

Quantifying (ine)quality

Job quality over half a century in Sweden and Europe

Edvin Syk



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Academic dissertation for the Degree of Doctor of Philosophy in Sociology at Stockholm University to be publicly defended on Friday 4 April 2025 at 10.00 in hörsal 5, hus B, Universitetsvägen 10 B.

Abstract

Job quality, or working conditions related to individual well-being, plays a crucial role in shaping various social outcomes, including individuals' life chances, organizational effectiveness, and the overall functioning of society. Despite its importance, our understanding of how its levels and inequalities have developed over time remains limited. In this dissertation, I examine the long-term development of various dimensions of job quality in the context of secular labor market trends such as skill upgrading and service sector expansion. The aim is to describe how job quality has evolved, how its levels have changed, and how it is distributed across gender, class, cohort, and educational levels. The first two studies use longitudinal data from Sweden, The Level of Living Survey, while the final study uses the European Working Conditions Survey.

Study I considers how job quality—measured using job complexity, physical work environment, negative stress, and flexibility—has developed in Sweden between 1968 and 2010. The results indicate that job quality has improved across all dimensions except for negative stress, which has consistently increased for both genders. Overall, job quality has risen, and general inequality has decreased. The gender gap observed in earlier years had vanished by 2010. Most of the increase in job quality for women can be explained by changes in the job distribution (having different jobs) over time, while the opposite is true for men.

Study II introduces career trajectories of job quality using the same measures as Study I. The job quality trajectories are compared with wage and prestige trajectories to assess their difference. Results show that, each successive cohort improved their average job quality for the full career. A large and persistent educational gap in job quality remained throughout the career, and career mobility made inequalities for men larger. A small gender gap in quality emerged over the career. Disparities in job quality have far-reaching consequences for well-being throughout the working life but have not grown over time. The evolution has been positive, with rising average levels, without a corresponding rise in inequality.

Study III examines the development of four job quality dimensions—physical work environment, autonomy, work intensity, and work time quality—across eight occupational classes in 15 European countries from 1995 to 2015. Using data from the European Working Conditions Survey, the study assesses how these dimensions have changed over time and how their variation is structured both within and between occupational classes and countries, compared to income. The analysis reveals class gradients in physical environment and autonomy, while showing minimal variation by year and country. Regional patterns of inequality emerge clearly, with Nordic countries and the Netherlands demonstrating lower between-class and within-class inequality compared to Southern European nations. Lower-skilled occupational classes consistently exhibit greater variation in working conditions across all dimensions, highlighting the importance of class for understanding job quality inequality. The findings demonstrate that class is more important than country and over-time changes for understanding inequality in job quality. I also emphasize, however, that we need to broaden our explanations beyond these factors to better understand the full scope of inequality in working conditions.

Keywords: *Job quality, Working Conditions, Social stratification, Inequality, Gender, Class, Swedish Level of Living Survey (LNU).*

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Cover painting: Working people

Painted for this dissertation by Frida Jensen. Thank you!

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To the workers of the world

It once came into my head that if it were desired to reduce a man to nothing—to punish him atrociously, to crush him in such a manner that the most hardened murderer would tremble before such punishment, and take fright beforehand—it would only be necessary to give to his work a character of complete uselessness, even to absurdity.

- Fyodor Dostoevsky (1862), *The House of the Dead*.

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List of studies

Study	Title
Study I	Development of job quality in Sweden 1968-2010 <i>Published in Research in Social Stratification and Mobility (2022)</i>
Study II	Career development in Job Quality: An intergenerational study of Sweden from 1968 to 2020 <i>In review (2024)</i>
Study III	Class inequality in non-monetary job quality: 20 years of evidence from Europe Submitted paper (2025)

Abstract of the dissertation

Job quality, or working conditions related to individual well-being, plays a crucial role in shaping various social outcomes, including individuals' life chances, organizational effectiveness, and the overall functioning of society. Despite its importance, our understanding of how its levels and inequalities have developed over time remains limited. In this dissertation, I examine the long-term development of various dimensions of job quality in the context of secular labor market trends such as skill upgrading and service sector expansion. The aim is to describe how job quality has evolved, how its levels have changed, and how it is distributed across gender, class, cohort, and educational levels. The first two studies use longitudinal data from Sweden, The Level of Living Survey, while the final study uses the European Working Conditions Survey.

Study I considers how job quality—measured using job complexity, physical work environment, negative stress, and flexibility—has developed in Sweden between 1968 and 2010. The results indicate that job quality has improved across all dimensions except for negative stress, which has consistently increased for both genders. Overall, job quality has risen, and general inequality has decreased. The gender gap observed in earlier years had vanished by 2010. Most of the increase in job quality for women can be explained by changes in the job distribution (having different jobs) over time, while the opposite is true for men.

Study II introduces career trajectories of job quality using the same measures as Study I. The job quality trajectories are compared with wage and prestige trajectories to assess their difference. Results show that, each successive cohort improved their average job quality for the full career. A large and persistent educational gap in job quality remained throughout the career, and career mobility made inequalities for men larger. A small gender gap in quality emerged over the career. Disparities in job quality have far-reaching consequences for well-being throughout the working life but have not grown over time. The evolution has been positive, with rising average levels, without a corresponding rise in inequality.

Study III examines the development of four job quality dimensions—physical work environment, autonomy, work intensity, and work time quality—across eight occupational classes in 15 European countries from 1995 to 2015. Using data from the European Working Conditions Survey, the study assesses how these dimensions have changed over time and how their variation is structured both within and between occupational classes and countries, compared to income. The analysis reveals class gradients in physical environment and autonomy, while showing minimal variation by year and country. Regional patterns of inequality emerge clearly, with Nordic countries and the Netherlands demonstrating lower between-class and within-class inequality compared to Southern European nations. Lower-skilled occupational classes consistently exhibit greater variation in working conditions across all dimensions, highlighting the importance of class for understanding job quality inequality. The findings demonstrate that class is more important than country and over-time changes for understanding inequality in job quality. I also emphasize, however, that we need to broaden our explanations beyond these factors to better understand the full scope of inequality in working conditions.

Sammanfattning

Arbetskvalitet, eller arbetsförhållanden kopplade till individens välbefinnande, spelar en avgörande roll i utformningen av olika sociala utfall, inklusive individers livschanser, organisatorisk effektivitet och samhällets övergripande funktion. Trots dess betydelse har vi begränsad förståelse av hur jobbkvalitetens nivå och ojämlikhet utvecklats över tid.

I denna avhandling undersöker jag den långsiktiga utvecklingen av olika dimensioner av arbetskvalitet mot bakgrund av varaktiga trender på arbetsmarknaden, såsom kompetensuppgradering och tjänstesektorns expansion. Syftet är att beskriva hur arbetskvalitet har förändrats, hur dess nivåer har utvecklats och hur den är fördelad efter kön, klass, kohort och utbildningsnivå. De två första studierna använder longitudinella data från Sverige, Levnadsnivåundersökningen, medan den sista studien bygger på European Working Conditions Survey.

