the economic rationale of that behaviour, its strategic aspects and its likely effects. (...) such evidence may indicate whether the exclusion of competition was intended or, on the contrary, suggest another explanation for the practices under consideration. Indeed, the evidence allows the Commission to place the practices at issue in their context. For instance, if the Commission (or a national competition authority) finds on the basis of evidence in the file that an undertaking designed the rebate or discount schemes (also) for the benefit of consumers — if the undertaking was anticipating efficiency gains, say — then that fact should result in those authorities delving deeper in their investigation.” See, Opinion of Advocate General Mazák, C-549/10 P, Tomra v Commission, ECLI:EU:C:2012:55, para. 10.

"[For] the purposes of applying [Article 102 TFEU], establishing the anti-competitive object and the anti-competitive effect are one and the same thing. If it is shown that the object pursued by the conduct of an undertaking in a dominant position is to limit competition, that conduct will also be liable to have such an effect.” See, T-203/01, Michelin v Commission, ECLI:EU:T:2003:240, para. 241.

Belge, where evidence of intent lead to the prohibition by anticompetitive object,\textsuperscript{2018} rather than acquittal by its effects. According to the General Court, the fact that the targeted competitor had increased its market share during the implemented selective price cut was immaterial for the conclusion of abuse.\textsuperscript{2019} The argument put forward by the General Court is odd on at least two grounds. First, competitors’ growth ex post an implemented strategy should be clear and consistent evidence that anticompetitive foreclosure has not occurred or is highly unlikely to follow.\textsuperscript{2020} Second, the legal implication of the General Court’s counterfactual argument suggests that the notion of inferred anticompetitive effects should be understood as those that hinder competitors from overthrowing the dominant company even when the latter protects its position on the basis of efficiency,\textsuperscript{2021} which clearly is a closed circle argument. In British Airways, the General Court repeated and applied its counterfactual argument.\textsuperscript{2022} Whilst price discrimination can trigger the doctrine of special responsibility prohibitions, prohibiting such conduct by its form makes little economic sense.\textsuperscript{2023} Subsequent case law from the Court of Justice seems to indicate that discriminatory practices should be assessed on a case-by-case basis.

\textsuperscript{2018} See, Opinion of Advocate General Mengozzi, C-209/10, Post Danmark A/S v Konkurrencerådet, ECLI:EU:C:2011:342, paras. 88-93.
\textsuperscript{2019} “[The] applicants rely on the increase in G & Cs market share in order to maintain that the practice complained of had no effect and hence that there was no abuse of a dominant position. The Court however considers that, where one or more undertakings in a dominant position actually implement a practice whose aim is to remove a competitor, the fact that the result sought is not achieved is not enough to avoid the practice being characterized as an abuse of a dominant position within the meaning of [Article 102 TFEU]. Besides, contrary to the applicants’ assertions, the fact that G & C’s market share increased does not mean that the practice was without any effect, given that, if the practice had not been implemented, G & C’s share might have increased more significantly.” See, Joined cases T-24/93, T-25/93, T-26/93 and T-28/93, Compagnie Maritime Belge Transport and Others v Commission, ECLI:EU:T:1996:139, para. 149.
\textsuperscript{2021} “[The] protection of the commercial position of an undertaking in a dominant position with the characteristics of that of the applicant at the time in question must, at the very least, in order to be lawful, be based on criteria of economic efficiency and consistent with the interests of consumers. In this case, the applicant has not shown that those conditions were fulfilled.” See, T-228/97, Irish Sugar v Commission, ECLI:EU:T:1999:246, para. 189.
\textsuperscript{2022} “[The] growth in the market shares of some of BA’s airline competitors, which was modest in absolute value having regard to the small size of their original market shares, does not mean that BA’s practices had no effect. In the absence of those practices, it may legitimately be considered that the market shares of those competitors would have been able to grow more significantly.” See, T-219/99, British Airways v Commission, ECLI:EU:T:2003:343, para. 298.
\textsuperscript{2023} E. A. Valdivia, The Scope of the ‘Special Responsibility’ upon Vertically Integrated Dominant Firms after the Google Shopping Case: Is There a Duty to Treat Rivals Equally and Refrain from Favouring Own Related Business?, 41 World Competition 43, 2018, pp. 48-54.
In Post Danmark I, the Court of Justice ruled that absent of any evidence of anticompetitive intent, selective price cuts are to be encouraged as long as such discriminatory pricing reflects the dominant firms productive efficiency. The only effect such pricing policy can have on competing economic entities is that they will be hurt since they are less efficient and thus less interesting for the consumer in the long run. Moreover, in MEO the Court of Justice held that the discriminatory effect of an implemented price practice must reach a certain threshold, which is capable of excluding a competitor that is at least as efficient as the dominant firm. The precedence that follows from Compagnie Maritime Belge and the dispensation of effects analysis on a case-by-case basis only applies in exceptional circumstances. Consequently, it is an exception rather than the rule.

Evidence of a malicious plan to eliminate can of course shed some light regarding the likelihood of effects, but the possibility cannot be too remote or purely theoretical. In AstraZeneca, the General Court required the Commission to demonstrate some objective likelihood that one of AstraZeneca’s impugned conduct could produce unwarranted effects (something which the

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2025 C-209/10, Post Danmark v Konkurrenserådet, ECLI:EU:C:2012:172.
2026 C-209/10, Post Danmark v Konkurrenserådet, ECLI:EU:C:2012:172, paras. 22 and 38.
2027 “It is necessary to examine all the relevant circumstances in order to determine whether price discrimination produces or is capable of producing a competitive disadvantage, for the purposes of subparagraph (c) of the second paragraph of Article 102 TFEU. (…) When it carries out the specific examination (…) the competition authority or the competent national court is required to take into account all the circumstances of the case submitted to it. It is open to such an authority or court to assess, in that context, the undertaking’s dominant position, the negotiating power as regards the tariffs, the conditions and arrangements for charging those tariffs, their duration and their amount, and the possible existence of a strategy aiming to exclude from the downstream market one of its trade partners which is at least as efficient as its competitors.” See, C-525/16, MEO - Serviços de Comunicações e Multimédia, ECLI:EU:C:2018:270, paras. 28 and 31.
2028 “I would, on the other hand, accept that, normally, non-discriminatory price cuts by a dominant undertaking which do not entail below-cost sales should not be regarded as being anti-competitive. In the first place, even if they are only short lived, they benefit consumers and, secondly, if the dominant undertaking’s competitors are equally or more efficient, they should be able to compete on the same terms. Community competition law should thus not offer less efficient undertakings a safe haven against vigorous competition even from dominant undertakings. Different considerations may, however, apply where an undertaking which enjoys a position of dominance approaches a monopoly, particularly on a market where price cuts can be implemented with relative autonomy from costs, implements a policy of selective price cutting with the demonstrable aim of eliminating all competition. In those circumstances, to accept that all selling above cost was automatically acceptable could enable the undertaking in question to eliminate all competition by pursuing a selective pricing policy which in the long run would permit it to increase prices and deter potential future entrants for fear of receiving the same targeted treatment.” See, Opinion of Advocate General Fennelly, Joined Cases C-395/96 P and C-396/96 P, Compagnie Maritime Belge Transport and Others v Commission, ECLI:EU:C:1998:518, para. 132.
Commission had failed to examine), implying that there must be some form of correlation between intent and the objective capacity of the practice.

In France Télécom, the General Court nuanced the principle established in Michelin II, where it held that establishing anticompetitive effects and anticompetitive objectives can be the same if it is shown that the strategy pursued is to eliminate competition. One issue with condemning pricing below short-run cost is that such bright-line rules can be difficult to apply without risking some form of decision-making error. Pricing below some cost criterion can be motivated by exclusionary intent, but it can also serve a legitimate business reason, hence such analysis may not yield any noncommittal conclusion. It is in this context evidence of intent can reinforce the conclusion of anticompetitive practice, i.e. the adopted strategy only had the purpose of ousting competition to the shortcoming of consumers. The fact that the adopted practice has not yet showed any concrete effects on the market is immaterial for the legal categorisation of abuse.

The issues with intent as a criterion for liability under Article 102 TFEU is that EU antitrust law is mostly about efficiency, and therefore any test that seeks to obtain the economic purpose must be able to assess the undertaking’s motive to oust efficiency in the absence of any other plausible explanation. This may create distinction problems between unlawful conducts and those that are part of competition on the merits, due to the inherent nature of competition. In the extreme, lack of intent may be regarded as an indicium of collusive behaviour.

2031 "Pricing below cost, for example, seeks to reap sales beyond those earned by a monopolist’s successful efforts to make itself more efficient, and can thus divert sales from rivals in a way that impairs rival efficiency even if the defendant never made itself more efficient than its rivals." See, E. Elhauge, Defining Better Monopolization Standards, 56 Stanford Law Review 253, 2003, p. 256.
2033 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 65.
2036 “Most businessmen don’t like their competitors, or for that matter competition. They want to make as much money as possible and getting a monopoly is one way of making a lot of money. That is fine, however, so long as they do not use methods calculated to make consumers worse off in the long run.” See, Olympia Equipment Leasing Company and Others v Western Union Telegraph Company, 797 F.2d 370 (7th Cir. 1986). See also judge Easterbrook’s statement in AA Poultry Farms: “Firms "intend" to do all the business they can, to crush their rivals if they can.” See, AA Poultry Farms Inc v Rose Acre Farms Inc, 881 F. 2d 1396 (7th Cir 1989).
5.6 The Relevant Standard for Anticompetitive Effects

The shift towards a more effects-based approach to exclusionary conducts sparks the notion of the relevant standard when analysing effects. The core of the query is entrenched in the judicial control the courts ought to exercise.

However, as stated supra, because the EU antitrust procedural enforcement system is two-tiered, the justification differs. At the member state level, harmonising the effects analysis is motivated by, inter alia, the principles of effectiveness and consistent application of EU law. At the EU level, determining the relevant standard of effects is a means to exercise judicial control over the complex economic or technical assessments made by the Commission. Thus, there is an overlap between the standard of effects and the Commission’s margin of discretion regarding complex assessments. Notwithstanding the intricate nature, the Court of Justice has consistently held that a prima facie exclusionary abuse is a conduct that makes it impossible or more difficulty for rivals to operate in the market. As the law stands, the scope of the effects analysis is limited to identifying whether the price policy harms competition by ousting competitors as efficient as the dominant firm.

As a starting point, it is appropriate to observe the relevant time scope that ought to apply to a dominant firm’s conduct. Judging the effects of an implemented practice can be based on a backwards-looking analysis or a forward-looking appraisal. A backwards-looking analysis aims to ascertain the actual effects the conduct has had in the market, whereas a forward-looking appraisal seeks to establish the potential effects the practice is capable of having on competition. The Court of Justice has held that the legal evaluation is

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2040 See, e.g. V. Bastidas, En Effektbaserad Kontra en Formbaserad Bedömning av Missbruk enligt Artikel 102 FEU – Tribunals Avgörande i Intel (An Effects-Based Contra A Form-Based Assessment of Abuse under Article 102 TFEU – The General Court’s Judgment in Intel), Ny Juridik 3:14 s. 31, pp. 54-55.

subject to a forward-looking appraisal, which aims to establish the potential effects.\footnote{2042}

The rationale for adopting a prospective evaluation is that Article 102 TFEU is prophylactic.\footnote{2043} As a result, it is possible to prohibit a practice before the actual anticompetitive effects have materialised in the market. The provision applies where the risk of exclusionary effects is eminent. The EU courts have expressed the relevant risk of competitive harm in probabilistic terms, i.e. the conduct is capability and/or likelihood to result in exclusionary effects.

5.6.1 Capability and Likelihood Thresholds

As the law stands, any assessment of anticompetitive effects under Article 102 TFEU is performed on a prospective appraisal. The prognosis is nonetheless subject to an analytical evaluation which seeks to identify if the impugned practice is capable or likely to make competition impossible or more difficult.\footnote{2044}

Although both concepts aim to identify the potential effects, ex ante, they do so in a materially different manner. The capability or capacity threshold aims to identify conducts that tend to result in anticompetitive effects. The baseline is in essence a presumption, as actual effects are not necessary.\footnote{2045} On the other hand, the likelihood baseline seeks to ascertain if the practice is likely to result in exclusionary effects.\footnote{2046} The likelihood threshold, in contrast to capability, has to be established on a case-by-case basis.

A significant difficulty is that the EU courts often use capability and likelihood as synonyms,\footnote{2047} making it hard to grip their scope and application. The

\footnote{2042} “[I]n order to establish whether such a practice is abusive, that practice must have an anticompetitive effect on the market, but the effect does not necessarily have to be concrete, and it is sufficient to demonstrate that there is an anti-competitive effect which may potentially exclude competitors who are at least as efficient as the dominant undertaking.” See, e.g. C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 64.


\footnote{2047} “[F]or the purposes of establishing an infringement of [Article 102 TFEU], it is not necessary to demonstrate that the abuse in question had a concrete effect on the markets concerned. It is sufficient in that respect to demonstrate that the abusive conduct of the undertaking in a
lack in clarity has sparked a legal discord about the concepts’ actual use, e.g. the legal standard, the risk of competitive harm or the standard of proof.

For the purpose of identifying the potential effect of a price practice, the case law suggests that the thresholds are connected to the profit levels. The Court of Justice held in TeliaSonera that a price practice is exclusionary, where the practice is lossmaking or the profitability is artificially reduced. In addition, the potential anticompetitive effects must be related to the competitive barriers the conduct may create, making it more difficult or impossible for an as efficient competitor to enter the market in question.

The ratio indicates that capability applies where the commercial practice is lossmaking, whereas likelihood applies if the policy is profitable. Seen in this light, the former is justified on the assumption that a lossmaking practice will make market entry impossible. In contrast, the latter is justified by the notion that the profit level can make it more difficult to enter the market.

As the law stands, pricing below the appropriate cost measurement is viewed as presumptively exclusionary. The anticompetitive effects are inferred from the lossmaking practice without the need of show an actual impact on the mark. On the other hand, pricing at or above the appropriate cost

dominant position tends to restrict competition, or, in other words, that the conduct is capable of having, or likely to have, such an effect.” See, T-219/99, British Airways v Commission, ECLI:EU:T:2003:343, para. 294.


Lovdahl Gormsen argues capability and actual affects relates to the standard of proof. See, L. Lovdahl Gormsen, Are Anti-competitive Effects Necessary for an Analysis under Article TFEU?, 36 World Competition 223, 2013, p. 225. However, according to Kalintiri, when dealing with probabilities, there is a conceptual overlap between standard of proof and legal tests. The former, at least in common law jurisdictions, refers to required degree of probability that is needed to accept something as true, whereas the latter refer to the degree of harm that is needed to intervene in the market. See, A. Kalintiri, Evidence Standard in EU Competition Enforcement: The EU Approach, Hart Publishing, 2019, p. 79. In addition, the fact that probability often carries a connotation to evidential matters, e.g. the evidence that the authority has as its disposal and standard of proof, risk of harm and evidence should not be confused. See, M. Van der Woude, Judicial Control in Complex Economic Matter, 10 Journal of European Competition Law & Practice 415, 2019, p. 417.

C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 32-33.

’[Anticompetitive] effect must relate to the possible barriers which such a pricing practice may create to the growth on the retail market of the services offered to end users and, therefore, on the degree of competition in that market’. See, C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 62.

C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 63.


yardstick is presumed to be competition on the merits.\textsuperscript{2055} To be clear, pricing at cost is not a safe harbour, it a rebuttable presumption. The General Court took the view in Slovak Telekom that a positive profit margin can be exclusionary,\textsuperscript{2056} which is in line with Irish Sugar and Compagnie Maritime Belge.\textsuperscript{2057}

The legal grapple is to ascertain which cost measurements that are appropriate to use for antitrust purposes. Indeed, there is a plethora of different economic and accounting cost yardsticks. To identify the potential competitive harm, a relevant cost measurement should take into account the market characteristics as well as the nature of the product or service in question.

5.6.2 Prospective Appraisal of Effects and the Relevant Circumstances

The prospective appraisal of potential effects raises the legal query of which circumstances that are relevant to establish a finding of exclusionary abuse. The forward-looking evaluation is concerned with the potential or likely exclusionary effects that can be attributable to the implemented practice.\textsuperscript{2058} The issue is that there is a time discrepancy between the implemented practice and judicial review. The time lag raises the question of the relevant scope of the inquiry that can be pleaded. The general rule is that the appraisal must be based on the facts at the date on which the contested decision is made.\textsuperscript{2059}

Assessing the capability of a conduct builds on an artificial snapshot of competition at the time when the practice was implemented.\textsuperscript{2060} The EU courts cannot, as a general rule, consider how the market has evolved after the date

\textsuperscript{2056} T-851/14, Slovak Telekom v Commission, ECLI:EU:T:2018:929, para. 259.
\textsuperscript{2058} C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651, para. 65.
\textsuperscript{2059} “[In] the context of an application for annulment under [Article 263 TFEU] the legality of the contested measure must be assessed on the basis of the elements of fact and of law existing at the time when the measure was adopted.” See, joined cases 15/76 and 16/76, France v Commission, ECLI:EU:C:1979:29, para. 7.
\textsuperscript{2060} “Since, at the time of the conduct complained of, travel agents established in the United Kingdom carried out 85% of all air ticket sales in the territory of the United Kingdom, BA’s abusive conduct on the United Kingdom market for air travel agency services cannot fail to have had the effect of excluding competing airlines (to their detriment) from the United Kingdom air transport markets, by reason of the close nexus existing between the markets in question, as has been established in the examination of the fourth plea.” See, T-219/99, British Airways v Commission, ECLI:EU:T:2003:343, para. 295.
of the decision, even if it turns out the be wrong. As a result, pleas and evidence about how the market actually developed are irrelevant for the finding of anticompetitive conduct. In Microsoft, the General Court considered that the fact that neither the theories nor the anticipated anticompetitive effects had materialised did not alter the legality of the Commission’s decision.

The efficacy of applying the as efficient competitor test is that it can establish the capability of the conduct as well as the likely attributable result of an implemented practice. Failure to pass a price-cost test is a sufficient circumstance to qualify the conduct as anticompetitive without the need to show actual or likely effects. As a result, the fact that a competitor is as efficient as the dominant firm but has not left the market because of its financial resources is not a valid circumstance. It follows that under the capability threshold there is a limited set of circumstances that can be invoked to challenge the legal qualification. As the law stands, the legal matter boils down to how to perform an as efficient competitor test, in particular which cost benchmark is to be applied.

The exception seems to be when the actual or likely effects of a practice need to be evaluated, in particular if the conduct tends to make entry more difficult. In Post Danmark I, the Court of Justice explained that where a dominant firm’s prices cover the greater bulk of costs, the practice is not abusive, as a general rule. In such circumstances, for the practices to be prohibited under Article 102 TFEU anticompetitive effects must be shown. The key

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2062 “By reason of that effect produced by the reward schemes applied by BA on the United Kingdom air transport markets, the Court cannot accept BA’s argument that the contested decision contains no analysis of the air transport markets or empirical proof of the damage which its financial incentive schemes caused to competitor airlines or to travellers. (…) Furthermore, where an undertaking in a dominant position actually puts into operation a practice generating the effect of ousting its competitors, the fact that the hoped-for result is not achieved is not sufficient to prevent a finding of abuse of a dominant position within the meaning of Article 82 EC. (…) Moreover, the growth in the market shares of some of BA’s airline competitors, which was modest in absolute value having regard to the small size of their original market shares, does not mean that BA’s practices had no effect. In the absence of those practices, it may legitimately be considered that the market shares of those competitors would have been able to grow more significantly.” See, T-219/99, British Airways v Commission, ECLI:EU:T:2003:343, paras. 296-298.
2066 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 38.
2067 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 39.
difference is that the assessment can be based on a backwards-looking analysis.\textsuperscript{2068} Evidence concerning actual market development constitutes strong indications,\textsuperscript{2069} unlike the claim that it will take a longer time period for the dominant firm to earn reasonable profits.\textsuperscript{2070}

### 5.6.3 Theory of Harm

The adoption of an effects-based approach to Article 102 TFEU by Commission implies the use and development of a convincing theory of harm.\textsuperscript{2071}

Given the open-textual design of the provision, a specific issue is that pro- and anticompetitive conducts may look fairly similar (observational equivalence), another is that the applicable scope should be fairly certain to predict ex ante. To remedy the problem, many enforcement agencies use a credible theory of harm to identify and explain how a specific conduct may qualify as abusive given its adverse effects on competition.\textsuperscript{2072} A theory of harm is an economic narrative that enables application of sound economic principles to the specifics of a case. One advantage of such approach is that it can discriminate between fostering and ousting effects on competition, such an analytical tool may also mitigate the possibilities of over- and underenforcement.

The application of a sound theory of harm implies two cumulative conditions. First, the narrative or design of the theory. Second, supporting circumstances. The Court of Justice’s judgment in Intel supports such a claim. The judgment seems to indicate that it is not enough to have a theory of harm, its accuracy and relevance must also be verified by supporting evidence.\textsuperscript{2073}

According to Zenger and Walker, a well-articulated theory of harm should have the characteristics of:

\begin{itemize}
\item \textsuperscript{2069} C-209/10, *Post Danmark v Konkurrencerådet*, ECLI:EU:C:2012:172, para. 39.
\item \textsuperscript{2073} C-413/14 P, *Intel v Commission*, ECLI:EU:C:2017:631, paras. 138-139.
\end{itemize}
Articulating how competition and, ultimately, consumers will be harmed relative to an appropriately defined counterfactual;

Being internally logically consistent;

Being consistent with the incentives that the various parties face; and

Being consistent with (or at least not inconsistent with) the available empirical evidence.\textsuperscript{2074}

The theory of harm must specify the harmful effects of the unilateral conduct that is being investigated, like for example how the behaviour will increase price or, in a more complex setting, decrease consumer welfare through reduction in choice, restrictions on quantity, or limits on innovation. The timeframe when the injurious effects are likely to occur should be spelled out explicitly. Such an obligation would be compatible with the principle of legal certainty and not constitute an unreasonable burden on the robustness of the theory.

Despite that some authors argue that cost-price appraisal has a limited role to play in the overall competitive assessment,\textsuperscript{2075} cost-price comparisons are more often than not the only key evidence that antitrust authorities can rely on.\textsuperscript{2076} It could therefore be argued that cost yardsticks may consolidate the narrative of the theory for two reasons. First, by indicating the dominant undertaking’s incentive and ability to engage in exclusionary acts and second, by showing the possibility and likelihood of anticompetitive effects.

To limit the probability of under- or overenforcement it is necessary to apply a counterfactual analysis (the but-for world). A counterfactual is a hypothetical situation in which the investigated anticompetitive strategies are implemented.\textsuperscript{2077} By comparing the two situations, a proper counterfactual analysis can demonstrate the robustness of the theory of harm and the probability of foreclosure and consumer harm. The Commission will normally assess the possibility of exclusionary effects by comparing the actual or likely future situation based on market characteristics of the relevant market.\textsuperscript{2078}

Counterfactuals can be used by the accused firm, which may employ such analysis to show that the theory of harm has serious shortcomings or that the conduct did not have a realistic possibility to harm competition (counterfactual defence). For instance, depending on how the calculation has been performed in combination with the long-run perspective of productivity growth, not every deficit in revenue is unfavourable to competition. A firm might not have any incentives or exclusionary strategies. Instead, below-cost behaviours can occur because of external factors. This creates at least two legal problems. First, even though selling below some measure of short-run cost measurement might indicate exclusion it is not a sufficient condition to show that productivity growth will be hampered in the long run. Second, although the Commission has a margin of discretion when it comes to complex economic and technical assessments, the case law of the EU courts indicates that judicial review intensifies when the projection is made to establish something far into the future.\textsuperscript{2079} Under such circumstances the Commission must establish a clear link between its economic argument and the facts or show evidence in support of its conclusion.\textsuperscript{2080}

The theory of harm must thus identify the correct competitive strategy that is consistent with the exclusionary incentives of the dominant firm and coherent with the relevant empirical evidence.

### 5.7 The Commission’s Concept of Harm

The Commission, in its effort to bring Article 102 TFEU in line with its more economic approach, has adopted the concept of anticompetitive foreclosure as its benchmark. According to the Guidance Paper, anticompetitive foreclosure

\textsuperscript{2077} D. Geradin and I. Girgenson, \textit{The Counterfactual Analysis in EU Merger Control}, 2013, p. 2.
refers to a situation where competitors are injured by the dominant undertaking’s conduct, bringing it into a position where it can profitably increase prices which harms consumers. For the purpose of identifying practices that are incompatible with the chosen concept of harm, the Guidance Paper has adopted an anticompetitive foreclosure test. The test builds on two distinct concepts or pillars:

1. Foreclosure
   The concept refers to the hinderance, exclusion or elimination of actual or potential competitors. In relation to price-based exclusions, the concept implies that competitors can only compete with the dominant undertaking at an artificially low or negative profit margin. The Discussion Paper, unlike the Guidance Paper, makes a clear reference to the ability to trade profitably. According to the Discussion Paper, exclusionary abuses that are likely to have foreclosure effects on the market are those that likely to completely or partially deny profitable entry or expansion by actual or potential competitors, and that ultimately results in consumer harm.

2. Consumer harm
   The notion of consumer encompasses both intermediate and final consumers. As a result of the broad notion adopted in the Guidance Paper, consumer harm can occur throughout the whole supply chain.

   The cumulative conditions imply that consumer harm is the epicentre of the Commission’s focus. According to the Guidance Paper, the emphasis on consumer harm is motivated by the need to oversee that the competitive process is unscathed by exclusions other than those that fall within the scope of competition on the merits. The aim is to ensure that consumers can maximise their benefit in terms of price, choice, quality, and innovation. These fundamental goals appear to be reciprocated in Post Danmark I and Intel.

   An exclusionary abuse should therefore only cover practises that have the potential to materialise into consumer harm. That is, an exclusionary abuse of dominance is a practice that produces, actual or potential, exclusionary effects that negatively impact consumer welfare.

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The emphasis on consumer welfare, expressed in the Guidance Paper, re-orientates and narrows down the applicable scope of Article 102 TFEU.2085 The underlying logic of such limitation is that a legal regime that protects the competitive process as a means of protecting consumers should permit exclusions that are incapable of or do not result in consumer harm.2086 The issue is which tool(s) and/or analytical framework that should be used to assess such harm?

5.7.1 Commission’s Framework when Assessing Competitive Harm

When assessing a conduct’s potential ability to harm competition, one needs to consider which circumstances that are relevant for such analysis. The first step is to ascertain the source of the exclusionary effect, i.e. whether the foreclosure is a result of the conduct’s pricing or non-pricing features. The second step is to determine which economic test to apply. The third step is to establish that the conduct is predominantly anticompetitive, i.e. establishing the intrinsic capability to foreclose. This step requires one to consider, inter alia, the dominant position, market characteristics and extent of the alleged abuse.

According to Advocate General Wahl, the purpose of analysing all relevant circumstances is to avoid over-inclusion. Performed correctly, the analysis seeks to make sure that it is the anticompetitive effects that are caught and not the procompetitive ones. By applying an objective legal standard and/or test and verifying the possible emergence of anticompetitive effects, over-inclusion can be avoided. This is because any measure adopted by the dominant undertaking can have anticompetitive effects, in theory.2087

5.7.2 Commission’s Central Enforcement Tool

A pivotal tool of the Guidance Paper is the as efficient competitor test, which the Commission intends to use as a screening device when enforcing Article 102 TFEU. Where the price mechanism is the predominant element of the exclusionary effect, the Commission will apply the test by using price-cost methodologies. According to the Guidance Paper, conduct where anticompetitive effects can be predominantly attributed to its price mechanics are:

predatory pricing, margin squeeze and different discount schemes.\textsuperscript{2088} For example, the Commission will assess the foreclosure effects of retroactive rebates by applying profitability analysis. The aim is to establish the strength of the loyalty-enhancing effect by analysing the dominant firm’s profitability.\textsuperscript{2089}

The Commission’s anticompetitive foreclosure test is not without criticism. First, the Commission’s use of the as efficient competitor test and especially its use of various cost yardsticks. An antitrust analysis that focuses on the dominant firm’s potential to trade profitably by assessing its price-cost relationship, is a formalistic and complete a priori deduction. As such, the method is not an effects-based analysis, instead it is an obsession with quantification.\textsuperscript{2090} While, the argument can be correct from an economic point of view, it is too one-sided as it falls short in its legal appreciation or lack thereof.

Second, since exclusionary foreclosure on the market is not the same as harm to consumers,\textsuperscript{2091} the Commission’s approach to establishing the cause-and-effect between the pillars (causal nexus) is unclear.\textsuperscript{2092} A strict application requires proof of the causal nexus, in addition to proving that both pillars are satisfied.\textsuperscript{2093} However, such a procedural regime may lead enforcement of Article 102 TFEU to become impossible or very difficult.

The aim of the as efficient competitor test is not to be a perfect test. As has been stated supra, the purpose of the test is to provide the dominant firm a safe harbour based on the timely facts to the dominant firm.\textsuperscript{2094} Although the application of the as efficient competitor test can result in false negatives, its fundamental legal objective is to strike a fair balance between effective application of Article 102 TFEU and legal certainty.


\textsuperscript{2090} See, e.g. J. Blockx, \textit{The Limits of the ‘More Economic’ Approach to Antitrust}, 42 World Competition 475, 2019, pp. 482-483.

\textsuperscript{2091} P. Akman, The EC Discussion Paper on the Application of Article 82, p. 10. Available at: https://ec.europa.eu/competition/antitrust/art82/004.pdf.


\textsuperscript{2093} G. Monti, \textit{Article 82 EC: What Future for the Effects-Based Approach?}, 1 Journal of European Competition Law & Practice 1, 2010, p. 3.

5.7.3 Relevant Factors when Assessing Anticompetitive Foreclosure

The Guidance Paper identifies seven key factors that are relevant when performing the as efficient replicability test and to determine whether the impugned price practice is capable of or likely to result in anticompetitive effects.2095

1. The Position of the Dominant Undertaking
   In general, the stronger the dominant position, the higher the likelihood that conduct protecting that position leads to anticompetitive foreclosure;

2. The Conditions on the Relevant Market
   This includes the conditions of entry and expansion, such as the existence of economies of scale and/or scope and network effects. Scale economies mean that competitors are less likely to enter or stay in the market if the dominant undertaking forecloses a significant part of the relevant market. Similarly, the conduct may allow the dominant undertaking to "tip" a market characterised by network effects in its favour or to further entrench its position on such a market. Likewise, if entry barriers in the upstream and/or downstream market are significant, this means that it may be costly for rivals to overcome possible foreclosure through vertical integration;

3. The Position of the Dominant Undertaking’s Competitors
   This includes the importance of competitors for the maintenance of effective competition. A specific rival may play a significant competitive role even with only a small market share compared to other competitors: it may, for example be the closest competitor to the dominant firm, be a particularly innovative competitor, or have the reputation of systematically cutting prices. In its assessment, the Commission may also consider in appropriate cases, on the basis of information available, whether there are realistic, effective, and timely counterstrategies that competitors would be likely to deploy;

4. The Position of the Customers or Input Suppliers
   This may include consideration of the possible selectivity of the conduct in question. The dominant undertaking may apply the practice only to selected customers or input suppliers who may be of particular importance for the entry or expansion of competitors, thereby enhancing the likelihood of anticompetitive foreclosure. They may, for example, be the ones

most likely to respond to offers from alternative suppliers, they may rep-
resent a particular means of distributing the product that would be suitable
for a new entrant, they may be situated in a geographic area well suited to
new entry or they may be likely to influence the behaviour of other cus-
tomers. In the case of input suppliers, those with whom the dominant firm
has concluded exclusive supply arrangements may be the ones most likely
to respond to requests by customers who are competitors of the dominant
firm in a downstream market, or who may produce a grade of the product-
or produce at a location - particularly suitable for a new entrant. Any
strategies at the disposal of the customers or input suppliers that could
help to counter the conduct of the dominant undertaking will also be con-
sidered;

5. The Extent of the Allegedly Abusive Conduct
In general, the higher the percentage of total sales in the relevant market
affected by the conduct, the longer its duration, and the more regularly it
has been applied, the greater the likely foreclosure effect is;

6. Possible Evidence of Actual Foreclosure
If the conduct has been in place for a sufficient period of time, the market
performance of the dominant firm and its competitors may provide direct
evidence about anticompetitive foreclosure; for reasons attributable to the
allegedly abusive conduct, the market share of the dominant firm may
have risen or a decline in market share may have been slowed; for similar
reasons, actual competitors may have been marginalised or may have ex-
ited, or potential competitors may have tried to enter and failed;

7. Direct evidence of any exclusionary strategy
This includes internal documents which contain direct evidence of a strat-
ey to exclude competitors, such as a detailed plan to engage in certain
conducts in order to exclude a rival, to prevent entry, or to pre-empt the
emergence of a market, or evidence of concrete threats of exclusionary
action. Such direct evidence may be helpful to interpret the dominant un-
dertaking's conduct.

5.8 Competition and Market Conditions
The state of competition in a market is often a result of the market conditions
in a particular industry. A key step in the competitive analysis is the concept
of barrier to competition. The concept refers to conducts that can have a pro-
found impact on the structure of competition. As will be analysed in chapters
6.3.10, and 6.4.4.2, there are different types of barriers that aim to provide
different explanations. The state of play in competition analysis is the focus
on network effects. The notion has had particular importance for the antitrust assessment in industries where the dominant undertaking operates a significant portion of the supply chain. As a result, the use of network analysis is to identify where in the supply chain the accused dominant firm has an incentive to implement exclusionary behaviours. That is, where a competitive injury is likely to occur due to monopolistic behaviours. The legal query that arises is how to identify the potential foreclosure mechanics on an implemented price policy in such industries.

5.8.1 The Significance of Market Characteristics

The role of market investigation is two-fold. On the one end, market inquiry seeks to establish the relevant market by identifying the boundaries of competition and to assess market power. On the other end, market examination aims to ascertain the relevant criteria to perform a robust competitive assessment, which is necessary to correctly classify a conduct. This is implying that market characteristics can provide a quick-look screening analysis concerning the likelihood of enforcement errors of the first and second kind.

Gual and Mas demonstrate empirically that the Commission uses industry characteristics as an efficient selection base to predict the likely result of anticompetitive foreclosure. According to Robertson, in Article 102 TFEU investigations, the substantive analysis is entrenched in the relevant market.

The Court of Justice has recognised that industry characteristics have a direct impact on the authority’s assertion that the implemented practice can result in anticompetitive foreclosure. In Budapest Bank, an Article 101 TFEU case, the Court of Justice’s ruling indicates that the nature of the goods and

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services and the market in question are some of key criteria that must be considered. The analysis of market features also applies to abuse of dominance.

It follows from the Court of Justice’s rulings in Post Danmark II and Intel, that careful account must be taken when assessing the market features. Market characteristics have at least two distinct and direct implications for the forensic analysis. First, the relevant replicability test – e.g. as efficient competitor or profit sacrifice test – is affected by the possible barrier to competition, e.g. access obligations such as airport slots and interconnection to a network. Second, a firm’s cost structure (the portion of variable and fixed costs) is the result of the underlying industry characteristics of the market. Therefore, an appropriate point of the departure is to analyse the portion of variable vis-à-vis fixed costs that the operating dominant firm is faced with.

5.8.2 Key Properties in Network Markets

Network industries are characterised by the supply of added value complementary goods and/or services through the supply chain. A supply chain can be defined as all functions that are involved in the fulfilment of customer requirements. The endgame of a supply chain is to maximise supply chain surplus, i.e. the value to end-customers minus the total supply chain cost.

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2100 "[In] order to determine whether an agreement between undertakings or a decision by an association of undertakings reveals a sufficient degree of harm to competition to be considered a restriction of competition ‘by object’ within the meaning of Article 101(1) TFEU, regard must be had to the content of its provisions, its objectives and the economic and legal context of which it forms a part. When determining that context, it is also necessary to take into consideration the nature of the goods or services affected, as well as the real conditions of the functioning and structure of the market or markets in question." See, C-228/18, Budapest Bank and Others, ECLI:EU:C:2020:265, para. 51.


2103 “[In] a situation such as that in the main proceedings, characterised by the holding by the dominant undertaking of a very large market share and by structural advantages conferred, inter alia, by that undertaking’s statutory monopoly, which applied to 70% of mail on the relevant market, applying the as-efficient-competitor test is of no relevance inasmuch as the structure of the market makes the emergence of an as-efficient competitor practically impossible.” See, C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651, para. 59.


Based on the introductory overview, it should be clear that identifying exclusionary pricing in network industries is complex. The core challenge is to identify how the dominant firm’s price practice can result in competitive harm. The traditional view is that a dominant firm uses exclusionary prices in network sectors at the infrastructure and/or service levels.2106

1. Network infrastructures (e.g. railway tracks, airports, telecommunications networks), and/or

2. Network services (e.g. air transport, telecommunications services, generation and retail of electricity).2107

The classification is a common point of the departure, but since the levels are integrated or interconnected in network industries, the injury is the result of the relevant interconnection issue.2108 Interconnection is often categorised as vertical and horizontal. Networks are vertically interconnected where they are complementary to each other, whereas networks are horizontally interconnected where they are substitutes.2109 Competition concerns arise where the dominant undertaking uses price practices as a tool to create artificial interoperability gaps that result in significant barriers to entry.2110

5.8.3 Primer on Network Externalities

A network consists of two or more links that connect nodes that are complementary to each other.2111 The concept network effects seeks to identify and


measure the relationship and connectivity between nodes in terms of value. The externality of these effects are the utility gains caused by adoption rate, e.g. a firm’s profits are directly affected by the number users and/or compatible technology.\textsuperscript{2112} In network industries, users gain value from a network because it enables interactivity with other users by interaction or trade.

Network effects and/or network externalities are said to occur when the value of the network is determined by its demand, i.e. a shift in value is caused by a change in demand.\textsuperscript{2113} This value-demand tandem phenomena can be described as demand-side economies of scale.\textsuperscript{2114} The term network externality is often used to describe how existing users of a network benefit from increasing return in consumption.\textsuperscript{2115} A demand-side feedback loop is however external to opt-in users. The fact that the value of a network also increases for the existing base is a consequence of the decision to opt-in and not a desired goal.\textsuperscript{2116}

### 5.8.4 Positive and Negative Network Externalities

Economists tend to describe network externalities in terms of positive and negative externalities.\textsuperscript{2117} Positive network externalities refer to situations where the utility of a network increases with the additional consumption.\textsuperscript{2118} Positive externalities can be either direct or indirect. Direct refers to the increase in value of a product as more use it, whereas indirect refers to when the growth in usage of one product increases the value of the complementary.\textsuperscript{2119}

On the other hand, negative network externalities describe when the utility of a network decreases as the number of total consumers increases. The negative network externality is a result of congestion costs.\textsuperscript{2120} Congestion costs

\textsuperscript{2114} This is because supply-side economies do not have any effects or at least insignificant ones.
refer to the prevention or delay to gain access to a network.\textsuperscript{2121} In physical networks the congestion results from infrastructure bottlenecks, because the network cannot manage the increase, e.g. Internet fibre cable or railway track.\textsuperscript{2122}

Infrastructure bottlenecks (so-called infrastructure management, e.g. air traffic and railway traffic),\textsuperscript{2123} are often managed by revenue management tools that deploy refined price practises where the product is perishable. A product is perishable if cannot be stored and sold after a given time,\textsuperscript{2124} e.g. the airplane seat cannot be sold after departure.\textsuperscript{2125} The aim is to profit-maximise and smooth out fluctuations in the network by anticipating consumer demand, in particular under peak loading settings.\textsuperscript{2126}

Network effects are an important source to identify and explain dominance in economic theory.\textsuperscript{2127} In addition, competition in markets that display significant direct network externalities tends to be characterised a winner-takes-all market.\textsuperscript{2128} On such a market, competition is for the market instead of in the market. Once the undertaking has reached beyond critical mass or the tipping point in number of users, the network will tip in favour of the dominant firm, thus excluding network competition.\textsuperscript{2129} Inherent in the critical mass concept

\begin{thebibliography}{100}
\bibitem{2122} See, e.g. E. Broman and J. Eliasson, \textit{Market Dynamics in On-Rail Competition} 22 Transportation Research Procedia 231, 2017,
\bibitem{2129} “While network effects by definition create certain value for users, they can also make competition more difficult. For example, they may entrench the position of a strong market player and can prevent competitors from gaining customers. As the number of users of a particular service grows, more new users are attracted to the same service, in a positive feedback loop. Once a product reaches a ‘tipping point’ in the number of users, its network may make it the most attractive alternative to consumers, and it may end up dominating the market. This is why some companies offer digital services for free - to generate a critical mass of users. Competitors with smaller networks may find it difficult to grow or even to protect their existing customer base from migration to the largest and most attractive network. The negative impact of network effects on competition can be aggravated by the lack of interoperability with the products of competitors (i.e. resulting in a ‘walled-off’ network of the winner) and by high customer switching costs (monetary, contractual, know-how, etc.).” See, E. Ocello, C. Sjödin
is the so-called “chicken and egg” paradox. According to the paradox, most consumers are uninterested in purchasing the product because the base is too small, and the size of the installed base is the direct result of the insufficient number of consumers willing the purchase the product.

The paradox can provide useful information about the underlying strategic motivation behind below-cost pricing. If the product is new or the dominant firm starts operating a new network route, the only viable way to reach critical mass is to provide customers with information through the below-cost conduct. The implication of the paradox is, where the market is characterised by network externalities, the focus should be on long-term profitability and long-run cost yardsticks.

5.8.5 Price-Based Strategies in Networks

5.8.5.1 Pricing Behaviours in Markets with Network Effects
A free market economy is characterised by a free price system where prices float freely according to undisrupted market mechanisms, unlike a fixed price system where prices are regulated by appointed government bodies. Article 119(1) TFEU promulgates that the internal market is based on an economic policy in accordance with the principle of an open market economy with free competition. One legal consequence of the proclamation, in the context of Article 102 TFEU, is that price charged is the only legitimate source of monetisation for a dominant firm, i.e. the lawful means of disposal for the harmonious operator to finance its operations sustainably. Nonetheless, there are different pricing schemes, each with its own objective and rationale and the industry structure forms the boundaries of strategic planning as well as its implementation. The correct approach in identifying the appropriate sources of monetisation requires a careful assessment of the profit potential in the market because distinct sectors often display significant dissimilarities in dynamics. Consequently, the content of the relevant cost measurement is not the

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same from sector to sector, i.e. the definition and content of an avoidable cost changes with market characteristics. The approach is not without merits. According to Advocate General Wahl, a correct assessment of the industry structure is a prerequisite to finding that an abuse has occurred, even a presumptive one.\textsuperscript{2135} The inquiry aims to trace the roots and sources of the dominant firm’s competitive behaviour by applying forensic methodology. An important source that causes markets to exhibit substantive differences is that the dynamics of the market arises from the fundamental economic characteristics that are inherent in the particular industry segment. The digital era and the Internet of Things has pressured competition towards a more service-based landscape.\textsuperscript{2136} The rise of cloud-based services increases the need to correctly probe the market, because the digital age has eroded the perceived fusion between tangibles and intangibles. As a result, communication and transaction activities demand less physical market or platform attendance. An evident example is how physical communication has moved towards cloud-based messaging, e.g. iMessage, Snapchat and Facebook Messenger. As a result, some markets are characterised by theirs interconnected grids. Competition is no longer synonymous with competition \emph{in} the market, competition can likewise be \emph{for} the market (subject to the circumstances).\textsuperscript{2137} The perception that markets are crossroads comprising of networks is a valuable insight for antitrust stakeholders.\textsuperscript{2138} A key issue is nonetheless how profitability should be addressed in markets which are characterised by significant network effects. Although the concept of network effects seems straightforward, its application can yield different insights in different markets or industries.\textsuperscript{2139} This is because network theory applies differently, subject to its physical, technical and economic context. Depending on the aforementioned facts, firms’ business models, strategies and profit calculations vary accordingly, resulting in important differences regarding the application and conclusions of accounting and financial theory.

This chapter has two main objectives. The first is to pinpoint the key features of the market and the second is to analyse their legal characteristics (i.e. ascertaining their qualification as relevant circumstances when evaluating the adopted pricing mechanism or price structure by the dominant firm). An understanding of how markets work is a basic premise for applying antitrust law

\textsuperscript{2135} Opinion of Advocate General Wahl, C-413/14 P, \textit{Intel Corporation Inc., v Commission}, ECLI:EU:C:2016:788, para. 73.
\textsuperscript{2138} For example, for firms when formulating their digital and/or platform strategies by deciding on the “right” mix of digital and physical delivery. For antitrust enforcers when modulating their antitrust policy by identifying which goal to presume and which methods to use
Accordingly, section II will outline the notion of network effects. Sections III-IV will use the insights from aforementioned section and apply them to three different network industries: aviation, telecommunication and social media platforms. The aim is to identify and explain how economic modifications in market characteristics influence the drivers of exclusionary strategies across the markets. The inquiry will show that the three industries vary substantially in industry structure and dynamics even though they demonstrate significant network effects. Consequently, the adopted pricing behaviour and possible competitive harm is altered across them, which implies different theories of harm as well as alterations in the definition of the as efficient competitor.

5.8.5.2 Price Structures in Network Industries: Is Zero-Pricing Always Distortive?

An important implication is the effect that this kind of externality tends to produce, known as tipping or bandwagon effect. The term tipping effect describes the situation when a whole industry or a significant portion of the customer base is locked into a standard.\textsuperscript{2141} As was noted earlier, Whish contends that the fixed-variable cost paradigm may not always be a suitable approach. In network industries, a feature of firms' cost structure is that they often display significant economies of scale and as a result variable or marginal cost of production tends to be zero.\textsuperscript{2142} Note that some of these markets often exhibit zero-pricing (zero-price markets),\textsuperscript{2143} and economists have therefore proposed a crossover analysis to identify the effects of such pricing.\textsuperscript{2144}

A particular feature in network industries is that they often exhibit pricing policies that would be deemed unlawful in “traditional” market settings.\textsuperscript{2145} Applying a too rigid quick look analysis may do more harm than good for the

\textsuperscript{2140} V. H. S. E. Robertson, \textit{The Relevant Market in Competition Law: A Legal Concept}, 7 Journal of Antitrust Enforcement 158, 2019, 159.
competitive process. A sector which is characterised by significant network externalities may even justify zero pricing structures, which emphasises, but also stresses the difficulty of designing a suitable theory of harm. An attributing source to the problem is the theory on two-sides markets.

Nonetheless, most markets which display network externalities are two-sided or multi-sided. But, there are economists that argue that multi-sided markets are a specific form of network externalities.

A two-sided market typically displays two main characteristics. The first is that the decision of one side is dependent on the decision of the other side. This is because such markets or platforms are typified by the simultaneous operation by at least two distinct groups, which are dependent of each other in some way. The success of a platform depends on reaching critical mass on both sides, i.e. “get both sides on the board”. The second is that multi-sided platforms enable price structures that take advantage of existing network externalities. As a result, price schemes often tend to deviate from the economic literature. Platform price practices often result in negative prices or zero-pricing for one side of the platform. Although such financial incentives can appear to be anticompetitive, there can be a procompetitive justification for the behaviour. The relationship between revenue and cost is intricate and the logic of cost-price comparison in single-markets does not apply. To achieve sustainable financial performance, the key is to choose an appropriate business model.

The concept of network effects and two-sided platforms can create a chicken-and-egg problem, where competitors need to attract both

sides of the platform to achieve critical mass. A particular problem is therefore to establish a fitting theory of harm, which correctly identifies unilateral price strategies that can result in competitive distortions. The fact that one side of a platform is priced under some measure of cost is not a sufficient conduction to conclude anticompetitive harm. Almost certainly the proper antitrust analysis will need to consider the free product together with its companion moneymaking product.

5.8.6 Cost Structure and Sources of Cost Analysis in Network Markets

In search of appropriate cost measurements, it is important to recognise the basic market conditions that affect the cost analysis. The cost structure in network sectors tends to be characterised by a significant portion of fixed cost. The reason is twofold. First, setting up and operating a network requires substantial investments, which are fixed costs. Second, competition is often characterised by service-based rivalry and the cost structure of many services tends to be skewed towards large fixed costs and low variable costs.