Studie I undersöker hur arbetskvalitet – mätt genom arbetskomplexitet, fysisk arbetsmiljö, negativ stress och flexibilitet – har utvecklats i Sverige mellan åren 1968 och 2010. Resultaten visar att arbetskvaliteten har förbättrats inom samtliga dimensioner utom negativ stress, som har ökat kontinuerligt för båda könen. Överlag har arbetskvaliteten stigit, och den allmänna ojämlikheten har minskat. Den könsskillnad som observerades under studiens tidigare år var försvunnen 2010. Merparten av ökningen i arbetskvalitet för kvinnor kan förklaras av förändringar i jobbfördelningen (de har andra typer av jobb) över tid, medan motsatsen gäller för män.

Studie II introducerar mått på karriärbanor för arbetskvalitet, baserat på samma index som i Studie I. Dessa karriärbanor jämförs med inkomst- och prestigebanor för att bedöma skillnaderna dem emellan. Resultaten visar att varje successiv kohort har förbättrat sin genomsnittliga arbetskvalitet under hela arbetslivet. Ett stort och bestående utbildningsgap i arbetskvalitet kvarstod genom hela karriären, och karriärörklighet förstärkte ojämlikheter för män. Ett mindre könsgap i arbetskvalitet uppstod under yrkeslivet. Skillnader i arbetskvalitet har långtgående konsekvenser för välbefinnande genom hela arbetslivet, men har inte ökat över tid. Utvecklingen har varit positiv, med stigande genomsnittliga nivåer, utan en motsvarande ökning i ojämlikhet.

Studie III undersöker utvecklingen av fyra dimensioner av arbetskvalitet—fysisk arbetsmiljö, autonomi, arbetsintensitet och arbetstidskvalitet—över åtta yrkesklasser i 15 europeiska länder från 1995 till 2015. Genom att använda data från European Working Conditions Survey bedömer studien hur dessa dimensioner har förändrats över tid och hur deras variation är strukturerad både inom och mellan yrkesklasser och länder, jämfört med inkomst. Analysen visar tydliga klasskillnader i fysisk arbetsmiljö och autonomi, medan variationen över år och mellan länder är minimal. Regionala ojämlikhetsmönster framträder tydligt, där de nordiska länderna och Nederländerna uppvisar lägre ojämlikhet både mellan och inom klasser jämfört med sydeuropeiska länder. Lägre kvalificerade yrkesklasser uppvisar konsekvent större variation i arbetsförhållanden i alla dimensioner, vilket understryker betydelsen av klass för att förstå ojämlikhet i arbetskvalitet. Resultaten visar att klass är viktigare än land och förändringar över tid för att förstå ojämlikhet i arbetskvalitet. Men vi behöver bredda våra förklaringar bortom dessa för att bättre förstå hela omfattningen av ojämlikhet i arbetsförhållanden.

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Stockholm, Mars 2025

1 Introduction

1.1 Overview

Work occupies a central role in our society; we spend much of our time working, and the tasks, conditions, and responsibilities shape our lives and bear on well-being, health, and life opportunities. While we have devoted much time to understanding how jobs shape material conditions and inequality, other—more difficult to measure—aspects of work, essential for well-being, have been neglected. The notion of job quality seeks to address this gap by considering how various work dimensions impact individual well-being.

During the past century, society has transitioned from an agricultural economy through industrialization to our post-industrial era. This shift has fundamentally changed the nature of production from goods to services. Knowledge and skills have become increasingly valued resources as the job structure shifted toward higher-skill requirements and increased service orientation (Handel 2020; Schettkat 2007). What do such fundamental changes entail for the nature and quality of work; what implications do they have for workers' well-being, and society more generally?

Whether and how job quality has changed remains contested. While improved physical conditions and a declining share of industrial employment suggest progress, others cite deterioration within an expanding service sector characterized by resource constraints, heightened pressure, and increasing stress. Have jobs become more intellectually stimulating and conducive to self-realization, or has intensification diminished opportunities for meaningful work? Claims about changing job quality and its implications for well-being abound, yet research addressing these questions over the long-term remains narrow and limited.

The favorable conditions during the “golden age” of Western labor markets (from the post-war era to the 1970s) led many to the premise that working conditions would improve. Intertwined with technological development, workers would raise their skills and get higher autonomy; increasing skill demands would lead to higher worker power. As economic conditions grew volatile during the 1970s, the optimism of earlier decades faded.

Every decade since, debates have emerged about the evolution of working conditions, typically focusing on new threats to workers or job stability; these are often empirically contested issues but achieve a sense of truth as time passes. An early influential theory posited that work tasks would become increasingly fragmented—like an assembly line—reduced to narrow tasks requiring minimal skill; workers would suffer, and their skills would decline (Braverman 1974). Another view suggested that labor markets would bifurcate into a secure core with favorable conditions and a precarious periphery with bad conditions and opportunities (Berger and Piore 1980). Technological advancement would increasingly favor higher education, increasing inequality (Goldin and Katz 2009), and many middle-skill jobs were hypothesized to get automated and disappear, leading to greater distance or polarization between low and high-skill jobs (Autor, Levy, and Murnane 2003). General working conditions would follow this pattern; there would be increasing inequality in conditions, and they would become increasingly polarized among individuals with

different types of employment (Kalleberg 2013). Systemic shifts toward more flexible and insecure work would proliferate to more sectors and larger parts of the labor market, crossing educational boundaries, and making everyone more insecure (Standing 2016). Computerization and artificial intelligence meanwhile threatened jobs, with one estimate putting 47% of the jobs in the United States on the chopping block (Frey and Osborne 2017).

The scholarly debate on work-life transformation has predominantly focused on labor market fragmentation and growing inequality. While increasing inequality is well documented for income (Piketty [2013] 2017), evidence regarding non-monetary working conditions remains scattered and less definitive. The point of departure for this thesis is that a deeper understanding of these non-monetary dimensions is essential to assess contemporary labor market development.

1.2 Aim and contribution

This dissertation examines long-term trends in job quality through three studies. In the first study, I examine the distribution of four job quality dimensions—job complexity, physical environment, flexibility, and negative stress—across genders in Sweden from 1968 to 2010. The study provides a uniquely long perspective on job quality and explores how changes in the dimensions relate to both within-job (e.g., improvements in tasks) and between-job (occupational distribution) change.

In the second study, I used the same data and measures extended to 2020 to explore career mobility in job quality. I investigate how different cohorts' career trajectories evolved and how these career patterns vary by gender and educational level. By integrating job quality into the broader intragenerational mobility literature, this research contributes to a better understanding of how job quality develops over a career. Viewing the job quality as a sequence of positions improves our measurements by using more data and allowing analysis of how career dynamics can shape the trajectories of working conditions for different groups.

The final paper broadens the analysis beyond Sweden, providing a cross-national comparison of multiple dimensions of job quality—physical environment, autonomy, work time quality, and work intensity—across 15 European countries from 1995 to 2015. The paper is focused on occupational class, and beyond considering the average development and variation of each dimension for the classes, I focus on changes in the inequality structure of job quality between classes in different countries. The paper additionally contributes by considering how change over time, country, and class explain levels and inequality in job quality and how these explanations relate to each other.

The dissertation aims to enhance our understanding of job quality as a theoretical concept while making several empirical contributions. I emphasize that we need to move beyond earnings to understand worker well-being. Incorporating objective work characteristics such as job complexity, autonomy, social relatedness, physical environment, and flexibility gives us a better understanding of how jobs relate to worker well-being, which has implications for individuals, companies, governments, and societies in general. To increase the usefulness of the job quality concept, we need to theoretically distinguish between job-specific attributes (position) and individual worker traits. Building on classical sociological stratification literature, the division allows us to better capture the quality of jobs without introducing individual variation to our job-focused measure.

2 Perspectives on job quality

2.1 Definition

A strength and weakness of the job quality tradition is its scope. It is beneficial that many disciplines have taken an interest in it, but the resulting diversity has left us with considerable conceptual confusion that we now have to address (Burchell et al. 2014). Sociology has generally focused on skills and autonomy, psychology on job satisfaction, and economics on earnings (Findlay, Kalleberg, and Warhurst 2013). The argument for focusing on earnings in economics is that it is a good proxy for other desirable conditions or that wage is a good indicator of job quality because of compensating differentials. The theory argues that all job characteristics are determined together; bad conditions are compensated by high wages and vice versa (Muñoz de Bustillo et al. 2011; Rosen 1986). Thus, the meaning of job quality differs depending on the context, as it may refer to a wide range of factors, captured well by the following quote:

Job quality is a multidimensional and elusive concept. It is multidimensional because it refers to many different attributes of jobs, all of which have an impact on the well-being of workers. It is elusive, too, because it is one of those concepts used in the social sciences (such as quality-of-life or happiness) which everyone understands yet is very difficult to define precisely (Muñoz de Bustillo et al. 2011:450).

The broad scope – the many conditions potentially relating to well-being – has made it challenging to reach a consensus on defining and measuring job quality. Significant theoretical, definitional, and methodological differences exist over time (Burchell et al. 2014). What brings these traditions together is the understanding that work is a key determinant of people’s physical and mental well-being. We can trace the concept of job quality back to the 1960s and 1970s; the original motivation was to go beyond standard macroeconomic indicators of economic functioning, like unemployment and GDP, which were seen as insufficient to understand the “quality of working life.”

In the later 1970s, researchers focused on individuals’ evaluations of their jobs through job satisfaction and other subjective assessments (Staines and Quinn 1979). Critics soon argued that this approach was too subjective and that more objective measures for work content were needed; researchers then had to work out specific dimensions of jobs that were important for well-being (Warr 1987). These two research streams formed the foundation for later studies in job quality research.

The paradigms are often called objective and subjective based on their differing focus. However, this terminology is somewhat misleading, as it does not clearly convey the distinction between the two approaches. Both perspectives share a central tenet: the relationship between the job and worker well-being. The objective tradition, more aptly called *descriptive*, departs from the job position. We start with a theory of human needs essential for individual well-being and then try to isolate dimensions of jobs that align with or hinder these needs. The dimensions should be possible to describe for the individual and assessable by an observer. In contrast, the subjective

tradition, better named *evaluative*, takes the individual as its starting point, focusing on the utility that can be derived from work (Felstead et al. 2019). It is evaluative in the sense that individual preferences—and the extent to which they are fulfilled—are what ultimately matters.

This dissertation aligns with the growing consensus that we should assess job quality based on descriptive job characteristics rather than evaluative (personal) judgments (Findlay et al. 2013; Muñoz de Bustillo et al. 2011; Muñoz de Bustillo, Fernández-Macías, and Antón 2022). Both perspectives are important and interesting but target different quantities of interest. The subjective dimension fits better under some other name than *job* quality since the focus is on individuals, not jobs. The evaluative dimensions (e.g., job satisfaction) often make more sense when viewed as outcomes related to and shaped by the dimensions of job quality.

2.2 The history of job quality

The foundations of research that relate working conditions to general well-being go back to antique Greek philosophy and early social science. Aristotle ([350AD] 1934) argued that happiness arises from living well, a concept he called *eudaimonia*. Rather than focusing on material rewards or pleasure, a good life is lived according to the virtues – aimed at fulfilling one’s potential in different areas of life. Happiness or flourishing becomes a lifelong process rather than an end state or goal (Deci and Ryan 2008). The essence is about living life in a full and satisfying way by doing what we believe to be right and good. Reflecting on our working lives: what we choose to do, what skills we develop, and our reasons or motivations for working.

Much later, but still in the cradle of the social sciences, Adam Smith worried that the power imbalance between workers and employers was problematic. Employers, being fewer and possessing more resources, could collude to suppress wages and resist worker demands, leaving laborers in a vulnerable position where they often had little choice but to accept unfavorable conditions to survive. Meanwhile, the strict division of labor risked making workers “stupid and ignorant” (Smith [1776] 1999). Within sociology—where there exists a strong tradition of relating work contents to individual well-being—early work by Marx ([1939] 1993, [1932] 2007) highlights the connection between work and psychological well-being. In his view, the strict division of labor, which forced individuals to work with narrowly defined tasks and under harsh conditions, made it impossible to maintain worker dignity. His ideas entail that humans, by nature, are creative and social beings – and if allowed to develop these skills – they flourish. Deprived of these possibilities, however, individuals become alienated from themselves, severely harming their well-being. The close connection between human nature and working is further underlined by Engels, who argued that work was the main anthropological factor that separated humans from apes (Engels [1895] 1995). Early social science regarded work as a fundamental issue influencing human nature and well-being, with serious societal consequences.

Max Weber ([1905] 2001) viewed the rationalization of society as a force that would increasingly limit individual action and autonomy – the iron cage – leading to a loss of creativity and meaning in work and life. As society and its organizations become more bureaucratic, work-life undergoes profound changes: tasks become increasingly specialized, procedures standardized, and hierar-

chical structures more rigid. This bureaucratization, while enhancing efficiency and predictability, also stifles individual autonomy and creativity by reducing opportunities for self-expression, initiative, and innovation in the workplace. Workers risk becoming alienated bystanders rather than active participants in shaping their work. Many views converged on how modernization and the evolving division of labor were adverse to social cohesion. They risked undermining human relationships and social norms, leading to a loss of meaning in life and a disconnect from society (Durkheim [1897] 1966).

These concerns became central to social research in subsequent decades. Scholars examined the systemic problems inherent in capitalism and Taylorism, which prioritized organizational efficiency at the expense of worker well-being. Elton Mayo ([1933] 2004) emphasized that workers had psychological and emotional needs equally important to their economic needs, arguing that teamwork and social relations were crucial to productivity and personal welfare. C. Wright Mills (1953) further argued that bureaucratic work structures and diminishing workers' autonomy could generate alienation, and this was not limited to the working class but extended to the middle classes.