An important source in the cost analysis is the notion of economies. Suffice it to say for now – these concepts will be analysed in e.g. chapter 6.3.4.2 – economies are used to explain why costs may increase, fall, or remain constant. Typically, when examining costs in network settings, economies of scale and scope are discussed. Economies of scale occur for a single product firm when the average cost decreases as a result of an increase in output. Economies of scope arise if the production of two or more products would be less costly than making them separately. The cost advantages of economies of

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scale and scope can follow from both network infrastructure level and network service level.\textsuperscript{2163} A distinct-but-related return on the scale concept is economies of density. Economies of density exist when the total cost shrinks as output expands within a fixed network size and/or route structure.\textsuperscript{2164} The concept has been utilised in sectors where network infrastructure is fixed, e.g. airline,\textsuperscript{2165} railway,\textsuperscript{2166} post and delivery,\textsuperscript{2167} electricity,\textsuperscript{2168} and local telephone networks.\textsuperscript{2169}

The difference between economies of density and economies of scope is in their respective definition and use of additional capacity. The former utilises the concept to identify the cost behaviour caused by changes in output within an existing network, whereas the concept is used, under the latter, to identify the cost behaviour caused by changes in network size. The cost analysis involved in adding network size is complex as fixed connection costs increase, but decrease as output intensifies as a result of economies of density.

The added value of economies of density is that they can contextualise the underlying rationale of price cuts and capacity expansions in network industries. In the airline industry, a common response by a dominant incumbent to new entrants is aggressive price cuts and capacity expansion. In the American Airlines case, the Department of Justice asserted that American Airlines had engaged in a predatory pricing scheme by, inter alia, implementing a capacity expansion which had resulted in lower route profitability.

As the law on exclusionary abuse stands, the conduct of dominant firms can be economically justified on the basis of scale economies, but those competitive advantages cannot result from below-cost pricing practices.

The presence and utilisation of scale economies and network effects can nonetheless result in significant market power as they can make it too costly or difficult for potential rivals to enter the market, so-called barriers to entry.

2173 See, United States v. AMR Corporation, 335 F.3d 1109 (10th Cir. 2003).
2174 "It must be borne in mind that, according to settled case-law, discounts granted by an undertaking in a dominant position must be based on a countervailing advantage which may be economically justified (...). A quantity rebate system is therefore compatible with [Article 102 TFEU] if the advantage conferred on dealers is 'justified by the volume of business they bring or by any economies of scale they allow the supplier to make.' See, T-203/01, Michelin v Commission, ECLI:EU:T:2003:240, para. 100.
2175 "The arguments advanced by WIN as to the economies of scale and learning effects in order to justify its pricing below cost are not such as to call into question the finding made by the Court. An undertaking which charges predatory prices may enjoy economies of scale and learning effects on account of increased production precisely because of such pricing. The economies of scale and learning effects cannot therefore exempt that undertaking from liability under [Article 102 TFEU]." See, T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, para. 217.
5.8.7 The Concept of Barriers to Entry and Expansion

The notion of entry barriers has a central role in economic theory and antitrust law. It could even be argued that the framing and quashing of entry barriers is the cornerstone of antitrust policy. This is especially true in the context of the single market because many member states tend to have incumbents that enjoy substantial competitive advantages due to their statutory monopoly status. The concept of entry barriers is used to identify market power as well as the likely anticompetitive effects of an executed strategy. The identification of market power on the hand, and exclusionary tactics on the other hand both build on the same conceptual framework. However, the inquiries seek to answer different fundamental questions. To avoid and prevent closed circle arguments, the analysis must discriminate between the structural vis-à-vis behaviour components of Article 102 TFEU. For example, it follows from the Guidance Paper that the structural analysis seeks to identify the obstinacy of the corporate ability to significantly increase its profits over the competitive level, resulting in consumer harm through the exploitation of market power. Conversely, the behavioural element aims to detect strategies that either reinforce or facilitate the preservation of market power. The latter presupposes dominance, whereas the former must ascertain dominance.

The economic literature provides a spectrum of definitions on entry and exit barriers, but the two most prominent can be attributed to Bain and Stigler. According Bain, a barrier to entry encompasses any advantages the incumbent has over its potential entrants, such as economics of scale and absolute cost advantages. Stigler, on the other hand states that a barrier to entry arises only if the potential competitor has higher costs post entry than the incumbent. The methodological approaches suggested by Bain and Stigler are underpinned by their different intellectual ideas about competition, i.e. SCP vis-à-vis Chicago. The essential variance between the two approaches

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2177 See, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, OJ C 45, 24.2.2009, p. 7–20, paras. 11, 16 and 17.
2181 “[The] advantages of established sellers in an industry over potential entrant sellers, these advantages being reflected in the extent to which established sellers can persistently raise their prices above a competitive level without attracting new firms to enter the industry.” See, J. S. Bain, Barriers to New Competition, Harvard University Press, 1965, p. 3.
2182 J. S. Bain, Barriers to New Competition, Harvard University Press, 1965, pp. 53-113 and 144-166.
2183 “A barrier to entry is a cost of producing (at some or every rate of output) which must be borne by firms which seek to enter an industry but is not borne by firms already in the industry.” See, G. S. Stigler, The Organization of Industry, University of Chicago Press, 1968, p. 67.
is whether successful entry ought to be limited to factors controllable by the entrant (Stigler) or whether market entry should be shielded against risk-taking (Bain). Bain’s definition should be treated with some caution, as his definition adopts an effects-based approach. This is implying that conduct could also constitute barriers to entry in and of themselves, which suggests that an uncritical application could lead to establishing quantum dominance. Importantly, to avoid distortion and possible errors a careful approach is recommended about which analytics should apply at which stage of the analysis. Nonetheless, it seems that Bain’s definition is in favour amongst the EU institutions, because it assesses the likely impact on monopoly rents an effective entry would have. Note that enforcement agencies tend to apply a variety of analytical tools to detect the different forms of barriers that can be found in a market. Although there are various types of entry barriers – and they often go hand in hand – they can roughly be categorised into three main schemes.

- **Statutory Barriers**
  Statutory or absolute barriers are those that emerge from law, regulations, or administrative practice. One source of these types of hindrances to entry stems from legal monopoly or exclusive rights, e.g. intellectual property law. There are precedents that suggest that the source of the incumbent’s dominance plays a relevant factor in the competitive assessment. In Post Danmark I, for example, the Court of Justice held that the origin of the dominant position is a relevant factor in the competitive assessment resulting from Bain’s closed circle argument or circular reasoning.

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2186 In this thesis, the term quantum dominance refers to a situation when enforcement agencies and adjudicators wrongly diagnose the competitive assessment resulting from Bain’s closed circle argument or circular reasoning.
2192 “[Post Danmark] also enjoyed structural advantages conferred, inter alia, by the statutory monopoly on the distribution of letters weighing up to 50 grams that concerned 70% of all bulk mail”. See, C-23/14, *Post Danmark v Konkurrencerådet*, ECLI:EU:C:2015:651, para. 39.
factor to take into account when setting the undertaking’s scope of responsibility. In addition, the Court of Justice has also indicated that the degree of statutory barriers can affect which economic and legal standard that will apply.

- **Structural Barriers**
  Structural impediments often surface from certain technological or market characteristics, such as economics of scale and scope. Yet, these structural disadvantages can equally arise from resources that are needed to compete successfully in the market. One example of resource hinderers is the allocation of grandfather rights at airports, besides the outright refusal do deal.

- **Strategic Barriers**
  Unlike structural barriers, which are determined by the industry conditions, strategic barriers are intentionally created or enhanced by deliberate implementation to oust entry. The obvious example of such a practice is predatory pricing where the dominant incumbent seeks to pre-empt the growth and progression of the market. But other profit reducing strategies that do not necessarily involve a true sacrifice could be categorised as strategic barriers. Moreover, according to Bain, these artificial barriers can arise by, inter alia, product differentiation or promotions that create or enhance brand loyalty. But, other strategic interventions may deter or threaten market entry. Incumbents can face significant threats from new rivals if barriers to entry are low. The competitive response that new firms may face may shape the likelihood

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2193 "When the existence of a dominant position has its origins in a former legal monopoly, that fact has to be taken into account." See, C-209/10, *Post Danmark v Konkurrenserådet*, ECLI:EU:C:2012:172, para. 23.


2196 Given that some markets are categorised by capacity limitation due to physical infrastructure, operational capacity becomes scarce, e. g. airports. To cope with the limitations airports allocate take-off and landing slots between the aviators. Airline companies therefore need these slots in order to operate, but the system of allocation is built on previous operations by the airlines (grandfather rights). See, G. Sieg, *Grandfather Rights in the Market for Airport Slots*, 44 Transportation Research Part B 29, 2010.


of new threats. According to Porter, the major sources of entry barriers are established firms’ cost advantages, product differentiation, capital requirements and access to distribution channels. These cost advantages can be used by the incumbent firms to create cost disadvantages independent of the scale economics for potential entrants. Accordingly, Porter identifies that unit costs tend to decline, in some industries, as the firm gains more experience in production. This is suggesting a significant correlation between cost efficiency and learning or experience. The learning curve or experience curve theory is a central concept in strategic planning. However, although the experience curve is a contributing factor in e.g. long-run cost reduction, there may be more effective strategic barriers at a firm’s disposal.

- **Sunk Costs as a Barrier to Entry**

By definition, a sunk cost is an irrelevant cost, but its effects can have ample effects on firms and their profit margins. In essence, there are two lines of argument that sunk costs raise entry barriers. First, because the monetary sacrifice has already occurred, the incumbent can rationally disregard such cost in its profitability assessment. As a result, the potential entrant suffers a competitive disadvantage, which will affect the incentives to enter the market even though the candidates are as efficient or more efficient than the incumbent. Second, since there always is a probability that entry will be unprofitable for the potential entrant due to an established firm’s competitive response or market and economic shifts. The entrant will accordingly calculate with the sunk costs associated with risk of entry. From a cost-benefit approach, the entry will be unlikely if the expected sunk costs dwarfs the expected

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profit. Note that Stigler’s definition discriminates against sunk costs,\(^{2207}\) not because it is always irrelevant but because his entry analysis builds on screening out undesirable entries.\(^{2208}\) Pindyck argues that some, but not all, sunk costs affect entry and market price equilibrium. Accordingly, focusing on idiosyncratic (firm specific) risks that will affect firm’s cost of capital is highly misleading for antitrust analysis, instead risk that is associated with industry-wide (aggregate) risk should be the main concern.\(^{2209}\)

It should be noted that these aforementioned categories are only theoretical in nature. Assessing entry barriers is neither a mechanical nor a mathematical exercise due to the specifics in each case.\(^{2210}\) Establishing barriers to competition is therefore an empirical issue.\(^{2211}\)

### 5.9 Summary

The aim of this chapter has been the identification of the relevant properties that underpin the notion of exclusionary abuse. The chapter started with an analysis of the underlying rationale of Article 102 TFEU. The result showed that there are a number of competing theoretical explanations. Nevertheless, scholars seem to agree that safeguarding the competitive process will ultimately achieve social and economic welfare in the long run. As the law stands, a restriction of competition implies that an abusive conduct will oust a competitor as efficient as the dominant undertaking. The notion of the as efficient competitor is a significant step as it determines an objective standard of harm.

Next, an analysis of the different standards was made. The purpose was to identify whether a finding of a restriction of competition should be based on a formalistic or an effects-based approach. The result showed that the preferable economic approach is the latter, but that the EU courts will apply a hybrid between the formalistic and effects-based approach. Next, an analysis of the as efficient competitor and profit sacrifice test was made, which was followed by an analysis of anticompetitive intent. The purpose was to review whether

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the intent is an adequate criterion to identify and condemn price-based conducts. The result showed that the relevant test for pricing abuses is the as efficient competitor test. But the test is used interchangeably with a price-cost test, which has created confusion. The reference to the as efficient competitor as a legal norm is not the same as the reference to the as efficient competitor test. The latter is the legal test used to determine if the legal norm has been infringed. Nevertheless, the result also showed that the notion of intent is used to justify a legal conclusion. If intent can is established, the conduct will be qualified as an exclusionary abuse, this without any analysis of the likelihood that the conduct could result in anticompetitive effects on the market.

Next, the Commission’s concept of anticompetitive effects and relevant factors was analysed. The concept and factors are also important as they provide an account of how the Commission views the scientific state of knowledge with regards to exclusionary conducts. The result is that the concept of anticompetitive foreclosure encapsulates the as efficient competitor standard. The result also shows that the Commission is willing to use different tests in different circumstances to show an infringement. A fundamental circumstance in the Commission’s assessment is the market characteristics. Market characteristics provide objective criteria that can be applied when analysing an impugned price practice. The result implies that zero-pricing can be a legitimate price policy in certain market conditions.
6 Examples of Cost-Based Exclusionary Abuse

6.1 Introduction

The aim of this chapter is to apply the insights from previous chapters to determine the relevant cost benchmarks. The objective is to apply a forensically informed analysis to cost-based exclusionary abuses. For this purpose, the law on predatory pricing and margin squeeze has been selected as examples. The forensically informed analysis is not limited to these types of abuses, they have only been selected to demonstrate the principle behind choices that should be made.

The chapter starts with a review of predatory pricing. First, the relevant theories of harm will be analysed. This is a necessary step to identify the underlying strategic rationale of the conduct and how it can result in competitive harm. Next, the relevant case law will be analysed, in particular the AKZO test. The analysis aims to determine the legal use of the variable and fixed costs. Next, an analysis of the great bulk cost test established in Post Danmark I will be made in connection to its possible exception. Next, a theoretical review of the AKZO test will be made. The purpose is to identify whether the variable and fixed costs are appropriate cost benchmarks and the possible structure of analysis to determine predatory pricing. A forensic cost analysis of the AKZO and France Télécom cases will be made. Next, a forensic case study of the SAS Norway case will be made. The purpose is to apply the insights to a specific industry and to determine if the AKZO test is a valid test.

The chapter will then move on to margin squeeze. The analysis starts with describing what a margin squeeze is in terms of an exclusionary abuse. Next, the relevant legal criteria will be identified and a discussion will be had about the rationale for margin squeeze being a form of abuse separate from predatory pricing. Then the market characteristics of the telecom sector will be outlined. This is a necessary step because although the law on margin squeeze is not limited to the telecom sector, the sector is subject to sector-specific price regulation. This is a stark contrast to the airline industry, even though both are network industries. Next, an analysis of the theories of harm will be made. This will be followed by a forensic analysis of the imputation test and the relevant methodology. The imputation test is a cornerstone of the enforcement of margin squeeze. As a result, the wrong methodology can lead to type I and II errors. The imputation test analysis will be followed by an outline of the main forensic conclusions. Next, the analysis and assessment will move on to the penultimate part of the chapter, where a forensic case study of the Teli-aSonera case is conducted. The purpose of the case study is to identify which
cost benchmarks and methods that should be used to qualify a price practice as a margin squeeze in the telecom industry. The chapter will end with a summary.

6.2 Predatory Pricing

6.2.1 Predatory Pricing
The economic notion of predatory pricing is straightforward. The price scheme involves two phases: profit sacrifice and recoupment. \(^{2212}\) A price is considered to be predatory when a dominant undertaking (the predator) deliberately reduces its price with the sole object to harm a competitor (the prey). Once the prey has been injured, e.g. exited the market, the dominant firm will raise its price to monopoly level and thereby causing consumer harm.\(^{2213}\)

The rationale for applying cost-based tests is to identify whether an implemented price practice is part of a deliberate profit sacrificing scheme. The issue is to determine the relevant cost benchmark and in particular the relevant methodology in doing so.

6.2.2 The Economics of Predatory Pricing
For a predatory scheme to be economically rational, three main conditions need to be satisfied. First, it must be possible for the dominant firm to succeed with the predatory strategy. Second, it must be possible for the dominant firm to be compensated for the financial sacrifice after the predatory objective is achieved. Third, the predatory scheme must be the most profitable strategy.

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available for the dominant firm, i.e. there cannot be any alternative that would be more profitable for the dominant firm.\footnote{2214} McGee – one of the most influential sources of the Chicago school’s view on predation – argues that the strategy was irrational for a monopolist.\footnote{2215} McGee held first that a monopoly firm that adopts a predatory strategy has more to lose than the prey. Second, the scheme only make sense if the recoupment of financial losses is possible after the prey exits the market. Third, McGee questions the so-called deep pocket or long-purse theory, which assumes that the predator is financially nimbler than the prey. Fourth, for a predatory price cut to be rational, the strategy must be the only feasible and most profitable alternative for the monopolist to implement. Accordingly, McGee argued that merger to monopoly was more convincing than predation.

McGee’s theory on predation as an irrational strategy has been criticised over the years. Telser and Yamey argue that predation can have adverse effects by e.g. deterring future market entry and that the below-cost price cutting may result in mergers that would not occur absent the price cut.\footnote{2216} Easterbrook agrees with McGee to an extent and considers that predatory pricing is irrational and if implemented the likelihood of success is low.\footnote{2217} Easterbrook adopts a type of laissez faire approach towards predation. His line of argument is underpinned by the notion that intervention against below-cost pricing would impede a firm’s incentives to become more efficient over time. Easterbrook therefore views enforcement unnecessary due to the self-correcting market hypothesis. In particular, he argues that an implemented predatory price cut is unlikely to be successful even if the dominant firm has deep pockets.\footnote{2218} The targeted prey may have auxiliary sources of finance at its disposal, e.g. capital market or offering long-term contracts to its customers.\footnote{2219} McGee and the Chicago school’s arguments against predatory pricing is mostly founded on free market entry and perfect information.\footnote{2220} McGee’s second point assumes that entering a market or industry is costless. However, if

the market is characterised by barriers to entry in the form of costs, the dominant firm will be able to exploit its strengthened market power. The Chicago theory on predation assumes that the market is transparent and stamped by perfect information. The problem is that most markets are not typified in this manner and predation becomes a rational strategy due to asymmetric information. As a consequence, the predatory conduct can be a rational and viable strategy to manipulate the financial risk that is associated with entering a market. The financially weaker rival’s ability to receive additional financial funding is limited or at a higher risk premium.

The key takeaway of McGee’s and other Chicago school scholars’ work is nonetheless that under certain circumstances, predatory behaviours are unlikely to result in competitive harm and leaving these outside the analysis may result in type I error.

6.2.2.1 The Deep Pocket Theory

The traditional deep pocket or long purse theory holds that predatory pricing can be a rational and successful strategy for a dominant firm because of its financial advantages over its equally efficient rivals. Telser argued that even though there might be more profitable alternatives for monopolists, a predatory conduct can still be rational if the predator can earn exorbitant profits in the long run. Telser contended that the main source to the exclusionary effect was the asymmetry between the predator and prey’s financial pockets. The dominant firm has intelligence about the asymmetry and will act accordingly. Telser also argued that the prey will have to incur extra fixed costs to stay in business and by pricing below the prey’s variable costs, the prey will be financially drained and forced to exit the market in the long term.

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2225 “[A]lthough one may grant that merger is mutually advantageous to both parties, perhaps peaceful settlement encourages entry which undermines the monopoly return. To prevent this happening, it is argued, the monopolist needs to carry out to establish a record of ruthlessness and to make future threats believable.” See, L. G. Telser, Cutthroat Competition and the Long Purse, 9 The Journal of Law & Economics 259, 1966, p. 267.
Telser’s long purse theory highlights that predatory pricing can result in anticompetitive effects in certain circumstances.

A fundamental cornerstone in Telser’s theory is the notion of perfect information. Benoit joins Telser in stating that predatory pricing can be a feasible and rational strategy owing to the uneven size of the pockets. Benoit argues that even in the absence of perfect information, a predatory strategy will be successful if the dominant firm has greater financial resources than rivals. He notes that both predator and prey will suffer losses as a result of the practice, but even a single price war will discourage market entry (as long as there are some competitors left in the market). Benoit emphasises that it is highly unlikely that any market operator has the necessary information about how long either party can last in the price war. But even under the assumption that the information is available, firms must be able to calculate how long they can sustain the war.

It follows that a fundamental condition for predatory pricing is the prey’s ability to get additional financing or capital injection, e.g. bank credit or equity investment. If the opportunities for capital injection are high, then the risk of anticompetitive foreclosure diminishes.

### 6.2.2.2 Signal-Jamming and Financial Market Predation

Indeed, although the likelihood of foreclosure is reduced if the prospects of capital injections are high, the possibility of predatory pricing should not be disregarded. Fudenberg and Tirole argue that predation can still occur due to signal-jamming. According to their theory, signal-jamming occurs when the dominant firm successfully manipulates the prey’s ability to get additional capital from investors. The theory on financial market predation – unlike Benoit’s, which focuses on the predator and the prey – centres on the asymmetric information between entran ts and their investors. The dominant firm’s strategic objective is to distort the relationship between the prey and its investor to the extent that it becomes highly unlikely for prey to obtain extra funding.

The point of departure for Fudenberg and Tirole was that a firm’s ability to obtain capital is based on firm’s net asset value. The financially stronger predator targets the financially weaker prey by implementing predatory prices that will eventually lead to it financially draining the prey. The prey’s opportunity to obtain financial aid is limited due to the net asset value having shrunk. As a consequence, the prey will be forced to exit the market.

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The exit can be attributed to Gale and Hellwing’s theory, which sets out the notion that a firm’s opportunities to obtain the necessary capital are reduced if the firm’s net asset value goes below a critical level. A particular issue that can occur is how to treat and analyse the claims about equity. Equity is a key component in a firm’s capital structure or financial structure. Equity capital represents the owners’ stake and is a major source of corporate long-term financing. Depending on the value and size of the equity, the analysis changes. If the prey is financially strong and has a low leveraged equity, raising new equity will most likely be fairly cheap. But, if leveraged equity is high, the cost of raising the crucial equity will be significantly higher. The reason is that the level of financial leverage has an effect on the risk and return for the owners. Thus, the cost of equity will be much higher due to the financial risk (i.e. the extra risk of using debt as the main source of finance).

The key takeaway is whether there is a credible opportunity for the prey to obtain capital and the extent of risk the investor is willing to take.

6.2.2.3 Predatory Pricing and Principal-Agent Dilemma

Based on the previous discussion, a typical financial problem is the capital structure mixture because of the trade-off between equity and debt financing.

A dominant undertaking that seeks to oust competitors from the market may have the incentive to ensure that its rivals perform poorly financially.

Bolton and Scharfstein have identified a possible principal-agent dilemma in relation to predatory pricing. According to their theory, typically neither investors nor venture capitalists are willing to finance a project from start to finish. Instead, investors tend to commit to staged capital investments. The firm gets capital injections in an incremental manner from the investors based on how the firm performs. The accountability between the equity holder and the investor means that the former has an incentive to perform as well as possible or else the latter may terminate the cooperation or alter the conditions.

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2231 Levered equity refers to a firm’s equity that also has debt outstanding. See, e.g. J. Berk and p. DeMarzo, *Corporate Finance*, 5th global edition, Pearson, 2019, p. 526.
The threat of termination alone is enough to ensure that management does not enrich themselves at the expense of the investor or venture capitalist.\textsuperscript{2236}

The central point that Bolton and Scharfstein stress is that predatory pricing can be a rational strategy for a dominant undertaking to implement in certain conditions. On the one hand, financial contracts can mitigate the principal-agent problem. On the other hand, it is precisely the contract that maximises the incentives for the dominant firm to predate.\textsuperscript{2237} The elusiveness of the predatory strategy is that it raises the prey’s costs to get the necessary funding. The perception that the equity firm is performing poorly financially is enough.\textsuperscript{2238}

6.2.3 The Case Law on Predatory Pricing

The Court of Justice has in a series of rulings held that the adoption of predatory behaviour by dominant firms will be caught by Article 102 TFEU.\textsuperscript{2239} It follows from the general statement that abuse is an objective concept,\textsuperscript{2240} which aims to prevent a dominant undertaking from using price practices as a means to strengthen its market power.\textsuperscript{2241} In the seminal case AKZO,\textsuperscript{2242} the Court of Justice laid down a legal test that seeks identify price practices that are capable of resulting in competitive harm and thus ought to be qualified as


\textsuperscript{2240} "The concept of abuse is an objective concept relating to the behaviour of an undertaking in a dominant position which is such as to influence the structure of a market where, as a result of the very presence of the undertaking in question, the degree of competition is weakened and through recourse to methods which, different from those which condition normal competition in products or services on the basis of the transactions of commercial operators, has the effect of hindering the maintenance of the degree of competition still existing in the market or the growth of that competition." See, C-85/76, Hoffmann-La Roche v Commission, ECLI:EU:C:1979:36, para. 91.

\textsuperscript{2241} "It follows that [Article 102 TFEU] prohibits a dominant undertaking from eliminating a competitor and thereby strengthening its position by using methods other than those which come within the scope of competition on the basis of quality. From that point of view, however, not all competition by means of price can be regarded as legitimate." See, C-62/86, Akzo Chemie v Commission, ECLI:EU:C:1991:286, para. 70.

\textsuperscript{2242} C-62/86, Akzo Chemie v European Commission, ECLI:EU:C:1991:286.
abusive, the so-called AKZO test. The test has been reaffirmed in subsequent case law: Tetra Pak II, and France Télécom. According to the test:

- Prices below average variable cost (AVC) are presumably abusive (first limb);
- Prices above AVC but below average total cost (ATC) are only regarded as abusive if the price scheme is part of a plan to eliminate competitor (second limb).

The Court of Justice did not rule explicitly on the cost classification, but held that a cost item is neither fixed nor variable by nature. The cost classification has to be determined on the basis of how it correlates with output.

The legitimacy of the test is that it should allow dominant undertakings to assess the lawfulness of their own price-based conducts. The test has nonetheless an intrinsic infirmity. The distemper is that the test is modulated on an alloy between effect and intent, and because these properties may converge, it puts the potentially dominant firm in a despairing situation. The

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2246 "Prices below average variable costs (that is to say, those which vary depending on the quantities produced) by means of which a dominant undertaking seeks to eliminate a competitor must be regarded as abusive." See, C-62/86, *Akzo Chemie v Commission*, ECLI:EU:C:1991:286, para. 71.
2247 "Moreover, prices below average total costs, that is to say, fixed costs plus variable costs, but above average variable costs, must be regarded as abusive if they are determined as part of a plan for eliminating a competitor. Such prices can drive from the market undertakings which are perhaps as efficient as the dominant undertaking but which, because of their smaller financial resources, are incapable of withstanding the competition waged against them." See, C-62/86, *Akzo Chemie v Commission*, ECLI:EU:C:1991:286, para. 72.
2248 "It should be pointed out that an item of cost is not fixed or variable by nature. It must be determined, therefore, whether, in the present case, labour costs did vary according to the quantities produced." See, C-62/86, *Akzo Chemie v Commission*, ECLI:EU:C:1991:286, para. 94.
2249 "Since the criterion of legitimacy to be adopted is a criterion based on the costs and the strategy of the dominant undertaking itself, AKZO’s allegation concerning the inadequacy of the Commission’s investigation with regard to the cost structure and the pricing policy of its competitors must be rejected at the outset." See, C-62/86, *Akzo Chemie v Commission*, ECLI:EU:C:1991:286, para. 74.
2251 "The two elements, however, seem to be inextricably intertwined. Proof of anticompetitive effects, in fact, usually allows an anticompetitive intent to be inferred; on the other hand, proof of anticompetitive strategies may be crucial in assessing potential anticompetitive effects." See, S. Barazza, *Post Danmark: The CJEU Calls for an Effect-Based Assessment of Pricing Policies*, 3 Journal of European Competition Law & Practice 466, 2012, p. 468.
lack of an unequivocal yardstick can result in dominant firms refraining from aggressive and procompetitive pricing, a reluctance that in the end may hurt consumers.

6.2.3.1 The Legal Test

6.2.3.1.1 The Below Variable Cost
The prohibition against selling below variable cost is justified on the grounds that the price practice presumably will lead to anticompetitive foreclosure and/or lacks any legitimate business purposes. The ruling implies that prices that result in negative contribution margins are abusive, since the only plausible rationale is to strengthen the dominant undertaking’s market power.2252

It follows that such price schemes are capable of harming competition based on objective factors. The anticompetitive effects are inferred from the lossmaking practice.2253 This is because, inherent in the legal reasoning is that once the dominant firm has injured competitors it will recoup its losses and thereby cause consumer harm. Thus, additional proof of recoupment is not a legal requirement.2254 The rationale is that such a legal requirement would seriously undermine the effectiveness of Article 102 TFEU.2255

2252 “A dominant undertaking has no interest in applying such prices except that of eliminating competitors so as to enable it subsequently to raise its prices by taking advantage of its monopolistic position, since each sale generates a loss, namely the total amount of the fixed costs (that is to say, those which remain constant regardless of the quantities produced) and, at least, part of the variable costs relating to the unit produced.” See, C-62/86, Akzo Chemie v Commission, ECLI:EU:C:1991:286, para. 71.
2255 “[It] would not be appropriate, in the circumstances of the present case, to require in addition proof that Tetra Pak had a realistic chance of recouping its losses. It must be possible to penalize predatory pricing whenever there is a risk that competitors will be eliminated. The [General Court found that there was such a risk in this case]. The aim pursued, which is to maintain undistorted competition, rules out waiting until such a strategy leads to the actual elimination of competitors.” See, C-333/94 P, Tetra Pack v Commission (Tetra Pak II), ECLI:EU:C:1996:436, para. 44.
6.2.3.1.2 The Evidence Requirement when Selling Below Variable Cost

A particular problem with the below variable cost standard is the mixture of effects and intent.\textsuperscript{2256} The Court of Justice has not clarified if there is a legal distinction between the concepts and, if there is, its legal importance.

As the law stands, the General Court ruled in France Télécom, based on Irish Sugar\textsuperscript{2257} and Michelin II,\textsuperscript{2258} that where it is established that the intent of the dominant firm is to oust competition, object and effect are indistinct.\textsuperscript{2259} It follows from the General Court’s reasoning that a dominant firm that sells below average variable cost only has the purpose of eliminating competitors. On appeal, the Court of Justice clarified that prices below variable cost create a presumption that the dominant firm is pursuing an anticompetitive object.\textsuperscript{2260}

As the law stands, the only requirement to trigger Article 102 TFEU is to show that the dominant undertaking has priced below average variable cost.

The legal justification is nonetheless unfortunate. The presumption mixes instances where a price policy can objectively result in competitive harm and


\textsuperscript{2257} “[Article 102 TFEU] does not distinguish between the object and the effect and reference is made both to the anti-competitive object and to the anti-competitive effect of that practice in the contested decision. It should also be remembered that, to be capable of affecting trade between Member States, it is not necessary to demonstrate that the conduct complained of actually affected trade between Member States in a discernible way; it is sufficient to establish that the conduct is capable of having that effect.” See, T-228/97, *Irish Sugar v Commission*, ECLI:EU:T:1999:246, para. 170.

\textsuperscript{2258} “[For] the purposes of applying [Article 102 TFEU], establishing the anti-competitive object and the anti-competitive effect are one and the same thing (...). If it is shown that the object pursued by the conduct of an undertaking in a dominant position is to limit competition, that conduct will also be liable to have such an effect.” See, T-203/01, *Michelin v Commission*, ECLI:EU:T:2003:240, para. 241.

\textsuperscript{2259} “As regards the conditions for the application of [Article 102 TFEU] and the distinction between the object and effect of the abuse, it should be pointed out that, for the purposes of applying that article, showing an anti-competitive object and an anti-competitive effect may, in some cases, be one and the same thing. If it is shown that the object pursued by the conduct of an undertaking in a dominant position is to restrict competition, that conduct will also be liable to have such an effect. Thus, [with regard to the practices concerning prices, the Court of Justice held in AKZO v Commission], that prices below average variable costs applied by an undertaking in a dominant position are regarded as abusive in themselves because the only interest which the undertaking may have in applying such prices is that of eliminating competitors, and that prices below average total costs but above average variable costs are abusive if they are determined as part of a plan for eliminating a competitor. In that case, the Court did not require any demonstration of the actual effects of the practices in question.” See, T-340/03, *France Télécom v Commission*, ECLI:EU:T:2007:22, para. 195.

\textsuperscript{2260} “[Prices] below average variable costs must be considered prima facie abusive inasmuch as, in applying such prices, an undertaking in a dominant position is presumed to pursue no other economic objective save that of eliminating its competitors.” See, C-202/07 P, *France Télécom v Commission*, ECLI:EU:C:2009:214, para. 109.
where the dominant firm would like competitors to leave the market. The presumption has strategic procedural implications for the finding of prima facie exclusionary abuse. The presumption is triggered by showing pricing below variable cost, which means that both effect and intent are inferred. But, the existence of a presumption by definition implies that the dominant firm can rebut it by, e.g. showing that its pricing has no exclusionary motive. As a result, although the practice is capable of producing exclusionary effects, those effects ought not to be qualified as anticompetitive. The implication of a successful rebuttal is that the conclusion about anticompetitive effects falls flat. Accordingly, subjective intent is a tactless proxy for anticompetitive effects. Providing a coherent theory of harm will be integral, in particular in network industries.

As stated in chapter 5.5, the malicious intent of dominant undertaking has its place in the antitrust analysis, but should not be overemphasised. The concept is useful to provide context to a behaviour, but intent is not a standalone test that may trigger liability under Article 102 TFEU, it is a relevant factor

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2263 Intent has a role in EU antitrust, but should not be exaggerated. Intent is one factor amongst others that needs to be considered. See, P. A. Perinetto, Intent and Competition Law Assessment: Useless or Useful Tool in the Quest for Legal Certainty?, 15 European Competition Journal 153, 2019, pp. 160-161.
that can reinforce the conclusion of abuse,\textsuperscript{2264} as long as the implemented practice is capable of foreclosing a competitor that is at least as efficient as the dominant firm\textsuperscript{2265} based on objective factors.\textsuperscript{2266}

\textbf{6.2.3.1.3 Above Average Variable Cost, But Below Average Total Cost}

According to the second limb of the test, where the dominant firm prices between the two cost benchmarks, establishing an abuse is conditional on the finding that the practice is part of a strategy to eliminate competitors.\textsuperscript{2267} Pricing at a level that covers the variable portion of costs for a transitory period can be a legitimate business practice.\textsuperscript{2268} Indeed, although the practice can be viewed as a profit sacrifice in the short run, it does not amount to unsustainable losses if it yields a positive contribution margin.\textsuperscript{2269} Price segmentation and/or selective price cuts are common pricing tools, e.g. to price according to current

\textsuperscript{2264} “[The] existence of any [anticompetitive] intent constitutes only one of a number of facts which may be taken into account in order to determine that a dominant position has been abused.” See, C-549/10 \textit{P, Tomra v Commission}, ECLI:EU:C:2012:221, para. 20

\textsuperscript{2265} See the General Court’s argument in \textit{Clearstream}: “Consequently, the applicants’ argument that they did not pursue an anti-competitive objective is irrelevant to the legal characterisation of the facts. In that context, proving that it was the applicants’ objective to postpone the grant of access in order to prevent a customer and competitor of the Clearstream group from providing its services effectively may reinforce the conclusion that there is an abuse of a dominant position but is not a condition for such a finding.” See, T-301/04, \textit{Clearstream v\ Commission}, ECLI:EU:T:2009:317, para. 142. See additionally the General Court’s line of argumentation in \textit{AstraZeneca}: “[Although] proof of the deliberate nature of conduct liable to deceive the public authorities is not necessary for the purposes of identifying an abuse of a dominant position, intention none the less also constitutes a relevant factor which may, should the case arise, be taken into consideration by the Commission. The fact, relied upon by the applicants, that the concept of abuse of a dominant position is an objective concept and implies no intention to cause harm (...) does not lead to the conclusion that the intention to resort to practices falling outside the scope of competition on the merits is in all events irrelevant, since that intention can still be taken into account to support the conclusion that the undertaking concerned abused a dominant position, even if that conclusion should primarily be based on an objective finding that the abusive conduct actually took place.” See, T-321/05, \textit{AstraZeneca v\ Commission}, ECLI:EU:T:2010:266, para. 359. Lastly see the Court of Justice argument in \textit{TeliaSonera}: “Where a dominant undertaking actually implements a pricing practice resulting in a margin squeeze on its equally efficient competitors, with the purpose of driving them from the relevant market, the fact that the desired result, namely the exclusion of those competitors, is not ultimately achieved does not alter its categorisation as abuse within the meaning of Article 102 TFEU.” See, C-52/09, \textit{Konkurrensverket v TeliaSonera}, ECLI:EU:C:2011:83, para. 65.

\textsuperscript{2266} C-85/76, \textit{Hoffmann-La Roche v Commission}, ECLI:EU:C:1979:36, para. 91.


demand or to meet competition.\textsuperscript{2270} In such scenario, the conduct is generally not presumptively abusive and additional evidence is required.

The Court of Justice's reasoning is based on the notion that the dominant firm has substantially greater financial resources than its prey(s).\textsuperscript{2271} This implies that it should be possible to prohibit profit sacrificing behaviours where the dominant firm's objective is to squash competition by financially draining as efficient rivals.\textsuperscript{2272} As a consequence, it is sufficient that the conduct is capable of resulting exclusionary effects.

As the law stands, anticompetitive intent can be established from a number of factors as long as they are based on sound and consistent evidence.\textsuperscript{2273} According to Van den Bergh, the most direct evidence is internal documentation and indirect evidence is often based on the market conditions and structure of competition.\textsuperscript{2274} An exhaustive accounting falls outside the scope of this work, but suffice it to say, as a bare minimum the direct and indirect evidence both need to pull in the same direction. That is, the attribution of intent is satisfied where the motive to drive out competitors is consistent with the opportunity to succeed with the allegedly predatory scheme.\textsuperscript{2275} The analysis can provide a quick screen that mitigates the possibilities of type I and II errors.

6.2.4 Is Pricing Above Cost Competition on the Merits?

The AKZO test does not contain any explicitly guidance on how the law ought to treat prices above average total cost. Price practices above total cost as such can be lawful for dominant firm as they usually are incapable of excluding an

\begin{footnotesize}
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\item \textsuperscript{2272} "Moreover, prices below average total costs, that is to say, fixed costs plus variable costs, but above average variable costs, must be regarded as abusive if they are determined as part of a plan for eliminating a competitor. Such prices can drive from the market undertakings which are perhaps as efficient as the dominant undertaking but which, because of their smaller financial resources, are incapable of withstanding the competition waged against them." See, C-62/86, Akzo Chemie v Commission, ECLI:EU:C:1991:286, para. 72.
\item \textsuperscript{2273} T-83/91, Tetra Pak v Commission (Tetra Pak II), ECLI:EU:T:1994:246, para. 151.
\end{itemize}
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as efficient competitor. Notwithstanding that pricing above the relevant cost is presumably incapable of resulting in anticompetitive effects in the long run, the EU courts have nonetheless condemned above total cost pricing in exceptional circumstances. A particular feature of the latter case law is that dominant incumbent(s) had implemented nonlinear price schemes, so-called selective price cuts.

Selective price cuts or predatory price cutting can be viewed as a special form of exclusionary pricing. A selective price cut occurs when a dominant firm calculatedly price drops a particular segment in response to market conditions. As a result, these practices are often scrutinised under some form of price discrimination approach. The discriminatory nature implies that selective price cuts should be assessed on a case-by-case approach.

An important feature of many selective price cuts tends to be that dominant undertaking’s price remains above the relevant cost measurement. The Commission has applied Article 102 TFEU against such prices, e.g. Hitli.

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2282 "[A] selectively discriminatory pricing policy by a dominant firm designed purely to damage the business of, or deter market entry by, its competitors, whilst maintaining higher prices for the bulk of its other customers, is both exploitative of these other customers and destructive of competition. As such it constitutes abusive conduct by which a dominant firm can reinforce its already preponderant market position. The abuse in this case does not hinge on whether the prices were below costs (however defined — and in any case certain products were given away free). Rather it depends on the fact that, because of its dominance, Hilti was able to offer special discriminatory prices to its competitors' customers with a view to damaging their business, whilst maintaining higher prices to its own equivalent customers." See, Commission Decision, IV/30.787 and 31.488 — Eurofix-Bauco v. Hilti, OJ 1988 L 65/19, 1987, recital. 81.
As a result, the question of whether above-cost price cuts should be banned is a polemic. The argument against selective prices is that they can have adverse effects by making market entry more difficult. But the key question is whether the price cut hinders market entry by potential rivals that are as efficient as the dominant incumbent, which is more likely where the market is characterised by high fixed costs.

6.2.4.1 The Great Bulk Cost Test
The test arose in the preliminary ruling Post Danmark I. Post Danmark is the incumbent postal service provider and its activities cover both unaddressed mail (e.g. brochures and telephone directories) and universal post service (e.g. addressed letters and parcels not exceeding a certain weight). Post Denmark enjoyed, at the material time, a statutory monopoly on the latter segment.

The Danish Competition Authority accused Post Danmark of implementing a selective price cutting strategy towards customers of its main competitor in the unaddressed mail market. The Court of Justice was asked to clarify if selective prices that do not cover the average total cost, but do cover the total incremental costs of unaddressed business activity, are caught by Article 102 TFEU.

The Court of Justice ruling makes three important statements about Article 102 TFEU. First, to amount to an exclusionary abuse, the practice must be capable of ousting competitors that are as efficient as the dominant firm. Second, where the dominance arises from a former legal monopoly that has to be taken into account when assessing the special responsibility. Third, the fact that a dominant undertaking charges different prices to different customers does not ipso facto amount to price discrimination.

The Court of Justice did not rule on the precise cost yardsticks, but held:

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2286 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172.
2287 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, paras. 21-22.
2288 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 23.
2289 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 30.
A selective price cut is presumably incapable of resulting in anticompetitive foreclosure when the dominant firm covers the greater bulk of costs that are associated with supply of the goods or services in question.  

The great bulk cost test seems to apply instead of AKZO where the plaintiff has failed to provide any evidence of a plan to eliminate competition.

The significance of the great bulk cost test is the presumption it establishes. The General Court held in Slovak Telekom that; where the dominant firm’s price policy covers the great bulk of costs attributable to the supply of the goods or services, the practice is assumed to allow effective competition in the long run. "The key criterion in the test lies the cost allocation."

As stated supra, in network industries the cost structure tends to be characterised by substantial common and joint fixed costs. Economists tend to ignore these costs as economic theory lacks any suitable method. The Court of Justice nonetheless seems to have based the test on the Postal Service Directive, where cost allocation should be based on a cost accounting system that can be objectively verified, e.g. fully distributed costing methodology.

The legal solution is not entirely new. The Court of Justice held in the preliminary ruling Ahmed Saeed that the cost methodology could be based on

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2290 "Indeed, to the extent that a dominant undertaking sets its prices at a level covering the great bulk of the costs attributable to the supply of the goods or services in question, it will, as a general rule, be possible for a competitor as efficient as that undertaking to compete with those prices without suffering losses that are unsustainable in the long term." See, C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 38.

2291 C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 29.


2295 "Whereas, in order to ensure the application of the principles set out in the previous three recitals, universal service providers should implement, within a reasonable time limit, cost accounting systems, which can be independently verified, by which costs can be allocated to services as accurately as possible on the basis of transparent procedures; whereas such requirements can be fulfilled, for example, by implementation of the principle of fully distributed costing; whereas such cost accounting systems may not be required in circumstances where genuine conditions of open competition exist;" See, Directive 97/67/EC of the European Parliament and of the Council of 15 December 1997 on common rules for the development of the internal market of Community postal services and the improvement of quality of service, OJ L 15, 21.1.1998, p. 14–25, recital. 29.
long-term fully allocated costs of the air carrier in question. The issue is how to apply the concept.

There are a number of well-established costing methodologies in accounting theory. These were outlined in chapter 4.4 and will be analysed to ascertain what relevance they may have for antitrust in chapters 6.3.7 and 6.4.6.2.2.

6.2.4.2 The Exceptional Circumstances Test

In Irish Sugar, the Commission accused Irish Sugar of implementing selective price cuts as part of a plan to protect its super dominance of 90 per cent. The above-cost price drops were aimed at customers of the new entrants, which hindered the growth of competition in the market. The General Court

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2296 “Such unfair conditions may be due in the first place to the rate of tariffs imposed being excessively high, or, in order to eliminate from the market undertakings which are not parties to the agreement, excessively low. Certain interpretative criteria for assessing whether the rate employed is excessive may be inferred from Directive 87/601/EEC, which lays down the criteria to be followed by the aero-nautical authorities for approving tariffs. It appears in particular from Article 3 of the directive that tariffs must be reasonably related to the long-term fully allocated costs of the air carrier, while taking into account the needs of consumers, the need for a satisfactory return on capital, the competitive market situation, including the fares of the other air carriers operating on the route, and the need to prevent dumping.” See, C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 43.


2299 “These target rebates also involved price discrimination between different customers, since they were dependent on percentage increases in purchases rather than absolute purchase volumes. The size of the target discount also varied between customers. The target-based offers to particular customers of competing sugar packers, such as [...] and [...] also involved selective and discriminatory pricing. (...) By offering the customers of much smaller competitors prices that were not generally available, Irish Sugar was obviously flouting this requirement. The target rebates offered to all wholesalers in 1994 and to particular customers of competing sugar packers in 1994 and 1995 were part of a policy of restricting the growth of competition from domestic sugar packers” See, Commission Decision, IV/34.621, 35.059/F-3 — Irish Sugar plc, OJ L 258, 22.9.1997, p. 1–34, 1997, recital. 154.
ruled that Irish Sugar’s selective price cuts were abusive because they limited rivals’ access to springboards, and had anticompetitive aims.

The General Court’s legal reasoning indicates a stepping stone hypothesis. The hypothesis is firmly established in margin squeeze analysis and is based on the notion that a new entrant must be allowed access to the service-based market which will enable it to climb to the infrastructure-based market.

The Compagnie Maritime Belge case is arguably the most striking example of when above-cost pricing can be treated as exclusionary. The Commission accused the parties to a liner conference (CEWAL) in the maritime transport sector of adopting an exclusionary practice, so-called fighting ships. The Commission found that CEWAL had over 90 per cent market shares and that the use of discriminatory above-cost fighting rates had the potential to oust as

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2300 “[Irish Sugar] has been unable to establish an objective economic justification for the rebates. They were given to certain customers in the retail sugar market by reference solely to their exposure to competition resulting from cheap imports from another Member State and, in this case, by reference to their being established along the border with Northern Ireland. It also appears, according to the applicant's own statements, that it was able to practise such price rebates owing to the particular position it held on the Irish market. Thus it states that it was unable to practice such rebates over the whole of Irish territory owing to the financial losses it was making at the time. It follows that, by the applicant's own admission, its economic capacity to offer rebates in the region along the border with Northern Ireland depended on the stability of its prices in other regions, which amounts to recognition that it financed those rebates by means of its sales in the rest of Irish territory. By conducting itself in that way, the applicant abused its dominant position in the retail sugar market in Ireland, by preventing the development of free competition on that market and distorting its structures, in relation to both purchasers and consumers. The latter were not able to benefit, outside the region along the border with Northern Ireland, from the price reductions caused by the imports of sugar from Northern Ireland.” See, T-228/97, Irish Sugar v Commission, ECLI:EU:T:1999:246, para. 188.

2301 “Thus, even if the existence of a dominant position does not deprive an undertaking placed in that position of the right to protect its own commercial interests when they are threatened (…), the protection of the commercial position of an undertaking in a dominant position with the characteristics of that of the applicant at the time in question must, at the very least, in order to be lawful, be based on criteria of economic efficiency and consistent with the interests of consumers. In this case, the applicant has not shown that those conditions were fulfilled.” See, T-228/97, Irish Sugar v Commission, ECLI:EU:T:1999:246, para. 189.
efficient rivals due to their smaller financial resources.\textsuperscript{2302} The Court of Justice, on appeal, held that:\textsuperscript{2303}

- The list of abusive practices contained in Article 102 TFEU is not an exhaustive enumeration of the abuses of a dominant position prohibited by the Treaty.

- An abuse may occur if an undertaking in a dominant position strengthens that position in such a way that the degree of dominance reached substantially fetters competition.

- The actual scope of the special responsibility imposed on a dominant undertaking must be considered in the light of the specific circumstances of each case, which show that competition has been weakened.

- The maritime transport market is a very specialised sector.

The Court of Justice did not provide any bright-line legal test, but held that deliberate selective above-cost price cuts can be exclusionary in certain conditions. An inductive reading implies a legal test that stipulates when deliberate selective above-cost price cuts are exclusionary:

- The incumbent operator holds a quasi-monopolistic or super dominant position.\textsuperscript{2304}

- The selective price cut is part of an anticompetitive plan.