A pessimistic tradition emerged, envisioning a bleak future for how working conditions would develop across groups and occupations. Increasingly subdivided tasks would replace worker autonomy with manager supervision, leading to increased specialization and offering no opportunity for self-direction. This division would cut across the manual/non-manual labor distinction, leading to a downward convergence between lower non-manual and manual work. The anticipated outcome was a rise in class inequality (Braverman 1974). The inequality in working conditions is amplified by the shared interest of employers and high-skilled workers – employers seek to ensure that high-skilled employees focus solely on tasks that cannot be performed cheaper by others, freeing them from less desirable and monotonous tasks; the high-skilled workers embrace this (Treiman 1977). Task allocation, therefore, reinforces inequality in job quality between workers of different skill levels.

In an antipodal view, an optimistic tradition rooted in the industrialism literature anticipated broader dissemination of technology and skills across the workforce. Suggesting that secular changes in the labor market—driven by technological advancements and improved managerial strategies—would lead to improved working conditions and convergence between employees. Globalized markets and rising competition contribute to occupational upgrading, resulting in a more autonomous workforce and improvements in multiple dimensions of job quality paired with reducing inequality (Kerr 1960). Later theories on the post-industrial society predicted further positive developments, with the labor market shifting toward increasingly knowledge-intensive work demanding higher skills and the creation of more professional and technical roles. While the transition would likely improve overall working conditions, it had a less rosy view of inequality, which might increase between different segments of jobs with differing skill requirements (Bell 1974).

A string of theories and discussions relating to changing working conditions builds on this tradition. The literature on the ‘segmented’ or dual labor market views the labor market as divided into two segments: an upper segment characterized by good working conditions and career opportunities and a lower segment marked by poor conditions and insecurity, with limited mobility between the two (Berger and Piore 1980; Piore 2014). This research focused on a low/high-skill divide, while later research has suggested that the rise of atypical contracts has become a defining feature of the secondary labor market, increasing the likelihood that these adverse effects will transcend the skill divide (Kalleberg, Reskin, and Hudson 2000). These theories also relate to the various literatures that consider job polarization, usually centered around the impact of technological progress on supply and demand channels, that in turn shape the equilibria in labor and product markets: of which the perspectives skill-biased technological change and routinization have been the most influential (Autor et al. 2003; Goos and Manning 2007). The first argues that technological progress increases the productivity of skilled workers more than unskilled workers, leading to a shift in demand from low to high skills with the upshot of increasing inequality between the groups. The second argues that jobs in the middle of the skill distribution are often easier to replace than high- and low-skill jobs, leading to job creation at the top and bottom, resulting in polarization. Whether increasing polarization is actually occurring in skills, pay, or non-monetary working conditions remains a contested empirical question, with several scholars challenging the dominant polarization narrative (Oesch and Piccitto 2019; Tåhlin 2019). In this context, job quality frameworks offer valuable empirical tools to further control and test these competing claims, potentially reconciling contradictory findings through more nuanced measurement approaches. Continued research in this area is crucial, as potential polarization in working conditions would entail growing differences in worker well-being, with significant implications for social inequality and public policy.

2.3 Components of job quality

Early research on job quality centered on the nature of jobs and the characteristics of their tasks. Three aspects, influenced by Marxian thought, were identified as crucial for individual growth and well-being:

1. Task complexity, encompassing factors like skill use, variety in work content, and opportunities for learning.
2. Autonomy, referring to the degree of discretion workers had in deciding how and when to perform their duties.
3. Social relatedness, experiencing a sense of belonging and support.

These dimensions were constituent parts of several theoretical frameworks in much of the following research. The optimistic and pessimistic traditions (mentioned above) sketched the general labor market development and what it would mean for workers, with complexity and autonomy as the central conditions. Both perspectives focused on technological development. The pessimistic view contended that technological advancements and employers’ actions would simplify tasks, and the lower task complexity would diminish worker autonomy, creativity, and initiative (Braver-

man 1974). In contrast, the optimistic view anticipated that increasing task complexity would lead to more skilled workers with greater autonomy, as jobs became harder to monitor and individuals difficult to replace (Kerr 1960).

Multiple disciplines and traditions have since adopted complexity, autonomy, and relatedness as core concepts to understand the work life. Research indicates that work plays a significant role in shaping both personality and values over time. The complexity of job tasks, along with the opportunity for autonomy in decision-making, fosters the development of an independent personality while improving cognitive capacity and intellectual flexibility (Kohn, Miller, and Schooler 1983; Kohn and Schooler 1982; Kohn, Słomczyński, and Schoenbach 1990). Closely related is the demand-control model, which examines the interplay between psychological demands and autonomy in job tasks. High demands are associated with numerous negative outcomes, including stress and strain. The interaction between mental demands and autonomy shapes the severity of these outcomes: negative effects are more pronounced when high demands are combined with low control, but are ameliorated with rising levels of autonomy (Karasek 1979; Karasek and Theorell 1990). A final tradition from psychology that incorporates all three dimensions is the Self-determination theory. This theory posits that three fundamental psychological needs—complexity (or competence), autonomy, and relatedness—are key drivers of human well-being and motivation. Engaging in tasks that demand skill and allow for independent decision-making is crucial for meeting these essential needs (Gagné and Deci 2005; Ryan and Deci 2000).

The physical working environment plays a vital role in individual well-being. Many tasks are physically demanding and repetitive; they require individuals to maintain uncomfortable positions for extended periods. Additionally, some jobs carry heightened risks of physical injuries and exposure to various occupational hazards, such as chemicals, noise, or acids (Burgard and Lin 2013; Ganster and Rosen 2013). Severe consequences, including injury, chronic harm, and even fatality resulting from accidents or exposure to hazards, cement physical working conditions as one of the central dimensions (Albin et al. 2022).

Work-life balance and work time are commonly discussed in the job quality literature. Incorporating work time as a component of job quality presents some challenges. Excessive working hours can compromise well-being, yet involuntary part-time arrangements negatively impact job quality across multiple dimensions (Kauhanen and Nätti 2015). Moreover, there is a qualitative difference between jobs; additional hours may be less burdensome if one can work from home or have flexibility in other ways. Nonetheless, poor work-life balance is detrimental to health and reduces well-being (Lunau et al. 2014). Working shifts or during the night is associated with an increased risk of accidents and adverse health conditions, including sleep disturbances, cardiovascular issues, psychological stress, and an elevated risk of cancer (Costa 1996; Silva and Costa 2023; Wagstaff and Lie 2011). The actual work-life *balance* is not a job dimension, but rather something that can be achieved by the individual. We therefore need to focus on job aspects that are conducive to good work balance (Green and Mostafa 2012). Flexibility in working times is also considered an important component of job quality. It has gained increasing attention following

discussions on the work-family balance, which has become more prominent following the shift from single-income households to dual-earner families. Control over work scheduling and access to flexible work arrangements significantly impact well-being (Drobníč and Guillén 2011).

Because job quality is often loosely defined as the factors of jobs that influence worker well-being, a common issue has been the lack of theoretical justification for including additional dimensions. As a result, many proposed indicators lack a solid theoretical foundation, reducing the research's value and complicating comparisons across measures. A consensus is forming that the indicators should be 'directly related' to the job (Warhurst, Mathieu, and Dwyer 2022). OECD (2017) suggests that measures should consider actual outcomes (not regulations); that individual-level worker data is required to capture variation within jobs, and that job quality components should be descriptive ("objective") and not contain any evaluative indicators. Muñoz de Bustillo et al. (2011) argue that job quality should theoretically be divided into "work" and "employment" quality, with the latter encompassing aspects related to the employment relationship, such as contract type, remuneration, working hours, and career development. However, this distinction is rarely applied in practice, and a later article by the same authors (Muñoz de Bustillo et al. 2022) does not mention it. This, and further distinctions are required, I expand on why in the following sections.