\textsuperscript{2302} "Cewal has claimed that its members did not lose money through the fighting rates; they merely earned less than they would have done from charging 'normal' rates. On this point, it must be stressed that, even if these claims seem to be contradicted by the statements of conference members contained in the minutes of the meetings of the Fighting Committee, subsidization of the cost of fighting rates by the conference's normal rates charged on its other sailings is in itself in the case at issue abusive, anti-competitive conduct which might have the effect of eliminating from the market an undertaking which is perhaps as efficient as the dominant conference but which, because of its lesser financial capacity, is unable to resist the competition practised in a concerted and abusive manner by a powerful group of shipowners operating together in a shipping conference. Even if Cewal's claims were true, this would simply show that, because of the existence of the conference, the 'normal' freight rates are substantially above the costs of its members, which in turn points to the existence of a low degree of competition on the market." See, Commission Decision, IV/32.448 and IV/32.450 — Cewal, Cowac and Ukwal, OJ 1993 L 34/20, 1992, recital. 82.


• The price cut is capable or likely to eliminate all residual competition, resulting in the maintenance or strengthening of market power.\textsuperscript{2305}

The test could apply where the selective price cut can forestall or make it artificially difficult for rivals to expand throughout the network. The marginalisation of rivals seeks to prevent erosion of monopoly profits in next-door markets.\textsuperscript{2306} The scope of the test is limited and should only apply in exceptional circumstance,\textsuperscript{2307} e.g. quasi-monopolistic features on the market.\textsuperscript{2308}

6.2.5 Theoretical Review of the AKZO Test

6.2.5.1 The Areeda-Tuner Test

The first legal test for predatory pricing was founded more than 40 years ago by Areeda and Turner, so-called Areeda-Turner test. The test is based on cost structures that approximate the relevant cost and price relationship for the accused dominant undertaking. The fundamental aim was to identify when a price could injure equally efficient rivals.\textsuperscript{2309} The rationale for viewing pricing below the appropriate cost benchmark as exclusionary was that it will generate a negative return on capital.\textsuperscript{2310} The test stipulates that pricing above a firm’s total costs (TC) or average cost (AC) is to be regarded as legitimate, whereas pricing below the firm’s marginal cost (MC) is irrational from a legitimate

\textsuperscript{2305} "[Where] a liner conference in a dominant position selectively cuts its prices in order deliberately to match those of a competitor, it derives a dual benefit. First, it eliminates the principal, and possibly the only, means of competition open to the competing undertaking. Second, it can continue to require its users to pay higher prices for the services which are not threatened by that competition." See, Joined Cases C-395/96 P and C-396/96 P, Compagnie Maritime Belge Transport and Others v Commission, ECLI:EU:C:2000:132, para. 117.

\textsuperscript{2306} The Court of Justice’s reasoning could be explained by defensive leveraging theory. To that effect see R. Cooper Feldman, Defensive Leveraging in Antitrust, 87 Georgetown Law Journal 2079, 1999, p. 2079.

\textsuperscript{2307} See, Opinion of Advocate General Mengozzi, C-209/10, Post Danmark A/S v Konkurrence-erådet, ECLI:EU:C:2011:342, para. 95.


profit maximization perspective, and thus unlawful. Nevertheless they contested that MC in practice is very difficult to calculate and thus recommended that average variable cost (AVC) should be used as a proxy.

The A-T-test has undergone strong criticism over the years questioning, inter alia, the fundamental difficulties of measuring MC and whether AVC is a suitable substitute for MC. Despite its shortcomings, the test has been highly influential on the courts and in particular the Court of Justice.

6.2.5.2 Critique of the Relevant Cost Base

A first group of critics question the very underpinning of the A-T-test. Scherer argues that the A-T-test is too simplistic and truncated, which could result in enforcement errors and contested for an immersive analysis.

Hovenkamp argues that Areeda and Turner sought to develop a legal test that could identify a monopolist’s shutdown point, i.e. the point at which a firm can still produce at loss minimizing. The issue, according to Hovenkamp, is that Areeda and Turner made some highly questionable choices, in particular that marginal cost is the correct economic measurement to establish market foreclosure. Hovenkamp points out that the aim of using variable cost as a proxy for marginal cost is to avoid a motion for discovery about the necessary accounting data that is needed to assess the former concept. Indeed, whilst marginal cost may be difficult to calculate in the concrete market situation, using variable cost as a proxy might not correct the issue at all. The reason is twofold. First, marginal, and variable costs are subject to time. Second, they underappreciate the likelihood of type II errors.

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where the duration of high fixed costs is lengthy. As a consequence, the test has been criticised for lacking any objective benchmark that separates the cost items’ taxonomy over time. The test is based on short-term profitability, when the real harm results from the lack of long-term profits. Another critique is that variable- and total costs can be highly misrepresentative in industries where fixed cost are the bulk of a dominant firm’s cost structure.

Based on Hovenkamp and the literature it can be chiselled out that there are two groups that critique Areeda and Turner’s choice of cost benchmarks. The first group questions whether variable cost is a proper benchmark for short-term predation. Baumol critiques the A-T-test for being doopy and obtuse, contending that the variable cost standard is inflexible and does not provide the proper information about which costs that need to be incurred to stay in business. Baumol therefore suggests the avoidable cost benchmark as a flexible proxy for variable cost. The avoidable cost aims to rectify the shortcomings of the variable cost where the market is characterised by high fixed costs.

The second group queries the choice of variable cost because they contend that the real injury occurs in the long run. Posner argues that Areeda and

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Pricing under U.S. Antitrust and EU Competition Policy, 46 Review of Industrial Organization 229, 2015, pp. 234-235,


Turner are correct in principle, but questions their choice of cost measurements.\textsuperscript{2326} Posner points out that below-marginal cost pricing can be a profit-maximising strategy if it is part of a short-run plan to boost demand by promotional loss-leading. For Posner the relevant question is whether the firm’s pricing is sustainable in the long run, but notes that long-run margin cost is a fiction and impossible to measure with any certainty. Posner’s conclusion is that average balance sheet costs should be used.\textsuperscript{2327} Posner defines average balance sheet costs as the total costs as they appear in the accused firm’s book accounts over the number of units produced.\textsuperscript{2328} Posner’s choice of preferred cost measurement deserves two comments. First, the measurement assumes that the firm is a product manufacturing firm. Thus, the yardstick is of limited relevance if the accused firm is a service company. Second, it is unclear if Posner meant management or financial accounting costs. According to Trebilcock et al, it is the latter and it mixes forward- and backward-looking costs.\textsuperscript{2329}

Bolton et al argue that operating or variable costs do not provide enough information to assess the long-run costs that are associated with market entry and remaining in the market.\textsuperscript{2330} Bolton et al reason that long-run average incremental costs is the correct benchmark. Their reasoning builds on the notion that operating costs do not describe real economic market conditions. According to their description, even if the firm is a product manufacturer, its variable costs are just a fraction of the actual costs it must incur to sustain its operations and stay competitive over a significant time. Bolton et al essentially argue that the relevant query is not whether the yardstick identifies foreclosure, but whether it identifies impediments of procompetitive behaviours.\textsuperscript{2331}

To summarise, most of the literature on predatory pricing asks for an enhanced analysis because the underpinnings of the A-T-test are questionable. The test concludes that, inter alia, marginal cost is the correct measurement, but in so doing, the test assumes that the predatory strategy occurs in a perfectly competitive market.\textsuperscript{2332} As a result, the test assumes that the accused undertaking is a single producing firm and the marginal cost assumption is

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nonetheless relaxed even at an theoretical level if the undertaking is a multi-production firm.\textsuperscript{2333} Lastly, since the A-T-test is modulated on proto-microeconomic theory,\textsuperscript{2334} the test leapfrogs the possible underlying rationale for certain price practices where it might be profit-maximising to price below marginal cost.\textsuperscript{2335}

6.2.5.3 The Absence of Analysing the Underlying Strategic Rationale

A second strand of scholars has critiqued the A-T-test for its lack of behavioural or strategic analysis.\textsuperscript{2336} On the one hand, Greer questions whether a price-cost test is sufficient to conclude that a price is predatory.\textsuperscript{2337} Greer underscores that if the A-T-test is to actually catch the conduct that it is supposed to, further attachments ought to be made,\textsuperscript{2338} in particular predatory intent.\textsuperscript{2339} For Greer, focus on short-term profit sacrifice is ambiguous,\textsuperscript{2340} the real threat emerges from the long-run benefits that the pricing strategy is seeking to achieve. To assess the credibility of competitive harm, Greer proposes

\textsuperscript{2336} Comanor and Frech argue that examining cost-price relationship is necessary, but that the investigation also have to account for the strategic element of the practice. As they view predatory behaviour, the conduct is implemented because the dominant firm is seeking to achieve a specific end result. "Predatory conduct is a particular type of strategic behavior. Essentially, it requires an investment decision by the predator in that actions are undertaken, at some current cost to itself, that are designed specifically to influence a rival's behavior in the future." See, W. S. Comanor and H. E. Frech III, Predatory Pricing and the Meaning of Intent, 38 Antitrust Bulletin 293, 1993, p. 294.
\textsuperscript{2339} "Pricing below full cost is sufficient to exterminate rivals. Evidence of intent is needed because pricing below full cost can occur for innocent reasons other than predation. Intent establishes the presence of a long-run predatory strategy at work rather than a short-run expedient." See, D. F. Greer, A Critique of Areeda and Turner's Standard for Predatory Practices, 24 Antitrust Bulletin 233, 1979, p. 242
\textsuperscript{2340} Short-term below-cost pricing may equally as plausibly be based on pro-competitive grounds. See, D. F. Greer, A Critique of Areeda and Turner's Standard for Predatory Practices, 24 Antitrust Bulletin 233, 1979, pp. 241-242
that the relevant yardstick is a forward-looking long-run cost measurement. Beckenstein and Gabel agree with Greer that a price-cost test is the appropriate starting point, but argue that the A-T-test is insufficient as it lacks any framework to assess a price underlying rationale. According to Beckenstein and Gabel, an apt predation test should be based on both the intent and probability of resulting in harm. As such, they also conclude that the aim of predatory intent is to establish whether the practice can result in harm based on objective criteria.

On the other hand, scholars such as Williamson and Baumol assert that the A-T-test has design flaws and that the correct criterion is the strategic underpinning of the allegedly predatory conduct. According to Williamson and to Baumol, the appropriate test should focus on the strategic element and the effects on competition the relevant production output is likely to have. The problem is that such a test may in fact be impossible to comply with. Such test assumes that the relevant information can be obtained, which seems unlikely.

6.2.5.4 The Relevance of Market Characteristics

A third group of scholars has critiqued the A-T-test for being superficial. Indeed, although the scholars have diverging opinions on how to design a predation test, the thing they have in common is that market charismatics is a fundamental tool to assess the practice's capacity of resulting in harm.

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2347 This group agrees that behaviour analysis should be an integral part of a predation analysis, but hold that the key factor is nonetheless the market structure, e.g.: "A rule based solely on behavioral considerations does not provide a means for distinguishing market situations in which the expected costs of predatory pricing are high from those in which they are low." See, P. L. Joskow and A. K. Klevorick, *A Framework for Analyzing Predatory Pricing Policy*, 89 Yale Law Journal 213, 1979, p. 243.
According to Koller and Scherer, the A-T-test is characterised by an objective enforceable standard, but based on the wrong economic assumptions.\textsuperscript{2348}

This is known as the good law, bad economics dichotomy.\textsuperscript{2349} The disjunction slogan implies that the law should promote legal certainty whilst limiting enforcement errors based on robust economic description of the market.\textsuperscript{2350}

Joskow and Klevorick extrapolate the appreciation and discuss a number of market factors that are needed for a predatory behaviour to be successful.\textsuperscript{2351} The central idea was to provide a structure of analysis that minimises enforcement costs and the costs of errors in accordance with the specific features of the market.\textsuperscript{2352} According to Joskow and Klevorick’s two-tier framework, the first step is to analyse the market characteristics to ascertain whether a predatory act is rational and feasible. For a market to be prone to predation, it needs to display proof of (short-run) market power, conditions of entry and dynamic factors (e.g. technological changes, market growth and sources of demand variations).\textsuperscript{2353} If the outcome of the first step is positive, the second step is to scrutinise the impugned price practice by performing a price-cost analysis.\textsuperscript{2354}

Merkin is another scholar that regards market structure as an essential feature in the fight against anticompetitive conducts.\textsuperscript{2355} Merkin points out that the school of behavioural analysis had put the cart before the horse. According to Merkin, like Joskow and Klevorick, in order to identify predatory pricing the relevant question is whether the market lends itself to successful predation.\textsuperscript{2356} For Merkin, the adequate structure of analysis is to start with a general inquiry into whether the accused firm is dominant, if the dominant firm has the capacity to expand output to capture the increase in demand following the price reduction, entry barriers, consumer irrationality, the rate of technological


change and the possibility to recoup the incurred losses. If the market inquiry is positive then, according to Merkin, the market lends itself to predatory acts. For Merkin, the relevant question is then which criteria that ought to be used to catch the conduct. Merkin points out that the appropriate structure is to establish a relevant time period, whether the price is below the relevant cost yardstick and the possibility to grant objective justifications for the conduct. The first criterion should not be confused with the second. The reasoning behind the first is to ensure that Article 102 TFEU does not catch pro-competitive price drops, e.g. transitory below-cost pricing that introduces new widgets. Thus, the underlying aim of the first step is to choose a suitable contrafactual, which is in contrast to the time period when analysing cost behaviour.

Ordever and Willing settle on the conclusion that whether a price drop can result in injury is conditional on several structural characteristics. According to Ordever and Willing, the market must exhibit horizontal market power which can discipline rivals, considering barriers to competition and the strength of competition. Ordever and Willing, like their peers, argue that the appropriate sequence is to perform a structural test and then apply the relevant predation test. The second step in Ordever and Willing’s analysis departs from their peers, they assert that the so-called profit sacrifice or but for test should be used in predation claim. As conferred in chapter 5.4.2, these tests aim to extract or infer the underlying strategic rationale for an implemented price policy. The issue is not to identify the existence of profit sacrifice, the real issue and relevant query is what objective benchmark that should be used to qualify the behaviour as abusive. For Ordever and Willing, the correct approach is a cost-revenue test. As such, they propose that the legal qualification ought to be based on evaluating the effect on the firm’s profitability a managerial decision to restrict output will cause.

2363 "Our approach to the derivation of these cost-based tests also clarifies the appropriate cost concepts. Whatever the cost-based test at issue, it is the cost saving from an output contraction that must be compared with the associated revenue reduction." See, J. A. Ordover and R. D. Willing, An Economic Definition of Predation: Pricing and Product Innovation, 91 Yale Law Journal 8, 1981, p. 17.
propose that the avoidable cost is the correct yardstick. The test that they suggest can nonetheless be highly complex to apply if the accused undertaking is a multiproduction firm.\textsuperscript{2364} Perhaps Ordever and Willing’s biggest contribution is their account of how to infer the underlying strategic rationale of a dominant firm’s price settings. Taking it to its extreme, their modelling of the test, implies that the necessary fact-finding is to be found in the relevant cost-revenue data and all other behavioural analysis is redundant. Indeed, albeit that the profit sacrifice test is aimed to provide a useful proxy for anticompetitive intent, the test has been criticised for its lack of nimbleness.\textsuperscript{2365}

6.2.5.5 Synthesised Models as an Alternative Structure of Analysis

Based on the insights described in chapters 3.2.1 and 3.2.2, the lens has focused on a particular spot. Indeed, albeit that the scholars are of different opinions, no one propounds that variable cost should be used and thus refute the A-T-test as an adequate test to be utilised, on theoretical basis. This implies that the AKZO-test is constructed and modelled on at the very least bad economics.

If AKZO is to be refuted as a bad legal test, what ought to be the alternative then? Bolton et al provide an alternative that synthesises the above-mentioned notions into a two-tier structural analysis.\textsuperscript{2366} The point of departure for Bolton et al is that predatory pricing builds on an intellectual conflict. On the one hand, low price can be used as an exclusionary tool by dominant firms. On the other hand, aggressive price cuts are a pinnacle hallmark of effective competition.\textsuperscript{2367} For Bolton et al, the US doctrine on predatory pricing builds on a static and antiquated view of economic theory. As a consequence, the law is prone to result in type I errors. To remedy the knot, Bolton et al suggest a swap of the underlying economics to “modern” strategic economic theory.\textsuperscript{2368} In legal terms, strategic economic theory is a teleological source-based argument.

\textsuperscript{2364} “In the multiproduct case, however, the effects of the output contraction on the incumbent’s profit also depend upon its effects on revenue and production costs for the cross-elastic product. (...) Predation exists under our standard if the conservative estimate of the loss of direct revenues from the hypothetical output contraction, pØ, is less than the sum of the direct cost saving from the contraction and the estimate of the net effect on profit from the sales of the cross-elastic product.” See, J. A. Ordoever and R. D. Willing, An Economic Definition of Predation: Pricing and Product Innovation, 91 Yale Law Journal 8, 1981, p. 19.


For Bolton et al, the preferable test on predatory pricing should be fabricated on five analytical steps packaged into a two-tier structural analysis. The aim is to focus on the underlying strategic rationale of the accused firm, which allows for objective justifications based on dynamic views on profitability that has a procompetitive purpose.\(^\text{2369}\)

- **Tier One: The Screening Test**
  1. Analysis of market structure to establish whether predation is a feasible strategy.
  2. Finding of a creatable plan of how to implement the predatory act.
  3. Analysis of the possibility of recoupment.

- **Tier Two: Cost Tests and Objective Justifications**
  4. Analysis of the below-cost pricing.
  5. Analysis and the absence of business rationale and efficiency justifications.

6.2.5.6 The Intel Structure of Analysis as a Possible Solution

The modernisation of the EU antitrust system and the Commission’s push towards a more economic approach to Article 102 TFEU\(^\text{2370}\) appears to lend itself to the two-tier analysis developed by Bolton et al. Indeed, the introduction of the more economic approach has led to a substantive modernisation process in which the content of exclusionary abuse could be reformed by shifting the premises and interpretative sources.\(^\text{2371}\) As put forward in chapter 5.7, the

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Guidance Paper recognises seven key factors which the Commission will take into account when analysing the possibility for anticompetitive effects:2372

1. The Position of the Dominant Undertaking.
2. The Conditions on the Relevant Market.
3. The Position of the Dominant Undertaking’s Competitors.
4. The Position of the Customers or Input Suppliers.
5. The Extent of the Allegedly Abusive Conduct.
6. Possible Evidence of Actual Foreclosure.

In addition, the Commission is quite stringent about the academic quality of the evidence that is accepted (inasmuch as the economic theory is well-established in the literature).2373

As the law stands on predatory pricing, there is no legal requirement to take into account market structure and ascertain if the plan of elimination can result in the alleged foreclosure effects.2374 As a result, the AKZO test is too numb to identify exclusions of as efficient competitors, even potentially.

Indeed, whilst the Bolton et al model could be accepted without difficulties at a policy level, the relevant legal query is whether the Court of Justice can accept it. Notwithstanding that the underlying premises of the law can change,2375 by e.g. teleological reasoning, the Court of Justice seems to be reluctant to do so if it would pose a threat to the systematic integrity of its case law. To that end, teleological reasoning alone is insufficient and thus needs to be complimented or combined with some other argument, principle, or rule. One such legal solution is coherence-based interpretation or reasoning. The coherence-based reasoning permits or instructs courts to interpret the law in a

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2373 DG Competition, Best Practices for the Submission of Economic Evidence and Data Collection in Cases Concerning the Application of Articles 101 and 102 TFEU and in Merger Cases, para. 3.
coherent manner, i.e. the set of norms that is a part of the legal system should be interpreted and applied in a single, continuous, and uniform mode.\textsuperscript{2376} The Court of Justice’s ruling in Intel is a striking illustration of coherence-based reasoning at the EU level.\textsuperscript{2377} The case law after TeliaSonera and Post Danmark \textsuperscript{2378} had developed in a sprawling manner.\textsuperscript{2379} The case law on rebates build on old-fashioned ideas, whereas its case law on margin squeeze and selective price cuts had thrived in line with modern economic theory.

The Intel structure of analysis aims to strike a balance between the principle of the provision by mitigating enforcement errors on the other hand.

The Court of Justice started its reasoning by first affirming the telos or objective of Article 102 TFEU.\textsuperscript{2380} The line of argument was justified on a horizontal systematic approach. The second line of argument was that Hoffmann-La Roche is still valid law, but clarified that it builds on a presumption that the conduct is capable of resulting in anticompetitive effects, which the dominant firm can rebut.\textsuperscript{2381} It is this line of arguments that builds on coherence-based reasoning. The Court of Justice certified the law on exclusionary abuse must be rational and coherent by building on the same premise. As a result, the Court of Justice distilled that where the dominant firm provides evidence during the administrative procedure that seeks to challenge the a priori assessment, the Commission must investigate whether the conduct is capable of producing the alleged foreclosure effects. In such a scenario the Commission must show:\textsuperscript{2382}

1. the extent of the undertaking’s dominant position on the relevant market,
2. the share of the market covered by the challenged practice,
3. the conditions and arrangements for granting the rebates in question,
4. their duration and their amount, and
5. the possible existence of a strategy aiming to exclude competitors that are at least as efficient as the dominant undertaking from the market.

The criteria seek to ascertain and secure that only conducts that are likely to have anticompetitive effects on the market are caught by Article 102 TFEU. Notwithstanding that the criteria established in Intel are literally different from Bolton et al, the key is that they are the same in substance, namely that an investigation into the market characteristics is essential to establish the probability of exclusions. Based on the mentioned, market inquiry is a fundamental step to ascertain whether an impugned below-cost selling strategy can result in anticompetitive foreclosure. The absence of market investigation makes the AKZO test out-dated and in need of recalibration or further attachments.

A legal query that arises from the Court of Justice’s ruling in Intel is whether the Commission is legally obliged to conduct an as efficient competitor test.\textsuperscript{2383} The General Court on remittal held that the five criteria are cumulative and that the Court of Justice did not hold that it is a legal requirement to analyse the lawfulness of a rebate scheme by conducting an as efficient competitor test, but where the plaintiff has put forward such a test, that is a relevant factor that must be assessed.\textsuperscript{2384} The criteria established in Intel could be viewed as a further development of the relevant market criteria established in Post Danmark II.\textsuperscript{2385} The Court of Justice, in Post Denmark II, stated that Article 102 TFEU aims to protect as efficient competitors,\textsuperscript{2386} but suggested the use of a market-based test.\textsuperscript{2387} The Post Danmark II ruling has received a lot of criticism for rejecting the as efficient competitor test in its technical

\textsuperscript{2385} “In that regard, the assessment of whether a rebate scheme is capable of restricting competition must be carried out in the light of all relevant circumstances, including the rules and criteria governing the grant of the rebates, the number of customers concerned and the characteristics of the market on which the dominant undertaking operates.” See, C-23/14, *Post Danmark v Konkurrencerådet*, ECLI:EU:C:2015:651, para. 68.
\textsuperscript{2386} C-23/14, *Post Danmark v Konkurrencerådet*, ECLI:EU:C:2015:651, para. 66.
\textsuperscript{2387} C-23/14, *Post Danmark v Konkurrencerådet*, ECLI:EU:C:2015:651, para. 68.
But as Marinova points out, there is more than one way of conducting an in-depth analysis of the anticompetitive effects which can exclude equally efficient competitors. In Post Denmark II, the Court of Justice stated that Article 102 TFEU aims to protect as efficient competitors, but suggested the use of a market-based test. However, the General Court ruling implies that in certain market conditions, the as efficient competitor test is an integral tool to establish the alleged restriction.

Another important forensic point the General Court set out was how the burden of proof and the standard of proof apply to the Intel structure of analysis. According to the General Court, the Commission bears the burden of proving an infringement by providing a precise and consistent body of evidence that cracks the presumption of innocence, so as to leave no residual doubt in that regard. As for the standard of proof, the General Court, for the purpose of assessing the probative value of the litigant’s evidence, distinguished between two situations. First, where the Commission maintains that the established facts can be explained only by anticompetitive behaviour, it must be found that the infringement at issue has not been sufficiently demonstrated if the undertaking concerned put forward a separate plausible explanation of the facts. Second, where the Commission relies on evidence

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2390 C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651, para. 66.
2391 C-23/14, Post Danmark v Konkurrencerådet, ECLI:EU:C:2015:651, para. 68. See also, M. Marinova, What Can We Learn About the Application of the as Efficient Competitor Test in Fidelity Rebate Cases from the Recent US Case Law?, 41 World Competition 523, 2018, p. 527.
2392 "The smaller the contestable share and, therefore, the smaller the quantity of products for which the alternative supplier may compete, the greater the likelihood that the exclusivity payment will be capable of foreclosing an as-efficient competitor. If the loss of payments granted by Intel to its customer must be spread over a small quantity of products offered by the alternative supplier in the contestable share, that leads to an appreciable reduction in the effective price. It is therefore more probable that the effective price will be below Intel’s measure of viable cost." See, T-286/09 RENV, Intel v Commission, ECLI:EU:T:2022:19, para. 156.
2395 "First, where the Commission finds that there has been an infringement of the competition rules based on the supposition that the facts established cannot be explained other than by the existence of anticompetitive behaviour, the EU Courts will find it necessary to annul the decision in question where those undertakings put forward arguments which cast the facts established by the Commission in a different light and which thus allow another plausible explanation of the facts to be substituted for the one adopted by the Commission in concluding that an infringement occurred. In such a case, it cannot be considered that the Commission has adduced
which is in principle capable of demonstrating the existence of an infringement, it is for the undertaking concerned to demonstrate that the probative value of that evidence is insufficient.\footnote{Second, when the Commission relies on evidence which is, in principle, sufficient to demonstrate the existence of the infringement, it is not sufficient for the undertaking concerned to raise the possibility that a circumstance arose which might affect the probative value of that evidence in order for the Commission to bear the burden of proving that that circumstance was not capable of affecting the probative value of the evidence. On the contrary, except in cases where such proof could not be provided by the undertaking concerned on account of the conduct of the Commission itself, it is for the undertaking concerned to prove to the requisite legal standard, on the one hand, the existence of the circumstance on which it relies and, on the other, that that circumstance calls into question the probative value of the evidence relied on by the Commission." See, T-286/09 RENV, Intel v Commission, ECLI:EU:T:2022:19, para. 166.}

6.2.6 Forensic Cost Analysis of the Case Law

The legal test on predatory pricing is a mixture of different ideas, which makes it jolt. The test infers the strategic motivation of the dominant undertaking based on the cost-price metric or the unprofitability of the conduct. The practice is tacitly viewed as capable of producing potential anticompetitive effects, which are assumed. The procedural implication is a prima facie exclusionary abuse as the plaintiff has fulfilled its burden of proof. To that end, the evidential burden passes onto the accused undertaking to produce sound and consistent evidence that it had implemented a strategy that did not have any exclusionary motive. Tax effects will likely be omitted by the EU courts.

The main issue with the test is the spectrum of intent. The test makes it easy to justify, but difficult to assess ex ante with sufficient predictability.\footnote{L. Henriksson, \textit{Konkurrensrättsöverträdelser: Ekonomisk analys i den juridiska processen}, Norstedts Juridik AB, 2013, p. 108.}

Determining the relevant cost benchmark is subject to at least four conditions. First, the conduct in question. Second, cost structure and characteristics on the relevant market. Third, the business activities of the dominant undertaking. Fourth, the relevant period. A fifth condition is potentially possible, namely the theory of harm.\footnote{The issue is that it most likely is subject for policy discretion. To that effect, see A. Kalintiri, \textit{What’s in a Name? The Marginal Standard of Review of “Complex Economic Assessments” in EU Competition Enforcement}, 53 Common Market Law Review 1283, 2016, p. 1304.}

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6.2.6.1 Point of Departure

6.2.6.1.1 Cost Structure and Characteristics on the Relevant Market

Determining the relevant cost yardstick a priori is a complex task and without any objective standard the risk of type I and II errors increases. The relevant market could provide such a standard. The concept is conventionally used to identify rivalry between operators and a starting point to ascertain if a firm or a group of firms have market power.2399 The concept is thus limited to answering whether antitrust applies, but not how the provisions should be applied.2400

A result of market investigations is that they identify the sector and business activities of the dominant undertaking. A firm’s cost structure is dependent on the features of the industry and where in the supply chain it operates.

A trait of many service industries is the relative portion of high fixed and low variable costs, e.g. the variable cost is close to zero for downloading a piece of software from the Internet.2401 This implies that variable cost is an inept proxy for harm when the abuse occurs in the service sector and for how the market operates. The use of variable or incremental costs in the airline industry can be misleading and result in type II error. Once a flight is scheduled, the incremental cost of adding a passenger is very small and the operating variable cost is likely to be the same with or without the additional passenger. Indeed, the operating average variable cost will decline as more passengers are added due to economies of density. Service industries tend to be characterised by production costs that are necessary in manufacturing or supplying services. As a result, an as efficient entrant must incur the cost of necessary infrastructure, e.g. operating fleet or access an already existing network. Failure to cover the relevant production costs suggests that the dominant firm’s practice is capable of resulting in anticompetitive effects by making entry more difficult.


Some markets do not display an obviously skewed relationship between variable and fixed costs. The variable cost may nonetheless be an inept benchmark where the market is characterised by barriers to entry that can be financially replicated in the long run, e.g. R&D investments.\textsuperscript{2402}

\subsection{6.2.6.1.2 The Business Activities of the Dominant Undertaking}

The total cost can be a suitable measurement if the undertaking is a single-producer. The finding of a dominant single-product firm outside the textbook is rare.\textsuperscript{2403} Equally unlikely is the finding of a multiproduct firm that is dominant on every line of production and applied exclusionary practices on them.

More likely is that the multiproduct firm is dominant on a particular part of its operations. As a consequence of multiproduction, the firm enjoys economies of scope and only some of the fixed costs are necessary for production, e.g. common and joint costs,\textsuperscript{2404} and need to be assigned to the cost object.

The presence of economies of scope implies that total cost provides inadequate information and the benchmark increases the risk of type I error.\textsuperscript{2405}

\subsection{6.2.6.1.3 The Relevant Period}

A crucial concept when analysing whether a dominant firm’s price practice is capable of resulting in anticompetitive effects is the relevant period. The relevant period or duration refers to the range for which costs and revenues are relevant when analysing the profit margin(s) of an as efficient competitor.

As stated previously, determining that a profit margin is insufficient is the actual substance of price-cost tests. However, two antitrust issues arise. First, in theory, all costs are fixed in the short run, but variable in the long run.\textsuperscript{2406} This implies that a cost measurement can have one classification during one period, but another during a different period. As a result, a cost-price test that is based on variable cost will become more effective to combat price-based

\textsuperscript{2402} See, e.g. Commission Decision, AT.39711 – Qualcomm (predation), recital. 780.
\textsuperscript{2406} See, e.g. R. S. Pindyck and D. L. Rubinfeld, Microeconomics, 9th global edition, Pearson, 2018, p. 241.
abuses as time passes. That is, the longer the period is, the more likely it is that the dominant firm’s prices will be caught by the variable and avoidable cost yardsticks. The issue is what legal classification the cost items will have during the alleged infringement. Second, demand tends to be volatile and unpredictable in nature. In order to offer price stability, firms forecast the revenue stream over a certain period. The antitrust issue is that there is a discrepancy between costs and revenues. That is, the cost of manufacturing and the revenue of selling occur at different periods. The longer the time period is, the more likely it is that a dominant firm will recoup or cover its costs. On the other hand, a period that is too short may risk resulting in type I error because the firm does not have a realistic possibility to cover its investment costs.

It follows that the objective of the relevant period is to determine the cost items' legal classification as well as the length of time the revenue stream can be used to cover these costs. Indeed, although both types of analysis are important, they should be based on their own separate analysis.

The relevant period is an important legal concept as it allows dominant firms to assess the lawfulness of their own behaviours ex ante. However, as the law stands, there is a legal gap.

The Court of Justice pointed out in AKZO that cost classification should be done during the relevant period. As the law stands, the relevant period is from the implementation to when the potential exclusionary effects could materialise on the market. This implies that the relevant period is the duration of the alleged infringement, i.e. the period over which the price is in

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2411 "[Article 102 TFEU] clearly refers in each case to the position occupied by the undertaking concerned on the [Internal Market] at the time when the latter acted in a way which is alleged to amount to an abuse." See, Joined Cases 40/73 to 48/73, 50/73, 54/73 to 56/73, 111/73, 113/73 and 114/73, *Suiker Unie and Others v Commission*, ECLI:EU:C:1975:174, para. 450. The Court of Justice made a similar reasoning in Servizio Elettrico Nazionale: "[As a result], first, a practice cannot be characterised as abusive if it remained at the project stage without having been implemented. Second, competition authorities cannot rely on the effects that that practice might produce or might have produced if certain specific circumstances – which were not prevailing on the market at the time when that practice was implemented and which did not, at the time, appear likely to arise – had arisen or did arise. By contrast, in order for such a characterisation to be established, it is sufficient that that practice was, during the period in which it was implemented, capable of producing an exclusionary effect in respect of competitors that were at least as efficient as the undertaking in a dominant position." See, C-377/20, *Servizio Elettrico Nazionale and Others*, ECLI:EU:C:2022:379, paras. 70-71.
force. The litigants, e.g. the Commission and the dominant firm, are however often of different views on the matter.  

The General Court ruling in Slovak Telekom suggests that the relevant period falls within the Commission’s discretion. The Guidance Paper denotes that the Commission will look at several factors that may contribute to the assessment, e.g. the position of customer, the percentage of total sales and the market performance. Establishing a relevant and objective time period a priori is cumbersome and it may be more appropriate to point to criteria that inform the finding of exclusionary foreclosure.

In France Télécom, the Commission used the depreciation rate to analyse which costs should be classified as variable costs and should be recovered (within four years). However, the period over which the revenues should be calculated was based on a period of 48 months, which in turn was based upon the time the average subscriber stayed with Wanadoo. Accordingly, the time period to establish the relevant cost to be recovered is not the same as the period to assess if the dominant firm is making a profit. It is the latter period that is problematic from a legal certainty perspective. From this perspective, the relevant time period should be the period during which the impugned price practice is in force.

A starting point is to analyse the duration that the impugned price is in force, e.g. due to contractual terms or the typical length of the calculation. The problem is that the length of calculation does not necessarily indicate consumer harm and different markets can result in different conclusions, e.g. bidding markets that are contestable and/or winner-take-all markets.

The General Court pointed out in France Télécom that the costs and revenues that occur after the finding of abuse fall outside the scope of judicial review. The main problem, as highlighted above, is that costs and revenues often occur at different time periods. Costs may very well be incurred at one
stage in time for the purpose of generating additional revenues at a later stage, e.g. investments in infrastructure or capacity. The fact that the initial outlay cost is greater than the current revenues does not suggest exclusion. Indeed, in the travel industry, due to uncertain demand, airlines tend to add capacity during the off-peak load period to be ready meet the rapid growth in demand during peak load.\textsuperscript{2422} The addition of (idle) capacity or capacity on the ground (e.g. terminals, runways, slots, and airplanes) is a major factor that causes profitability to swing in the airline industry,\textsuperscript{2423} and implies the need for a sufficient time period to cover the outlay cost(s).

Based on the above, it is difficult to say anything definitive, but is appears that the length a customer is willing to stay with the undertaking can be important. On the on the hand, the Commission seems to accept customer profitability and customer lifetime value,\textsuperscript{2424} when setting the period in France Télécom. On the other hand, the BEREC Guidance on ex ante replicability tests on margin squeeze proposes that customer lifetime value can be a useful proxy when determining the relevant time period.\textsuperscript{2425}

6.2.6.2 Forensic Costs Analysis of Commission’s Practice and the Case Law

6.2.6.2.1 Forensic Analysis of the Variable Cost in AKZO

6.2.6.2.1.1 The Commission’s Costs Analysis
The Commission held in AKZO that a cost-price test is not a legal requirement to establish whether the dominant undertaking’s price-cutting strategy is abusive,\textsuperscript{2426} and argued that such a test would limit the scope of Article 102 TFEU.

\textsuperscript{2425} See, Body of European Regulators for Electronic Communications (BEREC), BEREC Guidance on the Regulatory Accounting Approach to the Economic Replicability Test (i.e. ex-ante/sector specific margin squeeze tests), BoR (14) 190, 2014. Available at: https://bereg.europa.eu/eng/document_register/subject_matter/berec/download/0/4782-berec-guidance-on-the-regulatory-account_0.pdf.
A battleground between the Commission and AKZO was the relevant costs. The Commission argued that the dominant firm’s own cost structure was an unsuitable starting point to identify and measure effective competition in the long term. The Commission held that the marginal and variable costs were inappropriate and that the exclusionary effects could be achieved even where the dominant firm’s price cuts are above its own average total costs.

Although the Commission rejected AKZO’s argument about the Areeda-Turner test, the Commission nonetheless investigated AKZO’s cost structure. The Commission accused AKZO of applying the incorrect accounting methodology because AKZO’s accounting system had classified the variable cost as the cost of raw material, energy packaging, and transport, and the fixed costs as labour, maintenance, warehousing and dispatching. According to the Commission, accounting systems usually consider e.g. direct labour as variable cost as it changes with the level of output. The Commission (even though it was not necessary because AKZO had priced below its own classification of variable costs) adjusted the variable cost to include labour costs.

According to the Commission, the proper cost classifications are:

- Fixed costs are costs that remain constant in spite of changes in output and generally include management overheads, depreciation, interest and property taxes.

- Variable costs are costs that vary with changes in output and generally include materials, energy, direct labour, supervision, repair and maintenance, and royalties.

- Total cost is the sum of fixed and variable costs.

- Average cost is total cost divided by output.

- Marginal cost is the addition to cost resulting from the production of an additional unit of output.

6.2.6.2.1.2 The Judgment of the Court of Justice

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The Court of Justice, on appeal, was asked to rule on whether the Commission had used the correct method in order to qualify AKZO’s price practice as exclusionary. One of the legal queries was the relevant benchmark. As stated supra, the Commission had argued that a price-cost test would limit the scope of Article 102 TFEU and therefore argued that the correct approach should be an overall evaluation. AKZO pled that the Commission’s approach should be set aside and argued for a price-cost methodology. According to AKZO, the fact that a short-term price practice can imperil a firm’s persistence in the long run is not grounds for prohibition. It is only after a longer time period that an undertaking could eliminate those losses and the firm must in the meantime accept “optimum orders” to ensure its financial health.2433

The Court of Justice held that the notion of abuse is an objective concept, as established in Hoffmann-La Roche,2434 that prevents a dominant undertaking from ousting competitors, which reinforces its dominance, by using methods other than those which come within the scope of competition on the basis of quality.2435 As a consequence, not all types of price practices can be considered as legitimate.2436 The Court of Justice settled the first battleground by establishing the AKZO test,2437 but the legal conclusion was justified on a legal certainty-based argument.2438 The Court of Justice solved the second battleground by ruling that the legal classification of variable and fixed is subject to an analysis of how the particular cost behaves vis-à-vis the quantity produced.2439 That is, a correlation test.

6.2.6.2.1.3 Forensic Analysis

2433 "According to AKZO, a criterion based on an endeavour to obtain an optimal price in the short term cannot be rejected on the grounds that it would jeopardize the viability of the undertaking in the long term. It is only after a certain time that the undertaking in question could take measures to eliminate the losses or withdraw from a loss-making branch of business. In the meantime the undertaking would have to accept ‘optimum orders’ in order to reduce its deficit and to ensure continuity of operation." See, C-62/86, Akzo Chemie v Commission, ECLI:EU:C:1991:286, para. 68.
2434 C-85/76, Hoffmann-La Roche v Commission, ECLI:EU:C:1979:36, para. 91.
2436 "It follows that [Article 102 TFEU] prohibits a dominant undertaking from eliminating a competitor and thereby strengthening its position by using methods other than those which come within the scope of competition on the basis of quality. From that point of view, however, not all competition by means of price can be regarded as legitimate." See, C-62/86, Akzo Chemie v Commission, ECLI:EU:C:1991:286, para. 70.
2439 "It should be pointed out that an item of cost is not fixed or variable by nature. It must be determined, therefore, whether, in the present case, labour costs did vary according to the quantities produced." See, C-62/86, Akzo Chemie v Commission, ECLI:EU:C:1991:286, para. 94.
Before forensically scrutinising the Commission's cost analysis, a review of the Court of Justice's endeavour to establish an effective presumption will be conducted.

It follows from the first limb of the AKZO test that the only plausible economic explanation for a dominant firm pricing below average variable cost is to eliminate competition, and accordingly the behaviour must be regarded as abusive.\textsuperscript{2440}

But, there can be legitimate strategic reasons for a firm with monopoly power to sell below-cost. According to O’Donoghue and Padilla, there are instances where pricing below the relevant cost yardstick for a limited time period can be part of a non-exclusionary strategy and thus ought to be legitimate.\textsuperscript{2441} Thus, in markets that are categorised by economies of scale, dynamic efficiencies and/or where the large up-front investments need to be made, it is often procompetitive,\textsuperscript{2442} in particular when network externalities are a key feature.\textsuperscript{2443} Jones at al argue that launching a new product, selling remnants of obsolete stock, or making continuous use of production facilities should count as non-exclusionary blow-cost sale.\textsuperscript{2444}

The Commission’s analysis about the proper variable cost classification and accounting systems is remarkable for a number of reasons. First, the primary aim of all accounting systems is to record, summarise and report useful information to the relevant decision-maker.\textsuperscript{2445} Accordingly, the system contains information for both external users and internal managers. As stated supra, the relevant cost information for pricing is the managerial accounting system.

Second, although identifying the direct labour cost is a necessary starting point to avoid type I and II errors, the analysis cannot be too superficial. Classification of labour costs depends on the actual circumstances, e.g. legal and contractual bases. According to Atrill and McLaney, labour salaries are often presumed to be variable cost, when they in fact tend to be fixed.\textsuperscript{2446} Normally the staff will get paid regardless of the volume activity or short-term shut-downs. The exception would be if the staff is paid according to how much is

\textsuperscript{2446} P. Atrill and E. McLaney, Management Accounting for Decision Makers, 10th edition, Person, 2021, p. 68.
produced, e.g. bonuses. Atrill and McLaney’s takeaway is to start with analysing if the cost item is fixed and not the other way around.\footnote{Atrill and McLaney, Management Accounting for Decision Makers, 10th edition, Pearson, 2021, p. 68.}

Third, microeconomic theory assumes that wages, salaries, and raw materials used for production are variable costs as they increase with output.\footnote{See, e.g. R. S. Pindyck and D. L. Rubinfeld, Microeconomics, 9th global edition, Pearson, 2018, p. 241.} This is unsurprising as all costs tend to be variable in the long term.\footnote{See, e.g. R. S. Pindyck and D. L. Rubinfeld, Microeconomics, 9th global edition, Pearson, 2018, p. 241.} The fact that fixed cost is an element of time, as it can fluctuate over time, does not mean that staff wages are variable costs.\footnote{Atrill and McLaney, Management Accounting for Decision Makers, 10th edition, Pearson, 2021, p. 68.} The change in cost does not mean that a firm’s cost structure has been altered, as the change may very well be caused by other things than the level of output.\footnote{"It should be pointed out that an item of cost is not fixed or variable by nature. It must be determined, therefore, whether, in the present case, labour costs did vary according to the quantities produced." See, C-62/86, Akzo Chemie v Commission, ECLI:EU:C:1991:286, para 94.}

Fourth, the Commission’s view is that the cost classification can be solved by using production output as the determining factor. The Court of Justice held in AKZO that cost classification should be determined on the basis of how it correlates with output.\footnote{P. Atrill and E. McLaney, Management Accounting for Decision Makers, 10th edition, Pearson, 2021, p. 68.} Indeed, although there may be a correlation between production output and variation in a particular cost item, this does not make it a variable cost. The issue is that focusing on correlation alone can be misleading; what appears as variable can in fact be a fixed because of the mathematical relationship. By spreading a cost item using division (i.e. calculating the average cost) the cost can appear to be variable, e.g. monthly fixed labour cost divided by the number of items produced. It follows that there is a key difference between looking at the production output and identifying what actually caused the cost behaviour, i.e. the cause-and-effect relationship.\footnote{See, e.g. C. Drury and M. Taylor, Management and Cost Accounting, 11th edition, Cengage Learning, 2020, p. 51.}

Notwithstanding that the Court of Justice’s output correlation test or method can be highly criticised, the judgment did not provide any guidance on two fundamental legal queries. First, the Court of Justice did not rule on how cost allocation should be done for multiproduction firms and second,\footnote{A. Jones, B. Sufrin and N. Dunne, Jones & Sufrin’s EU Competition Law: Text, Cases and Materials, 7th edition, Oxford University Press, 2019, p. 402.} the relevant time period over which costs will be treated as variable or fixed. Next, a summary of accounting costing methods will be done and followed up by a summary of accounting cost estimation methods. The essential difference
is that the former seeks to provide managers with cost allocation tools to assign costs, whereas the latter seeks to provide managers with tools to ex ante estimate how the cost is likely to behave in certain conditions.

The antitrust implications of these methods are twofold. First, costing methods can provide important analytical insights into the process of how to establish the relevant cost and whether such cost base makes any antitrust sense. Second, cost estimation methods can provide important systematic tools to ascertain the relevant time period.

6.2.6.2.2 Forensic Analysis of the Costs in France Télécom
In France Télécom, the Commission accused France Télécom’s subsidiary Wanadoo Interactive of implementing below-cost pricing in the market for ADSL-based Internet access services. The Commission found that Wanadoo had deliberately implemented the practice to pre-empt rivals from entering the market and thus had restricted the development of the market.

The decision is significant for two reasons. First, it shows the limitations of the AKZO test when the impugned conduct covers services and occurs in network industries. Second, as a result of the market characteristics, the Commission in fact applied the avoidable cost benchmark by using, inter alia, the advertisement costs as a proxy for the variable service costs.

6.2.6.2.2.1 The Commission’s Costs Analysis
The Commission defined the relevant (service) market as the market for high-speed Internet access for residential customers using ADSL technology. The alleged predation consisted of a flat-rate price practice (i.e. the same price regardless of the speed and technology) between March 2001 and October 2002. In particular, Wanadoo did not cover its variable costs until August 2001 or cover its full costs from August 2001 and onwards.

The Commission, for the purpose of applying the AKZO test, made several adjustments when examining the costs of Wanadoo to reflect the industry features. First, the Commission identified that the traditional distinction between variable (or operational) costs and fixed (or structural) costs is not always clear-cut. But the correlation test established by the Court of Justice in AKZO was the relevant legal test to identify whether the costs vary with

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the quantities produced. The Commission noted that direct and indirect costs may not provide any clear indication of whether a cost is variable or fixed. The Commission defined full costs as direct costs plus indirect variable costs. Lastly, the Commission made a distinction between recurrent and non-recurrent costs. According to the Commission:

- Within the framework of a service like a high-speed Internet subscription, recurrent costs are costs that arise on a periodic basis.

- In activities of this type, non-recurrent costs are costs that arise just once (or on a very occasional or accidental basis) per subscriber, for instance customer acquisition costs.

In essence and broadly speaking, Wanadoo had three main costs for its ADSL products or services:

- Network costs, e.g. access costs, routing costs, and the costs of international connectivity.

- Customer acquisition costs, e.g. advertising, marketing activities and special offers, payments to the sales network, and service access costs.

- Other production costs, e.g. platform costs; customer service costs, the bulk of which are direct costs associated with the hotline service; customer administration costs, relating to inter alia invoicing and debt recovery; and customer loyalty costs.

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2461 "[T]he direct costs of a good or service as the costs directly attributable to it (these are usually variable or operational costs) and the variable or fixed costs which may be unambiguously associated with those costs even if they transit into the cost accounts via analysis centres corresponding to company activities which are not exclusively dedicated to producing the good or service in question. Direct costs are frequently confused with variable costs but may also include fixed or structural costs, like the costs associated with fixed assets specifically dedicated to producing the good or service in question. Indirect costs, on the other hand, are costs which are not directly attributable to a given product, but which must be broken down according to formulas determined for the various products and which reflect, as closely as possible, the indirect causal relationships. Direct costs plus indirect costs equal full costs. However, full costs generally exclude non-attributable costs, such as general financial costs and extraordinary costs which are not linked to production of the good or service in question." See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 37.
In applying the AKZO test, the Commission considered that the relevant time period was 48 months. This was established by how long the price was considered to be in force due to contractual obligations but elongated to reflect normal market conditions based on the industry average retention rate.\textsuperscript{2464} The Commission applied a backwards-looking period-by-period method to ascertain whether Article 102 TFEU had been infringed by Wanadoo.

For the purpose of identifying if the first limb of the AKZO test had been infringed, the Commission used the recurrent costs. In particular, the Commission used the customer acquisition cost to identify the necessary correlation between the marketing activities and new subscribers for each period.\textsuperscript{2465} The Commission did a cursory analysis of Wanadoo’s total costs and concluded that Wanadoo would most likely not cover the non-recurrent customer acquisition costs over an infinite time.\textsuperscript{2466} The Commission however made an engaging statement about the concept of depreciation. The Commission noted that depreciation is a normal method to provide relevant financial information about firms’ profitability and financial health. On the facts, the Commission disregarded that the depreciation should be included in the total cost analysis.\textsuperscript{2467} The reason was that France Télécom owned the network infrastructure and as a consequence, Wanadoo did not carry out any depreciation.\textsuperscript{2468}

Wanadoo disputed the Commission’s assessment on two grounds. First, the Commission’s analysis of variable and full costs. Second, that the Commission had applied an incorrect method when assessing the profitability and instead should have applied the discounted cash flow method (DCF).\textsuperscript{2469} As such, Wanadoo essentially questioned and challenged the relevant time period. The Commission omitted the first challenge due to the state of the market when the practice was implemented,\textsuperscript{2470} and stated that the correct period is

\begin{footnotesize}
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  \item \textsuperscript{2464} See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 77.
  \item \textsuperscript{2465} See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recitals. 61-65.
  \item \textsuperscript{2466} “In the period January 2001 to October 2002, then, the adjusted full unit costs were never recovered. It should be pointed out that the choice of the length of time over which the non-recurrent costs are to be written off has no effect on the finding that the company was unable to cover its full costs in this period. In the case of eXtense, the margin over total production costs was always negative throughout the period, so that there could never be a contribution to the recovery of non-recurrent acquisition costs even if they were to be spread over an infinite time. In the case of Wanadoo ADSL, the margin over total production costs was likewise negative until December 2001; from January 2002 onward it became slightly positive, but would cover acquisition costs only over a period of more than 96 months.” See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 86.
  \item \textsuperscript{2467} See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 86.
  \item \textsuperscript{2468} See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 42 and footnote. 66.
  \item \textsuperscript{2469} See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recitals. 87-89.
  \item \textsuperscript{2470} “[A]lthough] Wanadoo Interactive’s ADSL services were launched commercially at the end of 1999, and made significant losses in 2000, the Commission takes the view that at that time the high-speed market had not yet developed sufficiently for a test of predation to be significant.” See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 71.
\end{itemize}
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from when the impugned practice could result in anticompetitive effects.\textsuperscript{2471} The second challenge was omitted based on the difficulty to draw any robust conclusion about the origin of a positive result using the discounted cash flow. According to the Commission, it is necessary to establish the relevant duration when applying and interpreting the result of the discounted cash flow method since predatory conducts involve two phases. Accordingly, depending on the duration, a positive margin can be a result of anticompetitive effects,\textsuperscript{2472} e.g. recoupment.

6.2.6.2.2.2 The Judgment of the General Court

The General Court based its legal analysis on the AKZO test and held that the method of calculating the rate of cost recovery is a complex economic assessment and that the Commission must be afforded a broad discretion.\textsuperscript{2473} Consequently, the General Court conducted a legality review.\textsuperscript{2474}

In respect of the AKZO test, the General Court observed that a dominant firm does not have an absolute right to price align to meet competition.\textsuperscript{2475} For the purpose of applying the AKZO test, anticompetitive effects and anticompetitive object can be one and the same, if the price practice is below-cost.\textsuperscript{2476} Lastly, there is no legal obligation to analyse the possibility of recoupment.\textsuperscript{2477}

The General Court applied the limited review quite strictly with regards to the costs analysis. First, the relevant time period over which to consider the revenues and costs.\textsuperscript{2478} The General Court held that the choice of method of calculating the rate of cost recovery was to be considered a complex economic

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\textsuperscript{2471} "[As] part of an analysis aimed at determining the period during which Wanadoo Interactive's pricing practices constituted a barrier to entry and to the expansion of competitors on the relevant market." See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 88.
\textsuperscript{2472} "[The] analysis does not allow any conclusion to be drawn regarding predation. In the most common configurations a firm pursuing a predatory policy hopes that it will be able to recover its initial losses in some form in the medium or long term. The initial loss intended to eliminate weaker competitors has to be offset by positive margins later. This means that there might very well be predation even though, despite heavy losses to the company at the beginning, the subscriber does generate a positive discounted cash flow over the duration of the subscription." See, Commission Decisions, COMP/38.233 – Wanadoo Interactive, 2003, recital. 91.
\textsuperscript{2473} T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, paras. 129-130 and 163.
\textsuperscript{2474} "The Court’s review must therefore be limited to verifying whether the relevant rules on procedure and on the statement of reasons have been complied with, whether the facts have been accurately stated and whether there has been any manifest error of appraisal or a misuse of powers." See, T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, para. 129.
\textsuperscript{2475} T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, paras. 176-187,
\textsuperscript{2478} T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, para. 152.
\end{footnotesize}
As such, it is necessary to show that the contested decision is unlawful by showing that the Commission had made a manifest error of appraisal when deciding that 48 months was the relevant rate of recovery period.

Second, the discounted cash flow method. The General Court held that Wanadoo had not provided sufficient reasons as to why the Commission’s omission of the discounted cash flow method was a manifest error of appraisal. It follows that, in the absence of any legal requirement, the Commission is free to choose the appropriate costs and profit methodology in accordance with the specific market characteristics in question.

Third, the correct cost classification. Wanadoo argued that the Commission had made errors in relation to the cost calculation. According to the General Court, there is a difference between the method of determining the rate of cost recovery and how the calculation should be conducted mathematically. However, the correct cost classification of advertisement costs was left unanswered on to procedural grounds.

6.2.6.2.2.3 Forensic Analysis

The fundamental underpinning of the Commission’s decision is that it was the customers that were the de facto cost object. The Commission did therefore not apply the AKZO test to determine if Wanadoo had engaged in predatory pricing on its Internet subscription, the Commission applied the test to ascertain if the acquisition of customers was predatory in the short run.

An important feature of the case is the Commission’s treatment of France Télécom and Wanadoo as separate business entities. This allowed the Commission to focus on the service-based portion of the market, because the analysis treated France Télécom as the infrastructure provider. As described in chapter 4.12, the competitive environment has led organisations to decentralise operations to facilitate even more effective market penetration. The Commission treated France Télécom as an investment centre and Wanadoo as a

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2482 "As a preliminary point, a distinction should be made between the application of the method of determining the rates of recovery of costs and the calculations proper, which are no more than mathematical operations. It is clear from WIN’s written submissions that it does not challenge the substance of the arithmetical calculations, but the inclusion of certain erroneous elements." See, T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, para. 162.
2483 "On the other hand, the inclusion of advertising in the variable costs and the calculation of the average of the rates of recovery of costs in respect of the two services assessed, matters which are only referred to and developed in one of the annexes to the application, is not admissible." See, T-340/03, France Télécom v Commission, ECLI:EU:T:2007:22, para. 168.
profit centre. As a result, Wanadoo was assumed to exercise control over all production costs and costing methods, supply, pricing, and market strategy.  

It is well-documented that the level of marginal or variable cost to produce services tends to be extremely low or zero. It follows that the variable cost for Internet subscription is exceedingly low, which makes the AKZO test a debilitated legal tool to effectively combat anticompetitive practices. That is, under certain market characteristics, the application of the test will create incongruence between the aim and the objectives of Article 102 TFEU. The legal query is how to solve the inconsistency with systematic-based argument(s).

As the law stands, the Commission is bound by the EU courts’ precedents and cannot deviate without committing an error of law. The Commission therefore applied the AKZO test but made significant adjustments to Wanadoo’s cost classifications, because the legal categorisation of facts falls within the margin of discretion. The Commission treated and applied, in particular, the customer acquisition costs as variable components in relation to the new subscribers for each period. This permitted the Commission to classify the marketing activities as variable costs to show that Wanadoo’s pricing was presumptively predatory. The logic is that the marketing activities are facilitated the predatory conduct. The issue is that the classification of network, customer acquisition, and other production costs are all fixed. They will stay the same regardless of the level of output during the relevant range of 48 month. As described in chapter 4.3.3.2, the fact that a fixed cost changes with level of output does not make it variable, it makes the per-unit fixed cost and/or the semi-fixed cost change. The Commission’s application of the correlation test established in AKZO was therefore a manifest error of assessment. Another issue is the economic concept of avoidable cost, because it includes product-specific fixed costs, thus the marketing actions could have been avoided. The issue is that the decision lacks any analysis of the customer contribution margin and its effect on the Wanadoo’s customer lifetime value analysis. Depending on the outcome of such analysis, the correct classification would have been possible.

A second forensic issue with the decision is the dismissal of the DCF. Based on the descriptions in chapter 4.8, the correct financial methods should

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have been the net present value (NPV). Nonetheless, the Commission dismissed the DCF, but the problem was whether the discounted revenues would have passed the hurdle rate to make the customer lifetime value project an acceptable investment. That is, if the hurdle rate was higher than the NPV and would have been accepted. The fact that DCF and NPV methods do not take into account the possible losses in the introduction and growth stages is not enough to dismiss them. They measure the profitability of an investment and is an integral part of the financial appraisal. If the financial appraisal turns out to be profitable, then the issue is whether the accused dominant firm has engaged in below-cost pricing during the life-cycles. To establish whether that is the case, the Commission should have applied activity-based, time-driven activity-based, or life-cycle costing.

The case highlights the law-fact dichotomy that is inherent in the open-ended EU Treaty provisions. The Commission’s attempts to enforce Article 102 TFEU by applying the AKZO test shows how vacuous the test is in service industries. The Commission must therefore go to great lengths to qualify the facts in accordance with the test. The approach nevertheless raises two issues.

As the law stands, the accused undertaking must show that the Commission has made a manifest error of assessment. Accordingly, the dominant firm is obliged to confirm that the Commission’s descriptions of the facts are manifestly wrong, which establishes that the test has been applied to the wrong set of facts. The issue is that it may be a complex economic assessment and thus subject to a limited review, which makes the approach circular.

Second, the Commission must have a scope to develop its antitrust policy, but allowing it to foster through the complex economic assessment doctrine is to put the cart before the horse. That is, it is the law that establishes the relevant facts that must be proven, not the evidence that establishes the law. The law cannot be predictable if the Commission is allowed to establish the legal content through its assessment of economic evidence. It follows that the AKZO test ought to be limited in scope and a new legal test ought to be developed by the Court of Justice that systematically harmonises the service sector’s special features with the teleological rationale of Article 102 TFEU.

### 6.3 Forensic Case Study of the SAS Norway Case

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6.3.1 Introduction

The liberalisation of the EU aviation service market has led to fierce competition between legacy or full network carriers (LC) and low-cost carriers (LCC). The price wars may increase the possibility that an incumbent dominant operator will implement predatory behaviour. The airline industry is nonetheless underpinned by structural factors that have significant implications when enforcing Article 102 TFEU and applying AKZO test.

Soames and Ryan argue that the AKZO test is highly problematic to apply in the airline sector. They argue that the volume-based cost driver, which is the cornerstone of the AKZO test, does not measure the correct cost object (passenger carried) and that marginal cost tends to be close to zero. Whish and Bailey is also critical of the cost benchmarks and argue for a new test.

A solid example of how challenging the AKZO test is to apply accurately in the airline industry is the Oslo District Court’s ruling in SAS Norway. Notwithstanding that the Oslo District Court’s ruling has been criticised in the Norwegian discourse, the case is interesting to study as it provides realistic facts that often are necessary to be taken into account to proficiently and accurately put an end to anticompetitive below-cost pricing in network sectors. That is, the case provides an in-depth appreciation of the complexity that should underpin the legal methodology for the purpose of identifying the relevant cost benchmarks.

Note that the case study is comprehensive in scope. The reason is that the aviation sector exhibits so many market characteristics that are special from economic, accounting, and financial points of view. These market features, which prima facie can give the impression that applying Article 102 TFEU is an easy case, reveals that the analysis of exclusionary abuse is in fact highly complex.


Case 05-111347TVI-OTIR/06, SAS v Konkurransetilsynet, 2005.

The Oslo District Court’s ruling has been criticised for, inter alia, failure to apply the AKZO test accurately. Sørgard argues that ruling is materially incorrect, because it is based on a financial analysis, instead of an economic analysis. See, L. Sørgard, Økonomisk Analyse i Solo Tingsrett i SAS/Coast Air Saken, in E. Eide, H. Lando og E. Stavang (red.), Rettssøkonomi i Nordiske Dommer, Privatretsfondet, 2014. Sørgard contribution is available at: https://www.bec-cle.no/files/2013/09/SAS-COAST-AIR-domstolseminar-17-06-2013.pdf.
6.3.2 The SAS Norway Case

6.3.2.1 An Overture on Norwegian Law on Exclusionary Abuse
Norway is part of the European Economic Area (EEA), but not part of the EU. Nonetheless, although Article 54 EEA corresponds with Article 102 TFEU, section 11 of the Norwegian Competition Act mirrors the Article 102 TFEU. The Act’s preparatory work emphasises that section 11 should be interpreted and applied in coherence with the Court of Justice’s case law on Article 102 TFEU. As a consequence, Norwegian substantive law on exclusionary abuse is equivalent to Article 102 TFEU, as the Court of Justice’s case law is a major legal source when applying the section 11.

The Norwegian Competition Authority (NCA) has the power to impose fines on a dominant firm for infringement of the provision. The fine can be challenged before the courts.

6.3.2.2 Background of SAS Norway
SAS AB is the fourth largest airline operator in Europe. The SAS Group is spread over five business areas: Scandinavian Airlines, Subsidiary & Affiliated Airlines, Airline Support Businesses, Airline Related Business and Hotels. SAS operated its Norwegian airline services on a nationwide route network which covered 40 destinations. In 2003 the SAS group had total operating revenues of SEK 57.7 billion. In 2004 SAS restructured its operations due to a merger and all jet aircraft traffic in Norway were operated by SAS Braathens A/S (SAS Braathens). SAS Braathens was established after Coast Air A/S (Coast Air) had ceased its operations on the Oslo-Haugesund route, i.e. it was Scandinavian Airlines (SAS) that had committed the impugned act.

Coast Air was established in 1975 and its operations covered the south and west of Norway. From Haugesund, Coast Air operated routes to Bergen, Sandefjord, Fagernes, Trondheim and Kristiansund.

2499 E. Østerud, Where Do We Stand on Discounts? — A Norwegian Perspective, in C. Bergqvist (eds), Where Do We Stand on Discounts? — A Nordic Perspective, Ex Tuto Publishing, 2017, p. 119.
In 2005 the NCA fined SAS NOK 20 million for implementing a predatory price scheme on the Oslo-Haugesund route in May and June 2004. The NCA based its legal analysis on the AKZO test and reached an infringement decision (the decision) which alleged that SAS did not cover its operating variable costs during the relevant period. As a result of the AKZO test, the NCA presumed that SAS’ practice caused Coast Air’s departure from the Oslo-Haugesund route. That is, SAS’ price practice was presumed to have forced Coast Air to withdraw from the Oslo-Haugesund route.

In 2006 SAS appealed the decision to the Oslo District Court.

6.3.2.3 Arguments Before the Court
The core of the dispute between SAS and the NCA was which costs and revenues were relevant for the application of the AKZO test. The litigants’ arguments can be said to be based on three distinct-but-related lines: the relevant market, the relevant costs, and the relevant revenues. A secondary or underlying theme of the parties’ arguments is the relevant time period over which the cost behaviour should be analysed. The arguments raised by the NCA and SAS before the Oslo District Court are more or less the same as in the decision.2502

The Relevant Market
The NCA initially observed that the aviation market is a network industry, which means that the various parts of the value chain are intertwined both technically and financially. The NCA found unequivocal data and argued that SAS was the dominant on all routes due to the so-called network effect. The NCA nonetheless argued that the relevant market consisted of business and leisure travellers on the Oslo-Haugesund route. The NCA argued that the reason for this was that both groups had the same demand in flights on the point-to-point route (although they have different criteria when choosing the ticket price).

SAS argued that Coast Air and SAS operate in different markets. First, SAS argued that full network carriers and low-cost carriers are not in the same market because of significant differences in operational activities, e.g. grid, departures and level of service. Second, according to SAS the two operators’ prices had developed differently which implied that they were not in the same market.

The Application of the AKZO test
For the purpose of applying the AKZO test the NCA based its analysis on SAS’s route accounts, with the summer season as the relevant time period. To identify if SAS’ price policy was to be qualified as predatory, the NCA meas-

2502 Case 05-111347TVI-OTIR/06, SAS v Konkurransetilsynet, 2005, pp. 3-60.
ured the costs and revenues from SAS’s Oslo-Haugesund route. The NCA argued that its investigation showed that SAS had not covered its variable costs in May and June 2004. As such, NCA argued that SAS’ price policy was presumed to be the anticompetitive source of Coast Air’s exclusion.

The NCA did an additional analysis about the effects on SAS’ contribution network revenues if SAS would have reduced its operations on the Oslo-Haugesund route. The NCA argued that depending on the relevant network effects it would have been legitimate for SAS to have a below-cost revenue ratio if the contribution from transit flights would have resulted in SAS being profitable as a whole on the connection network. However, NCA argued it had seized evidence which showed that a reduction in departure would have led to an insignificant reduction in network revenues on the route. The NCA therefore argued that, although not necessary under the AKZO test, the evidence showed that SAS’ aim was to oust Coast Air from the route.

SAS brought three main arguments for why the Oslo District Court should rebuff the NCA’s claims. First, NCA’s the profitability analysis was too narrow. SAS claimed that focusing on the Oslo-Haugesund route profitability would give a false statement of SAS’ profits and losses. SAS argued that the relevant assessment should have been based the network profitability. Second, SAS claimed that the NCA had committed serious errors when assessing the Oslo-Haugesund route profitability, since the NCA’s analysis was based on the wrong costs and revenues which gave the impression that the route was unprofitable. SAS argued that the NCA had falsely qualified the aircraft and pilots as variable costs during the time period. SAS argued that during the time period the correct classifications should have been fixed costs. SAS argued that the network contribution revenues will have a significant effect on the coverage of variable and fixed cost. SAS also argued that the number of departures is an inappropriate test when considering if network contribution should be regarded or disregarded when performing the analysis.

Third, SAS claimed that the AKZO test is inappropriate to calculate route profitability and suggested an alternative cost-price test based on the incremental costs and revenues. SAS argued that the alternative test would provide a better representation of the economic reality, in particular when analysing the frequency of departures. That is, the effect an expansion or retraction of capacity will have on route profitability.

6.3.2.4 The Oslo District Court’s Ruling
The Oslo District Court found that SAS was dominant on the air traveling markets on both the Norwegian domestic market as well as the Oslo-Haugesund route. The conclusion was not altered by the fact that NCA and SAS had provided different accounting systems for costs and revenues.

2504 Case 05-111347TVI-OTIR/06, SAS v Konkurransetilsynet, 2005, pp. 82-83.
The Oslo District Court characterised predatory pricing as an unprofitable pricing strategy that has the objective of restricting competition to the detriment of consumers. The Oslo District Court based its legal reasoning on a holistic approach, i.e. instead of applying the AKZO test systematically, the analysis was based on whether SAS’ revenues and costs reflected the capacity adjustments. The holistic approach allowed the Oslo District Court to assess the underlying strategic rationale of SAS’ price and capacity response.

The Oslo District Court justified its ruling on the basis that the AKZO test and the alternative test were inappropriate to apply in the airline industry. The Oslo District Court stressed that the legal conclusion is reinforced by fact that the AKZO test is based on cost measurements that morph in a relatively short time period. The Oslo District Court also held that network contribution must be included in the profitability assessment of the route, but held that the difficulty of assessing the matter must favour SAS.

For that purpose, the Oslo District Court highlighted that the difference between the “route accounting” provided by the NCA and the “Internal Route Information System” (IRIS) provided by SAS was essentially a matter of which financial evidence that should be used to ascertain the legal qualification, and in particular the cost behaviour in the accounts. The Oslo District Court’s account of the airline industry is that it is characterised by fierce competition between legacy and low-cost carriers and that it is a normal business practice to respond to competition by improving profitability and offer other

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2505 It is obvious that calculating the profitability of a flight route is particularly challenging in relation to a company that operates in a network. SAS has been strongly critical of the use of the route accounts as a measuring instrument for profitability. In court, it also does not seem probable that neither the AKZO test nor the alternative test sufficiently takes into account, among others, the witnesses Bleivik and Skoglund, who emphasized the limited value of the route accounts for an accounting assessment. The term "route accounting" is misleading as IRIS mainly serves as a tool for comparing routes and development on individual routes over time. The court expresses understanding that the specified tests do not take this peculiarity into account too little - and it can then be difficult to draw reliable enough conclusions about a route's profitability in a profit and loss account context. This is despite the fact that several of the expert witnesses would choose the route accounts as an approach. Contradictions between the experts and SAS’ objections are nevertheless of such a nature that the court is left with the impression that the test results are uncertain. See, Case 05-111347TVI-OTIR/06, SAS v Konkurransetilsynet, 2005, p. 94.

2506 'Add to this the complicated demarcation between variable and fast costs. The court will note that, at least for flight and pilot costs, it seems problematic to simply enter these as variables in the short time period that is relevant in the present case. This also weakens the conclusions that seek to draw from the tests.' See, Case 05-111347TVI-OTIR/06, SAS v Konkurransetilsynet, 2005, p. 94.

2507 'With regard to the network contribution, the demarcation appears to be uncertain. The court sees it as obvious that parts of this must be included in the profitability assessment for the route. However, the closer demarcation appears to be very complicated and will easily have to be assessed in favor of SAS in the light of burden of proof considerations.' See, Case 05-111347TVI-OTIR/06, SAS v Konkurransetilsynet, 2005, p. 95.

2508 Case 05-111347TVI-OTIR/06, SAS v Konkurransetilsynet, 2005, p. 84.
tickets, e.g. one-way pricing.\textsuperscript{2509} The Oslo District Court held that SAS’ prices were decided on the SAS’ revenue management system, which did not provide sufficient evidence that the SAS’ pricing had the objective to excluded Coast Air.\textsuperscript{2510}

The Oslo District Court annulled the NCA’s decision and held that the NCA had not provided sufficient evidence about the SAS plan of elimination and the alleged anticompetitive effects.

6.3.2.5 Interim Observations

The Oslo District Court’s ruling emphasises the difficulty of applying the AKZO test in network sectors. The ruling is entrenched in the notion that SAS did not pass the first limb of the AKZO test, but that SAS had provided sufficient evidence to allow the Oslo District Court to investigate if the impugned below-cost pricing conduct was part of a meeting competition defence.

According to the Guidance Paper, the Commission will apply the AKZO test to ascertain if the practice is part of a deliberate strategy to incur losses or forgo profits in the short run (sacrifice).\textsuperscript{2511} To identify and measure the level of sacrifice, the Commission will distinguish between two scenarios. Scenario one, the Commission will analyse if the price is below the average avoidable cost for all or part of its output during the relevant time period. Scenario two, the Commission will analyse if the capacity expansion has resulted in losses that could have avoided during the relevant time period.\textsuperscript{2512}

The use of avoidable cost reflects economists’ credence that variable and total costs are inappropriate benchmarks in the aviation industry.\textsuperscript{2513} The notion is that by including a significant part of the fixed cost that could have been avoided, the cost benchmark results in a more effective enforcement.

The Oslo District Court’s ruling nevertheless shows the difficulty of applying the avoidable cost benchmark when the accused dominant firm is a legacy carrier. The aircraft operating costs can be perceived as avoidable in a contained point-to-point network,\textsuperscript{2514} but whether those costs should be treated as

\textsuperscript{2509} Case 05-111347TVI-OTIR/06, SAS v Konkurransestilsynet, 2005, p. 88.
\textsuperscript{2510} Case 05-111347TVI-OTIR/06, SAS v Konkurransestilsynet, 2005, pp. 90-92.
\textsuperscript{2512} See, Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, OJ C 45, 24.2.2009, p. 7–20, para. 64.
avoidable depends on the incremental revenues that are caused by the avoidable costs. As been described in chapter 4.6.6, it will be necessary to perform a relevant costing analysis to determine the legal qualification of the cost.

A last observation is the Oslo District Court’s reasoning regarding variable and fixed costs. The Oslo District Court limited its reasoning to observe that cost behaviour in the airline industry is subject to rapid change. Indeed, although the Oslo District Court did not clearly rule on the issue, its finding was important, because it implies that the relevant time period is one month.

Determining the relevant time period aims first and foremost to define the phase over which the pricing strategy is likely to have effects on the market. This step is of crucial importance as it has two follow-up implications. First, it sets the relevant time period over which the cost behaviour will be examined. Second, it sets the rate of cost recovery, i.e. the time period over which the pricing strategy must cover the widgets costs. The problem with using the cost recovery phase as the point of the departure is that any failure to cover the cost will be viewed as having anticompetitive effects. The approach would be a clear cart before the horse argument. The dominant firm may have calculated and implemented a price strategy for a certain time, but the backwards-looking period-by-period method could find certain periods to be predatory.

6.3.3 Observations on the As Efficient Competitor Test in the Airline Industry

Airline profitability tends to be measured on the interplay between three main criteria: cost, revenue, and load factor. However, airline operations usually display a high degree of variation between airlines. This makes competitive benchmarking highly complex. As a consequence, replication and modelling of the as efficient competitor test should reflect the competitive characteristics of the industry. The methodology should reflect the accused incumbent’s supply chain network strategy, competitive cost advantages, and business model. The two former features are what sets an airline’s business model. That is, they trickle down into the chosen business model.

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The sequential outlay is important. A plaintiff’s claim that a legacy carrier has adopted a low-cost business model should be scrutinised by the reviewing court. It makes little to no economic and/or financial sense for a legacy carrier to adopt a low-cost business model. The model could most likely never make use of the competitive cost advantages that a hub-and-spoke network offers. Equally, a full-service business model would most likely not succeed in a point-to-point network structure. Accordingly, a discrepancy between network structure and business model implies a manifest error of assessment by the plaintiff.

6.3.4 Network Strategy in the Airline Industry

The airline industry operates under certain special economic characteristics. An airline’s core service offering consists of taking a person from one place to another. Economists view the offering as an intermediate service, i.e. airline services are not an end in themselves, but a means to reach an end. Therefore services tend to be homogeneous or undifferentiated from each other.

Yet, O’Connor argues that the airline industry is based on two fundamental product descriptions. First, consumers chose an airline by reason of the handiest times of departure and arrival. Second, flight seats are perishable products, i.e. they cannot be stored for future sale and when the flight has departed the unfilled seat is immediately perishable. To handle these two properties, airlines must make long-term strategic network supply chain commitments.

A cornerstone in the planning process is the long-term network strategy. The chosen network strategy sets the airline’s core operation, and all other resources are used as strategic inputs to maximise the profitability in the network. Thus, the supply chain network is the core production factor.

The supply chain network strategy and planning is often managed in three phases:

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The supply chain network process often starts with long-term capacity planning. The aim is to plan which long-run strategic resources that are needed, e.g. aircraft fleet and flight network structure (airline service is provided on a spoke, hub or city basis). The second step is medium-term operational planning. The objective is to outline the airline schedule for each route or leg (itinerary or rotation). The process also outlines the schedule for cabin crew and airport personnel. The third step is to determine the seat price and profitability. The relevant costs and revenues depend on the chosen business model. Note that Conrady et al assert that the price will be in force for approximately six months. This implies, as a point of reference, that six months can be a significant reference when determining the relevant time period over which the allegedly predatory conduct should be assessed.

An airline’s network strategy is interlinked with its business model. The business model is a financial narrative on how the firm is designing and operating its network to earn profits. The two main types of networks and business models in the airline industry are: hub-and-spoke and point-to-point.

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Each supply chain network has its strengths and weaknesses as they provide distinctive cost advantages and have implications for the network profitability analysis.\textsuperscript{2531} Note however that the profitability analysis will be affected by how the firm has structured its network in terms of responsibility centres.\textsuperscript{2532}

6.3.4.1 Network Design Structure
As described in chapter 5.8.2, a network consists of two or more links that connect nodes that are complementary to each other.\textsuperscript{2533} An airline network consists of flights and resources that are required to deliver the offered service. Airline networks are characterised by the interlinkage between the necessary resources that are needed to transport passengers to their destination.

Franke argues that although resources can be planned separately, a well-designed airline network structure integrates the components in a homogeneous and seamless experience for the customer.\textsuperscript{2534} The complexity in the interlinking changes with network structure. Wittmer and Bieger argue that airline network structure consists of air traffic connections (edges) from one airport to another (nodes), but that key features of airline networks are size, frequency and connectivity.\textsuperscript{2535} It is the connection of services and geographic coverage that outlines an airline network. The two major supply chain networks are hub-and-spoke and point-to-point.

The Hub-and-Spoke Network
A hub-and-spoke network system consists of a set of spoke flight routes into a hub. The rationale behind the hub-and-spoke network structure is to offer as high connectivity to as many different connections as possible, so-called origin & destination (O&D).\textsuperscript{2536} The hub-and-spoke network is the most complex system, because it concentrates the flow of demand to single airport or

\textsuperscript{2533} N. Economides, \textit{The Economics of Networks}, 14 International Journal of Industrial Organization 673, 1996, p. 674.
more centralised airports. As a result, individual airports tend to be dominated by the traffic from one airline company. This requires careful coordination in connectivity due to the so-called feeder effect. The feeder effect occurs as incoming flights “feed” outgoing flights with passengers. The concentration and alignment of flights at a hub creates strategic time banks (flight complex, connecting complex, or connecting bank). The aim of time banks is to increase demand and optimise the utilisation of airline itinerary. Timed correctly, passengers arrive at peak time, which increases profitability, because of connectivity that leverages the feeder effect.

The downside and/or limitation of the hub-and-spoke system is that it is based on an inherent trade-off. The time banks – which aim to coordinate inbound and outbound flights at the hub – are scheduled within a short time frame. The peak time bank must therefore account for a trade-off between resource utilisation and the increased risk in congestion at the hub. Congestion at the hub occurs, inter alia, because of limited slots available. An airline operating in a hub-and-spoke network must account for the time it takes to taxi in and out of the hub. This tends to result in poor aircraft utilisation.

The Point-to-Point Network
A point-to-point network is the simplest form of supply chain network. The network is based on flight by flight, i.e. each aircraft only operates between two routes. As a result, the network does not involve time banks, which ensures a greater level of aircraft productivity because the risk of congestion

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is lower. The point-to-point network is more mobile, opening and closing point-to-point traffic does not affect the other flights in the network.

6.3.4.2 Business Models in the Airline Industry

Based on the chosen network design structure, airlines will adopt a business model that aligns their strategic capabilities to earn profits. As stated supra, the two most common business models are the full-service network carrier (FSC) and the low-cost carrier (LCC).

**The Full-Service Carrier Business Model**

The business model of the network legacy carriers (NLC), full-service network carriers (FSC), or network carriers, is based on the notion that the airline is operating in a hub-and-spoke network. The appreciation is that the network carrier aims to exploit as many network effects as possible. The legacy carrier seeks to utilise the network as the main source of its competitive advantage.

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advantage. The employment of connectivity or legs to the hub, enables the network carrier to improve its network coverage, e.g. by engaging in competition on an already saturated flight route.\textsuperscript{2555} The strategy aims to exploit economies of scale, scope, and density at the hub level.\textsuperscript{2556} That is, the full-network carrier enjoys a competitive advantage as a result of its network size.

The competitive advantage arising from airline economics is straightforward in theory. As output increases, total cost of production decreases.\textsuperscript{2557}

The logic of operating a hub-and-spoke network is therefore to utilise the efficiency enhancement at the hub level. Wittmer and Bieger argue that network effects tend to enhance as the network expands.\textsuperscript{2558} However, airline economics occur at both the supply and demand side. On the supply side, economies of scale occur as operating fixed costs decrease as a result of output, whereas economies of scope arise\textsuperscript{2559} where the airline can offer new legs, which has the effect of cutting fixed costs.\textsuperscript{2560} Economies of density occur if the airline manages to increase utilisation of existing services,\textsuperscript{2561} e.g. by accelerating traffic density, the load factor gets amplified.\textsuperscript{2562} On the demand side, economies of scale occur where the customers are offered more efficient and effective transport services, e.g. more connection that the network offers in terms of flight frequencies.\textsuperscript{2563} As a result, the customer enjoys economies

\textsuperscript{2559} A. Abdelghany and K. Abdelghany, *Airline Network Planning and Scheduling*, Johan Wiley & Sons, Inc., 2019, p. 27.
of scope because the network can offer more connections. The tighter the network becomes, the higher economies of density the customers can enjoy. The downside of adopting the full-network carrier business model is that it is highly sensitive to connectivity delays. If the stack up of delays becomes too high, the cost advantages may be lost due to compensation costs.

**The Low-Cost Carrier Business Model**

The low-cost carrier business model is characterised, as the name implies, by the significantly lower operational costs compared to the legacy carrier model. The low-cost carrier tends to use a single aircraft type in its point-to-point network. These two features reduce or eliminate many of the complex costs that occur at the hub. The low-cost model is therefore based on the assumption that jettisoning all complex costs will enable the airline to offer extremely price aggressive tickets, which aims to boost demand. The low-cost carrier model’s strategic objective is to exploit the vulnerability in the hub-and-spoke network by leapfrogging the hub and instead offer a direct point-to-point transfer. This is implying that the aim is not to offer connectivity.

The low-cost carrier business model achieves economies of scale utilising a single aircraft type and provide a highly standardised service. This allows the airline to achieve efficient production in unit costs. Network effects are more or less insignificant under the low-cost model. Instead, a low-cost carrier has significantly lower variable costs and a stable point-to-point route operation.

**The Main Differences Between the Models**

The key difference between the models is how they utilise the underlying competitive advantage. As described in chapter 4.3.5.3, Porter classified competitive strategies as: differentiation and cost leadership. The full-service model

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seeks to offer passengers a superior travel experience, but at a premium price, whereas the low-cost model pursues a cost-leadership strategy to serve a market segment that is as broad as possible. The cost-leadership strategy achieves this by offering tickets so cheap that the passenger cannot resist.

Jara-Díaz et al have found empirical evidence that network size has a significant effect on cost advantages resulting from, inter alia, traffic density. As a consequence of the network effects, utility increases as operational costs decrease, which implies that a bigger network will have significant cost advantages over a smaller network. The bigger the network, the more likely the tipping effect will be. But, the low-cost business model seeks to remedy the effect by providing faster and cheaper tickets due to the point-to-point network design.

6.3.4.3 The Competitive Concern
Network markets tend to be inclined to tipping. Tipping occurs when one network system has gained a significant installed base, which emerges as the de facto industry standard. The aviation industry is quite different from other network industries, e.g. telecom. Consumers are not locked-in by subscriptions but can choose airlines on a flight-by-flight basis.

The antitrust concern is that the dominant firm uses price-based practices to limit interconnection in the point-to-point network. The practice creates an artificial compatibility barrier between the competing networks. The anticompetitive effects are said to be a result of a dominant firm’s predatory acts

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to restrict the production supply in the market. Forsyth et al.\(^ {2578}\) argue that an incumbent legacy carrier is faced with a dilemma. On the hand, the incumbent must react to the entry of new low-cost carriers. On the other hand, when engaging in a price war, the incumbent firm risks selling below-cost.\(^ {2579}\) This implies that the dominant firm has two strategic options. It can compensate for the below-cost practice by using revenues from other market segments.\(^ {2580}\) The second option is capacity expansion. This strategy is based on the notion that the incumbent is not seeking to sell below cost, but to match the low-cost entrant’s price.\(^ {2581}\) The incumbent seeks to achieve this objective by exploiting various economies throughout the network.\(^ {2582}\) Note, both arguments assume that a dominant firm is less efficient than the entrant low-cost carrier.\(^ {2583}\)

It follows that the interconnection issue produces two main antitrust problems. First, the relevant cost benchmark. Second, how to measure profitability.

6.3.5 Relevant Cost Analysis in the Airline Industry

To effectively enforce Article 102 TFEU in the aviation industry, the fundamental thing is to identify the relevant cost object per flight and the relevant cost recovery period. The cost recovery period becomes the relevant time period as a result of the Commission’s period-by-period analysis. As stated supra, the relevant time period is based on the notion that short-term below-cost


\(^ {2579}\) “[T]he strength of the position in which incumbent [full service airlines] find themselves should not be overestimated. Many incumbents are afraid of competition from LCCs. The latter have lower costs, and the ability to pitch their product such that demand for it grows very rapidly. The incumbents face a dilemma if they do not match fares they lose market share rapidly. On the other hand, if they do match fares, they are likely to be setting fares below costs (since the LCCs’ costs are lower than theirs) and they risk being found to have indulged in predatory conduct. Since it is usually very difficult for them to reduce their costs quickly, they find it difficult to choose a response to LCC entry which is both viable in the long run and not risking charges of predation. In this situation, it is not surprising that many have set up their own LCC subsidiaries, in spite of the difficulties in making this work effectively." See, P. Forsyth, D. W. Gillen, O. G. Mayer, and H-M. Niemeier, *Competition versus Predation in Aviation Markets: A Survey of Experience in North America, Europe and Australia*, Routledge, 2015.


\(^ {2582}\) See, e.g. A. Abdelghany and K. Abdelghany, *Airline Network Planning and Scheduling*, Johan Wiley & Sons, Inc., 2019, p. 27.

practices cannot have a palpable anticompetitive effect. However, the Commission emphatically persists in sticking to the backwords-looking period-by-period analysis. As a result, any period where the Commission can establish a too low-cost recovery, the Commission will infer anticompetitive effects based on the practice’s capacity to foreclose competition.

6.3.5.1 The Economic Antitrust Cost Benchmark Debate
As has been pointed out in previous chapters, the cost structure of the airline industry is characterised by the significant high level of fixed costs. As a result, the AKZO test is an inappropriate legal test to enforce Article 102 TFEU. It is firmly established in the economic literature that average avoidable cost is a more suitable cost benchmark to apply in the airline industry. The avoidable cost benchmark would allow enforcement to be more accurate as it measures the cost that could have been avoided by not providing the particular passenger class, i.e. the costs and revenues that are associated with the provided service. O’Donoghue and Padilla argue that whilst avoidable cost is the superior short-run cost measurement in theory, it can be highly complex to apply in practice. The avoidable cost suffers another shortcoming. Because the yardstick is a short-run measurement it excludes important parts of the production costs. A significant part of an airline’s fixed production costs is its aircrafts or aircraft fleet. The choice of aircraft types defines an airline’s core operations. However, strategic fleet planning is part of the long-term network capacity planning, which means that the attributable aircraft costs fall outside the scope of the avoidable cost benchmark.

As described supra, Bolton et al argue that the long-run average incremental cost benchmark is the loftier measurement because it includes all costs needed to bring about the anticompetitive effects of the price policy. As such,

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it included costs that were sunk before the predatory strategy was implemented. The logic of applying the long-run incremental cost yardstick in the airline industry is that once the predatory strategy is implemented, the variable and avoidable costs tend to be an insignificant fraction of the actual operating costs. The issue is to determine the relevant and appropriate time period to spread out the fixed aircraft costs. However, as was pointed out in chapter 6.2.6.1.3, determining the time period over which the costs should be spread out is a separate analysis from the time period over which to analyse the cost behaviour and when the price is likely to have anticompetitive effects in the market.

6.3.5.2 Primer on Cost Structure and Operating Costs in the Airline Industry

A common feature of many service sectors is the relatively high fixed costs that companies need to incur in order to start production. The airline industry is no exception. However, the capital budget process is quite different from other industries such as the telecom industry. Suffice it to say, a significant portion of aircrafts are obtained and financed through leasing arrangements. This has implications for the life-cycle costing analysis of the airplane and in particular for how to calculate an aircraft as a cost object. Another strategic feature is the tendency of sticky costs.

The sticky cost concept in the airline industry has the important implication that capacity costs (e.g. aircraft operating and ground operating costs) do not tend to be avoidable. As a result of cost stickiness, the economic avoidable cost concept can be enforced in the industry, but at the cost of legal certainty.

Cost Structure in the Airline Industry

According to Schraven, a significant portion of an airline’s cost structure consists of fixed costs, e.g. aircraft, crew, maintenance, and overhead. Those are the aircraft operating costs. However, a significant fraction of the aircraft operating costs consist of fuel cost, which is a direct variable cost, but in relation to passenger seats, the level is negligible. The direct variable fuel cost and out-of-pocket cost is the main driving source of price competition in the industry. As a consequence, the long and medium term strategic planning phases become extremely important since the aircraft is the production unit.

Primer on Pricing and Operating Costs

The aviation industry is notorious for its dynamics and instability, which makes pricing decisions inherently difficult. A core source is that the aviation sector is characterised by the high fixed costs of doing business and by the short-term managerial costs being close to zero. In the transportation industry, the term out-of-pocket cost tends to be used interchangeably with marginal and increment cost. The marginal cost of carrying an additional passenger on a scheduled flight tends to be insignificant and once the plane

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takes off, the unconsumed seats cannot be sold anymore. As a result of passenger seats’ perishable nature, production opportunity is limited and airlines have a short time frame over which they must cover their fixed costs.

In chapter 4.3.3.2, a general description of cost taxonomy and buckets was provided. The airline industry nonetheless tends to use cost classifications based on operations. In general, airline operating costs refer to costs that will be incurred by the airline in providing its transportation services. Airlines’ core operation involves the offering of air transport services from A to B.

Belobaba notes that financial accounting does not provide any detailed cost analysis which can be used to analyse how an airline has used its resources and contributed to its operating costs. O’Conner argues that airline management tends to use direct operating costs (DOC) and indirect operating costs, other operating, non-operating costs, or system operating costs.

**Direct Operating Costs**

Direct operating costs can be categorised into two type cost buckets. The first type is aircraft operating costs or flight operating costs. This cost category includes all direct costs that are necessary to operate the aircraft, e.g. aircraft, crew wages, fuel, flight equipment, and navigation. Aircraft operating cost

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is the most substantial cost item as it forms over 50 per cent of airlines’ total operating costs. Direct operating cost, aircraft operating costs, and flight operating costs will be used interchangeably from now on. The second type is ground operating costs. This cost category includes all direct costs which are necessary at the ground level or airport station, e.g. maintenance, overhaul, and airport charges.

System Operating Costs
System operating costs account for approximately 40 per cent of airlines’ total costs. System operating costs include costs which are not directly attributable to the flight, e.g. passenger services, reservations, ticketing, sales, promotion and advertisement, ground and terminal related costs, and other general overhead costs.

Sticky Costs in the Airline Industry
As described in chapter 4.3.3.2, the sticky cost concept refers to costs with an asymmetric behaviour. A cost is sticky when its change is unequal to the change in volume. The stickiness occurs because the cost responds to an asymmetrical increase as demand falls, instead of decreasing. The cost behaviour displays an inverse relationship instead of a mathematically linear one.

Cannon argues that there are three main causes of sticky costs in the airline industry. First, the retention of idle capacity. The cost is sticky as a result


2612 See, International Civil Aviation Organization (ICAO), *Outlook for Air Transport to Year 2025*.


of managers’ tendency to keep idle capacity as demand falls, but subjoin additional capacity as demand sprouts.\textsuperscript{2617} Second, the asymmetrically adjusted selling price. The sticky cost occurs as a result of management’s decision to activate idle capacity as demand declines and at the same time lowering the selling price to stimulate sales volume.\textsuperscript{2618} Contrary to conventional wisdom, when demand develops back, the decision is not to raise the selling price, but to add more capacity. Cannon calls this asymmetric pricing slippery prices.\textsuperscript{2619} Third, adjusting capacity. This type of sticky cost is the result of the increase in cost by adding more capacity as demand grows than is added by increasing capacity as demand falls.\textsuperscript{2620} This type of cost also occurs conversely.

Cannon argues that the application of the typology in the airline transport industry shows the occurrence of sticky costs as managers retain idle capacity by adding aircraft capacity, utilise slippery prices, and adjust capacity.\textsuperscript{2621} A significant factor that determines the direction and intensity of sticky cost is the firm’s strategic orientation.\textsuperscript{2622} That is, cost stickiness is caused by the choice of strategic method,\textsuperscript{2623} in particular the choice of business model.\textsuperscript{2624}

Anderson and Yu argue that the choice of business model and underlying generic strategy will reflect the cost stickiness of an airline.\textsuperscript{2625} However, the cost stickiness has different effects on an airline’s performance. A firm that adopts a legacy-network carrier business model may enjoy a significant positive result on performance due to the asymmetric costs. A firm that adopts a low-cost business model is faced with a trade-off as a result of the sticky costs. As described in chapter 4.3.5.3, the cost-leadership strategy is based on the notion that the low-cost carrier has a slim cost structure, which is the actual source of its competitive advantage over the legacy-network carrier. However,

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Anderson and Yu argue that the empirical evidence suggests that cost stickiness will impede the agility and flexibility of the low-cost carrier model. This implies that a firm that has chosen a low-cost carrier business model and displays significant sticky costs cannot effectively utilise the cost-leadership strategy.

6.3.6 Aircraft Operating Cost Components

The aircraft operating costs (AOC) consist of both direct and indirect operating costs. The only truly direct variable cost is fuel, the rest of the costs comprise of both direct and indirect operating costs, e.g. crew, maintenance, and aircraft cost of ownership. Fuel, crew, maintenance, and aircraft cost of ownership form the great bulk of operating costs. It should stand quite evident that the AKZO test will yield type II decision-making errors if variable cost is to be used as a bright-line criterion or safe harbour. A more tenable approach seems to be the great bulk cost test. But to avoid type I errors, the approach assumes that an appropriate time period is attached, which most likely will place a legal requirement on the method to be used. Thus, as a result of the market dynamics, it seems sensible to use a forward-looking approach.

6.3.6.1 Aircraft Cost of Ownership

Aircraft costs of ownership can normally be determined by either depreciation or leasing costs. The former implies that a traditional capital budgeting appraisal method is used and that the appropriate depreciation level is set at the second stage. The latter aims to establish the leasing costs.

Regardless of approach, the fundamental thing to remember is that once the cost of ownership is determined, it is the relevant cost driver that is used to estimate the relevant costs that will be used for pricing decisions.

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6.3.6.2 Capacity Investment Decisions

One of the most important types of airline managerial decisions is airside investment project decisions. These decisions especially consider the operating capacity of aircraft movement and the aircraft size to handle the capacity. The aircraft type is of special importance as it sets the capacity-related costs of supply which is the major cause of an airline’s profitability. The aircraft as a production unit sets the productivity potential. Meijer defines an airplane’s productivity potential as the amount of payload it can carry over a certain distance. Indeed, although there are numerous ways of quantifying payload, one crucial measurement is the number of seats (the load factor). The logic is to measure the fuel efficiency of the aircraft type, which will have a significant impact on the airline’s profitability. However, fuel efficiency is only one parameter to consider in the cost-benefit analysis. Thus, the financial appraisal should account for more than the narrow concept of economic efficiency and include and weigh the cost and benefit the operation as a whole.

The cost of acquiring a new aircraft is not only the initial investment outlay, but also e.g. the cost of spare engines and parts inventory. If the aircraft type is new, the fleet will expand and as a consequence, costs of new ground equipment and employee training will increase. Choosing the most fuel efficient aircraft comes with higher cost of ownership (i.e. initial outlay cost for the aircraft and the costs of operation over its lifetime).

Indeed, low-cost airlines have long been seeking to exploit the cost of ownership. Low-cost carriers tend to acquire a single aircraft type, which makes their fleets standardised. This allows the low-cost airlines to reduce employee training cost and maintenance cost, which increases their aircraft utilisation.\textsuperscript{2639}

6.3.6.3 Aircraft Financing
 Buying a new aircraft usually means a 25 year commitment, whereas leasing tends to be from 5 till 7 years.\textsuperscript{2640} A fundamental feature of the airline industry is that more than 40 per cent of airline companies finance their aircraft fleet through leasing arrangements.\textsuperscript{2641} Leasing can serve as an effective way for firms to access assets.\textsuperscript{2642} The most popular form is operating leasing.\textsuperscript{2643} An operating lease or dry lease is a contractual arrangement whereby the lessee (airline) agrees to make periodical payments to the lessor to obtain an asset’s service (aircraft or fleet).\textsuperscript{2644} Another type is wet leasing. The wet lease is an arrangement where the lessor (airline) provides an aircraft, crew, maintenance, and insurance (ACMI) to a lessee (another airline or travel agency).\textsuperscript{2645}

Leasing has the advantage of reducing the capital investment outlay in the short run.\textsuperscript{2646} By leasing, the airline can access the new aircraft without making a substantial financial commitment. Leasing increases flexibility as fleet planning becomes easier when it is possible to swap out aircrafts for newer and


\textsuperscript{2644} See, e.g. C. J. Zutter and S. B. Smart, Principles of Managerial Finance, 16th global edition, Pearson, 2022, p. 813.


more technologically advanced ones. The disadvantages of the of leasing are, inter alia, operating restrictions and higher payment in the long run. Operating leases often come with restrictions and, although they may vary, they often tend to include a limit on the numbers of flights operated, utilisation or cycle limits, maintenance requirements, and where the aircraft can travel or be stored.