2.3.1 Why the 'descriptive' tradition?

Sociology has a long-standing tradition of distinguishing between individuals and the positions they hold. Positions are embedded within a broader system of positions—the labor market—and are independent of the individual, who can transition between positions throughout life. This distinction allows us to understand how structural factors, such as the distribution of available positions at any given time, contribute to inequality (Sørensen 1996). The emphasis on structural analysis is fundamental to sociology, much like the study of kinship systems is foundational in anthropology (Runciman 1974).

Job quality refers to the quality of a *job* or a *position* in the labor market; we should, therefore, only consider the characteristics of the position to evaluate the quality of a job. According to this view, a good job provides opportunities to carry out tasks that promote self-development and have characteristics conducive to improving well-being. What each worker prioritizes will be down to preferences and circumstances, but a high-quality job allows for a range of needs to be met (Fellstead et al. 2019; Muñoz de Bustillo et al. 2011).

Staying true to the position-person separation opens up important questions of how individual and positional characteristics interact to generate outcomes and inequality:

1. How do characteristics of the person, such as personality, sex, ethnicity, or education level, interact with those of the position, such as physical and emotional demands, to shape job satisfaction or other dimensions?
2. How does the quality of the match between personal and positional characteristics, such as education and educational requirements, shape the job experience?

3. How do characteristics of the position, such as autonomy, influence the characteristics of the person?

The list could be made longer, highlighting how the analytical separation of position and person characteristics can generate numerous productive research questions about the interplay between structure and individual. Using the position-person distinction makes the job quality concept more parsimonious by clarifying how individual and job characteristics relate. It clarifies what has been argued by many, that job satisfaction is better used as an outcome, rather than a dimension, of job quality. More importantly, it compels us to reject earnings—similarly shaped by the interaction between position and individual (Tåhlin 2011)—as a dimension of job quality.

Additionally, the evaluative tradition ignores that employees experience objectively different conditions that shape their work experience, as evidenced by surveys in which the objective dimensions vary, but the distribution of job satisfaction remains similar across countries. Work experiences are diverse and cannot be reduced to preference fulfillment, and our preferences do not always align with what is good for us or our well-being.

The central theme of this dissertation is estimating job quality development over time—a focus that permeates all papers and research questions. Such longitudinal comparisons present significant methodological challenges. Comparable data are scarce, and linguistic meanings or word connotations change, making precise survey measurement difficult. Evaluative measures are particularly problematic, as worker expectations and perceptions can vary dramatically across time and cultural contexts, making comparisons over time difficult to carry out and the results hard to understand. These challenges undergird my methodological choice to focus on descriptive measures, which provide a more consistent approach to estimating job quality development that is less subject to adaptive expectations.

2.3.2 To wage or not to wage?

Wage is often seen as the best single indicator of job quality (Howell and Kalleberg 2019; Osterman 2013). The argument entails that economic compensation is a *descriptive* characteristic of jobs affecting individual well-being; it partly appeals to data availability, as we have much more data on wages than most other working conditions. While this initially seems reasonable, there are reasons to treat wages carefully. First, using any variable as a single indicator of job quality goes against the emerging consensus that it is a multidimensional concept (Felstead et al. 2019; Findlay et al. 2013; Warhurst et al. 2022). Second, earnings and the earnings distribution are well-researched and constitute the central outcome in many other research fields. All we are doing by calling it something else is conflating it with other conditions, ultimately leading to confusion without providing additional value. If we are measuring and discussing wages or income inequality - why not call it that?

Whether we should use wage as a dimension of job quality is a more difficult question. Used with the argument that it is an objective characteristic of jobs that bear on worker well-being, it seems to align well with the job quality definition. As alluded to previously, if we make the conceptual distinction between individuals and positions, we must see jobs as mediating the effect

of individual characteristics on wages: if someone has a skill that cannot be used in a given job, that skill will not be productive. Using earnings as a dimension of job quality conflates position and individual by introducing individual variation into our job (position) measure. For example, if people are differently skilled at wage bargaining or use different bargaining strategies, the resulting wage differences will be unrelated to the position and solely based on individual differences. Thereby threatening the validity of job quality measurements by conflating individual traits with inherent job characteristics.

Moreover, the main theoretical effect of wages on well-being is *outside* the job, through whatever security or consumption it enables. While one person may spend their money on endeavors promoting well-being, another may do the opposite; regardless, that variation has little to do with describing the potential that jobs have for affecting well-being. Not only is wage mediated by individual characteristics, but it also introduces variation from household characteristics. The effect of wages on well-being varies with the income levels of other household members and total expenditure levels. We recognize this from the distinction between the market and work situations: the market situation considers economic conditions, while the work situation considers working conditions (Lockwood 1958). It is, therefore, reasonable to view the market situation as going beyond the individual:

The market situation is in western industrial societies a characteristic of families or households. ... it is the family that typically is the unit of consumption, that shares a dwelling, that brings up children and sends them to schools and universities. But it is clearly the individual who experiences the work situation, the authority relations, the health hazards, and who relates to colleagues and work mates (Erikson 1984:501)

Beyond the household level, external factors such as the economic cycle and geographical location influence how important earnings are for well-being; they threaten the generalizability of job quality measures – if they include earnings – over time and between countries or regions. How important wages are for well-being is also related to the welfare state – emphasized in the following argument for separating “labor market” and “job” quality:

A low-wage job would be a job with a *caeteris paribus* low quality from the perspective of a worker’s centred job quality index (at least in its wage dimension). Obviously, in a country with a generous working tax credit system, the final result in terms of well-being for the worker after profiting from the tax credit would be a higher level of well-being, but that higher level of well-being would be the result of a good welfare state, not of a high level of job quality (Muñoz de Bustillo et al. 2022:132).

The quote describes the problem well but fails to carry out its full implications. The inclusion of wages as a dimension of job quality makes the concept less parsimonious because we introduce variation from several other conceptual levels than the job (e.g., individual, household, welfare

state, geographical). These are unrelated to the job—and its quality—and should not count towards job quality.

Finally, incorporating wages into the measure limits the analyses we can use it for. If we want to analyze the compensating differentials of wages and various working conditions, we cannot do so with a measure including wages. An important example is the literature that has considered if a part of the gender wage gap is because women opt for better working conditions over wages (England and Folbre 1999). Such analyses would have been made impossible by the inclusion of wages. Wages and job quality are related and will often be interesting to compare, but we should keep them conceptually and empirically separate.