The two most common aircraft financing methods are buy-lease or lease-borrow. Both financial methods are based on notion that each periodical cash payment must reflect the asset’s market value at the end of the lease, the so-called residual value. Each periodical cash payment to the lessor will represent the fixed (committed) cost for the lessee airline. The key difference between the methods is their effect on the firm’s financial leverage.

Financial leverage is a financial measurement or ratio that aims to assess how much debt the firm uses to finance its assets. The degree of leverage is displayed as the percentage of debt to assets, the higher degree of leverage the higher the potential reward is for investor, but the risk also surges. Hence, financial leverage analyses the potential risk and return on investment.

Financial research has shown a positive relationship between leverage and profitability. Capobianco and Fernandes argue that airlines with low debt and high returns have a higher level of portfolio efficiency, but that the leverage does not reveal any significant competitive advantage. The last point implies that leverage cannot in and of itself be used to identify an abuse.

6.3.6.4 Leasing Decision Methods

The Buy-Lease Decision Rule
According to Guzhva et al, the capital budgeting decision to lease or buy an aircraft is based on the traditional financial appraisal methods. If the net advantage of leasing (NAL) is greater than zero, then leasing is preferred over

cash payment, i.e. the net present value cost of leasing is lower than the net present value cost of buying.

\[ \text{NAL} = \text{NPV}(\text{leasing}) - \text{NPV}(\text{purchase}) \]

The important thing is to remember is that the antitrust analysis is based on whether the hurdle rate dwarfs the discount rate, e.g. internal rate of return.

Berk and DeMarzo question the buy-lease rule. They argue that if the economic conditions shift, the relationship between also changes, e.g. the lessor can clutch the leased asset. The notion is that leasing will significantly change the financial leverage of the lessee and therefore the buy-lease method does not correctly account for the cost of capital.

**The Lease-Borrow Rule**

Berk and DeMarzo argue that lease-borrow is the correct method of comparison. The financial characteristic of leasing is nothing more than a loan. To correctly perform the asset’s level of loan must be equal to the level fixed obligations under the contract, so-called lease-equivalent loan. The lease-equivalent loan method seeks to determine the level of loan that is required to put the lessee and lessor in the equivalent financial situation.

The lease-equivalent loan method is based on a two-tiered methodology. First, the loan balance is established. The loan balance is the present value of all future incremental cash flows by using after-tax borrowing rate. The after-tax borrowing rate represents the real interest (of borrowing or payment). Note that the depreciation tax shield represents the firm’s after-tax borrowing cost. Second, the loan balance is compared to the buy-lease alternative (the net advantage of leasing). A loan balance higher than the net advantage of leasing is an unattractive alternative, because there are cheaper sources of finance for the firm.

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6.3.7 Activity-Based Costing in the Airline Industry

Activity-based costing has been widely adopted in the service industry, e.g., by airlines.\textsuperscript{2664} The activity-based costing method is based on collecting all costs into cost pools and then assigning the costs according to the activity using the relevant cost driver. The activity can be a task or action, but is usually a unit, a batch, product-sustaining (maintenance) and/or a facility.\textsuperscript{2665}

Tsai and Kuo argue that activity-based costing significantly enhances the accuracy of cost calculation in the airline industry.\textsuperscript{2666} They contend that the method can be used to obtain accurate cost information about individual flights. Tsai and Kuo’s flow chart approach is as follows:

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{flowchart.png}
\caption{Activity-Based Costing Flow Chart}
\end{figure}

Tsai and Kuo used the individual aircraft or flight as the cost object. The use of an individual aircraft or flight as the cost object seems suitable. The approach provides a necessary staring point to collect the relevant costs. The endgame of the cost and profitability analysis is to determine the breakeven load factor (BLF). That is, by determining the breakeven load factor, the great bulk of costs can be quantified.

### 6.3.7.1 Cost Drivers in the Airline Industry

As stated in previous chapters, volume-based cost drivers deliver poor managerial information. The airline industry is no exception. Banker and Johnston argue that cost drivers in the airline industry can be categorised into two broad categories: volume- and operations-based drivers. They argue that the latter set of drivers are superior as they directly reflect the underlying strategy to improve productivity and cost utilisation as a means to, inter alia, gain market shares. They contend that operations-based drivers include aircraft model, route structure, flight density, and traffic control.

The appreciation is that each driver type has a significant implications for the capacity output. The aircraft type determines the capacity output, e.g. required hours of pilot, co-pilot, flight engineer, navigator, and flight attendant labour, required level of maintenance, and required quantities of fuel per capacity seat miles (CSM) or cost per available seat kilometre (CASK).

The operations-based drivers unfortunately lump resource and activity drivers into one basket. As pointed out supra, resource cost drivers are used to establish how much of the firm’s resources or capacity are used to perform an activity. Activity cost drivers are used to measure the financial or monetary sacrifice that is required to perform a specific task. The classification is central to determine the relevant costs using activity-based costing.

Belobaba argues that the airline industry is based on six main cost drivers that can be used to measure the operating costs:

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1. **Aircraft Operating Resource Costs**
The cost driver is per block hour since the large majority of aircraft operating costs are directly correlated with the amount of time the aircraft is being utilised.

2. **Aircraft Servicing Resource Costs**
The cost driver is per aircraft departure, since these costs are incurred by preparing the aircraft for each departure (cleaning, fuelling, and marshalling the aircraft).

3. **Traffic Servicing Resource Costs**
The cost driver is per enplaned passenger for passenger airlines, since these costs involve the processing of passengers and their baggage at airports.

4. **Passenger Service Resource Costs**
This is the most common cost driver, but there are a few editions of the driver, e.g. per revenue passenger kilometre (RPK), available seat miles (ASM), fuel per capacity seat miles (CSM) or cost per available seat kilometre (CASK), load factor and total passengers.

5. **Reservation and Sales Resource Costs**
The cost driver tends to be a percentage of the revenues. This implies that revenue is used as a proxy for cost-related activities. However, as stated supra by Cannon, this tends to identify slippery prices.

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6. **System Overhead and Other Indirect Resource Costs**

The cost driver can be a percentage of total operating cost, but Belobaba seems to use it as an allocation driver.\(^{2680}\)

6.3.7.2 **A Last Note on Cost Drivers**

The airline sector exhibits a quite unique feature, namely that it is common to use key performance indicators (KPIs) as cost drivers. As stated in chapter 4.9.2, key performance indicators or ratio analyses are quick look diagnostic tools. The aim is to swiftly provide an assessment of the organisation’s financial health, ex post.\(^{2681}\) By using key performance indicators as cost drivers, in particular passenger service cost drivers, the line between profits and costs becomes blurry.\(^{2682}\) Nevertheless, as it is a common practice in the sector, the takeaway is that it is nothing strange if, e.g. cost per available seat kilometre is found in the accused firm’s accounts both as a cost driver and as a performance measurement.

6.3.8 **Profitability and Performance Measurements in the Airline Industry**

It follows from the above-mentioned that different supply chain network designs will have significant consequences for an airline’s business model and cost structure. As will be described shortly, they also have implications for how an airline applies profitability analysis. However, as there is no legal obligation on how airlines should calculate profits, the antitrust issue is to determine objective benchmark measurements to identify potential foreclosure effects.

A possible solution is to determine the relevant financial performance metrics. Key performance indicators provide useful tools that make comparisons between airline operators possible.\(^{2683}\) Accordingly, they could be used to provide comparable financial yardsticks, inter alia, costs and revenues.

Note that indicators, metrics, and ratios will be used interchangeably.

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6.3.8.1 Basic Financial Ratios in the Airline Industry

As stated in chapter 4.11, key performance metrics are critical financial criteria that are used to set financial targets and oversee that the firm is on track to achieve the intended result. Airline earnings are about costs and revenues.2684

From an antitrust perspective, a fundamental decision is to ascertain the relevant unit of production, i.e. which measurement that should be applied to the airline’s production. A cost object cannot be applied meaningfully without answering the former query. Accordingly, the first step in the analysis is to determine the relevant financial measurement that should be applied to identify the possible anticompetitive effects. The second step is to ascertain the relevant costs and revenues.

Available Seat per Kilometre

The basic production unit is the available seat per kilometre or mile (ASK or ASM).2685 The measurement seeks to ascertain the number of units an airline can produce during a specific time period.2686 The word available is redundant as the ratio simply refers to the seats carried for a kilometre by the physical capacity of the aircraft.2687 O'Conner claims that it is quite common that airlines use seat-kilometre or seat-mile instead of ASK or ASM.2688 The concept of distance is far more important. The ratio is designed to provide the necessary information to calculate profits when the airline produces connections.2689 The calculations is as follows:

\[ \text{ASK} = \text{Seats} \times \text{Traveling Distance} \]

An aircraft with a seat capacity of 150 and a traveling distance of 1,000 kilometres, has an ASK of 150,000 (150 \times 1,000). The calculation is the same if the distance was to be calculated in (nautical) miles. The metric is an absolute measurement of how much quantity an airline can produce. The metric is

\[ \text{ASK} = \text{Seats} \times \text{Traveling Distance} \]


obviously affected by aircraft capacity size, i.e. the seats it can carry and length of the distance it can operate.\textsuperscript{2690}

\textbf{Cost per Available Seat Kilometre}

The cost per available seat kilometre or mile (CASK or CASM) measures the consumption of costs associated with the production of ASK.\textsuperscript{2691} The CASK is often referred to as the unit cost.\textsuperscript{2692} Another way to express the same idea is to use the cost per seat-kilometre or seat-mile.\textsuperscript{2693} The CASK is one of the most fundamental financial performance metrics. The metric is the very underpinning of cost-efficiency in the airline industry.\textsuperscript{2694} The indicator is calculated as follows:

\[
CASK = \frac{\text{an Aircraft’s Total Costs}}{\text{ASK}}
\]

The metric measures the cost of producing a single seat per kilometre, i.e. the cost of flying one aircraft seat for one kilometre.\textsuperscript{2695} The computation of the CASK is subject to a specific time period,\textsuperscript{2696} which usually is on a year-to-year basis.\textsuperscript{2697} Note that it is firmly established in the airline literature that fuel is a major cost component.\textsuperscript{2698} Nevertheless, it is common to exclude fuel cost from the analysis.\textsuperscript{2699} As a result, the CASK may not include fuel cost,

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which can be expressed as CASK ex-fuel. The main reasons for the exclusion is that fuel prices are highly volatile and thus beyond managerial control.

**Aircraft Utilisation**

Aircraft utilisation or aircraft productivity is an essential financial indicator. The ratio measures how cost efficient an airline is in utilising its aircraft or fleet of aircrafts. Aircraft utilisation is typically measured by the total number of flight hours per aircraft (flight hours flown per day being block hours). The total block hours represent the available production. Calculating aircraft utilisation is therefore dependent on the required number of aircraft(s) to operate a planned flight schedule and flight hours flown per day. A higher utilisation lowers cost per production unit since the cost of ownership can be spread over more production.

Aircraft utilisation is affected by the turnaround time (TAT). Turnaround time refers to the time period from when the aircraft touches the gate (on block) until it leaves the gate (off block). Slimming down the turnaround time as much as feasibly possible is a significant strategic competitive tool. The notion is straightforward, an aircraft that is stuck on the ground does not make any money. The cost advantage is the result of highly standardised operations, e.g. boarding and ground handling, lowering turnaround time which allows the airline to get a higher cost recovery due to greater aircraft utilisation. This implies that low-cost carriers have a significant competitive advantage over legacy-network carriers.

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Revenue per Available Seat Kilometre

Revenue per available seat kilometre or mile (RASK or RASM) is the money an airline earns from a unit of production.\(^{2710}\) The metric is often used as a proxy for quality of the airline service as it implies how much passengers spend with the airline on average.\(^{2711}\) The RASK is calculated as follows:

\[
RASK = \frac{\text{Total Revenue}}{\text{ASK}}
\]

The RASK is computed for a specific time period, e.g. a month, quarter or year.\(^{2712}\) The issue is that the ratio is based on revenue divided by the total production, which distorts the analysis because it includes unsold seats.\(^{2713}\)

Revenue Passenger Kilometre

A distinct-by-related concept is the revenue passenger kilometre or mile (RPK or RPM), which measures the money received for transporting a passenger a certain distance, i.e. the metric includes not only all passengers the aircraft has carried, but also how far.\(^{2714}\) The metric is used to measure the airline passenger traffic by calculating how many of the available seats were actually sold.\(^{2715}\) RPK is calculated as follows:

\[
\text{RPK} = \text{The Number of Seats Sold} \times \text{the Traveling Distance}
\]

The RPK is unaffected of the aircraft’s seating capacity as it only includes seats sold. An aircraft that lifts 130 passengers (the seats actually sold) over a distance of 1,000 kilometres, will produce an RPK of 130,000 (130 \times 1,000).

Yield and Contribution Margin

The yield represents the airline’s average price.\(^{2716}\) The yield is calculated by:

\[
\text{Yield} = \frac{\text{Total Passenger Revenues}}{\text{RPK}}
\]

The contribution margin is an essential performance metric in the airline industry.\(^{2717}\) It provides airline decision-makers with timely financial data which


is used to set the ticket price level. As described in chapter 4.6.2, the calculation is as follows:

\[ \text{Contribution Margin} = \text{Revenue} - \text{Variable Costs} \]

The contribution margin in the airline industry is an effective tool to respond to changes in demand or to stimulate it (low ticket prices tend to persuade passengers to fly even during off-season).\(^{2718}\) As a result, the contribution margin represents the price floor in the airline sector.\(^{2719}\)

**Load Factors**

Load factor measures an airline’s production. The load factor can be used to identify whether an accused dominant carrier has operated unprofitably. For this purpose, the two most significant load factor concepts are system and break-even load factors. System load factor refers to the units the airline has actually sold.\(^{2720}\) The measurement is calculated by:

\[ \text{System Load Factor} = \frac{\text{RPK}}{\text{ASK}} \]

The system load factor would be approximately 0.867 based on the previous calculus (130,000 \( \div \) 150,000). In this case, the system load factor reveals that the airline has sold 86.7 per cent of its production. The metric does however not indicate whether a flight is profitable or unprofitable.

The break-even load factor measures the percentage of capacity that has to be sold in order for the flight to cover all attributable costs.\(^{2721}\) The break-even load factor is a preferable performance ratio for individual flights.\(^{2722}\) The break-even load factor calculation is as follows:\(^{2723}\)

\[ \text{Break-Even Load Factor} = \frac{\text{CASK}}{\text{Yield (or Contribution Margin)}} \]

As described in chapter 4.6.4, the purpose of the break-even analysis is to identify level of quantity that should be produced. The quantity will depend on the level of fixed cost.


6.3.8.2 Forensic Analysis of the Basic Performance Metrics

Based on the performed description, the ratios can be catalogued into two approaches: prima facie and in-depth. The approaches seek to strike a balance between effectiveness and legal certainty, i.e. the ability to identify anticompetitive pricing in an efficient and predictable manner.

The prima facie approach utilises ASK, RASK and SLF. The forensic aim of the prima facie approach is to provide enforcers and dominant carriers with a truncated method to swiftly analyse if the commercial behaviour raises competitive concerns. Failure to pass the cursory analysis should be interpreted to mean that the conduct is capable of producing exclusionary effects. Thus, the approach should be used to trigger a presumption of harm. The approach should however not be used to establish a safe harbour for the dominant firm.

The in-depth approach utilises CASK, RPK and BLF. The forensic aim is to provide enforcers and accused dominant carriers with an approach to overturn the cursory presumption, i.e. financial criteria that can be used to overturn a finding of competition on the merits or anticompetitive effects.

As will be discussed in chapter 6.3.10, there may be circumstances where the dominant carrier seeks to pursue a legitimate objective even if it fails the financial metrics, e.g. to keep its grandfather rights.

6.3.8.3 Airline Network Profitability Analysis

Financial performance metrics are essential to measure the success of a network. A fundamental concept when measuring the performance of a supply chain network design is network contribution, but depending on the business model the method and purpose are quite different.

To start with, Niehause et al argue that the two most common methods are route profitability analysis (RPA) and network profitability analysis (NPA). The former applies to a point-to-point network, which implies that the operating airline is a low-cost carrier and does not offer any connecting flight. As a result, contribution analysis is unnecessary because costs and revenues are easily attributed to the route in question. The latter, on the other hand, aims

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to identify each flight’s contribution to the overall network profits. The objective is to examine how much value each itinerary leg contributes to the overall hub-and-spoke network (enterprise) value. However, as a general rule, the network profitability analysis does not imply the use of the contribution margin in the traditional sense. The method instead uses network profit contribution, network value contribution, network contribution, network margin, or beyond contribution. The terms will be used interchangeably.

Before outlining the network contribution method, note that RPA and NPA both aim to first and foremost identify routes that make financial losses. In addition, the profitability methods are important tools for short- and long-term planning purposes as they can, inter alia, determine the relevant break-even point. Niehause et al point out the RPA is likely to distort the economic and financial implications of connecting routes. Legacy-network carriers should therefore abstain from using the method. Lastly, Niehause et al note that a substantial portion of worldwide airlines treat ownership costs as variable even though they are fixed.

Indeed, albeit that the network contribution method is firmly established in the accounting and economic literature, Demydyuk’s operating profit per passenger metric provides an alternative. Demydyuk argues that the metric is a superior predictor of airline profitability, in particular for legacy-network carriers. The financial indicator is based on the notion that legacy-network

carriers should cover all direct variable and fixed operating costs to make a return on assets.

**The Network Contribution Method**

The network contribution method ultimately seeks to allocate the cost and revenues from connecting passengers within the hub-and-spoke network. The method’s rationale is to allocate the airline’s fixed operating resources to maximise the utilisation on a given route. An implicit aim is to quash potential negative opportunity costs of not serving a particular route. As a consequence, it manages the capacity by making resources from low performing feeder routes available to higher performing routes or to starting new routes.

The network contribution method is often applied by using three steps:

1. From a single or individual route profitability calculation, all revenues are subtracted.
2. Revenues for a connecting itinerary are allocated to each contributing route.
3. The revenues are then allocated back the feeder flight.

Holloway argues that a danger with the method is that it allows revenues to be double-counted, making every flight appear to be profitable. Schraven argues that while it is true that double-counting will occur, the critique is unjust. The purpose of the method is to screen for improvements. Niehause et

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al argue that the purpose is to assess the financial impact flights have within an interconnected route network.2745

When applying and interpreting the network contribution it is vital to understand that the method itself only provides a financial indicator of revenue consequences of not serving a particular route. The method becomes meaningful when it is assessed in respect to the variable costs. If the network contribution of a route surpasses the allocated variable costs, then the leg is profitable, but if the allocated variable costs top the network contribution, the route should be disregarded.2746

**Operating Profit per Passenger**

Demydyuk argues that the relevant profitability performance metric for the airline industry is operating profit per passenger.2747 The measurement’s underpinning activity drivers are passenger revenues and costs per kilometre carried.2748 Demydyuk argues that the metric is a superior predictor of airline profitability, in particular for legacy-network carriers.2749

The operating profit per passenger metric implies to provide an alternative to the network contribution margin method.

As was described above, the operating profit margin measures the level of return that is needed for a company to operate profitably. The metric could be used as proxy or surrogate for variable and avoidable costs. This implies that the return on sales metric can provide an effective short-term profit sacrifice test in the airline industry. It follows from the operating profit per passenger metric that an alleged abusive price-based conduct can be assessed in the short run.

**Relevant Revenues and Costs**

According to Niehause et al revenues tend to cover so-called on-board revenues, i.e. tickets and other revenues, e.g. ancillary sales in the flight, and baggage handling.2750 Identifying the relevant revenues is mostly straightforward and unproblematic. However, the costs are more complex. They argue that for

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the purpose of applying network profitability analysis, direct operating costs cover direct variable costs (passengers and flight) and direct fixed costs (costs for capacity) should be used.\textsuperscript{2751} The indirect operating costs are fixed and cover, e.g. station, sales and marketing, and administration costs.\textsuperscript{2752} The issue is to determine objective allocation keys and cost drivers, in particular if the alleged abuse covers multiple levels in the hub-and-spoke system.

As outlined supra, Demydyuk argues that the relevant activity drivers are passenger revenues and costs per kilometre carried, i.e. the revenue driver is based on passenger and the cost driver is based on kilometres.\textsuperscript{2753} On the assumption that Demydyuk’s assertion is correct, the relevant revenues and costs are nevertheless dependent on how the network centres are designed.

As stated in chapter 4.9.1, one important managerial unit is the profit centre. The profit centre is in control over e.g. cost, revenues, and pricing.

Goedeking argues that network centres are a way to control responsibility within a network structure.\textsuperscript{2754} Network responsibility tends to be modelled on one of two designs. The first is the broad commercial unit.\textsuperscript{2755} Under this model, revenue and cost centres are kept separately from each other. The second model uses profit centres to align responsibility and capacity to reach an optimal level of costs and revenues.\textsuperscript{2756} Airline networks tend to be based on the second one,\textsuperscript{2757} which means that many legacy-network carriers employ a profit centre at each distinct hub.\textsuperscript{2758} This follows the underlying rationale of the business model as it seeks to exploit the different economies of scale. Goedeking argues that route profitability analysis aims to identify all relevant costs and revenues that are attributable to a particular route within a network.\textsuperscript{2759} From this perspective, each individual route is a distinct profit centre, which is a straightforward exercise in a point-to-point network.\textsuperscript{2760} However, in connectivity-driven networks, e.g. hub-and-spoke supply chain network, it is far more complex.\textsuperscript{2761} As a consequence of the origin and destination market, each individual route does not involve a separate profit centre.\textsuperscript{2762}

\textsuperscript{2753} G. Demydyuk, Optimal Financial Key Performance Indicators: Evidence from the Airline Industry, 3 Accounting & Taxation 39, 2011, p. 49.
solution seems to be the creation of a hypothetical profit centre by using the network contribution method.\textsuperscript{2763}

6.3.9 Primer on Market Power in the Airline Industry

Based on the descriptions in chapters 5.7 and 5.8, market structure is an essential component to either confirm or refute the likelihood of a price-cut resulting in anticompetitive foreclosure, e.g. market dominance and the conditions of entry.\textsuperscript{2764} The case law on how to assess dominance in the airline industry is scarce. The leading case is Ahmed Saeed, which is a preliminary ruling.\textsuperscript{2765} The Court of Justice was asked by a German court to give guidance on, inter alia, how Article 102 TFEU should be interpreted in the airline sector.

Ahmed Saeed was part of a German travel agency which had offered flight tickets at a price below the tariff floor set by the German government. The Court of Justice held that tickets could be found abusive and contrary to Article 102 TFEU if one of the airlines was dominant and the prices were unreasonably low, which could eliminate competitors that were not part of the agreement.\textsuperscript{2766} The Court of Justice limited the ruling by mainly providing interpretative criteria on how to assess the relevant market. The Court of Justice stated that flights could be considered a separate market, but alternative substitutes should be taken into account, e.g. charter flights, the railways and road transport.\textsuperscript{2767} Therefore the legal test on interchangeability still applies.\textsuperscript{2768} The Court of Justice also held that when assessing the economic strength of an

\textsuperscript{2765} Such unfair conditions may be due in the first place to the rate of tariffs imposed being excessively high, or, in order to eliminate from the market undertakings which are not parties to the agreement, excessively low. Certain interpretative criteria for assessing whether the rate employed is excessive may be inferred from Directive 87/601/EEC, which lays down the criteria to be followed by the aeronautical authorities for approving tariffs. It appears in particular from Article 3 of the directive that tariffs must be reasonably related to the long-term fully allocated costs of the air carrier, while taking into account the needs of consumers, the need for a satisfactory return on capital, the competitive market situation, including the fares of the other air carriers operating on the route, and the need to prevent dumping. See, C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 43.
\textsuperscript{2766} C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 42.
\textsuperscript{2767} C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 39.
\textsuperscript{2768} C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 40.
airline carrier, the completion on the same route or substitutable alternatives must be taken into account.\textsuperscript{2769}

The application of that test does not necessarily yield identical results in the various cases which may arise; indeed, some airline routes are in a situation where no effective competition is likely to arise. In principle, however, and in particular as far as intra-Community routes are concerned, the economic strength of an airline on a route served by scheduled flights may depend on the competitive position of other carriers operating on the same route or on a route capable of serving as a substitute.

Indeed, although the Court of Justice did not give any guidance on the relevant cost measurement about below-cost pricing, it nevertheless held:\textsuperscript{2770}

Where the competent national authority finds that an air carrier has a dominant position on the relevant market, it must then consider whether the application of tariffs imposed by that undertaking on other air carriers operating on the same route constitutes an abuse of that dominant position. Such an abuse may be held to exist in particular where such imposed tariffs must be regarded as unfair conditions of transport with regard to competitors or with regard to passengers.

This implies that not every exclusionary price practice is abusive, but where a dominant carrier applies a pricing scheme that will foreclose an as efficient competitor serving the same route(s), unprofitably, the EU courts are likely to qualify the scheme as abusive, because it tends to eliminate all price competition.\textsuperscript{2771}

\textsuperscript{2769} C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 41.
\textsuperscript{2770} C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 42.
\textsuperscript{2771} “Unfair conditions may also consist in the exclusive application of only one tariff on a given route. Where the exclusive application of only one tariff arises because of the conduct of an undertaking in a dominant position, and not because of the policy of the aeronautical authorities, it enables that undertaking to eliminate all price competition by means of an abusive practice.” See, C-66/86, Ahmed Saeed Flugreisen and Others v Zentrale zur Bekämpfung unlauteren Wettbewerbs, ECLI:EU:C:1989:140, para. 44.
6.3.10 Market Structure and Strategic Implications

An airline’s strategic resources are made up of brand, customer base, and network management.\textsuperscript{2772} Landing and take-off slots are indispensable inputs in airline capacity expansion. It is widely contended that a major source or structural condition for air traffic growth is the access to airport slots.\textsuperscript{2773} The notion is that a high concentration level at the relevant hub airport is a strong predictor of market dominance at the route level. However, the empirical data indicates that the evidence for the assertion is fragile.\textsuperscript{2774} Israel et al argue that although hub concentration is necessary, it is not a sufficient condition to find anticompetitive effects.\textsuperscript{2775} They argue for an inversed conclusion, i.e. larger airline networks tend to have consumer welfare-enhancing effects. Not only do hub-and-spoke networks tend to reduce costs, they also enhance the choice of departure times for travellers.\textsuperscript{2776} Gaggero and Piazza argue that competition policy choice stands between allowing competitor access to connecting passenger at the hub level, or allowing the legacy-network carrier to achieve higher traffic density.\textsuperscript{2777} That is, enhance competition for competition’s sake.

One issue with the air traffic market is that airport slots are limited. In the EU, the slot allocation is based on a use-it-or-lose-it rule.\textsuperscript{2778} It follows from the Regulation on slot allocation that mandatory coordination of airport slots is based on grandfather rights.\textsuperscript{2779} According to the system, slots are an essential infrastructure, but neither airports, governments nor air carriers own the slot. They are provided to the carrier as grandfather rights for a specific period.


However, the period can be extended if the slot holder uses the slot 80 per cent of the time during the period. This is known as the use-it-or-lose-it rule.

Sieg argues that the use-it-or-lose-it rule has a strategic implication for the airline holder. The airline is willing to fly empty for certain periods just to keep the grandfather right. That is, the regulation induces profit sacrificing behaviour. Sieg argues that it is rational and profit-maximising for the slot-holder, but that it is mostly profitable for the airport and the airlines while the consumers suffer the consequences of the system.2780

Nevertheless, it could be argued that reallocating slots from the legacy-network carrier to a low-cost carrier will have a consumer welfare enhancing effect in the long-run. Valdesa and Gillen have explored the notion by studying the Mexico City international airport.2781 They argue that the economic evidence is inconclusive and should be approached with caution.

**6.3.11 Final Discussion**

The SAS Norway case shows how complex, slippery, and difficult the competitive assessment is to get right in the airline industry. The Oslo District Court was faced with the legal grapple of to apply the AKZO test in the airline sector and in particular to an origin and destination network. The Oslo District Court opted not to apply the AKZO test directly, but assumed that SAS had engaged in below-cost pricing on the particular route.

The Oslo District Court’s reasoning did however disregard the actual legal query, which essentially was whether variable cost could be used in the airline industry and if not, which cost benchmark should have been used to qualify a price practice as anticompetitive.

With regards to variable and fixed costs, the Oslo District Court held that the cost items are incredibly difficult to separate because of the rapid nature of the industry. The Oslo District Court did nonetheless indicate that aircraft and pilot costs are to be regarded as variable costs even during time periods as short as one month.2782 The Oslo District Court’s statement is clearly an obiter dictum. The issue is that the argument is based a fallacy.

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2782 ‘[In addition], there is the complicated demarcation between variable and fixed costs. The court will note that, at least for flight and pilot costs, it seems problematic to simply enter these as variables in the short time period that is relevant in the present case. This also weakens the conclusions one seeks to draw from the tests.’ See, Case 05-111347TVI-OTIR/06, *SAS v Konkurransetilsynet*, 2005, p. 94
As has been pointed out in chapter 6.3.5.2, aircraft and crew costs are fixed, the cost does not change regardless of operations.\textsuperscript{2783} This means that as a general rule, aircraft and crew costs are fixed in the long and middle run. As described in chapter 6.3.8.3, Goedeking argues that since legacy airlines are divisionalised organisations, each hub is its own profit centre.\textsuperscript{2784} This implies, as described in chapter 4.9.1, that legacy airline carriers administer their operations by placing their assets in different responsibility centres and each flight buys the necessary activities from the relevant responsibility centres, e.g. aircraft, jet fuel, aircrew and ground handling. To calculate a flight’s relevant costs, the unit will most likely use transfer pricing. As described in chapter 4.12, that the notion of intra-company pricing or cost of transfer refers to the accounting approach to calculate and control so internal trade between units is efficient and achieves overall goal congruence. It was argued that the antitrust value of intra-firm pricing is to determine forensically the relevant costs as the pricing enables cost assignment to the retail unit in terms of cost of access to the network.

It is firmly established in the accounting literature that there is no single approach to calculate a transfer price, but in general there are three main methods that are used to calculate the intra-firm price: market-based, negotiated, and cost-based transfer prices.\textsuperscript{2785} However, as was described and argued in chapter 4.12.5.3, analysing intra-company prices for antitrust purposes should be based on the cost-based transfer price concept. A cost-based transfer price is the minimum intra-company price a supplying unit can transfer an item or service to other units for.\textsuperscript{2786} The floor or the minimum is determined by how much it costs to produce the item or to provide the service.\textsuperscript{2787} It was argued that the cost-based intra-company price should be based on the full cost-based method. The full cost-based method used both the variable and an allocated portion of fixed costs (full costs) of production to calculate the floor of the

intra-company price. The method is predicated on the assumption that the allocated fixed costs include profit markup, also called full cost-plus markup or full cost-plus profit. Identifying what each flight costs should be fairly straightforward using the intra-company price method. The full cost intra-company price method is of course not without criticism, but it can be applied in an objective and predictable manner. As was argued in chapter 4.12.6, the transfer prices are based on standard and not actual costs. The use of forward-looking standard costs is predicated on the notion that they avoid the issue of passing on inefficiency.

Finally, the SAS Norway case shows the difficulty of determining an objective time period over which to assess the impugned practice. The Oslo District Court’s ruling indicates that predation in the airline industry is feasible on a monthly basis. The issue is that airline prices are typically set and in force for 6-month period. This means the period-by-period analysis is likely to produce the wrong antitrust result. As was discussed supra, in France Télécom, the Commission applied a cost recovery test to determine whether Wanadoo could be profitable over a reasonable time. The Commission did nonetheless apply two different time periods. First, the Commission used a 48-month period to adjust the fixed and (limited) variable costs. The Commission seems to have viewed the write-off period as the relevant benchmark. Second, the Commission used a series of different periods, 7, 8, and 15 months, within the 48-month period. The aim was to apply the period-by-period analysis, ex post, to determine whether the Wanadoo had in fact covered its costs. This means that the Commission used different time periods for costs and for revenues. The 48-month cost adjustment period was therefore used to determine the cost base, whereas the shorter time periods were used to analyse the revenues. As a result, the backwards-looking analysis showed below-cost selling. It makes little sense to use a method that assesses the costs over a particular time period but at the same time excludes the revenues (or uses a different time period for them). Under such conditions anything will be found abusive.

To ensure the rule of law and consistent interpretation of Article 102 TFEU, the Court of Justice should provide legal guidance that the time period for

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costs and revenues should be one and the same. That is, using the approach set out by the Commission in France Télécom is a manifest error of assessment.

### 6.3.12 Conclusions on the Relevant Cost Benchmark in the Airline Industry

Based on the above, a first remark is that variable cost is an insufficient benchmark to effectively put an end to ongoing exclusionary price practices in the airline industry. As described in 6.3.5.2, variable cost is an insignificant fraction of the cost of operating a flight.\(^\text{2792}\) The bulk of costs in the airline industry is fixed. One such significant fixed cost is the aircraft cost. As a result, the variable cost benchmark (and by extension the AKZO test) is too limited or restricted to apply in the airline industry. A second remark is that the avoidable cost benchmark is also insufficient to use in the airline industry. As described in chapter 6.3.5.1, it follows from the economic literature that the avoidable cost benchmark is a more suitable cost yardstick to apply in the airline industry.\(^\text{2793}\) The antitrust issue is that it is a short-run cost measurement that excludes important parts of the production costs or costs of supply. Strategic planning in the airline sector is a long-term network capacity planning,\(^\text{2794}\) which means that the attributable aircraft costs fall outside the scope of the avoidable cost benchmark. As such, the avoidable cost benchmark can be broader than variable cost, but is nonetheless too limited to effectively enforce Article 102 TFEU in the airline industry. A third remark is that the long-run incremental cost is the relevant cost yardstick to apply in the airline industry. As described in chapter 4.3.2.1, the concept of long-run incremental cost refers to the total amount of product-specific costs that will be incurred in the long run as a result of producing the product or service in question. As such, it included costs that were sunk before the predatory strategy was implemented.\(^\text{2795}\) This means that the long-run incremental cost yardstick covers the aircraft cost, which is the significant part of the fixed cost. A fourth remark is that cost-based intra-company pricing is the relevant method to analyse ex post. A fifth remark is that if efficiency is the main concern, then that analysis should be based on forward-looking standard costs and not the actual costs.


6.4 Margin Squeeze

6.4.1 Primer on Margin Squeeze

Pricing decisions made by vertically integrated firm are caught by Article 102 TFEU insofar the practices can result in exclusionary effects on the market(s). A margin squeeze can occur when a dominant supplier of an input is vertically integrated – i.e. operates at two levels of the supply chain – and compete with its customers and thus rivals downstream. The concern is that the dominant provider manipulates and squeezes rivals’ profitability.\textsuperscript{2796} The potential exclusionary effects of a price practice that results in a margin squeeze are that downstream competitors are forced to leave the market or remain in the market but significantly weaker when exercising any real competitive pressure.\textsuperscript{2797}

The fact that a firm is dominant due to its tight grip on an essential input and is able to manipulate the margins has led to a number of solutions being discussed in the literature, e.g. constructive refusal to deal, or some form of unfair pricing.\textsuperscript{2798} Nevertheless, the Court of Justice’s preliminary ruling in TeliaSonera establishes that a margin squeeze, in terms of its exclusionary effect on an as efficient competitor, is capable of qualifying as an stand-alone exclusionary pricing abuse.\textsuperscript{2799} In addition, trailing case-law recognises that refusal to supply and unfair pricing practices apply to different circumstances.\textsuperscript{2800} It follows that a margin squeeze can occur where the dominant firm

\textsuperscript{2797} “[Price squeezing] may be said to take place when an undertaking which is in a dominant position on the market for an unprocessed product and itself uses part of its production for the manufacture of a more processed product, while at the same time selling off surplus unprocessed product on the market, sets the price at which it sells the unprocessed product at such a level that those who purchase it do not have a sufficient profit margin on the processing to remain competitive on the market for the processed product.” See, T-5/97, Indus trie des poudres sphériques v Commission, ECLI:EU:T:2000:278, para. 178.
\textsuperscript{2799} C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 31.
\textsuperscript{2800} “By contrast, where a dominant undertaking gives access to its infrastructure but makes that access, provision of services or sale of products subject to unfair conditions, the conditions laid down by the Court of Justice in paragraph 41 of the judgment in Bronner do not apply.” (…)
sells its input, but subject to unfair trading conditions by charging excessive prices for its input, pricing too low downstream, or combining the two.2801

6.4.1.1 The Legal Criteria of Margin Squeeze
The two landmark cases on margin squeeze in the telecom sector are Deutsche Telekom and TeliaSonera.2802 Both cases involved former state-owned undertakings that operated on both tails of the supply chain.2803 As a result, they functioned on the infrastructure market as well as the end-customer market. The key distinction is that Deutsche Telekom occurred in a regulatory context which, in theory, should justify a different assessment.

In a series of decisions, the Court of Justice has ruled that a margin squeeze is, in the absence of objective justifications, a stand-alone exclusionary abuse insofar as the price practice results in anticompetitive effect(s).2804 It follows from the case-law that a margin squeeze composes of five cumulative legal conditions:

1. The vertically integrated firm is dominant in the primary market (i.e. a bottleneck supplier).

2. The vertically integrated firm’s price practice limits equally efficient entrants’ ability to earn sustainable or reasonable profits.

“While such practices can constitute a form of abuse where they are able to give rise to at least potentially anticompetitive effects, or exclusionary effects, on the markets concerned, they cannot be equated to a simple refusal to allow a competitor access to the infrastructure, since the competent competition authority or national court will not have to force the dominant undertaking to give access to its infrastructure, as that access has already been granted. The measures that would be taken in such a context will thus be less detrimental to the freedom of contract of the dominant undertaking and to its right to property than forcing it to give access to its infrastructure where it has reserved that infrastructure for the needs of its own business.” See, C-152/19 P, Deutsche Telekom v Commission, ECLI:EU:C:2021:238, paras. 50 and 51, and C-165/19 P, Slovak Telekom v Commission, ECLI:EU:C:2021:239, paras. 50 and 51.


2803 Due to their origin, both businesses had kept ownership over the essential infrastructure.

2804 “A margin squeeze, in view of the exclusionary effect which it may create for competitors who are at least as efficient as the dominant undertaking, in the absence of any objective justification, is in itself capable of constituting an abuse within the meaning of Article 102 TFEU.” See, C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 31. To that effect see, C-280/08 P, Deutsche Telekom v Commission, ECLI:EU:C:2010:603, para. 183, C-295/12 P, Telefónica v Commission, ECLI:EU:C:2014:2062, para. 75, and C-165/19 P, Slovak Telekom v Commission, ECLI:EU:C:2021:239, para. 52.
3. The service supplied to competitors must be comparable with the services that the dominant operator itself must obtain to enter the retail market, but also with the prices of comparable services supplied to end users.\textsuperscript{2805}

4. The practice is capable of producing anticompetitive effect(s) in the market(s).

5. There is no objective justification of the conduct in question.

As will be outlined infra, criteria two and four are often referred to as the imputation test. The test is a cornerstone in the margin squeeze analysis.\textsuperscript{2806}

6.4.1.2 A Distinct-But-Related Price-Based Conduct

Predatory pricing and margin squeeze are both price-based conducts that can restrict competition. The conducts can nonetheless be distinguished by three main pillars. First, predation typically involves short-term pricing decisions,\textsuperscript{2807} whereas margin squeeze refers to long-term pricing decisions.\textsuperscript{2808} Second, predatory pricing and margin squeeze can be categorised by the levels of profit sacrifice that are needed to qualify the practices as exclusionary. The profit sacrifice in predatory pricing is generally at the level that makes the practice lossmaking. The sacrifice in margin squeeze does not necessarily need to be lossmaking, it is sufficient that the sacrifice reduces profitability to the level that is likely to cause exclusionary effects.\textsuperscript{2809} Third, one considers the types of foreclosure the conducts can result in. On the one hand, in predation the conduct and competitive injury takes place on the same market.\textsuperscript{2810} On the other hand, margin squeeze typically results in vertical foreclosure (the injury occurs on a vertically related market) or horizontal foreclosure (the injury occurs on an adjoined market).\textsuperscript{2811}

\textsuperscript{2805} C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 35.
\textsuperscript{2807} See, e.g. R. van den Bergen, Comparative Competition Law and Economics, Edward Elgar Publishing, 2017, p. 329
\textsuperscript{2808} See, Guidance on the Commission's Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, OJ C 45, 24.2.2009, p. 7–20, para. 80.
\textsuperscript{2809} C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 73-74.
6.4.2 The Economics of Margin Squeeze

For a margin squeeze to occur, certain cumulative market conditions must be met. First, the dominant undertaking is vertically integrated, i.e. must be active throughout the supply chain, especially at both tails. Second, the vertically integrated firm must be dominant in the upstream market because it holds an essential or bottleneck input that is important to facilitate competition in the downstream market. Third, the bottleneck supplier must also be active in the downstream market. It is this combination of circumstances that enables a margin squeeze, but the fact that they are met does not ipso facto mean that an unlawful margin squeeze has occurred or is likely to occur. That is, the conduct can only be qualified as an abuse, where exclusionary effects are shown.2812

The fact that the input supplier is dominant in the upstream can often be attributed to the nature of the industry and how the relevant market is characterised,2813 e.g. telecom, railways, postal services,2814 and online platforms.2815 In network industries, the input usually consists of the dominant firm’s infrastructure. The situation where there are limited input suppliers is often referred to by economists as upstream bottleneck.2816 Indeed, there can be reasonable business explanations to why competitors target the downstream market instead of the bottleneck market.2817 A sector that exhibits these market characteristics and competitive structures is the telecom sector.


2817 The infrastructure can be demanding to duplicate, in other words, the investment can be too risky and unjustifiable in the short or medium term, or the market can be characterised as tipping.
6.4.3 Market Characteristics of the Telecom Industry

As was discussed above, a significant step in the assessment is the identification of the relevant market characteristics in which the impugned practice occurs. The relevance of market properties is that they outline and identify the appropriate theory of harm and the scope of the imputation test.

The EU telecom sector exhibits five key market characteristics. First, the sector is highly dynamic, replacing technology rapidly, resulting in reforms to business models, price mechanisms, network value, and strategic modelling.\textsuperscript{2818}

Second, the market is characterised as a network industry. The concept of network effects is central to the analysis of growth and profitability.\textsuperscript{2819}

Third, it is habitually occupied by former state-owned monopolists.\textsuperscript{2820} Notwithstanding liberalisation, the undertakings often still own and control an input or infrastructure, e.g. a network.\textsuperscript{2821} Getting access to the incumbent’s input is often essential for rivals to enter and trade profitably downstream at the retail level.\textsuperscript{2822} Competition is therefore frequently characterised as service-based competition (instead of infrastructure-based competition).

Fourth, as a result of the dominant undertaking’s strong hold over bottleneck market, the industry is often subject to both ex ante regulation and ex post antitrust review. The approach has been criticised and the suggested solution assumes that sector-specific rules always constitute lex specialis.\textsuperscript{2823} The


\textsuperscript{2823} According to Gregory Sidak, a margin squeeze should not be remedied by antitrust law where the dominant undertaking is under sector-specific regulation. See, J. Gregory Sidak, \textit{Abolishing the Price Squeeze as a Theory of Antitrust Liability}, 4 Journal of Competition Law and Economic 279, 2004.
fact that the dominant undertaking is under regulatory obligations does however not exempt it from antitrust law. A legal crux is that undermining sector-specific rules with antitrust law may seriously destabilise legal certainty. On the other hand, if ex ante regulation constitutes the only rule, the accused firm has a regulatory defence, permitting regulatory gaming behaviour. Indeed, although the systems bear potential normative conflicts, they can coexist but where to draw the exact line is a complex issue. A potential legal solution could be to interpret the systems in a coherent manner by starting with their telos, although both legal instruments seek to address market failure, they do so differently. Suffice it to say, regulation is a

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2826 According to Dogan and Lemley, the concept of regulatory gaming refers to: “private behavior that harnesses pro-competitive or neutral regulations and uses them for exclusionary purposes”. See, S. L. Dogan and M. A. Lemley, Antitrust Law and Regulatory Gaming, 87 Texas Law Review 685, 2009, p. 687.
2828 A. Heimler, Is a Margin Squeeze an Antitrust or a Regulatory Violation, 6 Journal of Competition Law & Economics 979, 2010, p. 885.
2830 Auf’mkolk highlights that a problem with, what he calls, the feedback effect is that it can result in an overly broad imputation test. See, M. Auf’mkolk, The ‘Feedback Effect’ of Applying EU Competition Law to Regulatory Industries: Doctrinal Contamination in the Case of Margin Squeeze, 3 Journal of European Competition Law & Practice 149, 2021.
legal tool that aims to oversee and control market power ex ante,\textsuperscript{2832} by reme-dying market failures at the wholesale level.\textsuperscript{2833} The aim is to enable sustainable competition at the retail level by authorising and promoting service-based competition at the that level.\textsuperscript{2834} For that purpose, two important legal tools in the regulatory toolbox are the Local Loop Unbundling Regulation (LLU Regulation),\textsuperscript{2835} and the Access Directive.\textsuperscript{2836} Both frameworks allow National Regulatory Agencies (NRA) to mandate access to (legacy) bottleneck carriers’ infrastructure and/or impose price controls. But it also follows from the LLU Regulation that costing and pricing rules are to be applied to hinder the possibility of – ex ante as well as ex post – margin squeeze.\textsuperscript{2837} This is implying a dialogue between the regulator and antitrust enforcer, which could enhance legal certainty.\textsuperscript{2838} Notwithstanding, the antitrust seeks to preserve the competitive process ex post.\textsuperscript{2839} The main objective is not to facilitate market entry, it is to ensure effective competition.\textsuperscript{2840} Indeed, the Court of Justice’s ruling in Deutsche Telekom makes it clear that the presence of regulatory systems in

\textsuperscript{2832} See, e.g. OECD Reports, Restructuring Public Utilities for Competition, 2001, p. 11. Available at: https://www.oecd.org/daf/competition/sectors/19635977.pdf.

\textsuperscript{2833} See, e.g. P. Alexiadis and A. Shortall, Diverging but Increasingly Converging: The U.S. Supreme Court in linkLine – A European Perspective, Competition Policy International, 2009.


\textsuperscript{2837} “Costing and pricing rules for local loops and related facilities should be transparent, non-discriminatory and objective to ensure fairness. Pricing rules should ensure that the local loop provider is able to cover its appropriate costs in this regard plus a reasonable return, in order to ensure the long term development and upgrade of local access infrastructure. Pricing rules for local loops should foster fair and sustainable competition, bearing in mind the need for investment in alternative infrastructures, and ensure that there is no distortion of competition, in particular no margin squeeze between prices of wholesale and retail services of the notified operator. In this regard, it is considered important that competition authorities be consulted.” See, LLU Regulation, recital. 11.

\textsuperscript{2838} M. Colangelo, The Interface Between Competition Rules and Sector-Specific Regulation in the Telecommunications Sector: Evidence from Recent EU Margin Squeeze Cases, 14 Competition and Regulation in Network Industries 214, 2013, p. 237.


\textsuperscript{2840} See, e.g. E. de Ghellinck and C. Huveneers, Who is Right on Margin Squeeze: Competition Law or Sector Specific Regulation?, 5 Journal of European Competition Law & Practice 95, 2014, pp.98-99,
the market is a relevant factor, but does not exempt the application of Article 102 TFEU. In Telefónica, the General Court stressed that the EU antitrust rules can apply supplementary to EU regulatory systems in the telecom industry. According to the Commission, Article 102 TFEU applies where sector-specific rules will not provide an effective remedy against anticompetitive foreclosure downstream. The query is how the Commission will define and assess competition at that level.

Fifth, at the retail level, firms tend to offer a wide range of services (often intended to be used in combination with each other). A key criterion is therefore the relevant business model of the as efficient rival. The notion of the relevant business model covers both the theory of harm—the entry model of the rival—and the scope of the imputation test. The reason is that it provides useful indications when determining and classifying the relevant revenues. The task of identifying the relevant downstream revenues should not be taken lightly. In fact, a margin squeeze will always limit rivals’ income and revenue streams, the query is when impediment should be classified as an exclusionary abuse.