2.3.3 How we should measure job quality

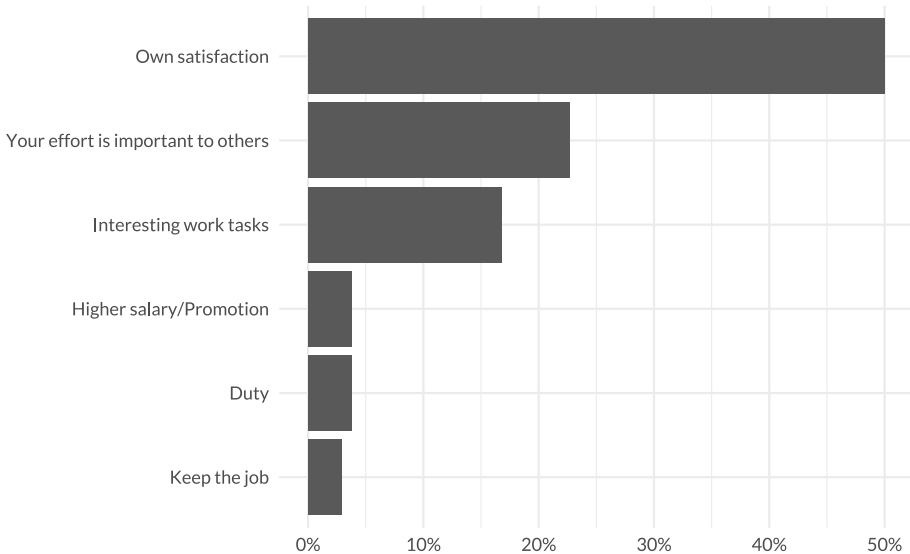
Developing a good job quality measure requires careful theoretical consideration. Using a limited set of dimensions that directly and descriptively relate job characteristics to worker well-being is preferable to including poorly conceptualized or theoretically weak indicators just because they are available. The central dimensions include job complexity, autonomy, social relatedness and support, physical work environment, work time/flexibility, and work intensity.

Previous research has suggested distinguishing between work and employment quality, with employment quality encompassing aspects such as employment status and job security; this is a conceptually sound distinction, which I propose we refine by excluding earnings because it introduces variation unrelated to the position. Since it will frequently be reasonable to compare or consider these dimensions, they could go under a broader umbrella of “quality of working life,” where job, employment, and pay outline the separate categories. Using this approach, we maintain analytical and empirical clarity in how aspects of work and employment contribute to individual well-being by avoiding unrelated dimensions or dimensions that contribute to variation primarily from sources other than the position.

2.4 Why we should care about job quality

On the individual or human level, it is easy to understand why job quality is something we should care about. For most people, much time in life is dedicated to working, and significant weekly time is spent at work or working. By definition, what happens during that time will have meaning for life and well-being (Muñoz de Bustillo et al. 2011). The consequences of a bad working environment entail a range of issues among workers, including burnout, disengagement, absences from work, and mental health problems (OECD 2017). In the most extreme cases, poor working conditions can lead to long-term sickness or even premature death [albinCornerstoneJobQuality2022@]. A good environment, however, is associated with intrinsic rewards such as well-being, job satisfaction, and perceived meaningfulness. Research shows that such rewards are highly valued by employees – often more so than economic rewards (Dolan, Peasgood, and White 2008; Maestas et al. 2018; Nikolova and Cnossen 2020; Sockin 2022). Job quality is as important as health for individual well-being, surpassing other dimensions such as education, gender, marital status, parental status, age, and household income by a large margin (Green et al. 2024).

Figure 1 shows data from a question in the Level of Living survey, asking about the primary motivation for putting effort into work: “There are many reasons for putting effort into work. Which one of these reasons is most important for you?”



Source: Level-of-Living Survey 2020/1

Figure 1 : The primary motivation for putting effort into work in Sweden 2020/1

The answers indicate that most people, around half, primarily devote effort to work for their satisfaction. The second and third most common reasons are that one’s effort is important to others and that the tasks are interesting, with around 20% of the answers each. The remaining three alternatives: working for salary or income, a sense of duty, and keeping the job, each has under 5% of the answers. Work is motivated by different aspects, and the main reason people devote effort to work is not economical. The answers are more related to three basic needs required for well-being discussed earlier: competence, autonomy, and social relatedness. Expanding our view beyond economic remuneration gives us a better understanding of individuals’ choices and motivations in the labor market.

Beyond workers themselves, job quality should be a concern for employers and society. Lower levels of job quality impose costs beyond human suffering and reduced well-being. The costs are externalized, beyond workplaces, to our public healthcare, welfare, and taxation systems, meaning they are of central concern to governments (Findlay et al. 2017). For businesses, there is evidence of a strong correlation between job quality and innovation across European industries and countries. Lower job quality is also related to increased costs through higher employee absence and turnover (Erhel and Guergoat-Larivière 2016; OECD 2017).

In 2015, the G20 Ankara Declaration established improving job quality as a central policy goal. That same year, the International Labour Organization (2015) identified job quality as one of three defining challenges of the twenty-first century, alongside environmental sustainability and poverty eradication. The importance of job quality has gained increasing recognition, with major international organizations—including the OECD, International Labour Organization, European Union, and World Bank—developing dedicated job quality agendas and frameworks to address this crucial dimension of labor markets and societal well-being. The importance of job quality across several areas explains the interest of stakeholders, organizations, and politicians.

3 Data and Measurement

3.1 Data

This dissertation draws on two data sources. The first, used in papers one and two, is The Swedish Level of Living Survey (LNU). Designed to be nationally representative, the LNU is based on a random sample consisting of around 1/1000 of the Swedish adult population between ages 18 and 75. The first LNU survey ran in 1968, and the following waves have been conducted around every 10 years: 1974, 1981, 1991, 2000, 2010, and 2020/1. LNU is a panel study, meaning that to the greatest extent possible, the same individuals are interviewed over time, while the sample is continually restored to cross-sectionally representative in relation to panel attrition, age, and migration. Together with the American Panel Study of Income Dynamics (PSID), the LNU is the longest still ongoing longitudinal survey to date (SOFI 2025).

The second data source used is the European Working Conditions Survey (EWCS). It was first fielded in 1990-91 and followed in 1995, 2000/1, 2005, 2010, 2015, and finally in 2021 (Eurofound 2023). The EWCS is nationally representative and considers a wide range of working conditions in the countries of the European Union for the working population above age 16—it typically includes around 1000 employees per country. In this dissertation, the sample is limited to the fifteen countries (EU15) that have participated in all surveys between 1995 and 2015 to ensure comparability over time in the questions. The survey in 2021 was excluded due to having different questions and answering alternatives, which makes comparisons hard to understand, and the first study lacked country and measurement coverage.

3.2 Measurement

The measurement approach employed in this research is based on the principle that workers provide the most reliable information about their job conditions. While the analysis centers on jobs, individual-level data is central for capturing the variation within occupational categories. Our measures prioritize objective positional characteristics wherever possible. The specific dimensions of job quality and their methodological construction are detailed extensively in the associated papers. In the first two studies, I developed four key dimensions: (1) Job complexity; (2) Physical working conditions; (3) Flexibility; and (4) Negative stress. These were analyzed both as discrete components and as an integrated index. For the third paper, I used a different but well-established framework consisting of four dimensions: (1) Autonomy; (2) Physical working condi-

tions; (3) Work time quality; and (4) Work intensity. This framework aligns with Green's (2012) widely recognized approach to measuring job quality.