6.4.4 Theories of Harm
A particular challenge when assessing the lawfulness of a margin squeeze is that the test(s) require substance over form. Instead of just looking at the price-cost ratio, it will also be necessary to demonstrate anticompetitive effects. Therefore, it will be necessary for the enforcer to show a coherent and reliable theory of harm. The applicable theory should, consistent with the relevant

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2841 C-280/08 P, Deutsche Telekom v Commission, ECLI:EU:C:2010:603, paras. 92 and 224.
2842 Thus, the competition rules laid down in the [TFEU] supplement, by ex post review, the regulatory framework adopted by the EU legislature for ex ante regulation of the telecommunications markets.” See, T-336/07, Telefónica v Commission, ECLI:EU:T:2012:172, para. 293.
2846 “Given that, until the entry of a first competitor on the market for retail access services, in 1998, the applicant had a monopoly on that retail market, the anti-competitive effect which the Commission is required to demonstrate relates to the possible barriers which the applicant’s pricing practices could have created for the growth of competition in that market.” See, -271/03, Deutsche Telekom v Commission, ECLI:EU:T:2008:101, para. 235, upheld on appeal, C-280/08 P, Deutsche Telekom v Commission, ECLI:EU:C:2010:603, paras. 253-254.
market characteristics and submitted evidence, link the price policy to the effects on the market.2847 But, when assessing the effects, a significant step in the modelling is how the intervention is likely to impact the incumbent’s pro-competitive incentives. That is, the theory should be based on sound judgment between intervention vis-à-vis innovation and investment.2848

Assessing the dominant undertaking’s incentives or strategic motivation for engaging in a margin squeeze is not a straightforward exercise. The fact that the vertically integrated firm successfully ousts competitors from the downstream market will result in revenue losses for the spider (the fly is also the spider’s business partner).2849 As a result, several economic logics may conflict, e.g., wholesale and retail revenues cannibalise each other.2850 This is the nuts and bolts of the Chicago school’s single monopoly profit theory. According to the theory, the dominant upstream supplier has no motive to exclude competitors downstream, because a supplier can charge exorbitant prices for the bottleneck input.2851 However, according to Post-Chicago, there are situations where a dominant undertaking may have a strategic motivation to engage in anticompetitive practices.2852 It is worth pointing out that whether it is a profitable strategy for the dominant bottleneck provider to exclude or even monopolise the complementary market, the pinnacle inquiry is whether

2847 In this regard, the theory of harm acts as a mediating vehicle between law and facts.
the exclusion results in anticompetitive effects, based on objective factors.

6.4.4.1 Traditional Theories on Leveraging
Margin squeeze is often founded on the notion of leveraging. The basic premise is that the bottleneck holder adopts a margin squeezing strategy to gain or maintain market power. Leveraging theory is usually classified as monopoly (or traditional) leveraging, or defensive (dynamic) leveraging.

Monopoly leveraging occurs when a vertically integrated undertaking makes use of its dominance in the primary market to leverage it into the secondary market – i.e. neighbouring or adjusted market. The acquisition of dominance in the secondary market is achieved if the practice successfully excludes rivals’ ability to make profits. To demonstrate a coherent leveraging theory, a query is whether the legacy infrastructure firm has incentive to weigh its dominance into the second market. The potential issue, according to the single monopoly profit theory, is that a bottleneck supplier typically has the ability but lacks the motivation to exclude. But, the theory could fall under two situations where the upstream dominant firm will extrapolate its profitability by excluding downstream rivals. The first situation is when the bottleneck provider is under sector-specific price rules that hinder it from extracting monopoly rents, and the incentive is therefore to foreclose the complementary market to boost its profitability. The second situation is when the down-

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stream profits outweigh the sacrifice or loss in revenue for vertically integrated firms.\textsuperscript{2860} To identify such a situation, the opportunity cost of losing the access fee can provide a relevant and objective benchmark.\textsuperscript{2861} That is to assess whether the dominant firm has an exclusionary motive. Notwithstanding the debate on incentives, to assess whether the price policy should be qualified as anticompetitive, the relevant benchmark is the as efficient competitor.

Defensive leveraging occurs when a vertically integrated undertaking extends its dominance into the secondary market with the purpose of protecting or restoring its market power in the primary market.\textsuperscript{2862} The theory on defensive leveraging may appear more convincing than its counterpart,\textsuperscript{2863} but its occurrence is likely to be rare.\textsuperscript{2864} That said, the protection is achieved by the same type of practice as traditional leveraging, but the exclusion will impact consumers differently. In markets that are categorised by swift technology changes, the vertically integrated firm might seek to foreclose downstream rivals with the motive of preventing them from integrating backwards into the

\textsuperscript{2861} Consider a situation where a downstream rival pays the bottleneck firm € 10 to get access to the infrastructure. The € 10 is the opportunity cost of the dominant firm if it chooses and successfully exclude the rival, i.e. the loss or sacrifice in revenue resulting from the exclusion. On the one hand, if the exclusion increases the revenue by more than the opportunity cost, then the bottleneck firm has an incentive. That if the additional revenue is € 12, the dominant firm has an incentive (€ 12 > € 10). On the other hand, if the exclusion increases the revenue by less than the opportunity cost, then the bottleneck firm has no incentive. That is, if the added revenue is € 9, the dominant firm has no incentive (€ 9 < € 10). It is worth noting that Gaudin and Mantzari as well as Petzold argue that the opportunity cost is the relevant cost measurement to identify whether a margin squeeze has occurred or is likely to occur. Accordingly, they use the cost measurement to justify the application of predation, i.e. the opportunity cost is a relevant cost measurement to detect predatory margin squeeze. See, D. Petzold, It is All Predatory Pricing: Margin Squeeze Abuse and the Concept of Opportunity Costs in EU Competition Law, 6 Journal of European Competition Law & Practice 346, 2015, and G. Gaudin and D. Mantzari, Margin Squeeze: An Above-Cost Predatory Pricing Approach, 12 Journal of Competition Law & Economics 151, 2016.
The bottleneck monopolist is therefore not seeking to extract additional profits from the complementary market, the monopolist’s objective is to prevent erosion of its primary monopoly. As a theory of harm, the defensive leveraging theory is most relevant in sectors where new entrants may first seek to obtain a critical mass of customers before integrating backwards, e.g. the telecom sector. A key feature of the telecom sector is the rapidly changes in technology. According to Crocioni, in such a market consumers may perceive new or better services as more important than price. This is suggesting that the leveraging practice is anticompetitive where consumers are stuck in antiquated technology or deprived of long-term benefits of infrastructure-based competition. To correctly assess defensive leveraging, it is necessary to take into account how the practice impacts both markets. This is because, although the imminent effect of the practice occurs in the secondary market, the long-term effect will materialise in the primary market. The leveraging tactic is successful where it prevents downstream rivals from integrating backwards and thus challenging the vertically integrated firm’s upstream dominance. It is the hinderance of competitors’ ability to move into the primary market that makes a defensive leveraging practice anticompetitive and not simply exclusionary. This is the nuts and bolts of the ladder of investment theory.

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2868 The rapid change in technology has the significant implication that it reforms business models, price mechanisms, network value, and strategic modelling. See, A. Ghezzi, M. Nogueira Cortimiglia and A. Gemán Frank, Strategy and Business Model Design in Dynamic Telecommunications Industries: A Study on Italian Mobile Network Operators, 90 Technological Forecasting & Social Change 346, 2015.
2873 See, e.g. M. Cave, Remedies for Broadband Services, 5 Competition and Regulation in Network Industries 23, 2004, M. Cave, Encouraging Infrastructure Competition via the Ladder of Investment, 30 Telecommunication Policy 223, 2006, M. Bacache, M. Courreau and G.
6.4.4.2 The Ladder of Investment

According to Cave’s ladder of investment theory, in the telecom industry, policy makers should enable the entry of service or intra-platform competition, as it is the necessary “stepping stone” for infrastructure or inter-platform competition. As new entrants become sufficiently profitable, competition should increase throughout the whole value chain by the entrants’ investing in their own infrastructure. Hence, the end result is to achieve infrastructure-based competition. According to Ovington et al in the broadband markets, service-based competition takes place along the ladder at Resale, Bitstream and Unbundling of local loop, and inter-platform competition. The latter is the pinnacle of the ladder, which is reached when the entrants roll out their own infrastructure by leapfrogging or by-passing the legacy bottleneck supplier.

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M. Cave, Encouraging Infrastructure Competition via the Ladder of Investment, 30 Telecommunication Policy 223, 2006.


M. Cave, Remedies for Broadband Services, 5 Competition and Regulation in Network Industries 23, 2004, p. 31.


In theory, the ladder of investment should increase the long-run consumer welfare by promoting effective competition at both ends of the spectrum. However, it follows from the Ovington et al figure that there is a relationship between cost and product differentiation, e.g. the resale “rung” is less costly upfront but offers a much lesser scope for product differentiation. Consequently, moving up the rungs allows entrants a broader scope of profitability.

The ladder of investment is to an extent intended to supply regulators with the legal tool to remedy the effects of protective leveraging. The tool makes regulatory sense in markets where the infrastructure dominance has its origins in a former legal monopoly. Gaudin and Mantzari nevertheless argue that the ladder of investment has a place in the antitrust assessment, as it provides a European theory of harm when assessing margin squeeze. Indeed, in Telefónica the Commission relied on the theory. The use of the ladder of investment as a theory of harm has received criticism for elongating level of profitability that can be abusive, which may result in false positives. The criticism is not without merit. Notwithstanding that regulations can be a source when interpreting abuse, the use of the ladder of investment comes with an inherent assumption that the enforcer must take into account.

According to Bourreau et al, the ladder of investment is underpinned by the stepping stone hypothesis. The concept assumes that as entrants become

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2888 As was described above, to achieve facility-based competition, competitors need transitory entry assistance into the service-based (secondary) market. The enabling of downstream market entry is a stepping stone that is necessary to integrate into the upstream infrastructure market.
profitable, they will integrate into facility-based competition. However, for the stepping stone hypothesis to be true, there cannot be any significant replacement effect. The replacement effect describes when the entrant finds it more profitable to stay in the service-based market instead of moving into the infrastructure-based market. Thus, the replacement effect represents the opportunity cost the service-based firm is faced with if it moves into facility-based competition. As a result, Bourreau et al highlights that it is of utmost importance that the replacement effect is neutralised to the extent that entrant incentives to move up the ladder are preserved by the regulator.

According to Serdarević et al, the effectiveness of the ladder of investment should not be overstated. In fact, the theory may only apply under certain conditions. The authors empirically tested the claim that the ladder of investment is a necessary and sufficient condition to achieve infrastructure-based competition in the European telecom sector. The study finds support for the theory, but only in the western part of the EU. Conversely, the empirical evidence shows that most entrants leapfrog or by-pass the theory by directly engaging in infrastructure-based competition with the legacy network carrier in the Central and Eastern part of the EU. The key takeaway of the Serdarević et al study is that the theory only seems to hold where specific market characteristics are met, e.g. the legacy network is widespread geographically, the network is of high quality and the cost of rolling-out a new access facility is high.

Briglauer et al have empirically studied the effects that service- and infrastructure-based competition has on investments. Their study finds that facility or inter-platform competition has a significant impact on both the bottleneck incumbents’ and entrants’ investment decisions. However, they show that service- or intra-platform competition, in the late phase of market liberalisation, has a negative impact on entrants’ incentives to invest. Thus, the study appears to refute the claim that intra-platform competition fosters investments.

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6.4.5 Primer on the Imputation Test

As stated supra, the imputation test is an essential tool in the margin squeeze analysis. The test aims to answer the legal query of whether a dominant vertically integrated firm’s pricing will force rivals to operate unprofitably, i.e. sell at a loss or at a profit margin that does not allow for a normal return.\textsuperscript{2893}

The imputation test comes from the fact that it, as a general rule, imputes the costs of the hypothetical competitors from the dominant undertaking’s relevant costs.\textsuperscript{2894} The test is often used as a synonym for the need to perform a price-cost test,\textsuperscript{2895} but price-cost analysis is only one step. As described supra, the law requires that the imputation test is based on three legal criteria: profits, comparable services, and anticompetitive effects in the market.\textsuperscript{2896}

The imputation test is sometimes called the economic replicability test or simply the replicability test.\textsuperscript{2897} These terms will be used interchangeably.

6.4.6 Forensic Analysis of the Imputation Test and the Relevant Methodology

6.4.6.1 The Relevant Legal Test

For the purpose of modelling the applicable imputation test, a discussion on the relevant legal test may seem to be redundant. The Court of Justice’s case law on exclusionary abuse is abundantly clear, Article 102 TFEU does not
protect less efficient competitors from the dominant undertaking. However, the relevant legal test should not be confused with the legal standard.

As pointed out supra, a special feature of the telecom sector is that it is subject to sector specific regulation. As a result, the conduct of dominant bottleneck provider is subject to both ex ante and ex post enforcement. The issue is that the National Regulatory Agency (NRA) and the Commission (or the NCA) use different standards and thus come to different conclusions.

According to the Access Notice, a margin squeeze is exclusionary where:

A price squeeze could be demonstrated by showing that the dominant company's own downstream operations could not trade profitably on the basis of the upstream price charged to its competitors by the upstream operating arm of the dominant company (…) In appropriate circumstances, a price squeeze could also be demonstrated by showing that the margin between the price charged to competitors on the downstream market (including the dominant company's own downstream operations, if any) for access and the price which the network operator charges in the downstream market is insufficient to allow a reasonably efficient service provider in the downstream market to obtain a normal profit (unless the dominant company can show that its downstream operation is exceptionally efficient).

The Access Notice raises a query regarding the applicable legal test. The fist limb expresses the as efficient competitor, whereas the second limb sets forth the reasonably efficient operator (or the not-yet-as-efficient competitor). The reasonably efficient competitor test is based on the costs of a hypothetical reasonably efficient competitor. The test is justified on the belief that the reasonably efficient rival will provide long-term gains for consumers. The test has nonetheless been criticised for being too speculative.

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2899 C-23/14, Post Danmark v Konkurrenserådet, ECLI:EU:C:2015:651, paras. 57-58, 61 and 66.
The General Court pointed out in Deutsche Telekom that imputing a rival’s costs when assessing the lawfulness of the dominant firm could be contrary to legal certainty. This implies that imputed costs should be under the dominant firm’s control, which should not be an unreasonable legal condition.

The Court of Justice pointed out in TeliaSonera that a margin squeeze in terms of its exclusionary effects on an as efficient competitor is capable of constituting a stand-alone abuse and that the assessment should be based on the dominant firm’s own costs. As a general rule, it is the as efficient competitor test that is the relevant legal test. Indeed, although the as efficient competitor test aims to promote legal certainty, the Court of Justice made a few exceptions to the rule. The Court of Justice held in particular that there may be circumstances where the cost and price of competitors are relevant to the proceedings.

1. That might in particular be the case where the cost structure of the dominant undertaking is not precisely identifiable for objective reasons, or

2. where the service supplied to competitors consists of the mere use of an infrastructure, the production cost of which has already been written off so that access to such an infrastructure no longer represents a cost for the dominant undertaking which is economically comparable to the cost which its competitors have to incur to have access to it, or

3. where the particular market conditions of competition dictate it, by reason, of e.g. the fact that the level of the dominant undertaking’s costs is specifically attributable to the competitively advantageous situation in which its dominant position places it.

O’Donoghue and Padilla have criticised the insertion for being too vague. It is highly unclear when the circumstances are applicable. Ibáñez Colomo on the other hand argues that it is reasonable to assume that it should be for the authority or claimant to show why the exclusion of less efficient competitors raises competitive concerns. Jones argues that although the examples are a clear statement that the Court of Justice can accept the application

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2904 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 31 and 41.
2905 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 41.
2906 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 45.
of the reasonably efficient competitor, it is a stark departure from the principle of legal certainty.2909

6.4.6.2 The Relevant Cost Benchmarks
The imputation test is based on two profitability measurements: costs and revenues. The fact that it is the accused dominant firm’s costs that should be used is unhelpful. Legacy network telecom operators have a plethora of costs. The Court of Justice pointed out in TeliaSonera that the relevant cost item should allow an as efficient competitor to operate at the retail level.2910

6.4.6.2.1 The Relevant Economic Cost
The Commission argued in Deutsche Telekom that the relevant cost yardstick should be able to identify whether the dominant firm is selling at a loss in the end-user market. For that purpose, the Commission argued that it was Deutsche Telekom’s product-specific costs for providing the services to its own retailer that was the relevant cost yardstick:2911

In the case of the local network access at issue here, there is an abusive margin squeeze if the difference between the retail prices charged by a dominant undertaking and the wholesale prices it charges its competitors for comparable services is negative, or insufficient to cover the product-specific costs to the dominant operator of providing its own retail services on the downstream market.

The product-specific costs are used as a proxy for the price the dominant firm will charge customers and competitors at the downstream level.

Product-specific costs are often part of the average avoidable cost benchmark.2912 As discussed supra, the avoidable cost yardstick is a short-run bottom-line measurement. The yardstick does not include any sunk costs. The notion is that it is a superior short-term cost item in service sectors as the level of variable cost is unreasonably low or close to zero.2913

2910 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 42-43.
2913 See, e.g. P. Crocioni, Price Squeeze and Imputation Test: Recent Developments, 26 European Competition Law Review 558, 2005, p. 564.
However, antitrust commentators argue for the use of the long-run average incremental cost yardstick to identify margin squeeze. The measurement includes all product-specific (variable and fixed) costs of the relevant activity. As such, the benchmark includes sunk cost.

The Commission points out in the Guidance Paper that the failure to pass the long-run average incremental cost test implies that an as efficient competitor can only compete with the dominant firm at a loss. The Commission has in a series of decisions applied the cost benchmark to alleged margin squeeze conducts in the telecom sector. Indeed, although the Commission essentially applied the long-run average incremental cost yardstick in Deutsche Telekom, it nevertheless expressly defined the cost measurement in Telefónica.

The long run incremental cost of an individual product refers to the product-specific costs associated with the total volume of output of the relevant product. It is the difference between the total costs incurred by the firm when producing all products, including the individual product under analysis, and the total costs of the firm when the output of the individual product is set equal to zero, holding the output of all other products fixed. Such costs include not only all volume sensitive and fixed costs directly attributable to the production of the total volume of output of the product in question but also the increase in the common costs that is attributable to this activity.

The Commission used same line of argument in Slovak Telekom. The justification of the cost yardstick is, according to the Commission, is that it

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2919 “The LRAIC cost is the average of all the variable and fixed costs that an undertaking incurs to produce a particular product or service. It is the difference between the total costs incurred by the undertaking when producing all products, including the individual product under analysis, and the total costs of the undertaking when the output of the individual product is set equal to zero, holding the output of all other products fixed. Such costs include not only all volume sensitive and fixed costs directly attributable to the production of the total volume of output of
provides a simple and workable proxy for a dominant firm’s downstream operating costs. A problem with the long-run average incremental cost is that it contains (or includes depending on the circumstances) common costs. The Commission does not specifically address how it intends to cope with the issue. O’Donoghue and Padilla argue that by using the incremental and product-specific costs, the issue can be avoided. They also point out that there is nothing in principle that prohibits the use of short-run measurements, e.g. avoidable cost.

Based on Serdarević et al., as well as Briglauer et al., findings of a short-run cost yardstick can provide more reliable guidance.

A problem with the long-run incremental cost measurement is that there is no equivalent cost concept in accounting and financial theory. Nevertheless, the Access Directive provides some accounting guidelines. A fundamental aim of the directive is to prevent legacy incumbents from the ability to implement margin squeeze that results in harm to end-users.

the product in question but also the increase in the common costs that is attributable to this activity.” See, Commission Decision, AT.39513 – Slovak Telekom, 2014, recital. 861.

“Since the long run incremental cost of the individual product also includes the increase in the common costs resulting from the provision of the product in question, the mere fact that one cost is common to different operations does not necessarily imply that the long run incremental cost due to the activity in question is zero for any individual product. One must assess whether such common cost would have been incurred, partially or totally, if the company would have decided not to provide the product in question.” (...) “The idea is that, if the revenues associated with the downstream activity fall below LRAIC, a rational and profit-maximizing firm, at least as efficient as Telefónica – in particular enjoying the same economies of scale and scope – “has no economic interest in offering downstream services in the medium term. It could increase its overall result by either raising downstream prices to cover the additional costs of providing the service or – where there is no demand for this service at a higher price, to discontinue providing the service” fixed.” See, Commission Decisions, COMP/38.784 – Wanadoo España vs. Telefónica, 2007, recitals. 320 and 321, respectively.


6.4.6.2.2 The Relevant Costing Methodology

It follows from the directive that price monitoring measures should be cost-oriented, which allows the incumbent a reasonable rate of return by taking into account the risk involved. This implies that capital budgeting is an important tool to calculate the profitability of investments. To maximise consumer benefits, the method of cost recovery should take into account the need to promote efficiency and sustainable competition. This implies that the great bulk costs test could be used.²⁹²⁷ The Access Directive states that the cost-oriented measures should be based on cost accounting principles, but not which costing method(s). The only legal obligation is that the cost accounting system can provide accounting separation in relation to specific activities.

Accounting separation seeks to ensure that costs for a particular product or service are appropriately attributed, i.e. that each item provided by the incumbent bears its own costs.²⁹²⁸ These ex ante cost accounting obligations are useful inputs when seeking to identify the relevant cost benchmark.²⁹²⁹ The obligation is of particular importance when modelling the ex ante economic replicability test for next generation networks.²⁹³⁰ The obligation does not provide any meaningful guidance on which cost accounting methodology that should be used to calculate the cost of wholesale service.²⁹³¹ This is an important limitation of the Access Directive as it is limited to ensure equal opportunities to access the necessary infrastructure. As a result, the necessary and relevant costs of operating downstream retail offices fall outside.

As described in chapter 4.4.3, a useful and well-established methodology is life-cycle costing. The methodology seeks to estimate all relevant costs that are associated with a widget’s entire life-cycle. The Court of Justice’s ruling in TeliaSonera implies that the life-cycle methodology should be based on a two-step analysis:²⁹³²

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Based on the Court of Justice’s reasoning, the first step is to calculate the relevant cost for the wholesale service. This implies that the relevant cost is the required return on the investor’s equity. A particular issue arose in Slovak Telekom regarding the first step. The Commission investigated Slovak Telekom, a former state-owned telecom monopoly operator, for implementing an unlawful margin squeeze. The Commission asked Slovak Telekom to provide a calculation of its long-run average incremental costs in accordance with the Commission’s standard. Slovak Telekom did not have such a calculation but did provide one at a later date. An issue was that Slovak Telekom did not have the ex post data but was obligated by the Commission to provide it anyways by making an ex post estimation. The grapple between the Commission and Slovak Telekom before the General Court was if Slovak Telekom had used the correct asset when calculating the cost or whether the Commission was right to disregard it and make its own calculation. Slovak Telekom had used the modern equivalent asset (MEA) principle when providing the cost of capital for the asset. The Commission argued that the MEA principle in fact would lead to a hypothetical replacement of Slovak Telekom assets. The Commission argued that if the EU courts would accept Slovak Telekom’s use of MEA it would seriously undermine the as efficient competitor test. Frederiksen argues that the long-run average cost methodology to an extent incorporates MEA. MEA is used to combine new technologies or new production methods that can be used to produce existing services at lower costs. Frederiksen argues that the essential issue for the decision-maker is to strike a balance between investing in new technology and using existing technologies too long, causing them to become antiquated. The General Court pointed out that the Commission is entitled to accept or refute an evaluation of the assets, that the calculation provided by Slovak Telekom would

2940 “It follows that the optimisation adjustments, in general, and the replacement of existing assets by their more modern equivalents, in particular, had a different objective from the re-evaluation of assets proposed by the applicant. Furthermore, the taking into consideration, by the Commission, of the re-evaluation of current assets proposed by the applicant, due to the absence of other more reliable data on the LRAIC of that operator, did not suggest that the Commission necessarily accepted the optimisation adjustments of the LRAIC. The Commission was thus justified in treating differently, on the one hand, the replacement of existing assets by
allow it to disregard some of the costs, and that the as efficient competitor is not synonymous with the perfectly efficient operator.

The second step is to calculate the downstream retail operating costs. This implies the use of either activity-based costing or time-driven activity-based costing. As described in chapter 4.4.1, activity-based costing uses multiple cost drivers. Building on France Télécom, it can be assumed to be likely that the Commission will use the same time of cost adjustment should they apply an activity-based analysis, e.g. using advertisement and consumer question activities as cost drivers. On the other hand, time-driven activity-based costing uses a single cost driver. Adeoti and Valverde argue that time-driven activity-based costing can provide significant cost reduction opportunities in the information technology service sector. They argue that the method is a good tool to identify, allocate and control costs when a company operates different units. Regardless of which method that is used, the key is that the relevant costs from the first step – cost of capital and depreciation – are imputed as a separate activity entry. As was pointed out supra, the second step falls outside the scope of the Access Directive. This is probably the reason why incumbents cannot use it as a defensive measure to avoid antitrust liability. This could provide an explanation to the General Court’s reasoning in Telefónica, where it ruled that:

[T]he competition rules laid down in the [TEFU] supplement, by ex post review, the regulatory framework adopted by the EU legislature for ex ante regulation of the telecommunications markets.

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2941 “[T]he Commission was able to conclude without committing an error that the optimisation adjustments of the LRAIC proposed by the applicant would have resulted, during the calculation of the margin squeeze, in the costs incurred by that operator itself between 12 August 2005 and 31 December 2010 being disregarded.” See, T-851/14, Slovak Telekom v Commission, ECLI:EU:T:2018:929, para. 226.
2942 “[I]n assessing whether a competitor as efficient as the dominant operator is capable of offering the services concerned to final customers otherwise than at a loss. Such an examination is therefore not carried out by reference to a perfectly efficient operator in the light of market conditions at the time of such a practice. If the Commission had accepted the optimisation adjustments linked to excess capacity, the calculations of the applicant’s LRAIC would have reflected the costs associated with an optimal network corresponding to demand and not affected by the inefficiencies of that operator’s network, namely the costs of a competitor more efficient than the applicant. Therefore, in the present case, although it is not disputed that part of the applicant’s relevant assets remained unused between 12 August 2005 and 31 December 2010, the Commission was able without committing an error to include that part of the assets, in other words the excess capacity, in the calculation of the LRAIC.” See, T-851/14, Slovak Telekom v Commission, ECLI:EU:T:2018:929, para. 234.
The Court of Justice pointed out in Deutsche Telekom that where the dominant firm has the ability to autonomously set its prices at the end-user level, the practice can still be subject to EU antitrust law.2945

6.4.6.3 Relevant Revenues and Comparable Services

A particular issue that can occur in margin squeeze cases is the fact that the dominant undertaking is offering a wide range of products and/or services at the retail level, but at the same time offering access to different infrastructures at wholesale level to rivals.2946 As such, the scope of the imputation test must be determined. Biro et al argue that the test can be set narrowly or broadly.2947

According to the narrow scope, the imputation test is based on a product-by-product consideration, whereas the broad scope considers the accessed undertaking’s whole product offering downstream.2948 Biro et al argue that the scope of the test will be determined by form of the downstream entry.2949

The question of the legal scope of the imputation test arose in Deutsche Telekom. Deutsche Telekom argued before General Court that the Commission had committed an error by not allowing revenues from telephone calls to be included in the relevant end-user revenues.2950 The Commission had rejected Deutsche Telekom’s argument based on accounting separation being a legal requirement when calculating the wholesale price and that the objective with the margin squeeze test was to compare charges from two particular services at different commercial levels.2951 The argument is especially that it would be very difficult to make a comparison if ancillary revenues would be included.

The General Court pointed out that the telecom sector is characterised by its own sector-specific regulatory framework, which aims to create the conditions for effective competition. The legislator has chosen to impose dominant incumbents with the accounting obligations and to ensure that competition is

not distorted and that competitors should have equal opportunity to infrastructure. The General Court ruled in particular that:

[Equality] of opportunity as between the incumbent operator and owner of the fixed network, such as the applicant, on the one hand, and its competitors, on the other, therefore means that prices for access services must be set at a level which places competitors on an equal footing with the incumbent operator as regards the provision of call services. Equality of opportunity is secured only if the incumbent operator sets its retail prices at a level which enables competitors – presumed to be just as efficient as the incumbent operator – to reflect all the wholesale costs in their retail prices. However, if the incumbent operator does not adhere to that principle, new entrants can only offer access services to their end-users at a loss. They would then be obliged to offset losses incurred in relation to local network access by higher call charges, which would also distort competition in telecommunications markets.

The General Court’s ruling in Deutsche Telekom highlights the balancing act courts may need to make in network sectors. The ruling shows that the Commission is entitled to make a narrow assessment of the relevant revenue streams that are attributable the Internet service. That is, a narrow imputation test. The rationale is that consumers should benefit from the increasing competition, even if they view telephone and Internet services as a cluster.

The General Court justified its reasoning on equal opportunity between operators. According to McMahon, the concept of equality of opportunity was originally intended to justify EU antitrust law to achieve a market integration and it is therefore likely to result in false positives where the market is regulated as the concept has no bearing on or connection to any theory of harm.

The key takeaway from the General Court’s reasoning is that the imputation test should be modelled and applied in a manner that is consistent with the narrow approach. As such, the reasoning excludes the possibility of network contraction. The issue is that the reasoning may not be consistent with the entry model. If there are significant economies of scale and scope, a new entrant may exploit possible cost advantages by offering combinations of services, i.e. to exploit economies of scale, higher contribution margins, and ultimately earn higher profits. To avoid type I and II errors, the plaintiff should be impelled to fuse the theory of harm with the imputation test in a way that

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that spells out why a combinatory business model raises significant barriers to entry.\textsuperscript{2957} The Commission argued in Deutsche Telekom that it was essential that the wholesale and retail end-user services are comparable. According to the Commission, services are comparable in the sense that their technical features are the same or at least similar and that they allow the same or at least similar services to be provided.\textsuperscript{2958} The Court of Justice seems to have endorsed the notion. The Court of Justice pointed out in TeliaSonera that account must be taken not only of the prices of services supplied to competitors that are comparable to the services the incumbent itself must obtain to have entry to the retail market, but also of the prices of comparable services supplied to end users on the retail market by incumbent and its competitors. Similarly, a comparison must be made between the prices actually applied by the incumbent and its competitors over the same period of time.\textsuperscript{2959}

To compare the services, the product life-cycle analysis may provide some guidance. As was described in chapter 4.4.3.1, the product life-cycle describes and the various stages a product will go through during its life-time.

6.4.6.4 Relevant Methods when Assessing Profitability in Margin Squeeze Cases

There are two basic approaches when assessing profitability in margin squeeze cases: backwards- and forward-looking. The backwards-looking approach aims to ascertain if the accused incumbent has recovered all of its costs during the investigative period. The approach is static because the only relevant profitability inputs are those that have occurred. As a result, costs and revenues that will occur after the investigative period will be disregarded. The strength of the approach is that it provides objective and replicable results.

The forward-looking approach seeks to determine if the accused incumbent will recover the costs that are associated with an initial outlay during the relevant time period. The approach is dynamic because it uses profitability inputs over the asset’s entire life-cycle. As a result, the relevant costs and revenues will be not only those that have occurred, but also those that will occur beyond the investigative period. The strength of the approach is that the highs and lows during the relevant period do not have an effect on the overall result as the only relevant query is if costs and revenues generate a positive margin over the whole period. The shortcoming is that it cannot provide an answer to


\textsuperscript{2959} C-52/09, \textit{Konkurrensverket v TeliaSonera}, ECLI:EU:C:2011:83, para. 35.
whether the positive profit margin is a result of exclusion during an earlier period.

6.4.6.4.1 The Period-By-Period Method

The Commission exclusively uses the period-by-period method. The method is based on the backwards-looking approach. By using the period-by-period method, the Commission seeks to consider if the downstream arm of the integrated incumbent is profitable in a given period, e.g. a month, a quarter or a year.\textsuperscript{2960} The method should be used with caution. Indeed, although the method makes it easier to verify a possible exclusion, the method can provide highly misleading results, since each period is analysed in a vacuum.\textsuperscript{2961} That is, the method allocates costs and revenues to a specific period, e.g. a month, but excludes the costs and revenues from other periods, e.g. a quarter.\textsuperscript{2962} Accordingly, the contained period is an inadequate proxy for providing a sound and robust assessment of whether the investment will be profitable over its life-time. Another issue is that the method does not in fact seek to measure the rate of return, but instead only aims to verify the cost recovery during a period.\textsuperscript{2963} As stated in chapter 4.8.4, the rate of return is a fundamental concept in corporate finance. The concept seeks to provide financial guidance as to whether a project should be accepted based on the risk-return benefit. The period-by-period method omits any risk in its analysis.\textsuperscript{2964} The closest the method comes to typical business practices is that it is a hybrid of the accounting rate of return and the payback period methods, but used retrospectively.

6.4.6.4.2 Discounted Cash Flow Methods

The discounted cash flow (DCF) method is often invoked by the accused incumbent. The method is based on the forward-looking approach and often referred to as the multi-period method,\textsuperscript{2965} but the DCF is only one of several methods. As was described in chapter 4.8.3.1, there are several different discounted cash flow methods in accounting and financial theory. The overall

The application of the DCF is to determine the net present value (NPV). A positive NPV indicates that a product and/or service is profitable as it generates value, but a negative NPV means that the widget in question is losing money and implies that a margin squeeze occurs. To the extent that the NPV is positive or zero, it will be imperative to determine the relevant rate of return and identify the hurdle rate. As described in chapter 4.8.4.2, the hurdle rate represents the minimum acceptable rate of return, and aims to assess whether an investment is financially beneficial in comparison to an equally risky investment in the stock market. The latter is the so-called opportunity cost of an investment, or opportunity cost of capital. Indeed, albeit that there are different cost measurements that can be used for calculating the hurdle rate, as was described in chapter 4.8.4.2, CAPM is a common and useful method to determine the relevant cost of equity. The cost of equity is relevant because it provides an objective financial yardstick to assess the hurdle rate. That is, the antitrust use of CAPM is that it enables an ex ante appraisal of the level of the required return on the investor’s equity, which is then compared to the NPV.

For the purpose of calculating the hurdle rate, the whole lifetime of the investment is used as the relevant time period. However, the relevant time period in margin squeeze cases is quite different. The aim is to identify consumer harm, not harm to investors. As such, the relevant time period in margin squeeze cases is the estimated average customer lifetime (ACL). Edwards et al argue that the ACL is a sensible proxy when the profitability analysis seeks to determine the margin on individual products using the average avoidable or long-run average incremental cost benchmarks.

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6.4.6.5 Assessing Profitability in Practice

6.4.6.5.1 The Telefónica Case
The Commission found in 2007 that the former state-owned monopolist Telefónica had implemented unfair price practices in the form of margin squeeze in the ADSL broadband market in Spain. The Commission applied both the period-by-period and the DCF methods to assess the profitability of Telefónica’s downstream arm. The Commission observed that the DCF method is an established method for assessing profitability in margin squeeze case, but highlighted the design flaws of the method, i.e. a positive result of the DCF can be the result of a successful margin squeeze. As such, the Commission pointed out that Telefónica’s application of the discounted cash flow (DCF) did not provide a proper analysis of its profitability. The Commission made significant alterations to Telefónica’s DCF analysis ex post. Telefónica had provided a DCF analysis that showed that the network investment would be profitable over a relevant period of five year. As described in chapter 4.8.3.1, it follows from well-established corporate finance theory that the relevant cash flows are determined by the economic life of the investment in question. The Commission argued that this was inappropriate because Telefónica’s profitability analysis was too narrow since it only included the network investment cost. The Commission applied a broader profitability analysis, which included both the network investment and the customer acquisition costs. As a result, the Commission applied a “terminal value” which extended the relevant period to five years and four months. The Commission recognised that their approach was inconsistent with standard business practice but argued nonetheless that the purpose of the DCF analysis in the context of exclusion-
ary pricing is to assess if the dominant firm’s price practice infringes the Article 102 TFEU during the specific period. The Commission’s ex post adjustment does therefore not aim to assess if the network investment is profitable, but to assess if the network investment and advertisement fixed costs are profitable together. This limits the network operator’s ability to collect the relevant revenues necessary for the cost recovery of the network investment.

The General Court, on appeal, upheld the Commission’s use and calculation of the DCF and in particular the terminal value. A striking feature of Telefónica’s appeal is the fact that Telefónica did not seek to challenge the terminal value itself, but essentially argued that its procedural rights had been infringed by the Commission.

6.4.6.5.2 The Slovak Telekom Case
The Commission applied a forward-looking approach for the first time in Slovak Telekom. The Commission accused Slovak Telekom, the former Slovak telecommunication monopolist, of implementing a margin squeeze practice to make life difficult for rivals in the Slovak retail broadband market.

To determine whether Slovak Telekom had implemented a margin squeeze, the Commission conducted the profitability analysis in two steps. First, the Commission applied the period-by-period method by allocating the costs and revenues on both a yearly and monthly basis. The Commission spread and allocated capital cost by using the straight-line depreciation method, based on the period between 2005 till 2010. The period-by-period analysis, after several adjustments, revealed that Slovak Telekom had positive margins for four months in 2005, but negative margins throughout 2006, 2008, 2009 and 2010.

Second, the Commission decided to apply a so-called multi-period approach (as a result of the positive margins). The Commission applied the multi-period approach by taking the cumulative revenues for 2005-2010 and

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2980 “The purpose of a DCF analysis in the context of a margin squeeze analysis is rather different from business valuation, since it is to assess whether a dominant company’s given pricing behaviour in a specific period of time is contrary to Article [102 TFEU].” See, Commission Decisions, COMP/38.784 – Wanadoo España vs. Telefónica, 2007, recital. 369.
2987 Commission Decision, AT.39513 – Slovak Telekom, 2014, recital. 998

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detracting the cumulative costs, which resulted in a negative margin on average over the periods.\textsuperscript{2989} As such, the multi-period analysis allowed the Commission to overlook the positive margin in 2005 and 2007.

The General Court, on appeal, partially annulled the Commission’s decision. The General Court pointed out that as the law stands, the Court of Justice had ruled in Post Danmark I\textsuperscript{2990} that where a dominant firm’s price practice covers the great bulk of costs during a period, that practice is unlikely to result in anticompetitive effects in the long run.\textsuperscript{2991} Consequently, the General Court pointed out that the Commission cannot simply ignore the finding of a positive margin (the four months in 2005), but the Commission may provide additional evidence to show that the conduct is still exclusionary because the practice makes efficient entry into the market more difficult.\textsuperscript{2992}

6.4.6.6 Anticompetitive Effects

The law on exclusionary abuse is criticised for being too formalistic. The Commission argued in Deutsche Telekom that once a margin squeeze is identified, there is no legal condition to make an inquiry about the effects, because anticompetitive effects can be presumed.\textsuperscript{2993} The EU courts, on appeal, pointed out that the Commission was wrong.\textsuperscript{2994} The Court of Justice held that anticompetitive effects are a precondition for the finding of exclusionary abuse and in the absence of any effects there cannot be an abuse.\textsuperscript{2995}

The Court of Justice ruled in TeliaSonera that in order to qualify a margin squeeze as abusive, the impugned practice must have an anticompetitive effect on the market, but the effect does not necessarily have to be concrete, and it is sufficient to demonstrate that there is an anticompetitive effect which may potentially exclude competitors that are at least as efficient as the dominant undertaking.\textsuperscript{2996} As described supra, the potential anticompetitive effects can be shown either because the practice is capable of or likely to make entry impossible or excessively difficult, but again the effects do not have to be concrete. The Court of Justice pointed out in TeliaSonera that the lawfulness of

\begin{thebibliography}{9}
\bibitem{2990} C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, para. 38.
\bibitem{2991} T-851/14, Slovak Telekom v Commission, ECLI:EU:T:2018:929, para. 257.
\bibitem{2995} "[T]he General Court correctly rejected the Commission’s arguments to the effect that the very existence of a pricing practice of a dominant undertaking which leads to the margin squeeze of its equally efficient competitors constitutes an abuse within the meaning of Article 82 EC, and that it is not necessary for an anti-competitive effect to be demonstrated." See, C-280/08 P, Deutsche Telekom AG v Commission, ECLI:EU:C:2010:603, para. 250.
\bibitem{2996} C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 64.
\end{thebibliography}
the dominant firm’s pricing policy, should as a general rule be assessed with reference to the dominant firm’s own costs and prices. The approach is based on rule of law argument. The legality of the dominant firm’s commercial practices is entrenched in what the firm can control, i.e. the legality of a dominant firm’s pricing cannot depend on what other firms are doing. As such, the reference to potential effects seeks to ensure legal predictability.

The General Court pointed out in Slovak Telekom that a positive margin cannot be taken as a presumption of anticompetitive effects. In particular, to the extent that the dominant firm covers the greater bulk of costs, the practice is presumptively lawful because entry is still possible. However, the plaintiff can provide evidence regarding why a positive margin that makes entry more difficult can threaten the existence or entry of as efficient competitors, but the mere fact that the profitability is likely to decline will not suffice.

6.4.7 Forensic Conclusions

Margin squeeze is a stand-alone exclusionary abuse where a vertically integrated dominant firm implements a price practice that causes an as efficient competitor to sell at a loss or an artificially reduced profit margin.

A fundamental step when determining whether a price practice should be qualified as a margin squeeze is the modulation of the imputation test. The test is a cornerstone of the margin squeeze analysis and based on three cumulative criteria:

1. The vertically integrated firm’s price practice limits equally efficient entrants’ ability to earn sustainable or reasonable profits.

2. The service supplied to competitors must be comparable with the services that the dominant operator itself must obtain to enter the retail market, but also with the prices of comparable services supplied to end users.

3. The practice is capable of producing anticompetitive effect(s) in the market(s).

A legal crux is that margin squeeze often occurs in the telecom sector, which is subject to sector-specific regulation. The aim of the sector-specific regulation is to facilitate sustainable competition by ensuring access to the

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2997 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 41.
incumbent’s infrastructure so downstream entry can occur. The notion is that the ensuring of service-based competition will result in infrastructure-based competition because rivals will move up the ladder of investment. One theory of harm is that the vertically integrated incumbent implements leveraging price practices to prevent rivals from moving up the ladder. In order not to curb procompetitive behaviours, the incumbent’s wholesale price should reflect a reasonable return on capital.

The sector-specific regulation is nonetheless a source of confusion. Accessed incumbents tend to claim that fulfilment of the sector-specific regulation exempts the conduct from Article 102 TFEU, i.e. the regulation is used as a defensive argument. The General Court pointed out in Telefónica that ex ante regulation cannot be used to transform an otherwise unlawful conduct under Article 102 TFEU to be qualified as lawful. The General Court’s line of argumentation can easily be perceived to state that a higher norm takes precedence over a lower norm, i.e. reasoning on authority. The issue with interpreting the General Court’s reasoning in that manner is that it would effectively mean first, that the Commission could ex post rip up an NRA’s decision (legal uncertainty). Second, the incumbent could lean on Article 102 TFEU as a legal basis for not implementing the NRA’s decision. Such a legal situation would be absurd and incongruent with the surrounding body of EU law.

A second source of confusion seems to be that the accounting obligation must be applied when assessing the downstream market. The General Court pointed out in Deutsche Telekom that the legislator has chosen to impose upon dominant incumbents the accounting obligations that seek to ensure that competitors have equal opportunity to infrastructure. The General Court’s reasoning implies that network contribution margin analysis cannot be used, but the sector-specific regulation is limited to secure the fairness of the wholesale price, i.e. the price for accessing the incumbent’s network. The problem is that the wholesale price will be bookmarked as a common cost at the downstream profit centre. As a result, as long as there is no significant barrier to entry that restricts economies of scale and scope, the General Court’s reasoning appears to result in a type I error.

It is firmly established in economic theory that long-run average incremental cost is a suitable cost benchmark in the telecom industry. The measurement aims to ensure that the economic cost characteristics are included and recovered. The problem is that the concept lacks any equivalent cost yardstick in management and financial theory. The Court of Justice seems to indicate in TeliaSonera that the relevant cost methodology is based on a two-step approach. First, the cost of the intermediary service. Second, the downstream retail operating costs. The combination implies that life-cycle cost could be used as business proxy for the long-run incremental cost.
There are basically two approaches when assessing profitability in margin squeeze cases. The first approach is the backwards-looking or period-by-period method. The Commission had used it consistently when analysing profits. The method excluded costs and revenues that fall outside of the relevant period, i.e. the method does not allow any cost recovery after the period. The method does not allow for any evaluation of the risk involved. As such, the rational investor would almost always choose the capital market. The issue with the method is that it can result in type I errors, in particular when applied in dynamic markets such as the telecom industry. The second approach is the forward-looking or multi-period method. The approach aims to assess the profitability over the asset’s entire economic lifetime. The problem, according to the Commission, is that the method cannot be used to identify if a positive margin is the result of earlier exclusionary behaviour. Indeed, albeit that the method cannot identify exclusions, that is not the purpose of the method. The objective is to determine if an investment has the potential to provide shareholder value, not how the investment should be used to prove value. Nevertheless, the Commission used the period-by-period and the DCF method in Telefónica. The Commission made several adjustments to the DCF which effectively resulted in an assessment that was never based on the DCF. The Commission applied a multi-period approach in Slovak Telekom, but the Commission never applied a DCF analysis. The purpose of the multi-period analysis was to dilute the periods where Slovak Telekom had positive margins to provide the illusion that Slovak Telekom had traded unprofitably over the entire investigative period.

The Commission argued in Deutsche Telekom that once a margin squeeze has been identified, there is no need to establish exclusionary effects on the market. The EU court have strongly disagreed, in particular the Court of Justice pointed out in TeliaSonera that an impugned practice must have an anticompetitive effect on the market, but the effect does not necessarily have to be concrete, and it is sufficient to demonstrate that there is an anticompetitive effect which may potentially exclude competitors that are at least as efficient as the dominant undertaking. However, the assessment of anticompetitive effects should adhere to the principle of legal certainty. The General Court pointed out in Slovak Telekom that when the dominant firm covers the greater bulk of costs, the practice is unlikely to result in anticompetitive effects and the practice is presumptively lawful because entry is still possible.

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3004 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 64.
6.5 Forensic Case Study of the TeliaSonera Case

6.5.1 Introduction
The aim of this forensic case study is to outline a forensic methodology on the relevant cost benchmark. The objective is to analyse the Swedish Market Court’s ruling in TeliaSonera by applying the forensic sources.

It is firmly established in the literature and the Commission’s decision-making practice that the long-run average incremental cost is the appropriate cost benchmark to assess margin squeeze in the telecom industry. The EU courts have accepted the cost yardstick, but they have never explicitly ruled on the issue. A fundamental issue that appeared before the Market Court was TeliaSonera’s objection that it had not used long-run incremental cost when setting its retail prices because the benchmark is extrinsic in business practice. As a result, TeliaSonera's cost accounting data did not make it possible to apply a long-run incremental cost analysis.

Notwithstanding that the Swedish Market Court’s ruling raises a number of interesting issues, the case study will be confined to the question of law concerning the relevant cost benchmark that ought to be used.

6.5.2 The TeliaSonera Case

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6.5.2.1 Overture on the Swedish Law on Exclusionary Abuse

Sweden has been an EU member state since 1995. Section 2:7 of the Swedish Competition Act is more or less a canvas of Article 102 TFEU. The Swedish Competition Authority (SCA) is the administrative authority for competition concerns and has as its aim to enforce the Swedish Competition Act as well as Articles 101 and 102 TFEU. At the time of the disputation, the Swedish Market Court (Market Court) was the highest appeal court in competition matters. The Market Court was not bound by lower courts’ judicial decisions.

Swedish antitrust litigation is based on an adversarial system, which currently is set out in the Code of Judicial Procedure. The Swedish litigation system therefore handles antitrust matters as civil complainants. A significant characteristic of the Code of Juridical Procedure is section 35:1, which sets out that there are no restrictions in respect to the admissibility of evidence. The courts are competent to address both issues of law and fact and to assess the relevance and weight of the evidence. As such, Swedish courts are both gatekeepers and investigators of what counts as the relevant evidence.