Historical data on working conditions is scarce, particularly for extended timeframes, which constrains the indicators we have available for study. The trio of studies conducted in this dissertation include the most commonly used job quality dimensions, and they do so over long periods relative to previous research. Only a few studies exist with similar scopes in time and dimensions, making the empirical results unique and valuable well beyond the borders of Sweden.

The extensive period covered is a strength of the studies but also poses a challenge for measuring working conditions. Some occupations become rare, a few disappear, and new ones emerge; words used to describe jobs, occupations, or conditions may change meaning or regular use. When comparing evaluative (subjective) assessments the issue of adaptive expectations arises—people tend to adjust their expectations based on their circumstances. Because this dissertation considers development over time, I use no such measures. Still, there could be issues relating to the questions posed in the survey questions, where the meanings have changed over time.

One such example is the word “stress,” which has expanded significantly over time to become an umbrella term for various phenomena without proper distinction between stressors, stress reactions, and exposure durations. The concept has received such widespread attention in Sweden that some speak of a “stress epidemic,” highlighting its pervasive presence in public discourse (Föyen et al. 2024). This semantic drift complicates longitudinal comparisons of working conditions. In this dissertation, negative stress (conceptualized close to Karasek's control-demand) is captured using three questions: whether the job is (1) mentally taxing; (2) hectic; or (3) monotonous. The Swedish question does not include the word stress, but rather the less modern word “jåktigt”, probably best translated as hectic. The respondents never answered any question referring to stress, which should make the measure less vulnerable to over-time comparisons.

This dissertation examines inequality across central dimensions of social stratification: class, gender, education, age, and cohort. One of the main contributions is measuring job quality as a trajectory (intragenerational, over the career), telling us more about an individual than an individual measurement. Having a bad job at one time is less telling than having a trajectory of positions with bad conditions – the trajectory, therefore, tells us more about the life chances of individuals. Space constraints and data imitations have precluded the inclusion of several central stratification variables—including ethnicity, immigration status, and parental background. The analysis of ethnicity and immigration status poses particular challenges in longitudinal studies spanning from 1968 to the present, as the demographic composition of Sweden has changed substantially during this period. These underexplored dimensions represent promising avenues for future research, particularly given the limited literature on how these factors shape job quality over time. I have not focused on atypical contracts and how they relate to job quality in this dissertation; this, however, is an area I am actively studying beyond the scope of the dissertation, and we have a forthcoming paper addressing this topic (Westerman, Halldén, and Syk 2025).

A notable limitation of standard descriptive job quality approaches is their emphasis on cognitive skills, overlooking other valuable skill dimensions. Manual, artistic, and craft skills—those employed by musicians, artisans, and others whose work facilitates—likely contribute significantly to well-being but remain largely uncaptured in current measurement frameworks. Similarly, emotional effort and related aspects also relate to well-being and remain inadequately captured by current data and models. More comprehensive skill and task assessments could address these measurement gaps.

Whether job quality should be measured as separate dimensions or a composite index is a recurring methodological consideration. In this dissertation, I have used both approaches; combining both is often the most reasonable approach. While composite indices risk obscuring variation among individual measures—a limitation inherent to all data aggregation—they provide a level of generality that facilitates certain research questions that would be difficult, if not impossible, to communicate using separate dimensions alone. Conversely, analyzing individual dimensions can allow for finding nuanced patterns that might otherwise be masked in an aggregated index. Using both provides precision and accessibility in understanding the multifaceted nature of job quality.

3.2.1 Within and between measurements

An important component of this dissertation focuses on analyzing job quality inequality across different social groups. Moving beyond comparisons of group averages, I employ variance decomposition—a statistical method that quantifies how much variation occurs within groups visavi between groups. This approach reveals whether observed inequalities are primarily driven by group membership or other factors that create variation among individuals within the same group.

Occupations serve as the primary analytical unit for these decompositions since they represent coherent bundles of tasks, responsibilities, and skill requirements; they provide a meaningful framework for understanding how working conditions are structured in labor markets.

Figure 2 presents a variance decomposition of the job quality measure from the first and second papers using the International Standard Classification of Occupations (ISCO) and Swedish Standard Industrial Classification (SNI) pooled for all years of the LNU. This hierarchical classification system increases in specificity at each level: ISCO-1 categorizes all jobs into 10 major groups, while subsequent levels expand to 27 (ISCO-2), 103 (ISCO-3), and 256 (ISCO-4) categories, while SNI only covers 10, and 44 categories due to data limitations. Each additional level will mechanically explain more variance, as the same observations are distributed across increasingly detailed occupational groups - how much tells us something about how influential occupations and jobs are compared to classes for explaining job quality.

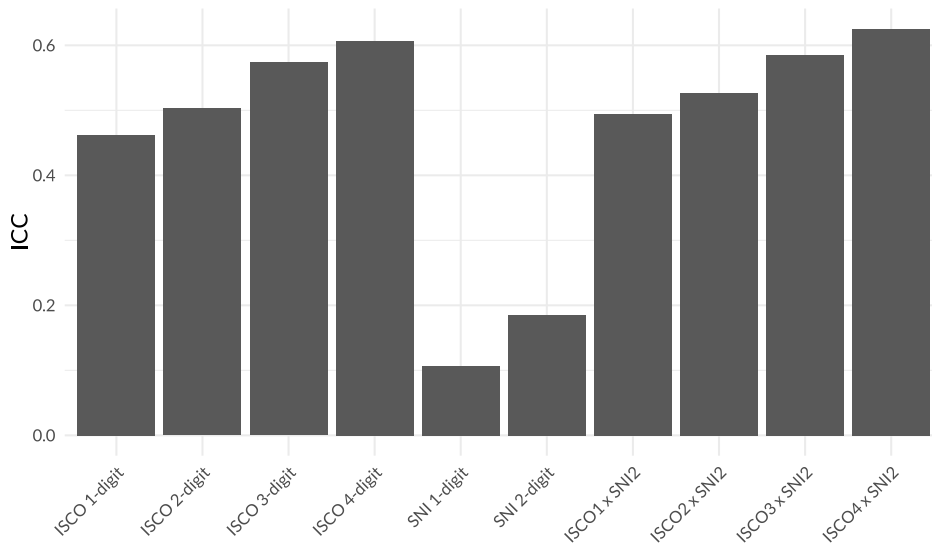


Figure 2: Decomposition of variation in Job quality (index, from paper 1/2) for different levels of ISCO and SNI, and the combination of ISCO and SNI on pooled (1968 to 2010) LNU data

The variance decomposition reveals that the 10 major occupational groups alone explain approximately 45% of the total variation in job quality. This finding underscores the substantial influence of broad occupational categories in determining working conditions, though this relationship varies across specific job quality dimensions (as detailed in the third paper of this dissertation). Expanding from 10 to 27 occupational categories (2.7 times, 170%) corresponds to an increase of around 4 percentage points of explained variance. Even more granular classifications—103 (10 times, 930%) and 256 (25 times, 2460%)—increase explained variance by 11 and 15 percentage points beyond what the 10 major groups capture. This tells us that while general occupational groups account for the majority of variation in job quality, the specific characteristics of individual jobs within those groups explain additional meaningful differences in working conditions. In comparison, the industry measures do not explain much of the variation in job quality, not on their own, or calculated as occupation x industry, meaning separate occupational categories for each industry.