6.5.2.2 Background to the Legal Dispute

TeliaSonera is the former Swedish legal monopoly firm that owns the physical network infrastructure accessible by virtually all households in Sweden. TeliaSonera restructured its operations in April 2001, creating a situation where each core business operation was responsible for developing, planning, and implementing strategies that were profitable in each geographic segment. The aim of the restructuring was to promote an effective transformation of the telecom industry towards Internet services. Two such business units were Telia Networks and Telia Internet Services. Telia Networks was responsible for the fixed network, fixed telephony services, and data communications services along with the further development of the IP infrastructure with particular focus on the Swedish market. TeliaSonera operated a network wholesale business under its Telia Networks unit, named Skanova Broadband. Skanova Broadband was the wholesaler of TeliaSonera’s ADSL. Telia Internet Services on the other hand was responsible for Internet services (accesses, applications and portals) on the consumer and business markets in Sweden and the other Nordic countries. During 2001 and 2002, TeliaSonera had conducted

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sales of Internet connections to consumers through the wholly owned subsidiary Telia Internet Services, which had shown improved earnings and strong growth.\textsuperscript{3014-3015}

In October and November of 2001, the Swedish Competition Authority received complaints from TeliaSonera’s competitors. They asserted that TeliaSonera’s price practice amounted to an abuse of dominance since their margin between the wholesale and end-consumers was insufficient, which made them trade at a loss.\textsuperscript{3016} The Swedish Competition Authority opened a formal inquiry and found that TeliaSonera had offered its downstream competitors access to its broadband ADSL (asymmetric digital subscriber line) infrastructure.\textsuperscript{3017} The Swedish Competition Authority discovered that TeliaSonera had implemented a margin squeeze practice from April 2000 to January 2003.\textsuperscript{3018} The Swedish Competition Authority (the Authority) found that TeliaSonera’s price practice had a market coverage that affected trade between member states and applied Article 102 TFEU as well.\textsuperscript{3019}

The Swedish Competition Authority brought an action before the Stockholm District Court requesting the court to order TeliaSonera to pay an administrative fine for infringements of both the Swedish Competition Act, from April 2000 until January 2003, and of Article 102 TFEU, during the period from 1 January 2001 until January 2003. During the main proceedings, a number of issues arose and the Stockholm District Court made a reference to the Court of Justice. Based on the preliminary ruling, the Stockholm District Court found that TeliaSonera had committed an abuse of dominance and imposed the administrative fine. TeliaSonera appealed to the Market Court.

Before embarking on a study of the Market Court’s ruling, it is important to note two significant features of the case. First, TeliaSonera was not under any legal obligation to offer access to its ADSL network. Second, TeliaSonera was not subject to accounting separation because the Access Directive – which at the time was implemented in section 4:7 of the Electronic Communications Act (2003:389) – come into force after the alleged abuse.

\textsuperscript{3017} See, Swedish Competition Authority Inquiry Regarding Abuse of Dominant Position, Dnr 1135/2004 – TeliaSonera, recital. 48.
\textsuperscript{3018} See, Swedish Competition Authority Inquiry Regarding Abuse of Dominant Position, Dnr 1135/2004 – TeliaSonera, recital. 118.
\textsuperscript{3019} See, Swedish Competition Authority Inquiry Regarding Abuse of Dominant Position, Dnr 1135/2004 – TeliaSonera, recitals. 129-134.
6.5.2.3 Arguments Before the Market Court

Keep in mind, as stated above, this case study is limited to the issue of law considering the relevant cost yardstick.

TeliaSonera objected and argued that the Authority’s calculation of TeliaSonera’s costs was not based on the long-run average incremental cost method.\textsuperscript{3020} As a result, there was no concrete basis for the Authority’s assertion that TeliaSonera was required to have a margin of SEK 57,\textsuperscript{3021} because the Authority had never investigated TeliaSonera’s relevant costs.\textsuperscript{3022} TeliaSonera argued that main reason for the error was due to fact that the Authority had based its calculation on a backwards-looking method, which the Authority then used to approximate the forward-looking costs that TeliaSonera should have incurred during the alleged abuse. TeliaSonera argued that this should have scenario (“börläge”) was based on faulty assumptions about the market, which distorted TeliaSonera’s costs to the extent that its costs were significantly higher than they should have been.\textsuperscript{3023} TeliaSonera therefore argued that the Authority had included cost items that were irrelevant and a correct calculation of TeliaSonera’s long-run average incremental costs should have included inter alia investments and depreciation expenses, e.g. advertisement and customer service costs.\textsuperscript{3024} TeliaSonera asserted that a margin of SEK 30 would have allowed it to be profitable during the period.\textsuperscript{3025} TeliaSonera’s expert witness testified, in essence, that the long-run average incremental cost was an inappropriate cost benchmark to assess TeliaSonera’s profit margins.\textsuperscript{3026} TeliaSonera’s expert witness testified that the cost measurement does not appear in normal business practice and that it was highly unlikely that TeliaSonera had set its prices accordingly.\textsuperscript{3027} As such, TeliaSonera’s expert witness testified that there was a lack of support to analyse if the ADSL activity was separated from the other activities and therefore it was unlikely that TeliaSonera’s cost accounting data could be used to excogitate or fabricate a hypothetical calculation of its long-run average incremental cost.\textsuperscript{3028} TeliaSonera’s expert witness testified that it was not possible to assess how the Authority had concluded that TeliaSonera’s should have scenario would be SEK

\begin{footnotes}
\footnote{3020}{See, e.g. Case A8/11, Swedish Market Court, 2013:5, 2013, paras. 57 and 246.}
\footnote{3021}{See, e.g. Case A8/11, Swedish Market Court, 2013:5, 2013, paras. 58 and 60.}
\footnote{3022}{See, e.g. Case A8/11, Swedish Market Court, 2013:5, 2013, para. 68.}
\footnote{3023}{See, e.g. Case A8/11, Swedish Market Court 2013:5, 2013, paras. 57-67.}
\footnote{3024}{See, e.g. Case A8/11, Swedish Market Court 2013:5, 2013, para. 68.}
\footnote{3025}{See, e.g. Case A8/11, Swedish Market Court, 2013:5, 2013, para. 68.}
\footnote{3026}{Case A8/11, Swedish Market Court, 2013:5, 2013, para. 257.}
\footnote{3027}{Case A8/11, Swedish Market Court, 2013:5, 2013, para. 257.}
\footnote{3028}{Case A8/11, Swedish Market Court, 2013:5, 2013, para. 257.}
\end{footnotes}
Nevertheless, TeliaSonera’s expert witness questioned the methodology that the Authority’s expert witness had used to calculate the margin, in particular the lifetime of new customers and level of customer service costs. The Swedish Competition Authority on the other hand stated that in its opinion that the Swedish District Court had made the correct judgment. The Authority argued that although a margin squeeze test can be applied in various ways, the Commission uses the long-run average incremental cost yardstick. The Authority avouched that a margin of SEK 57 was based on a cautious assessment of TeliaSonera’s costs and that the Authority does not have to determine the exact costs during the period in question. The Authority’s expert witness testified that TeliaSonera’s costs could never have been below SEK 57.

6.5.2.4 The Market Court’s Ruling
The Market Court found that TeliaSonera had a dominant position on the ADSL broadband market from 1 June 2001 and that TeliaSonera had positive margins from that period until January 2003. The Market Court acknowledged that its legal task was to ascertain whether TeliaSonera’s downstream margins were so insufficient as to cause anticompetitive effects by examining if TeliaSonera covered its relevant costs during the period.

The Market Court drew attention to how the Swedish Competition Authority had brought its action before the courts and how similar questions had been dealt with, at the EU level, by using the long-run average incremental cost benchmark. The Market Court identified that in the Guidance Paper and in its enforcement against margin squeezes, the Commission uses the cost benchmark that the EU courts have accepted, in particular the General Court in Telefónica. The Market Court concluded that, as a point of departure, the long-run average incremental cost method should be used to ascertain TeliaSonera’s incremental costs and some of TeliaSonera’s fixed costs should be treated as expenses by allocating them by using the period-by-period method.

The Market Court, based on TeliaSonera’s expert witness, ruled that it was not possible to apply the long-run average incremental cost method.\textsuperscript{3040} The Market Court added that whilst it is not impossible to ascertain the incremental costs with alternative methods, such a cost estimation must be evaluated with caution.\textsuperscript{3041} The Market Court pointed out that due to the circumstances, it had to decide if the Authority had made a sufficiently in-depth investigation to establish that TeliaSonera’s margin of SEK 30 was insufficient.\textsuperscript{3042} The Market Court, after hearing both expert witnesses, concluded that the Authority had failed to ascertain the relevant circumstances that actually existed at the time of the alleged abuse and as a result, the Authority had failed to prove the existence of a margin squeeze on some of the customer segments.\textsuperscript{3043}

\subsection*{Interim Observations}

The Market Court’s ruling provides an informative illustration of how pivotal the correct cost benchmark is for the effective application of Article 102 TFEU. The pinnacle issue of law was the existence of a legal gap.

The Court of Justice’s preliminary ruling in TeliaSonera is perhaps one of the most significant rulings in recent times. The most palpable implication is the stress on exclusionary effects that financially injure an as efficient competitor.\textsuperscript{3044} The ruling is the very basis for the Grand Chamber’s preliminary ruling in Post Danmark I, where the Grand Chamber systematically determined the teleological meaning of Article 102 TFEU.\textsuperscript{3045} The interplay between systematic and teleologic arguments resulted in the concretization of the legal norm as well as the definition of competition on the merits.\textsuperscript{3046} Ever

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\textsuperscript{3040} Case A8/11, Swedish Market Court, 2013:5, 2013, para. 258.
\textsuperscript{3041} Case A8/11, Swedish Market Court, 2013:5, 2013, para. 259.
\textsuperscript{3043} Case A8/11, Swedish Market Court, 2013:5, 2013, paras. 263-269.
\textsuperscript{3044} C-52/09, \textit{Konkurrensverket v TeliaSonera}, ECLI:EU:C:2011:83, paras. 31, 32, 33, 40, 63, 64, 67, 70, 73 and 91.
\textsuperscript{3045} “[I]t is in no way the purpose of [Article 102 TFEU] to prevent an undertaking from acquiring, on its own merits, the dominant position on a market (see, inter alia, TeliaSonera Sverige, paragraph 24). Nor does that provision seek to ensure that competitors less efficient than the undertaking with the dominant position should remain on the market.” See, C-209/10, \textit{Post Danmark v Konkurrencerådet}, ECLI:EU:C:2012:172, para. 21.
\textsuperscript{3046} “Thus, not every exclusionary effect is necessarily detrimental to competition (see, by analogy, TeliaSonera Sverige, paragraph 43). Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation.” See, C-209/10, \textit{Post Danmark v Konkurrencerådet}, ECLI:EU:C:2012:172, para. 22.
\end{flushleft}
since Intel, the EU courts have consistently applied these legal concepts horizontally.\textsuperscript{3047} However, although the TeliaSonera ruling is an important legal source, the case lacks explicit legal guidance on the relevant cost measurement and costing method that ought to be used to effectively apply Article 102 TFEU to prohibit exclusionary price practices.

The Market Court was thus faced with the issue of deciding what cost yardstick that ought to be used to evaluate the lawfulness of a dominant undertaking’s price practice ex post. An essential characteristic of many exclusionary price practices is that they are implemented on a product-by-product or service-by-service basis. A difficulty is therefore to determine the relevant allocation method to assign the appropriate cost that is attributable to the common and/or joint fixed costs. Another difficulty, which seems to have been overlooked, is to determine the relevant markup or cost of equity on fixed investments. This financial cost measurement is important to use when analysing if a positive margin is likely to make entry more difficult.

The Market Court’s reasoning is remarkable because it avoided having to fill the legal gap by switching from an issue of law to an issue of fact.\textsuperscript{3048}

6.5.3 The Relevant Cost Benchmark

Indeed, although the Market Court avoided to fill the legal gap, the significance of determining the relevant cost benchmark is to concretise the legal content of operating at a loss or at artificially reduced levels of profitability.\textsuperscript{3049}

6.5.3.1 The Rationale for the Long-Run Incremental Cost

The telecom sector is a network service-based sector,\textsuperscript{3050} which is known for being capital intensive due to the need in substantial network infrastructure


\textsuperscript{3049} C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, paras. 33.

\textsuperscript{3050} See, e.g. M. E. Oliver, Pricing Flexibility under Rate-of-Return Regulation: Effects on Network Infrastructure Investment, 78 Economic Modelling 161, 2019.
Network investments tend to be linked to economies of scale and sunk costs. As a result, a firm’s cost structure is often characterised by high fixed costs and low variable costs. This is particularly true for network legacy telecom operators that inherited their infrastructure.

Based on these features, the rationale for using the long-run incremental cost in the telecom industry is two-fold. First, entering the market is associated with fixed costs due to investments in infrastructure. Second, from an economic point of view, because the benchmark is used to assess the effects on the market for both ex ante sector-specific as well as ex post antitrust purposes, the cost yardstick bridges the two systems without contradictions.

As described in chapter 4.3.2.1, the concept of long-run incremental cost refers to the total amount of product-specific costs that will be incurred in the long run as a result of producing the product or service in question. Another way of approaching the concept is to think of it as the variable and fixed costs that could have been avoided if the firm had not produced the item in the long run. The latter description regards the yardstick as a long-run avoidable cost benchmark. The key difference between avoidable cost and long-run incremental cost is that the former usually only considers those costs that could have been avoided during the alleged abuse whereas the latter considers the costs that were incurred before the alleged abuse, e.g. sunk costs. That is, because the long-run incremental cost contains the product-specific fixed costs that are causally related to the specific product, the benchmark includes the sunk costs that are necessary for the production. This implies that using...
the long-run incremental cost benchmark extends the scope of Article 102 TFEU for the sake of making the provision an effective legal tool to combat exclusionary pricing behaviours adopted by dominant firms.

As described in chapter 6.4.3, bottleneck incumbent firms in the EU telecom industry may be subject to both ex ante sector-specific rules as well as ex post antitrust rules. The long-run incremental cost benchmark is firmly established in that telecom regulators in the EU use the long-run incremental cost yardstick to calculate and oversee the effects that a vertically-integrated firm’s pricing will have on downstream competition.\textsuperscript{3059} The cost yardstick is likewise confidently rooted in the antitrust community,\textsuperscript{3060} in particular in the Commission’s enforcement of Article 102 TFEU in the telecom industry.\textsuperscript{3061}

It follows that a common objective of the long-run incremental cost benchmark is to allow for both ex ante as well as ex post analysis of the effects on the downstream market.\textsuperscript{3063} The cost yardstick is not intended to be used for the purpose of analysing whether the regulation is profitable or not according to accounting and financial theory and insights.\textsuperscript{3064}

Having recognised the prime objective of the yardstick, it was nonetheless argued in chapter 6.4.7 that a legal crux that may follow from being subject to ex ante and ex post supervisions is that the legal systems can be implemented in a manner that makes them contradict each other. Based on the analysis


above, the use of the long-run incremental cost benchmark is a way to bridge the systems so they essentially achieve the same result. That is, by serving as the same base for assessing the effects on the retail market, both systems should reach the same conclusion. Accordingly, the use of the same cost yardstick promotes predictability during the enforcement of Article 102 TFEU. Indeed, although a prime objective of antitrust law is to promote economic efficiency, it must be interpreted and applied in a manner that adheres to the rule of law.3065

The above implies that the long-run incremental cost benchmark is a legal concept to avoid contradictions in the legal system. The requirement that the law must lack contradictions means, in this context, that the same basis or standard should be used to qualify a dominant firm’s commercial behaviours in the telecom industry. The cost benchmark makes it possible to bridge the systems in a systematic and coherent manner by allowing the dominant firm to assess and predict the lawfulness of its own commercial conduct ex ante.

6.5.3.2 The Relevant Long-Run Incremental Cost Methodology

The long-run incremental cost is a forward-looking cost benchmark which is based on an estimate of the long-run costs that are linked to a defined increment of output.3066 The aim is to identify the relevant forward-looking variable and fixed costs of efficient production of units for a particular service.3067 The justification for using the forward-looking long-run incremental cost is that it contains an adequate portion of the fixed costs,3068 which is necessary to ensure that market entry is both efficient and profitable.3069

The use of long-run incremental cost was initially intended to provide a better cost-based methodology to calculate network costs. The predominant approach until the late 1990s was to use the fully allocated cost (FAC) method.3070 The fully allocated cost method is based on the allocation of total

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historical costs of a current network to all services.\textsuperscript{3071} This means that common and joint fixed costs will be fully distributed using the method.\textsuperscript{3072} The fully allocated cost method does however lead to inefficient use of network infrastructure, which tends to discourage efficient entry.\textsuperscript{3073} If the network is under-utilised, the size of the fixed cost base increases because there are fewer users and as a result, the price surges, leading to even fewer users.\textsuperscript{3074}

However, when calculating the long-run incremental cost there are two alternative cost methodologies.\textsuperscript{3075} First, the bottom-up cost methodology.\textsuperscript{3076} The bottom-up cost methodology is an engineering model that calculates the relevant costs by constructing an optimally designed telecom network by using forward-looking technologies,\textsuperscript{3077} which are believed to be available in the near future,\textsuperscript{3078} e.g. the modern equivalent asset (MEA).\textsuperscript{3079} The long-run incremental bottom-up cost methodology was used in Slovak Telekom.\textsuperscript{3080} As described in chapter 6.4.6.2.2, a particular issue that occurred in Slovak Telekom was about the felicitous use of the dominant undertaking’s costs. Slovak Telekom had been asked by the Commission to provide a calculation of its long-run average incremental costs.\textsuperscript{3081} Slovak Telekom did not have such a calculation because it had based its pricing decisions on the top-down cost methodology, which included some common cost, so-called UCN (účelové členenie nákladov).\textsuperscript{3082} Slovak Telekom nevertheless provided a recalculation of its service-specific costs by using the long-run incremental cost methodol-

\textsuperscript{3072} K. Fjell and Ø. Foros, \textit{Access Regulation and Strategic Transfer Pricing}, 19 Management Accounting Research 18, 2008, p. 27.  
\textsuperscript{3078} K. Fjell and Ø. Foros, \textit{Access Regulation and Strategic Transfer Pricing}, 19 Management Accounting Research 18, 2008, p. 27.  
\textsuperscript{3081} See, Commission Decision AT.39513 – Slovak Telekom, 2014.  
\textsuperscript{3082} See, Commission Decision AT.39513 – Slovak Telekom, 2014, recitals. 864 and 875.
However, in so doing, Slovak Telekom had based its long-run incremental cost calculation on the “optimum” telecom network by replacing its existing network infrastructure assets with their more modern equivalent assets. The Commission spurned Slovak Telekom’s calculation of its long-run incremental cost, which was upheld by the EU courts on appeal.

This implies two things. First, where the dominant undertaking has not used the long-run incremental cost, it will be necessary to reconstruct de novo its relevant costs to ascertain a reasonable proxy or estimate for the as efficient competitor. This was essentially the same issue before the Market Court. Second, the bottom-up long-run incremental cost methodology is to be rejected as it provides an unreasonable estimate of the dominant firm’s long-run incremental costs. The methodology allows the dominant firm to project its long-run incremental costs based on investments it has not committed to.

The second approach is the top-down cost methodology. This cost methodology utilises the dominant firm’s existing network infrastructure costs and allocates them to specific products and/or services. Basing the forward-looking long-run incremental cost on the top-down methodology usually means that the benchmark is consistently above the short-run cost threshold since it contains an adequate potion of fixed costs, e.g. common and/or joint costs as well as a sufficient markup to cover the fixed network investment cost. The markup is usually included in the access or wholesale price as a part of the fixed cost component. The terms access and wholesale price will be used interchangeably from now on.

This implies that an aim of the top-down forward-looking long-run incremental cost methodology is to allow for the dominant firm’s (potentially) full

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cost recovery on a product-by-product basis. The notion is that an incumbent firm should set a fixed markup that contributes to cost recovery of the associated network investment. On the one hand, omitting the markup will lower the retail price, which yields a higher static efficiency. On the other hand, adding the markup will lead to a higher profitability of investment and consequently a higher incentive to invest. The argument is that a long-run incremental cost that does not allow the incumbent firm cost recovery is likely to lead to poor performance in dynamic efficiency since it discourages investments.

Based on the above, two statements can be made. First, where the dominant firm has not used the long-run incremental cost in its decision-making, it will be necessary to reconstruct de novo the firm’s relevant costs to ascertain a reasonable proxy or estimate for the long-run incremental cost benchmark. Second, it appears that the top-down long-run incremental cost methodology is the relevant approach to calculate the relevant cost benchmark. This is because the top-down cost methodology, unlike the bottom-up, only considers the long-run fixed costs that have been incurred by the firm and therefore is in line with the EU courts’ case law. The cost methodology effectively avoids speculative and unrealistic efficiency arguments reaching the courts and if they do, such arguments will effectively be dismissed by the EU courts.

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3096 "It follows from the [principle of legal certainty, that it is the dominant firm's own costs that should be taken into account when examining whether a pricing practice resulting in a margin squeeze which consists], in essence, in assessing whether a competitor as efficient as the dominant operator is capable of offering the services concerned to final customers otherwise
6.5.3.3 The Relevance of the Wholesale Price
As described above, e.g. chapter 6.4.1.1, an important step of the imputation test is to determine whether the dominant firm’s price practice has the capacity to limit equally efficient competitors’ ability to earn reasonable profits. The Court of Justice pointed out in TeliaSonera that the wholesale price for the relevant intermediary service is a necessary step in the analysis.\(^{3097}\)

In margin squeeze analysis, the wholesale cost is a relevant cost benchmark to determine if the dominant firm’s downstream profit is capable of producing anticompetitive effects. The analysis aims to identify if the dominant firm’s downstream profits are sufficient to cover both its downstream operational as well as its wholesale costs for accessing the network.

The margin can be computed as follows:

- \( \text{Margin} = \text{Wholesale Cost} - (\text{Downstream Price} - \text{Downstream Cost}) \),
- \( \text{Margin} = \text{Downstream Price} - (\text{Downstream Cost} + \text{Wholesale Cost}) \).\(^{3098}\)

The latter approach is closer in line with the long-run incremental cost standard and would be preferable as it limits the possibility of conflicting benchmarks. Regardless of which approach that is used, a margin squeeze occurs where, as a result of its downstream price, the dominant firm’s margin is insufficient to cover the wholesale as well as the downstream operating cost attributable to the service in question.\(^{3099}\)

\(^{3097}\) C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 42.
Indeed, although the access price tends to be perceived as a straightforward exercise, it nevertheless raises a number of antitrust issues. One such issue is what the appropriate scope of the cost benchmark ought to be to identify whether the exclusion of efficient competitors is likely to result in consumer harm. The query may sound trivial at first glance – since the legal benchmark is the as efficient competitor – but the scope of the legal benchmark will set the long-term development of the market. As a result, a first step in the analysis is to identify the relevant concept of economic efficiency.\footnote{The Court of Justice indicated in Post Danmark I that the concept of the as efficient competitor should be interpreted by reference to the long-term effects. See, C-209/10, Post Danmark v Konkurrenserådet, ECLI:EU:C:2012:172, para. 38.}

associated with the service in question, which will elevate the cost of entry but will result in infrastructure competition.

The above shows a trade-off between the simple and complex cost-based access prices. Research demonstrates that a simple cost-based wholesale price achieves a high level of static efficiency, which reduces the retail price, but limits dynamic efficiency. Indeed, even though static and dynamic efficiencies can be viewed as complements, focusing simply on cost-reduction reduces the network firm’s revenue stream, which limits its incentive to invest in quality improvements. This typically results in a free-riding problem that causes significant consumer welfare losses. Krämer and Schnurr argue that a simple cost-based wholesale price promotes inefficient entry that diminishes consumer welfare. This is because, the access price is set too low, which means that rivals’ access charge does not adequately contribute to cost recovery for the infrastructure. The lower wholesale charge increases total welfare, but only results in higher industry profits at the retail level.

The research is clear, everyone recommends the complex cost-based access price. This implies that if Article 102 TFEU seeks to protect consumer welfare, the complex cost-based access price is the relevant benchmark. On the other hand, if the provision is limited to protect total welfare, the simple cost-based wholesale price is the relevant yardstick.

6.5.3.4 The Wholesale Price as a Potential Source of Conflict

As alluded to earlier, the wholesale price may raise a number of antitrust issues. Another potential issue that the antitrust enforcer may stumble upon, is the fact that access price is subject to regulatory measures. This usually means

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that the antitrust buster applies the long-run incremental cost yardstick to promote downstream entry without making an analysis of the access price.\footnote{See, e.g. D. Geradin and R. O’Donoghue, \textit{The Concurrent Application of Competition Law and Regulation: The Case of Margin Squeeze Abuses in the Telecommunication Sector}, 1 Journal of Competition Law & Economics 355, 2005, p. 361.}

Based on the just mentioned, such an interpretation of the downstream long-run incremental cost benchmark runs the risk of making the legal system incoherent as the legal tools, which both aim to combat margin squeeze, would pursue different welfare objectives.

Given the precipice situation, Article 102 TFEU should be applied in a systematically coherent supposition with realisation of an overall aim and not in a manner that contradicts and/or undermines it. The Court of Justice pointed out in TeliaSonera that Article 102 TFEU is part of a system of competition rules that aims to prevent dominant firms from impairing the well-being of the EU by distorting competition in a way that is detrimental to public interest, competitors and consumers.\footnote{C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 21.} Thus, where there is a trade-off between price and innovation, the notion of a margin squeeze in the downstream market ought to cover a price practice that restricts the margins of an as efficient competitor from being able to improve the quality of innovation in the long run.\footnote{C-209/10, Post Danmark v Konkurrencerådet, ECLI:EU:C:2012:172, paras. 22 and 38, and T-851/14, Slovak Telekom v Commission, ECLI:EU:T:2018:929, paras. 256-259.} However, it is vital to identify the relevant situation where the analysis applies. Bouckart and Verboven argue that there are three situations where a margin squeeze can occur in the regulatory regime.\footnote{J. Bouckaert and F. Verboven, \textit{Price Squeezes in a Regulatory Environment}, 26 Journal of Regulatory Economics 321, 2004.}

First, fully regulated. Fully regulated or regulatory squeeze refers to the situation where the regulator has determined both the wholesale and retail prices of the incumbent. The incumbent has no freedom to choose its prices.\footnote{J. Bouckaert and F. Verboven, \textit{Price Squeezes in a Regulatory Environment}, 26 Journal of Regulatory Economics 321, 2004, p. 331.} It would therefore be inappropriate to impose ex post antitrust sanctions.\footnote{J. Bouckaert and F. Verboven, \textit{Price Squeezes in a Regulatory Environment}, 26 Journal of Regulatory Economics 321, 2004, p. 334.} The Court of Justice pointed out in Deutsche Telekom that Article 102 TFEU does not apply where foreclosure is the result of national legislation.\footnote{C-280/08 P, Deutsche Telekom v Commission, ECLI:EU:C:2010:603, paras. 80-82.}

Second, partially regulated. Partially regulated refers to the situation where the regulator has determined the incumbent’s wholesale price, but left it up to the incumbent to choose its retail price.\footnote{J. Bouckaert and F. Verboven, \textit{Price Squeezes in a Regulatory Environment}, 26 Journal of Regulatory Economics 321, 2004, p. 335.} The antitrust enforcer should therefore be able to intervene in the retail market, but should do so with caution.

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because applying the incorrect cost yardstick will result in conflicts.\textsuperscript{3120} This implies the use of the top-down forward-looking long-run incremental cost benchmark. The Commission’s enforcement actions against possible margin squeeze in the telecom sector have all occurred in this regulatory context.\textsuperscript{3121} The Commission highlighted in Deutsche Telekom that Deutsche Telekom was not subject to full but partial regulation, since it could adjust its retail price.\textsuperscript{3122} This finding was upheld by the EU courts.\textsuperscript{3123} However, a bodacious feature of all cases is that the Commission has not made any attempts to assess if the wholesale price level was sufficient to promote entry in the retail market, which would result in the improvement of consumer welfare.\textsuperscript{3124}

Third, unregulated. Unregulated refers to the situation where the incumbent can freely determine both its retail and its access price. The risk of foreclosure becomes imminent in the unregulated situation as the incumbent is free to choose its wholesale price.\textsuperscript{3125} The antitrust buster should therefore be able to fully assess whether the incumbent’s downstream margin is sufficient to cover both the access and retail costs. This would include a full assessment of the incumbent’s wholesale price to ascertain the extra interconnection costs it causes by supplying the network access.\textsuperscript{3126} Cleary, the this was the situation in the TeliaSonera case.

6.5.3.5 Forensic Assessment of the Access Price
Based on the discussion above, since the Commission and the accused incumbent tend to be of very different views, the antitrust question is what cost methodology that should be used to determine the relevant wholesale cost.

As described in chapter 6.5.3.2, an objective of the top-down forward-looking long-run incremental cost methodology is to determine which costs the


It follows that an analysis of the access price is not an end in of itself, it is a necessary mean to an end, which is to determine whether the price practice is capable of resulting in harm to either consumer or total welfare.

To determine whether the access price (or, as will be described soon, the cost of supplying the access), the analysis is to be done in three steps. First, of the relevant transfer price method. Second, of the network supply cost. Third, of the relevant allocation method.

### 6.5.3.5.1 The Relevant Transfer Price Method
The Commission pointed out in Deutsche Telekom that a wholesale price represents the transfer price the retail unit must pay to get access to the network.\footnote{3129}{Commission Decision, COMP/C-1/37.451, 37.578, 37.579 – Deutsche Telekom AG, 2003, recital. 140.} As described in chapter 4.12, the notion of intra-company pricing or cost of transfer refers to the accounting approach to calculate and control so internal trade between units is efficient and achieves overall goal congruence. It was argued that the antitrust value of intra-firm pricing is to forensically determine the relevant costs as this enables cost assignment to the retail unit in terms of cost of access to the network.

on an outside market.\footnote{3131} The market-based transfer price is however based on the notion that the intermediary service – access to the incumbent’s network – can be obtained on an outside market. This is unusual in margin squeeze cases as the legacy network incumbent tends to be the bottleneck provider. As such, the market-based transfer price tends to be unsuitable for antitrust purposes. It was described and argued in chapter 4.12.5.2, that a negotiated transfer price is the intra-company price that has been agreed upon between the selling and buying divisions.\footnote{3132} The negotiated intra-firm price should not be used in margin squeeze investigations. First, the negotiated intra-firm price works best when there is a competing network infrastructure and second, the negotiated intra-firm price may not be objectively identifiable since it is not accessioned with any costs of supplying the access. Lastly, it was described and argued in chapter 4.12.5.3, that analysing intra-company prices for antitrust purposes should be based on the cost-based transfer price concept. A cost-based transfer price is the minimum intra-company price a supplying unit can charge to transfer an item or service to other units.\footnote{3133} The floor or the minimum is determined by how much it costs to produce the item or to provide the service.\footnote{3134} It was argued that the cost-based intra-company price should be based on the full cost-based method. The full cost-based method uses both the variable and an allocated portion of fixed costs (full costs) of production to calculate the floor of the intra-company price.\footnote{3135} The method is predicated on the assumption that the allocated fixed costs include profit markup,\footnote{3136} also called full cost-plus markup or full cost-plus profit.\footnote{3137} The full cost intra-company price method is to be used to calculate the relevant network supply cost, which sets the floor for wholesale price; going below it will not allow the contribution margin to cover the fixed network infrastructure costs. The full cost intra-company price method is of course not without criticism, but it can be applied in an objective and predictable manner.

Recall what was argued in chapter 4.12.6, that the transfer prices are based on standard and not actual costs. The use of forward-looking standard costs is predicated on the notion that they avoid the issue of passing on inefficiency. 3138

6.5.3.5.2 The Network Supply Cost
The network supply cost is the sum of costs of production that will be incurred in supplying the access as well as a sufficient contribution margin covering the fixed network infrastructure cost. The critical step is the latter as it involves an analysis of both the profitability of the investment and cost of depreciation. It was described in chapter 4.8.3 that there are two methods to analyse the profitability of an investment: discounted cash flow and non-discounted methods. As was discussed in chapter 4.8.3.1, the discounted cash flow methods are based on notion that profits are subject to time. To make a sound financial analysis, the value of the future cash flows must be comparable with the value the cash outlay or cost of acquisition had at the time of the decision. That is, the future value must be matched with today’s value. It was argued that the relevant method is net present value (NPV). The objective of the NPV method is to determine if the investment maximises shareholders’ wealth. As long as the NPV is greater than zero, the investment is deemed to be profitable. As was discussed and argued in chapter 4.8.4.2, the minimum rate of return or hurdle rate is the relevant cost benchmark when analysing if the investment is likely to be profitable. The hurdle rate represents the cost of capital that is associated with the investment. As such, it includes the necessary markup payable to the investor for its equity. As stated previously, the full cost intra-company price method contains both the variable and an allocated portion of the fixed costs of production, where the allocated portion is assumed to include a profit markup. 3139 The hurdle rate is a proxy for the profit markup. It was also argued that the capital asset pricing model (CAPM) is the appropriate and relevant method when analysing if the markup is sufficient. The CAPM, unlike the weighted average cost of capital, provides the necessary precision to analyse the relevant rate of return on equity. 3140

It follows that the result of the profitability computation includes the minimum rate of return on equity. The rate of return is the relevant markup.


3140 Note however that this line of reasoning is likely to be supressed if the Commission decides to make significant ex post adjustments like the one in Telefónica. As was argued in chapter 6.4.6.4, the Commission made a de novo assessment of the Telefónica’s DCF analysis.
It was described and argued in chapter 4.8.7, that the antitrust use of depreciation cost is to determine if the dominant firm will cloak the relevant fixed production costs during the period under scrutiny. In that regard it was stressed that depreciation is not a method to value an asset, but in fact it is a cost allocation methodology. It was described in chapter 4.8.7.4.3, that are three main three main depreciation methods: straight-line, declining-balance, and units-of-production. The first two are time-based, whereas the third is predicated on physical use. It was argued in chapter 4.8.7.4.3, that the straight-line method has been accepted as a relevant method by the Commission. The straight-line method allocates equal portions of the asset’s depreciation cost to each accounting period over the asset’s estimated economic life. Indeed, although the method is the simplest of the three, it is nonetheless the most commonly used in business practice. The Commission pointed out in Telefónica that whilst the straight-line depreciation method is common in business practice, but the method may nevertheless offer a misleading result. The Commission emphasised that due to market characteristics there can be valid reasons to defer a larger or smaller amount of depreciation expense to later years than the straight-line method acknowledges. The Commission has

3148 “[Investments] are capitalised so that their recovery is allowed to spread over a period of time using standard accounting techniques, usually through straight-line depreciation. However, while the utilisation of the capacity of the physical assets is low in the first years of the product’s life, straight-line depreciation implies an equal recovery of the initial investment in each year of the specified life and that the cost of capital employed is larger in the initial years than in later years, because the capital employed declines over time as the asset is depreciated. There could sometimes be reasons why it might be reasonable to defer a larger or smaller amount of the cost recovery to later years than allowed for using straight-line depreciation.”
therefore made adjustments and applied the straight-line depreciation method on a month-by-month basis. The issue with the Commission's ex post adjustments is that the dominant firm may have calculated the cost to be depreciated on a year-by-year basis. The key difference is the scope of error. A month-by-month basis gives little scope for error, whereas a year-by-year basis gives a large scope for error. Based on how extremely difficult it is to predict future demand, it is unlikely that a month-by-month basis is the appropriate approach.

It follows that regardless of what depreciation method that is used, all depreciation expenses will include a fixed portion of the minimum rate of return, which is cost of equity. The rate or return is the relevant markup on fixed costs.

### 6.5.3.5.3 Cost Allocation

The last part is to determine the appropriate or adequate portion of common costs that should be included in access cost and/or the retail cost. As was described in chapter 4.3.2.1, a common cost is usually a fixed cost that is not attributable to a specific cost object. The cost yardstick is often disregarded in economic theory since it is included in the incremental cost concept. However, the concept is important in accounting theory as the yardstick is necessary to calculate the profitability of individual products.

The antitrust importance of including common cost is that it is a proxy for the markup and as discussed previously, the markup sets the floor for when the price practice can result in consumer harm.

Before delving into the different cost allocation methods, recall the previous discussion. It was described and argued in chapter 6.5.3.5.2, that by utilising the NPV and CAPM when calculating the profitability of the network

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investment, the result of computation includes the minimum rate of return on equity. The rate of return is the relevant markup. As a consequence, all depreciation expenses will contain a markup and it is the expenses that are to be allocated to the individual products by using the relevant cost allocation method.

Renda argues that the Commission should accept any cost allocation method for common costs provided that the method is reasonable and normally accepted (e.g., used by cost accountants, economists, or regulatory authorities), and is consistently used by the dominant firm itself across its different activities (where applicable). As described in chapter 4.4.4.1, there are two particularly well-established common cost allocation methods in accounting theory: stand-alone cost-allocation, and incremental cost-allocation. The stand-alone cost-allocation method is based on the notion that common costs should be allocated in proportion to the stand-alone activity. The method’s objective is to separate and weigh each cost object and allocate the costs that would have been incurred by each user. The aim is to achieve fairness as each department bears the proportionate share of the total costs, relative to their individual stand-alone costs. As discussed in chapter 4.12.5.3, since the allocated portion is to be included in the full cost-based transfer price method, it will be necessary to determine an appropriate cost allocation base or cost driver for the stand-alone activity based on cause-and-effect. The incremental cost-allocation method is more complex than the stand-alone method. The incremental method is based on a ranking system that ranks the individual cost objects and then allocates the costs to their respective cost object based on their ranking. It was argued in chapter 4.4.4.1, that although the methods are subjective in nature, they can nonetheless provide important insights.

However, as discussed in chapter 6.5.3.4, it is vital identify the possible regulatory context the margin squeeze occurs in. The two most important situations are when the incumbent is partially regulated and where it is unregulated. The latter situation should be unproblematic from the standpoint that a de novo analysis can be made of the wholesale level without interfering with regulatory measures. It is in the partially regulated situation that issues can

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A possible reason for the Commission’s restrictive approach is that it does not view as its task to meddle in the opinion of the regulatory authority. As was described in chapter 6.5.3.4, partially regulated refers to the situation where the regulator has determined the incumbent’s wholesale price, but left it up to the incumbent to choose its retail price. The antitrust enforcer should therefore be able to intervene in the retail market, but should do so with caution because applying the incorrect cost yardstick will result in conflicts. The Commission’s enforcement actions against possible margin squeeze in the telecom sector have all occurred in this regulatory context.

It was observed that the partially regulated situation implies the use of the top-down forward-looking long-run increment cost benchmark, which includes an adequate portion of the common costs as a proxy for the markup to cover the network investment cost. However, the Commission uses another definition, which is firmly established in the antitrust literature. According to this definition, the cost yardstick covers all product-specific variable and fixed costs that are associated with the product or service in question, except any common and/or joint costs. The latter definition omits, as a general rule, any attempts of allocating the common and/or joint costs to a specific activity. The Guidance Paper is more nuanced. The Commission acknowledges that the cost benchmark usually does not include common costs in its

analysis, but recognises that where common costs are significant, the Commission may take them into account when assessing the anticompetitive effects.\footnote{3166}

The reason for the different interpretations is that definition of the long-run incremental cost is open to policy discretion.\footnote{3167} The size of the incremental cost will therefore be determined by the scope of the margin squeeze test and the calculation of the wholesale price. The wider the scope is, the more likely it is that the common costs are to be included.\footnote{3168} On the other hand, the narrower the scope is, e.g. single product, the more likely it is that the common costs will be excluded.\footnote{3169} For a multiproduct firm, the exclusion of common and/or joint costs means that its long-run incremental cost will be lower than its total cost.\footnote{3170} This may not be perceived to raise competitive concerns at a first glance because a lower threshold is to the dominant firm’s advantage. But, as described in chapter 6.5.3.2, the justification for using the forward-looking long-run incremental cost is that it contains an adequate portion of the fixed costs that are associated with the supply of the product,\footnote{3171} which is necessary to ensure that market entry is both efficient and profitable.\footnote{3172}

The Commission, without making any analysis of the wholesale price level, applied a weighted allocation method in Deutsche Telekom.\footnote{3173} The aim was to ascertain if the average retail price covered the average wholesale cost on a service-by-service basis, which was an implicit proxy for allocating the common costs. The weighted allocation method was applied,\footnote{3174} by calculating the average retail price as the allocation base to for the wholesale price.\footnote{3175}

\footnote{3166}{See, Guidance on the Commission’s Enforcement Priorities in Applying Article 82 of the EC Treaty to Abusive Exclusionary Conduct by Dominant Undertakings, OJ C 45, 24.2.2009, p. 7–20, footnote 2.}
\footnote{3168}{R. Goncalves, Cost Orientation and xDSL Services: Retail-Minus vs. LRAIC, 31 Telecommunications Policy 524, 2007, p. 525.}
\footnote{3170}{P. Crocioni, On the Relevant Cost Standard for Price-Cost Test in Abuses of Dominance, 14 Journal of Competition Law & Economics 262, 2018, p. 264.}
\footnote{3172}{To that effect see, G. Niels, H. Jenkins and J. Kavanagh, Economics for Competition Lawyers, 2nd edition, Oxford University Press, 2016, para. 8.42.}
\footnote{3173}{See, Commission Decision, COMP/C-1/37.451, 37.578, 37.579 – Deutsche Telekom AG, 2003.}
\footnote{3174}{See, Commission Decision, COMP/C-1/37.451, 37.578, 37.579 – Deutsche Telekom AG, 2003, recitals. 112-141.}
\footnote{3175}{The Commission calculated the allocation base by first calculating the total retail price and divided it with the number of retail services offered by Deutsche Telekom (e.g. 100 ÷ 10 = 10). The Commission then applied the allocation base by dividing it with the number of total access
The Commission, without making any analysis of the wholesale price level, applied a different approach in Slovak Telekom.\textsuperscript{3176} As discussed in chapter 6.5.3.2, Slovak Telekom had been asked by the Commission to provide a calculation of its long-run average incremental costs,\textsuperscript{3177} since Slovak Telekom had used another cost methodology.\textsuperscript{3178} Slovak Telekom provided a recalculation of its service-specific costs by using the long-run incremental cost methodology. Slovak Telekom argued that its incremental cost should include a necessary portion of its common costs since it was provided and allowed Slovak Telekom a markup on both the retail and wholesale levels.\textsuperscript{3179} The Commission, although it is unclear what allocation method Slovak Telekom had used, accepted the argument in relation to some services.\textsuperscript{3180} The Commission did not however accept Slovak Telekom’s common cost allocation in regards to marketing, other fixed and network costs.\textsuperscript{3181} The Commission applied a “equi-proportionate allocation” method to approximate the as efficient competitor’s incremental costs.\textsuperscript{3182} It is unclear how the Commission actually applied the method in relation to Slovak Telekom’s network and wholesale costs. The equi-proportionate allocation method or the equi-proportionate markup method aims to allocate common and/or joint costs in proportion to the products share of the total long-run incremental cost.\textsuperscript{3183} The method seems to be intended for the postal sector, but has been used in the telecom sector as well.\textsuperscript{3184} The equi-proportionate markup method is based on the notion that the size of the markup is a result of the size of the common cost that is allocated to the particular service.\textsuperscript{3185} To calculate the relevant markup or common cost, the method uses a demand-based cost driver.\textsuperscript{3186} The equi-proportionate markup method and the stand-alone cost-allocation method seems to be based on the same notion and it may very well be that they achieve the same end result. Regardless of which method that is used, it is vital that it is applied in a manner that allows the dominant firm to oversee the legal implications of its own conduct ex ante. The issue that often arises – and it did in Slovak Telekom – is that the method is applied in a backwards-looking manner. As has been

\begin{footnotesize}
3184 Oxera, One Size Fitts All? Cost Allocation in Postal Services, 2005.
3185 Oxera, One Size Fitts All? Cost Allocation in Postal Services, 2005.
3186 Oxera, One Size Fitts All? Cost Allocation in Postal Services, 2005.
\end{footnotesize}
pointed out in previous sections, ex ante demand estimations tend to vary consistently and significantly from the ex post actual demand. However, the choice of the relevant cost driver is likely to fall within the Commission’s margin of discretion and as a consequence, if the dominant firm is unable to persuade the Commission regarding the relevant cost driver, the dominant firm has to prove that the Commission’s choice is unlawful by showing that the Commission has committed a manifest error of assessment. If the relevant cost driver has to be based on either volume or demand, then the applicable driver should be based on ex ante estimations and not on ex post actual results.

6.5.4 Conclusions on the Relevant Cost Benchmark in the Telecom Industry

Based on the Market Court’s ruling, a first remark is that there exists a legal gap in the case law of the Court of Justice. The Market Court’s judicial task was to concretise the legal content of operating on the retail market only at a loss or at artificially reduced levels of profitability by determining what cost benchmark that ought to be used. A second remark is that the long-run incremental cost benchmark is firmly established in the antitrust literature as well as the Commission’s enforcement of Article 102 TFEU in telecom sector. The economic rationale for the cost yardstick is that it includes the fixed investment costs necessary to operate in the telecom industry regardless of whether they are to be considered as sunk costs. The legal rationale for the cost yardstick is to make Article 102 TFEU as effective as possible by expanding its scope. A third remark is that this is not the main legal reason for adopting the yardstick. The core legal justification is that the cost benchmark is used to combat margin squeeze in both ex ante sector-specific regulation as well as ex post antitrust enforcement. As such, the cost benchmark is a way to bridge the systems, so they essentially achieve the same result, making the EU law on margin squeeze systematically coherent. Accordingly, the use of the same cost yardstick promotes predictability of the enforcement of Article 102 TFEU. A fourth remark is that the top-down forward-looking long-run incremental cost methodology is the relevant methodology to calculate the cost yardstick. This is because, the object of the methodology is to allow the incumbent firm to set a fixed markup that contributes to cost recovery of the associated network investment. A fifth remark is that the markup determines

3189 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 33.
if the price practice will restrict static or dynamic efficiency. This is expressed through the calculation of the wholesale price. The wholesale price can be calculated on either a simple or a complex basis. The legal implication of which basis that is used is that it either restricts or expands the scope of Article 102 TFEU. A sixth remark is that there may be situations where antitrust law does not apply. It was concluded that there may be situations where antitrust law is partially applicable because the incumbent’s access price is subject to regulation and where antitrust can be applied in full since there is not regulation in place. A seventh remark is that the Commission points out that access price represents the transfer price that the retail unit must pay to get access to the network. However, even though there are accounting tools to analyse the access price, the Commission has not performed any such analysis. The Commission has instead applied a weighted allocation method and “equi-proportionate allocation” method. An observation in that remark is that the Commission is unlikely to change its approach unless the EU courts intervene and that will, most likely, occur only where the dominant firm can show that the Commission’s approach is unlawful, e.g. due to it infringing on the rule of law. An eighth remark is that the most important thing is to apply the long-run incremental cost benchmark in a manner that makes it possible for dominant undertaking to assess the lawfulness of its own conduct ex ante.

6.6 Summary

The aim of this chapter was to apply the insights from previous chapters to determine the relevant cost benchmarks. The objective was to apply a forensically informed analysis to cost-based exclusionary abuses. For this purpose, the law on predatory pricing and margin squeeze was selected as examples.

The chapter started with a review of predatory pricing. The first step was to analyse the relevant theories of harm. This was necessary to identify the underlying strategic rationale of the conduct and how it can result in competitive harm. The result is that for a predatory conduct occur, the dominant firm must have a realistic possibility to inflict harm on its prey and to recoup its losses from the predatory phase. For the predator to be able to inflict harm on the prey there must be asymmetry between them, e.g. deeper financial pockets or that the predator can manipulate and stop the prey’s sources of finance. As such, the harm stems from the predator’s conduct of hindering the prey’s ability to finance its operations of selling its widgets. Next, the AKZO test was analysed. The test is a legal test which seeks to prohibit a dominant firm from using unfair price practices that have the result of restricting rivals’ ability to make profits. The AKZO test implies that the purpose of the cost yardsticks is to determine if the conduct can result in the financial harm based on objective measurement. However, the case law analysis showed a mixed result. The cost
benchmarks are used to justify a condemnation of intent, but the aim of price competition is to harm rivals.

Next, an analysis of the great bulk cost test was made in connection with its possible exception. The result showed that to the extent the dominant undertaking covers the great bulk cost that are associated with the supply of the widget, the practice is unlikely to result in anticompetitive effects. But, this cost methodology only seems to apply where it cannot be established that the dominant firm had an exclusionary intent. The exception to the test is when the dominant firm is super dominant and implemented a series of practices aiming to marginalise the competitor. This even though the practices cover the dominant firm’s total costs.

Next, a theoretical review of the AKZO test was made. The purpose was to identify whether the variable and fixed costs are appropriate cost benchmarks and the possible structure of analysis to determine predatory pricing. A forensic cost analysis of the AKZO and France Télécom cases was be made. The result showed that the variable cost yardstick is disregarded as a relevant cost measurement, in particular in network industries. These sectors are characterised by their low or zero variable cost in production, but significant levels of fixed cost due to capacity investments. In these situations, the AKZO test is an inadequate legal test to effectively apply Article 102 TFEU. The forensic result of the cost analysis of the AKZO and France Télécom cases showed that the EU courts are willing to allow the Commission significant leeway in qualifying cost yardsticks to fit the AKZO test. The problem is that the legal test will provide legal uncertainty as it will be impossible to predict the outcome of the test.

Next, a forensic case study of the SAS Norway case was made. The purpose was to apply the insights to the airline industry and to determine if the AKZO is a valid legal test. The result showed that the AKZO test, and in particular use of the variable cost benchmark, is almost impossible to apply without committing type I and II errors. The conclusion was that the long-run incremental cost is the appropriate and relevant benchmark to apply in the airline sector. The conclusion was based on the fact that it is the aircrafts that are the core fixed cost component. However, since aircrafts are long-term planning decisions they tend to be classified as sunk fixed cost, which means that the avoidable cost yardstick is more often than not an ineffective benchmark. The long-run incremental cost avoids this problem due to its expansive scope, which therefore includes the critical aircraft costs. It was also concluded that the appropriate and relevant method to use ex post is the cost-based intra-company price method. The method is particularly useful since firms in the airline industry are characterised by divisional organisational structures. This means that each itinerary is its own autonomous responsibility centre. The cost-based intra-company price method is therefore particularly useful because it allows the antitrust analysis to allocate the relevant costs and revenues to ascertain whether the flight is unprofitable.
The chapter then move to margin squeeze. The analysis started by describing what a margin squeeze is in terms of an exclusionary abuse. Next the relevant legal criteria were identified and a discussion about the rationale behind why margin squeeze is an abuse separate from predatory pricing was had. The result showed that the former abuse seeks to prohibit exclusions from two markets at the same time, whereas the latter is aimed at one market.

Then the market characteristics of the telecom sector were outlined. This was a necessary step because although the law on margin squeeze is not limited to the telecom sector, the sector is subject to sector-specific price regulation. Next, an analysis of the theories of harm was made. This was followed by a forensic analysis of the imputation test and the relevant methodology. The results imply that the sector-specific regulation is a source of confusion. This confusion seems to have trickled down to the downstream market, which limits the scope of price strategies that can be used by the dominant undertaking. The limitation asserts that dominant undertakings must make profitability analysis on a product-by-product basis. The issue with such an interpretation is that it will effectively prohibit dominant firms from taking advantage of the possible economies of scale and scope at the downstream market. Such an interpretation makes little sense without an analysis of possible barriers to competition on the downstream market. It is therefore difficult to see how such a broad scope of the special responsibility can foster competition. Nevertheless, the result showed that the Commission will use the long-run average incremental cost yardstick to assess the profitability of the dominant firm’s downstream operations. The EU courts have accepted the long-run average incremental cost as a valid benchmark. The use of long-run average incremental cost yardstick is to determine whether the dominant firm’s pricing can result in anticompetitive effects by forcing an as efficient competitor to sell at a loss. The use of the benchmark, unlike variable cost, is to identify when the practice can result in competitive harm based on objective criteria. The issue is that the cost concept lacks any equivalent yardstick in accounting and finance theory. The long-run average incremental cost yardstick can be a perfect measurement to incorporate the financial outlays that needs to be made in the industry, but it can be difficult to enforce without making sacrifices in terms of legal certainty. As such, it was argued that life-cycle costing and activity-based costing can provide more appropriate cost measurements.

The last step in the methodology and the modulation of the imputation test was the analysis of the relevant investment appraisal methods. The result showed that there are basically two approaches when assessing profitability in margin squeeze cases. The first is the backwards-looking or period-by-period method. The Commission uses the period-by-period method consistently when analysing profits. The method excluded costs and revenues that fall outside of the relevant period, i.e. the method does not allow any cost recovery after the period. The method does not allow for any evaluation of the risk involved. As such, the rational investor would almost always choose the capital market. It was therefore argued that the Commission does not de facto conduct
a profitability analysis. The issue with the method is that it can result in type I errors, in particular when applied in dynamic markets such as the telecom industry. The second approach is the forward-looking or multi-period method. The approach aims to assess the profitability over the asset’s entire economic lifetime. The problem, according to the Commission, is that method cannot be used to identify if a positive margin is the result of earlier exclusionary behaviour. Indeed, albeit that the method cannot identify exclusions, that is not the purpose of the method. The objective is to determine if an investment has potential to provide shareholder value, not how the investment should be used to provide value. Nevertheless, the Commission used the period-by-period and the DCF method in Telefónica. The Commission made several adjustments to the DCF, which effectively resulted in an assessment that was never based on the DCF. The Commission applied a multi-period approach in Slovak Telekom, but the Commission never applied a DCF analysis. The purpose of the multi-period analysis was to dilute the periods where Slovak Telekom had positive margins to provide the illusion that Slovak Telekom had traded unprofitable over the entire investigative period.

The chapter ended with a forensic case study of the TeliaSonera case. The aim was to determine the relevant cost benchmark because there exists a legal gap in the case law of the Court of Justice. The case study concluded that the appropriate and relevant cost yardstick is the top-down long-run incremental cost. The rationale and justification for the benchmark is on the one hand its extensiveness, which permits an effective application of Article 102 TFEU while providing ex ante legal certainty. This is because the cost measurement makes the EU law on margin squeeze systematically coherent by linking the sector-specific regulation with the antitrust enforcement. It was also concluded that the appropriate and relevant method to use ex post is the cost-based intra-company price method. The method allows the ex-post analysis to ascertain if the relevant portion of the fixed network costs was to be recovered. It was also concluded that whilst there are several firmly established methods to calculate or allocate the relevant portion of common cost in the accounting literature, the Commission is unlikely to change its stance and adopt a backwards-looking analysis instead.
7 Research Synthesis

7.1 Introduction
This final chapter presents the overarching research synthesis or synthesis of results and answers to the two research questions. The concept of research synthesis has been used in this dissertation to refer to the systematisation of the research conclusions, findings and/or results that further the state of the legal research on exclusionary price abuse.

7.2 Presentation of the Research Synthesis
The aim of this dissertation has been to examine the forensic relationship between profitability and prima facie exclusionary pricing abuse under Article 102 TFEU, in particular what cost benchmarks that should be used when qualifying an allegedly exclusionary price practice ex post.

In so doing, two research questions were posted:

1. What is the legal relevance of cost yardsticks and is variable cost an appropriate competitive benchmark?

2. What methods should be relevant when assessing the profitability and financial health of accused dominant undertakings?

To achieve this aim, the objective was to employ a forensic method that enabled a forensically-informed assessment of the law on exclusionary pricing abuse by applying accounting, economic, and financial theories and insights.

The overarching research synthesis is that the scientific relationship between profits and Article 102 TFEU is to answer the legal query if the price practice can lead to anticompetitive effects and that cost benchmarks, when analysing the price margin, are legal concepts that strike the balance between legal certainty and the effectiveness of the provision. That is, in conventional terms, cost benchmarks are legal concepts that seek to determine when enforcement is unlikely to lead to either type I and type II errors.
7.2.1 The First Research Question and the First Set of Results underpinning the Synthesis

The first set of results underpinning the synthesis and the answer to the first research question is that cost benchmarks set the legal boundaries between competing interests, and that variable cost is inappropriate to identify competitive harm in service-based sectors. The cost benchmarks achieve this balance between competing interests by allowing decision-makers to make sure that the law on exclusionary price abuse does not contain any legal gaps, does not contain any overlaps, and does not contain any contradictions. The notion that the law cannot contain any legal gaps implies that since a price cannot be regarded as unlawful in of itself, there is a line between competition on the merits and anticompetitive foreclosure. Indeed, although the case law of the Court of Justice had determined that the notion of exclusionary price abuse covers prices that can cause injury to an as efficient competitor, the same case law has also determined that the assessment is to be based on price-cost test.

The law on exclusionary pricing is therefore a balance between the scope of competitive harm and legal certainty, but as the law stands the legal separators are the variable cost, and the great bulk of cost test. A first distinction is that the former is fixed as it explicitly states the cost benchmark, whereas the latter is semi-fixed with a defined objective. A second distinction is that the former, as a short-run economic cost, seeks to measure production efficiency, whereas the latter seeks to measure how efficiently services can be provided in the long run, so-called supply chain efficiency or supply efficiency. As a result, a third distinction is that the former is more restricted in scope, which limits the effectiveness of Article 102 TFEU, whereas the latter is broader in scope, which ameliorates the effectiveness of the provision. The issue is however that the latter only applies where the antitrust authority has not been able to establish an exclusionary motive. As the law stands, the general rule is that variable cost is the main cost benchmark.

The answer to the first research question is that variable cost is an inappropriate competitive benchmark. First, as observed above, economic variable cost is a short-run economic cost that seeks to measure production efficiency. The cost benchmark can be effective against exclusionary price practices were competition concerns tangible products. The manufacturing process of tangible goods is characterised by transforming inputs, which are variable in relation to output, into components or finished products. The cost yardstick is however ineffective when price competition concerns intangible products, i.e. services. As observed above, service-based sectors are characterised by high fixed cost and surpassingly low, or even zero, variable cost. As such, it makes no sense to measure production efficiency, since the concern is how efficiently the dominant firm can provide its services (supply chain efficiency or supply efficiency) and that variable cost is inappropriate to identify competitive harm in service-based sectors. The cost benchmarks achieve this balance between competing interests by allowing decision-makers to make sure that the law on exclusionary price abuse does not contain any legal gaps, does not contain any overlaps, and does not contain any contradictions. The notion that the law cannot contain any legal gaps implies that since a price cannot be regarded as unlawful in of itself, there is a line between competition on the merits and anticompetitive foreclosure. Indeed, although the case law of the Court of Justice had determined that the notion of exclusionary price abuse covers prices that can cause injury to an as efficient competitor, the same case law has also determined that the assessment is to be based on price-cost test.

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efficiency). The variable cost is therefore too limited, which makes the effectiveness of Article 102 TFEU too restrictive (type II error). To remedy this, the Commission has applied the variable cost benchmark extensively, but this leads to another (type I error) issue.

The notion that the law cannot contain any overlaps implies interpretative constraints when utilising teleological arguments. A legal overlap occurs, e.g. when a rule is so extensively interpreted so that the rule covers two or more distinct situations. Legal overlaps mean on the one hand that the antitrust provision secures its full effectiveness, but on the other hand the outcome is predetermined. If overlaps were to be permitted, the sanctioned scope of Article 102 TFEU would catch all types of commercial conducts by dominant firms, regardless of what cost measurement that is being used, which would amount to a per se condemnation of dominance. To this day, the legal scope of variable cost is so extensive, so the cost yardstick covers a plethora of situations. The most striking example is the EU courts’ sanctioning of the Commission’s extensive interpretation of variable cost in France Télécom, where the Commission used the variable cost yardstick to also include fixed advertisement cost. On the one hand, the Commission’s extensive use was necessary to avoid under-enforcement (type II error). On the hand other, by accepting the legal overlap in the system, the EU courts made the law on exclusionary abuse incoherent. The legal contradiction, by not quashing the overlap, may result in legal uncertainty as well as the overstepping of the boundary of the rule of law.

The question then becomes, what ought the alternative cost benchmark be that can strike the appropriate balance between the interests.

It is firmly established in the economic literature that the most relevant and modern cost yardsticks are the avoidable and long-run incremental costs. The essential difference between them is in their scope. The avoidable cost yardstick covers fixed costs that could have been avoided during the allegedly abusive practice and therefore does not include sunk cost, whereas the long-run incremental cost benchmark does. Indeed, although the avoidable cost yardstick is an improvement, the yardstick is nonetheless ineffective where the fixed cost was incurred before the alleged abuse, e.g. the airline and telecom sectors. The long-run incremental cost is the appropriate and relevant cost benchmark in service-based sectors since it includes sunk cost and avoids the issue of classifying cost as fixed or variable. Moreover, since the long-run incremental cost yardstick includes all costs that are attributable in the supply of a specific service or group of services, the cost benchmark is equivalent to the great bulk of cost test.

The fact that the long-run incremental cost provides decision-makers with a cost yardstick that makes Article 102 TFEU effective against exclusionary price abuse is a good argument for adopting it. However, there is an even more compelling legal reason, namely that it avoids legal contradictions in certain situations. As stated previously, the third and last criterion in a legal system that contains a complete set of systematically coherent legal norms is that there cannot exist any contradictions in the system. The legal implication is that
although Article 102 TFEU pursues a legitimate aim – protect consumer interest by preventing the dominant firm from restricting competition – the Treaty provision should achieve this by the appropriate means. A legal system is appropriate and effective in archiving its objective if it can be applied without any contradictions between the legal norms in the system. This is the formal requirement of the rule of law, which exercises a constraint on antitrust authorities’ ability to choose their enforcement tools insofar as they are contrary with the other norms or policy choices.

As has been argued, the justification for adopting the long-run incremental cost benchmark in the telecom industry is that it acts as a bridge between the ex ante sector-specific regulation and the ex post enforcement of Article 102 TFEU. Indeed, albeit that these systems apply at different levels of the supply chain, they nonetheless seek to prevent dominant firms from using margin squeezing practices. The cost benchmark acts as a legal device to make the enforcement against margin squeeze both effective and systematically coherent. That is, by using the long-run incremental cost, both systems can ensure their full effectiveness – as the yardstick covers the bulk of the costs that are attributable to the supply of the service – in a consistent and predicable manner.

7.2.2 The Second Research Question and the Second Set of Results underpinning the Synthesis

The second set of results underpinning the synthesis and the answer to the second research question is that the relevant antitrust method is forward-looking. Ever since AKZO, the Court of Justice has systematically pointed out that the relevant legal test when analysing if the dominant firm’s price practice is capable of resulting in anticompetitive effects is the as efficient competitor test. The underlying objective of the test is to provide dominant firms with legal certainty by establishing a safe harbour based on the accused undertaking’s own costs and revenues. However, as the law stands, the analysis is backwards-looking as it is based on the historical actual costs associated with the implemented price practice. The approach is not based on an appropriate balance between the competing interests.

Indeed, although it is predictable ex ante that the antitrust authorities will use actual costs, the approach leapfrogs the critical rule of law requirement that the law on exclusionary price practices must also provide dominant firms with the ability to make lawful decisions. The fundamental characteristic of all commercial decision-making is that the decisions are made under uncertain conditions about the future outcome. This means that what the company forecasted or estimated may for the most part turn out differently. The objective of all managerial accounting and financial tools is to provide an estimate that comes as close as possible to the actual outcome. However, as the law stands,
and the linguistics are abundantly clear, the relevant method is backwards-looking as the actual costs incurred are the ones that should be used.

The legal implication is that the law tacitly assumes that the dominant firm’s decision-making is predicated on actual knowledge with regards to the cost base it will incur in the future. This means that there is a legal overlap between the situations of forecasted costs and actual costs. The legal remedy to this overlap seems to be corrective interpretation or reduction reasoning by applying the Court of Justice’s reasoning in Intel. The Court of Justice pointed out that if the dominant firm submits supporting evidence, the Commission is obligated to do a thorough analysis of whether the dominant firm’s practice is incapable of resulting in anticompetitive foreclosure. The reduction means that a core part of the applicable area of the case law is eliminated and in this case the wording actual costs does not apply to the dominant firm’s ex ante decision as a general rule. The exception where the literal wording would apply in full effect would be where the Commission could prove that forecasting error between actual and forecasted costs is abundantly clear and artificial, e.g. with the aid of statistical techniques. It follows that the relevant period to assess the efficiency is at the time of the implemented decision.

Even if the case law were to be given a more restrictive application, the fact remains that the Commission’s backward-looking period-by-period approach in relation to the forward-looking accounting and financial methods is a poor way of assessing the legality of a dominant undertaking’s profitability. These methods are apples and oranges and the reason for this is two-fold.

First, the period-by-period method ignores the time value of money. The method may therefore under- or overestimate the profitability of long-lived fixed assets. But, what is even more striking is the Commission’s choice to lump together the accused dominant firm’s total fixed expenses and perform a single profitability analysis. That is, instead of performing profitability analysis on a product-by-product basis, the Commission bundles them together. The result may be significantly different because a profitability analysis on equipment with a five-year economic life and a marketing campaign that lasts three months will produce a totally different outcome. There is no coherent relationship between them, but the Commission in Telefónica insisted on analysing them together. The relevant profitability method is the net present value (NPV) as it incorporates the time value of money and can be performed on a product-by-product basis.

Second, to assess the financial health or the sustainability of a price practice, it will be necessary to analyse whether the dominant firm covers the periodical depreciation expenses. The concept measures the cost of recovery or the rate of recovery. Indeed, there is no be-all and end-all depreciation method

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and the Commission has acknowledged that the straight-line method is common in business practice. However, the way the Commission applies the backwards-looking straight-line method leaves little or no room for error. The Commission typically applies the straight-line method on a month-by-month basis, which means that even very small fluctuations in revenues can alter the outcome of the analysis, i.e. whether or not the dominant firm covers the periodical depreciation expense.

7.3 The Relevant Cost Benchmark(s): A Lex Ferenda Reasoning

Based on the overarching research synthesis the question becomes, what ought the relevant cost measurement(s) be. The straightforward answer is the out-of-pocket cost that must be incurred in manufacturing the cost object that is under antitrust scrutiny while the price strategy is in force. Recall that outlay and out-of-pocket costs are used interchangeably.\(^{3192}\) As described in chapter 4.3.3.2, the out-of-pocket cost concept refers to costs that are necessary to incur in order to implement a strategy.\(^{3193}\) The outlay cost portrays a relevant managerial cost yardstick because it is forward-looking, alters between alternatives, and is under management control.

The rationale for suggesting the out-of-pocket cost as the relevant cost benchmark is that it contains all costs that have to be covered in order for a practice to be financially sustainable in the short, middle, and long term. The reason is that the cost benchmark covers both the direct and indirect manufacturing costs that are necessary to produce the product or service in question. The core difference in terms of costs between products and services is that products contain a higher degree of direct costs. As a result, on the one hand, if the cost object is a (tangible) product, the direct costs are direct material and direct labour. Direct material costs, as the name implies, represent those material costs that can be directly and exclusively attributable to the product in question, e.g. paper to print a book. Direct material costs tend to always be a variable. Direct labour costs are those labour costs that can be directly and exclusively interlinked to the product, e.g. the physical labour that is necessary in order to convert raw materials into the finished product. As has been argued throughout, direct labour costs are usually fixed, unless the staff does overtime or extra employees are hired. But, in the case of overtime, it is only the overtime payment that will be treated as variable cost. The indirect manufacturing

\(^{3192}\) It was pointed out in chapter 4.3.3.2 that out-of-pocket and outlay costs are used synonymously throughout the dissertation.

overhead costs are all costs that are necessary for the production of the product in question but cannot be directly and exclusively attributable to the product, e.g. indirect labour costs such as employees maintaining or repairing production equipment or salespersons. On the other hand, if the cost object is a (intangible) service, the direct costs, as the term implies, only consist of direct labour costs. Direct labour costs are those labour costs that can be directly and exclusively interlinked to the service in question, e.g. the direct labour costs of a flight consist of the cabin crew. As implied above and stressed throughout the dissertation, the lack of material costs means that the ratio of direct costs is significantly lower and if there are any direct variable costs, they tend to be insignificant for the purpose of applying the AKZO test.

The indirect costs, manufacturing overhead or factory overhead are more or less the same for products and services in the context of Article 102 TFEU. As described in chapter 4.3.3.2, an indirect cost is a cost that cannot be or is highly cumbersome to trace to the product or service in question. Chapter 4.4 contains a description of well-established accounting methods that can be used to trace and identify the relevant factory overheads to the product or service that is under antitrust investigation. For antitrust purposes, one of the most significant manufacturing overhead consists of the long-run fixed production equipment cost, e.g. machinery, aircraft and telecom network. It was described and argued in chapter 4.8 that a key cost concept in the analysis of indirect manufacturing costs is the depreciation cost. The depreciation cost is the amount of value that should be covered during a period for the equipment to be financially profitable. A core cost concept when analysing the profitability and determining the appropriate level of depreciation cost is cost of equity. Cost of equity represents the minimum rate of return a firm should require in order accept the investment, i.e. the minimum required rate of return that must met for the investment to be profitable.

The strength of using the out-of-pocket cost benchmark is that the legal result will be fairly similar regardless of whether the benchmark is applied in product or service markets. The main reason for this is that complex and cumbersome analysis of whether a specific cost is variable or fixed will, for the most part, be unessential in order to identify foreclosure effects. The only thing that matters is whether the price strategy covers the direct and indirect costs that are associated with the manufacturing of the product or service. The use of the outlay cost benchmark makes detailed and exhaustive analysis of cost behaviours monotonous, since whether or not the direct and indirect costs are variable or fixed does not matter, they must be covered regardless of their cost classification during the time that the price strategy is in force.

However, if the out-of-pocket cost is adopted as the relevant cost benchmark in exclusionary abuse cases, it will be of ample importance that judicial decision makers make it clear which direct and indirect costs that are relevant

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for the assessment of anticompetitive effects. As the law stands, the legal norm on exclusionary abuse is the as efficient competitor.\textsuperscript{3195} This implies that only those outlay costs that are relevant for the production or manufacturing of product or service will be part of assessment. The reason for this it that the teleological scope of the as efficient competitor is limited to the costs that are necessary in the production or manufacturing of the product or service in question.\textsuperscript{3196} The limitation is a heritage from economic theory. As stated above, a core concept in economic theory is productive efficiency, which refers to the maximum level of output a firm can achieve at the most cost-efficient manner as possible.\textsuperscript{3197} This usually mean that how products or services are distributed and soled is not encapsulated by economic efficiency.\textsuperscript{3198} As such, it may be suggested that other accounting costs can be used for practical reasons.

As has been described throughout, there are a plethora of accounting cost concepts that arguably could be used to concretise the meaning and content of the out-of-pocket cost. However, it is of the utmost importance that the judicial decision maker(s) does not use these accounting cost concepts as practical proxies for the out-of-pocket cost without considering their content and purposes. Consider, e.g. manufacturing cost. The manufacturing cost concept could be used as a practical alternative to the out-of-pocket costs that must be covered by the commercial practice. Manufacturing costs cover the direct material, labour, as well as the manufacturing overheads of operating the factory.\textsuperscript{3199} Indeed, although firms need to cover their nonmanufacturing costs, i.e. selling and administrative costs, they are not included in the out-of-pocket cost yardstick for antitrust purposes. The question becomes, why not use the manufacturing cost concept exclusively instead of referring to the outlay cost concept. As was stated in chapter 4.3.3.2, manufacturing and nonmanufactur-


ing costs are of limited managerial use. The prime reason is that manufacturing costs are not for decision making purposes, they are primarily intended to be used for budgeting and financial statement purposes. This implies that the manufacturing cost concept lacks the necessary details in order to ascertain whether the cost object is a product or service, which is problematic because the analysis of exclusionary effects is usually conducted on a product-by-product or service-by-service basis.

7.4 A Forensic Annotation on the Amended Guidance Paper

On 27 March 2023, the Commission announced a package on Article 102 TFEU. The package contains three parts. The first is a call for evidence where the Commission seeks feedback on the adoption of a novel set of Guidelines on exclusionary abuses (a Call for Evidence). The Guidelines aim to mirror the EU courts’ case law and provide greater legal certainty for, inter alia, businesses. A draft of the Guidelines is planned to be published by mid-2024 and adopted in 2025. The Commission will withdraw the Guidance Paper upon the adoption of the Guidelines.

To avoid an administrative vacuum, the second publication is an Amending Guidance Paper from the Commission, containing an Amending Communication, as well as an Annex to the communication (Amended Guidance Paper). The Amended Guidance Paper is still in force from 27 March 2023 until the Guidelines are adopted. The main rationale for the amendments is to align the Commission’s enforcement priorities with the EU courts’ case law whilst taking into account market development. The third is a DG Comp

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Staff Policy Brief (Staff Policy Brief) which seeks to complement the other publications by spelling out the rationale for the package.\textsuperscript{3207}

For the purpose of this dissertation, the forensic commentary of the Amended Guidance Paper will be limited to the modifications that impact the Commission’s enforcement of price-based exclusions.

The Amended Guidance Paper makes it clear from the outset that Article 102 TFEU can be used as a legal tool to achieve broader objectives than the traditional economic concept of consumer welfare may allow.\textsuperscript{3208}

Over the years, the European Union (“EU”) rules on competition have been instrumental in protecting the competitive process within the EU’s internal market. The enforcement of those rules, namely Articles 101 and 102 of the Treaty on the Functioning of the European Union (‘TFEU’), ‘serves Europe well by contributing to a level playing field where markets serve consumers’. It can moreover contribute to achieving objectives that go beyond consumer welfare, such as plurality in a democratic society.

The Amended Guidance Paper cites the General Court’s legal reasoning in Google Android\textsuperscript{3209} as the legal basis for broadening the teleological scope of Article 102 TFEU.\textsuperscript{3210} Clearly, such a teleological broadening changes the effectiveness of Article 102 TFEU. The General Court, by reasoning that Article 102 TFEU was not limited to the traditional economic concept of consumer welfare, determined that Google’s practices were detrimental to the interest of consumers in having more than one source for obtaining information on the internet. Accordingly, in more concrete terms, those practices also restricted the development of search services directed at those segments of consumers that attached particular value to, inter alia, the protection of privacy or specific linguistic features within the EEA. Such interests were not only consistent with competition on the merits, in that they encouraged innovation for the benefit of consumers, but were also necessary in order to ensure plurality in a democratic society.” See, T-604/18, Google and Alphabet v Commission (Google Android), ECLI:EU:T:2022:541, para. 1028.

\textsuperscript{3207} See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/kdak23001enn_competition_policy_brief_1_2023_Article102_0.pdf.

\textsuperscript{3208} See, Amendments to the Communication from the Commission Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, para. 1. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/20230327_amending_communication_art_102_0.pdf.

\textsuperscript{3209} “Google’s abusive practices had the effect, inter alia, of depriving competitors of the possibility of offering, without hindrance, alternatives to the general search service Google Search to those users wishing to use them (recitals 862 and 1213 of the contested decision). Thus, in general terms, those practices were detrimental to the interest of consumers in having more than one source for obtaining information on the internet. Accordingly, in more concrete terms, those practices also restricted the development of search services directed at those segments of consumers that attached particular value to, inter alia, the protection of privacy or specific linguistic features within the EEA. Such interests were not only consistent with competition on the merits, in that they encouraged innovation for the benefit of consumers, but were also necessary in order to ensure plurality in a democratic society.” See, T-604/18, Google and Alphabet v Commission (Google Android), ECLI:EU:T:2022:541, para. 1028.

\textsuperscript{3210} See, Amendments to the Communication from the Commission Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, para. 1. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/20230327_amending_communication_art_102_0.pdf.
102 TFEU can be used to achieve plurality in a democratic society, effectively swapped the underlying premise of the provision. As described in chapter 3.5, Kalintiri argues that premises are propositions that form the basis of a decisional choice, but can be change as knowledge progress. Kalintiri argues further that an important aspect of premises is that they abet the design of legal tests so they are both accurate and efficient. As a consequence, premises affect the administrative actions by, inter alia, developing and establishing policy priorities. That being said, the fact that scientific knowledge evolves does not automatically mean that it can be part of a legal provision. For the change in scientific knowledge to be part of a provision, it should be possible to teleologically infer such a change with the pre-existing systematic law (lex lata or de lege lata), e.g. primary law and/or established case law of the Court of Justice. The point that is trying to be made is that changes to the law in force should not be too abrupt as such quantum leaps can make it impossible to foresee the legal consequence ex ante. As a result, a criticism that could be made is that it is unclear what the legal basis the General Court had to make such a swap that resulted in the teleological broadening of Article 102 TFEU. Even if it is assumed that the legal basis for including the notion of democracy derives from Article 2 TEU, such reasoning does not seem to have any footing in the case law of Court of Justice. It is therefore arduous to appreciate the incremental connection between the General Court’s reasoning in Google Android and the Court of Justice’s reasoning in Post Danmark I and Intel.

Nevertheless, the Commission, in accordance with the effects-based approach, will enforce Article 102 TFEU vigorously and effectively due to market developments and the increasing market concentration in various industries. According to the Staff Policy Brief, the internal market has undergone

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3215 "Such interests were not only consistent with competition on the merits, in that they encouraged innovation for the benefit of consumers, but were also necessary in order to ensure plurality in a democratic society." See, T-604/18, Google and Alphabet v Commission (Google Android), ECLI:EU:T:2022:541, para. 1028.
3216 "Competition on the merits may, by definition, lead to the departure from the market or the marginalisation of competitors that are less efficient and so less attractive to consumers from the point of view of, among other things, price, choice, quality or innovation" See, C-209/10, Post Danmark A/S v Konkurrenserådet, ECLI:EU:C:2012:172, para. 22, and C-413/14 P, Intel v Commission, ECLI:EU:C:2017:632, para. 134.
3217 See, Amendments to the Communication from the Commission Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary
significant changes, in particular in the service and digital markets. These markets can be characterised, in economic and social terms, as fast-moving with strong network effects and “winner-take-all” dynamics. Therefore, it is ever more important that Article 102 TFEU is enforced swiftly and effectively before tipping occurs and entrenched market positions are created.

**Anticompetitive Foreclosure**

Against this backdrop, an important rationale for the Amended Guidance Paper is to provide greater clarity and predictability on how the Commission will enforce Article 102 TFEU against certain exclusionary practices. The first amendment is to the notion of anticompetitive foreclosure. According to the Annex, the new and replaced text reads as follows:

The term ‘anti-competitive foreclosure’ is used to describe a situation where the conduct of the dominant undertaking adversely impacts an effective competitive structure thus allowing the dominant undertaking to negatively influence, to its own advantage and to the detriment of consumers, the various parameters of competition, such as price, production, innovation, variety of quality of goods or services.

The Staff Policy Brief explains that a main rationale for the amended clarification is that the Commission will prioritise its enforcement against exclusionary practices that go beyond just price and profits.

**The Commission’s View on the Legal Norm**

The second amendment concerns the Commission’s view on the correct interpretation of the legal norm, i.e. whether the as efficient competitor has legal authority because it is the legal norm. The Commission points out that it will

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3219 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, para. 5. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/annex_communication_art_102_0.pdf.

3220 See, Amendments to the Communication from the Commission Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, para. 5. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/20230327_amending_communication_art_102_0.pdf.


3222 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, pp. 4-5. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/20230327_amending_communication_art_102_0.pdf.
not only prioritise its activities against exclusionary practices that may foreclose competitors that are as efficient as the dominant firm, but also against conducts that may exclude less efficient competitors in certain circumstances. As a result, para. 23 is replaced with the text that reads as follows:

With a view to preventing anti-competitive foreclosure, the Commission will generally intervene where the conduct concerned has already been or is capable of hampering competition from competitors that are considered to be as efficient as the dominant undertaking.

Whereas the para. 24 is replaced with the following text:

At the same time, the Commission recognises that in certain circumstances a less efficient competitor may also exert a constraint which should be taken into account when considering whether particular price-based conduct leads to anti-competitive foreclosure.

The Staff Policy Brief explains that some markets are underpinned by economic characteristics that cause the enforcement of Article 102 TFEU to lead to type II errors because the as efficient competitor is too restrictive. The Staff Policy Brief points out that in certain digital markets, the Commission should take a dynamic view and intervene so less efficient entrants can get access to the market. The dynamic approach is predicated on the notion that less efficient entrants will become as efficient as the incumbent as long as the Commission ensures the entrants’ expansion or survival in the long run. The Staff Policy Brief justification for the approach is that such intervention

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3226 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, pp. 5-6. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/kdak23001enn_competition_policy_brief_1_2023_Article102_0.pdf.
3227 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, pp. 5-6. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/kdak23001enn_competition_policy_brief_1_2023_Article102_0.pdf.
3228 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, pp. 5-6. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/kdak23001enn_competition_policy_brief_1_2023_Article102_0.pdf.
will allow entrants to become more interesting for the consumers in the future in terms of, inter alia, price, choice, quality and innovation.\textsuperscript{3229}

Regardless of the Staff Policy Brief’s attempt to outline a coherent economic justification for para. 24, it should be observed that the Commission, in amending the text, utilises Post Danmark II\textsuperscript{3230} as the legal basis for concluding that the legal norm also encompasses less efficient competitors.\textsuperscript{3231} That being said, it is argued that the Commission’s legal conclusion is based on a misreading of the judgment. It is true that the judgment explicitly mentions that less efficient competitors will provide a competitive constraint on the practice of the dominant undertaking.\textsuperscript{3232}

[T]he presence of a less efficient competitor might contribute to intensifying the competitive pressure on that market and, therefore, to exerting a constraint on the conduct of the dominant undertaking.

The issue is that the Court of Justice’s reasoning is limited to a generalised description of how market functions. The statement does however not contain any further normative interpretive data, and in particular what happens if less efficient competitors are eliminated or marginalised by the dominant firm’s conduct. That is, a literary or textual interpretation is not sufficient to conclude that the legal norm covers less efficient competitors. As a consequence, in order to determine the teleological content and scope of the legal norm, it is necessary to systematically interpret the Court of Justice’s statement with its surrounding reasoning in the judgment. The Court of Justice, following the general statement, expressly points out that in order for a dominant firm’s practice to be classified as abusive, the impugned conduct must have anticompetitive effects on the market and in particular:\textsuperscript{3233}

[A]n anticompetitive effect which may potentially exclude competitors who are at least as efficient as the dominant undertaking.

This statement is normative as it defines the notion of what an anticompetitive effect is and as a result, sets the scope of the legal norm. That is, only exclusion of an as efficient competitors falls within the scope of Article 102 TFEU.\textsuperscript{3234} Therefore, the significant difference between the arguments – which

\textsuperscript{3229} See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, pp. 5-6. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/kdak23001enn_competition_policy_brief_1_2023_Article102_0.pdf.

\textsuperscript{3230} C-23/14, Post Danmark A/S v Konkurrencerådet, ECLI:EU:C:2015:651, para. 60.


\textsuperscript{3232} C-23/14, Post Danmark A/S v Konkurrencerådet, ECLI:EU:C:2015:651, para. 60.

\textsuperscript{3233} C-23/14, Post Danmark A/S v Konkurrencerådet, ECLI:EU:C:2015:651, para. 66.

\textsuperscript{3234} C-23/14, Post Danmark A/S v Konkurrencerådet, ECLI:EU:C:2015:651, para. 67.
can prima facie appear contradictory – is that the latter has legal authority as a vertically higher norm over the former descriptive argument.

**The Application of the As Efficient Competitor Test**
The penultimate amendment regards the Commission’s opinion on use of the as efficient competitor test. The Commission considers the test as one of several tools that can be used to assess whether a conduct is capable of resulting in exclusionary effects, together with all other relevant circumstances.\(^{3235}\) On that account, the Commission is of the opinion that the test is facultative and that the test may be inappropriate in some circumstances, e.g. the type of the conduct and the relevant market dynamics.\(^{3236}\) The Commission reckons that the use of the test is not necessary to investigate price-based exclusions – as a matter of policy priorities – and if the test is carried out, the result of the test will be assessed in light of all other relevant circumstances.\(^{3237}\) Based on the reasoning, paras. 26 and 27 are amended. The replaced text in para. 26 reads as follows:\(^{3238}\)

> In order to determine whether even a hypothetical competitor as efficient as the dominant undertaking in terms of costs would likely be foreclosed by the conduct in question, the Commission may examine economic data relating to cost and sales prices, and in particular whether the dominant undertaking is engaging in below-cost pricing.

Whereas the para. 27 is replaced with the following text:\(^{3239}\)

> When analysing data to assess whether an equally efficient competitor can compete effectively with the pricing conduct of the dominant undertaking, the Commission will integrate this analysis in the general assessment of anti-competitive foreclosure (see Section B above), taking into account other relevant quantitative and/or qualitative evidence.

The Staff Policy Brief explains that the rationale for applying the as efficient competitor test is to ascertain if a hypothetical competitor that is as effi-

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3236 See, *Annex*, para. 3.
3237 See, *Annex*, para. 3.
cient as the dominant firm, in terms of costs, has the ability to profitably compete with the dominant firm. The Staff Policy Brief rationalises the amendments by arguing first that Guidance Paper did not spell out in which circumstances the Commission would utilise the as efficient competitor test as a matter of priority and second the EU courts have clarified that the test is not a legal requirement to prove that the norm has been infringed. However, at the same time, the Staff Policy Brief recognises the Court of Justice has made it clear that the as efficient competitor test is “warranted” in predatory pricing and margin squeeze cases. The Staff Policy Brief interprets the case law to mean that the test is a reliable way to assess the potential anticompetitive effects where the price is the exclusionary mechanism, rather than the conditions associated to such price. The Staff Policy Brief therefore points out that the test is only one of several tools that can be used to demonstrate that the norm has been infringed by the conduct of the dominant undertaking.

On the notion and utilisation of the as efficient competitor test, the Amended Guidance Paper is remarkable for its lack of transparency. As noted, anacrusis, the Amended Guidance Paper seeks to provide greater clarity and predictability on how the Commission will enforce Article 102 TFEU, and by extension how it will utilise the as efficient competitor test. The EU courts have undeniably perceived that the applicability of test is dependent on, inter alia, the conduct, the market characteristics, as well as all relevant circumstances. As for the conduct, the Court of Justice pointed out in Servizio Elettrico Nazionale, where the practice is characterised as a price-based practice, the Commission is – as a general rule – legally obligated to apply the test. However, where the conduct is considered to be a non-price-based

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3240 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, p. 6. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/kdak23001enn_competition_policy_brief_1_2023_Article102_0.pdf.
3241 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, p. 6.
3242 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, p. 6.
3243 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, p. 6.
3244 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, p. 6.
3245 See, Amendments to the Communication from the Commission Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, para. 5. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/20230327_amending_communication_art_102_0.pdf.
3247 Regarding the first of these two categories of practices, which includes loyalty rebates, low-pricing practices in the form of selective or predatory prices and margin-squeezing practices, it is clear from the case-law that those practices must be assessed, as a general rule, using...
practice, the test is one tool amongst others, only one of several factors, or even optional. In that regard, the Court of Justice pointed out in Unilever that the test may be inappropriate to apply in relation to refusal to supply and where the relevant market is protected by significant barriers to entry, e.g. statutory monopoly. The dominant firm’s submission of the test can be a significant circumstance when qualifying the impugned practice as either a price- or non-price-based practice, which the competent antitrust authority cannot disregard without examining its probative value.

The fundamental issue with the Amended Guidance Paper is its lack of any meaningful guidance on when the Commission will employ the test. Indeed, whilst the Amended Guidance Paper recognises that the Commission “may examine economic data relating to cost and sales prices” in para. 26, which implies the use of the test, it is unclear in which circumstances this applies. Moreover, it is unclear what the Commission’s view is on the notion of significant barriers to entry are as the Amended Guidance Paper simply refers to the relevant market dynamics where the test may not be applied. It would have been welcome if the Commission had spelled out its view in that topic. On the whole, paras. 26 and 27 are a missed opportunity by the Commission to provide greater clarity and predictability.

The Commission’s New Stance on Margin Squeeze

The last amendment regards the Commission’s view on margin squeeze. According to the Amended Guidance Paper the Commission will, as a matter of priority, broaden its enforcement scope against margin squeezing practices. The new stance seeks to expand and also cover margin squeeze cases, which do not necessarily have to involve a product or service that is objectively necessary to be able to compete effectively on the downstream market. Consequently, the Commission will pursue margin squeeze cases in which an integrated undertaking that sells a ‘system’ of complementary products sells one of the complementary products on an unbundled basis to a competitor that

the ‘as-efficient competitor’ test, which seeks specifically to assess whether such a competitor, considered in abstracto, is capable of reproducing the conduct of the undertaking in a dominant position.” See, C-377/20, Servizio Elettrico Nazionale and Others, ECLI:EU:C:2022:379, para. 80.

C-23/14, Post Danmark A/S v Konkurrencerådet, ECLI:EU:C:2015:651, para. 61.


produces the other complementary product. The Commission will use the long-run average incremental cost as the relevant cost benchmark, but will use the costs of non-integrated downstream competitors where it is not possible to clearly allocate the dominant firm's costs to downstream and upstream operations. Based on the reasoning, para. 90 is replaced with the following text:

A dominant undertaking may charge a price for the product on the upstream market which, compared to the price it charges on the downstream market, does not allow even an equally efficient competitor to trade profitably in the downstream market on a lasting basis (a so-called ‘margin squeeze’). In margin squeeze cases the benchmark which the Commission will generally rely on to determine the costs of an equally efficient competitor are the LRAIC of the downstream division of the integrated dominant undertaking.

The Staff Policy Brief explains that the change seeks to reflect the EU courts’ clarification that margin squeeze is a separate form of abuse from refusal to supply. According to the Staff Policy Brief, the amendment aims to reflect the independent nature of margin squeeze.

Indeed, albeit that the Commission wishes to explain its redirected stance on margin squeeze, the fact remains that the Commission has broadened its scope of enforcement. Biro et al argue that analysing a business model that covers a mix of product or service offerings will in fact widen the scope of the imputation test and consequently the properties that are included in the long-run incremental cost benchmark. On this account, as argued in chapter 6.4.6.3, a legal issue that occurred before the General Court in Deutsche Telekom was the correct legal scope of the imputation test. Deutsche Telekom argued before General Court that the Commission had committed an error by not allowing revenues from telephone calls to be included in the relevant end-user revenues. The Commission had rejected Deutsche Telekom’s argu-

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3258 See, Annex, para. 5.
3259 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, p. 8. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/kdak23001enn_competition_policy_brief_1_2023_Article102_0.pdf.
3260 See, DG Comp Staff Policy Brief, A Dynamic and Workable Effects-Based Approach to Article 102 TFEU, p. 8.
ment based on accounting separation being a legal requirement when calculating the wholesale price and that the objective of the margin squeeze test was to compare charges from two particular services at different commercial levels. The General Court pointed out that the telecom sector is characterised by its own sector-specific regulatory framework, which aims to create the conditions for effective competition. The General Court concluded that Deutsche Telekom’s business model was incompatible with Article 102 TFEU on the ground that it would not allow equal opportunities between operators. The General Court’s reasoning implies that the imputation test should be applied in a manner that is consistent with a narrow service-by-service approach. Notwithstanding that fact, it is unclear how the Commission is to assess offerings of complementary products and/or mixed service offerings. In this regard, it would have been welcome if the Commission had spelled out which methodology it intends to use for this purpose.

Another issue is the Commission’s statement that it will analyse whether an as efficient competitor is able to trade profitably on the downstream market on a lasting basis. As pointed out in chapter 6.2.6.1.3, the concept of the relevant period over which the alleged abuse is assessed seeks to establish whether the practice is capable of resulting in anticompetitive effects. Indeed, whilst the concept seems to fall within the Commission’s discretion, it would have been appreciated if the Amended Guidance Paper had made the effort to clarify the Commission’s stance on the term lasting basis.

Lastly, it is true that the costs of the dominant firm’s rivals can be used in certain circumstances. The Court of Justice pointed out in TeliaSonera that where it is not possible to precisely identify the cost structure of the dominant firm for objective reasons, the use of prices and costs of competitors may be warranted. Unfortunately, the Amended Guidance Paper does not provide any further guidance on the issue and even more, it does not clarify what the Commission’s view is on the matter.

3265 “[Equality] of opportunity as between the incumbent operator and owner of the fixed network, such as the applicant, on the one hand, and its competitors, on the other, therefore means that prices for access services must be set at a level which places competitors on an equal footing with the incumbent operator as regards the provision of call services. Equality of opportunity is secured only if the incumbent operator sets its retail prices at a level which enables competitors – presumed to be just as efficient as the incumbent operator – to reflect all the wholesale costs in their retail prices. However, if the incumbent operator does not adhere to that principle, new entrants can only offer access services to their end-users at a loss. They would then be obliged to offset losses incurred in relation to local network access by higher call charges, which would also distort competition in telecommunications markets.” See, T-271/03, Deutsche Telekom v Commission, ECLI:EU:T:2008:101, para. 199.
3267 C-52/09, Konkurrensverket v TeliaSonera, ECLI:EU:C:2011:83, para. 45.
Concluding Remarks

The Amended Guidance Paper is intended to align the Commission’s enforcement priorities with the developments in the case law of the EU courts. The amendments are predicated on the Commission’s effort to further implement the so-called effects-based approach to exclusionary conducts by dominant firms. However, an important rationale for the amendments was to provide greater clarity and predictability on how the Commission will enforce Article 102, and on that point the Amended Guidance Paper falls short. The Amended Guidance Paper is tinted with new concepts such as relevant market dynamics, warranted, and on a lasting basis, but it never takes the time to explain these concepts in a transparent, clear, and predictable manner.

All in all, the Amended Guidance Paper is a missed opportunity for the Commission, in particular since it does not even satisfy one of its own key rationales.

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See, Amendments to the Communication from the Commission Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, para. 5. Available at: https://competition-policy.ec.europa.eu/system/files/2023-03/20230327_amending_communication_art_102_0.pdf.
Konkurrensrätten har alltid varit en väsentlig del av EU-samarbetet. Huvudsyftet med EU:s konkurrensrättslagstiftning är att tillförsäkra att konkurrensen mellan privata företag inte snedvrids på den inre marknaden. Genom att reglera hur privata aktörer får bedriva ekonomisk verksamhet skall konsumenterna kunna sköra nyttan av konkurrensen genom att få lägre priser, bättre kvalitet och ett bredare utbud av nya eller förbättrade varor och tjänster.


Denna doktorsavhandling undersöker det forensiska förhållandet mellan prisstrategier och prima facie utestängande missbruk enligt artikel 102 FEUF. Forskningen syftar till att fastställa relevanta kostnadsmått som kan användas vid den juridiska kvalificeringen av dominantens prisstrategi.

Forskningssynteserna och resultaten speglar rättsläget den 1 februari 2023 och är konstruerade med stöd av den forensiska metoden. Den forensiska metoden har tillämpats genom att systematisera relevanta finansiella begrepp, koncept, teorier och insikter med rättskällorna för att klassificera den ifrågasatta prisstrategin som laglig eller olaglig.

av rörlig kostnad på ett sätt som är så omfattande att kostnadsmåttet i slutändan kommer att gälla på ett överlappande sätt. Den rättsliga överlappningen som följer gör artikel 102 FEUF vidsträckt i den mån att rättsliga motsägelser kommer att uppstå. Forskningen drar slutsatsen att inkoherensen är resultatet av att man använder fel måttstock för att klassificera kostnaden under granskning.

Bibliography

Literature


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R. J. Heuer, Jr., *Psychology of Intelligence Analysis*, *Centre for the Study of Intelligence, Central Intelligence Agency*, Washington, D.C.


J. Laitenberger, Accuracy and Administrability Go Hand in Hand, CRA Conference 2017.


M. Marinova, *What Can We Learn About the Application of the as Efficient Competitor Test in Fidelity Rebate Cases from the Recent US Case Law?*, 41 World Competition 523, 2018.


A. Onwuegbuzie and A. Tashakkori, *Utilizing Miex Research and Evolutionary Methodology in Peace Psychology and Beyond*, in D. Bretherton and S.


E. A. Valdivia, *The Scope of the ‘Special Responsibility’ upon Vertically Integrated Dominant Firms after the Google Shopping Case: It There a Duty to
Treat Rivals Equally and Refrain from Favouring Own Related Business?, 41 World Competition 43, 2018.


T. Van der Vijver, Benighted We Stand: Justifications of Prima Facie Dominance Abuses in EU Member States, 9 European Competition Journal 465, 2013.

T. Van der Vijver, Objective Justification and Article 102 TFEU, 35 World Competition 55, 2012.


Other Sources and Materials

Competition and Market Authority (UK Competition Commission)

P. Freeman, *The Significance of Economic Evidence in Competition Cases*, 2009.

Suggested Best Practice for Submissions of Technical Economic Analysis from Parties to the Competition Commission.

Deloitte

Deloitte, Costing Methodology for Next Generation Network

Harvard Business School


International Air Transport Association (IATA)


International Civil Aviation Organization (ICAO)

Outlook for Air Transport to Year 2025.

International Competition Network


OECD

Barriers to Entry, 2005.

Competition Enforcement and Regulatory Alternatives, 2021.

Competition on the Merits, 2005.
Economic Evidence in Merger Analysis 2011.

Margin Squeeze, 2009.


Promoting Competition in Postal Services, 1999.


Safe Harbours and Legal Presumptions in Competition Law, 2017.

**Swedish Competition Authority**


**Unclassified**

Journal of Mixed Methods Research.

PriceWaterHouseCoopers, Guide to Key Performance Indicators: Communicating the Measures that Matters.


Tukey (1986).