4 The Swedish and European contexts

The decades preceding the studies serve as a backdrop for understanding the change in working conditions. During the 20th century, the average GDP per capita in Europe has increased by more than 750 percent, an unprecedented improvement in living standards which occurred primarily

after World War II, and despite wars and crises, continued to rise at a steady pace (Rosés and Wolf 2018).

Around the start of the 20th century, Sweden was poor and characterized by extreme economic and political inequality (Bengtsson 2019). During this time, a gradual transition away from low-paid domestic service roles and agricultural employment toward more skilled occupations generated substantial wage increases (Bengtsson and Molinder 2024; Heikkuri 2024). Such occupational restructuring likely yielded improvements in non-monetary job quality dimensions, particularly in areas such as worker autonomy, regulated work times, and job complexity.

Figure 3 shows the occupational restructuring in Sweden between 1895 and 1991. At the start of the period, farmers constituted the largest occupational group, but their numbers declined steadily and were relatively modest by the late 1940s. In tandem, the share of manual workers increased, reaching a peak around 1940.

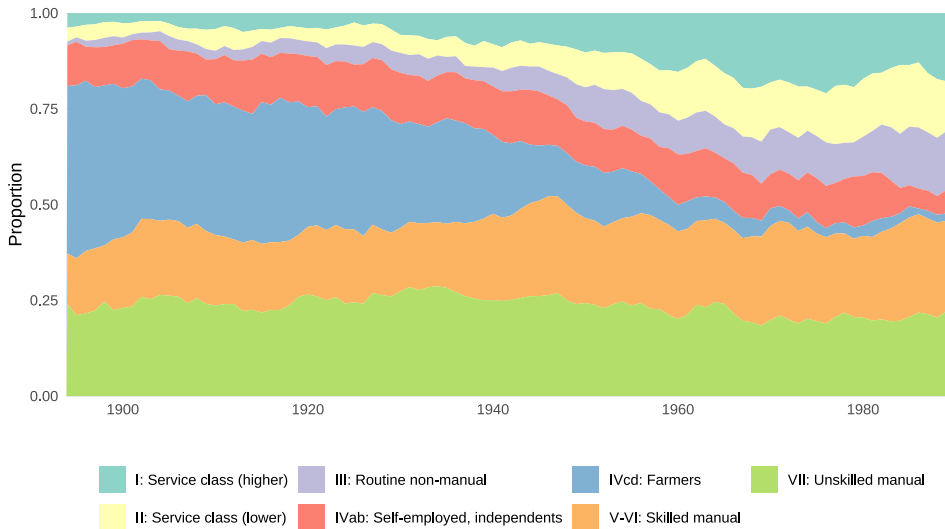


Figure adapted from (Gähler and Palmtag 2014)

Figure 3: Development of the parental class structure between 1895 and 1991

The subsequent decades witnessed a substantial expansion in service classes (I and II) and routine non-manual occupations (administrative, sales, and service positions). By 1991, the labor market was roughly equally divided between manual and non-manual workers, marking a fundamental shift in occupational distribution. The transformation illustrates that the job structure has completely changed over the last century, from agriculture to industry and industry toward service. We can see the progression of the two trends: skill upgrading, evidenced by the growth of higher professional and managerial classes (I and II); and service sector expansion, evidenced by the in-

creasing share of categories I-III (note that these do not capture all service workers, the total share of service is higher, see [Figure 4](#)). This occurred through widespread educational expansion and Sweden's distinctive early public sector growth, which facilitated women's entry into the labor market (Nermo 1996).

From after World War II to the beginning of 1970s, Western labor markets experienced robust macroeconomic conditions marked by low inflation, strong growth rates, minimal unemployment, and declining wage inequality. There was a strong increase in average GDP per capita, accompanied by regional economic convergence (Rosés and Wolf 2018). The economic landscape shifted dramatically during the 1970s, giving way to sluggish growth, escalating inflation, rising unemployment, and widening wage disparities. While Sweden generally followed the international economic trends, it maintained two distinct characteristics for a longer period than most comparable economies: persistently low unemployment rates driven by strong public sector expansion, which created employment opportunities – especially for women; and sustained wage compression, through wage increases at the lower end of the structure, largely driven by The Swedish Trade Union Confederation (LO) (Korpi and Tåhlin 2011).

The control of the work organization and immediate work environment became increasingly contested in Sweden. Following a period of strikes focused on Fordist production relations, workers' influence over centrally bargained wages and ability to affect working conditions remained constrained by unions' acceptance of employers' managerial prerogatives (Mahon 1991). This period saw the enactment of several landmark labor laws in Sweden, including the Employment Protection Act (LAS) in 1974, the Co-determination Act (MBL) in 1976, and the Work Environment Act in 1978 (Kjellberg 1981). These laws represented a departure from the traditional Swedish model, but they provided workers with greater rights, access to information, and opportunities to engage with employers (Hampson and Sandberg 2022).

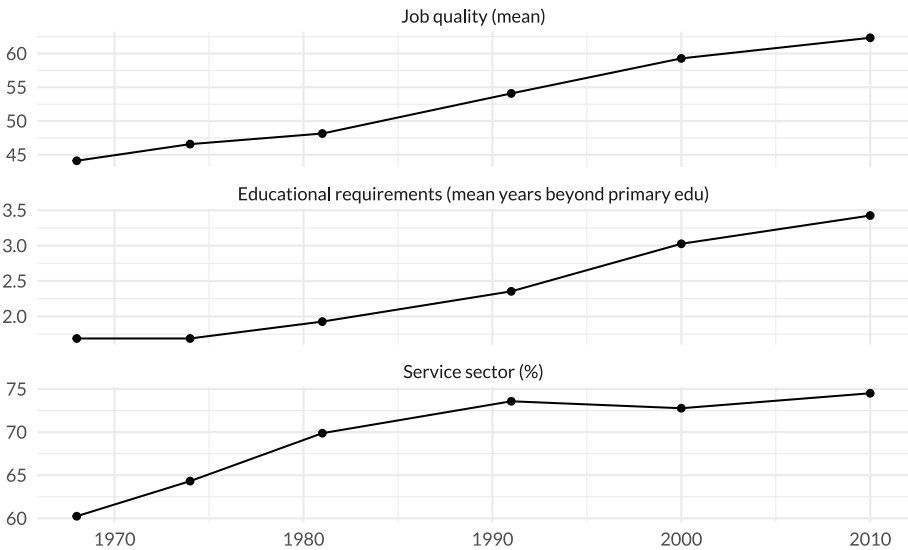
Working conditions remained high on the agenda, with efforts to improve workers' positions in production by expanding job content and conditions. The solidaristic wage policy evolved into an idea about a broader solidaristic work policy (Mahon 1991). This vision was embodied in the concept of “the good work” (Det goda arbetet) developed by Metall (the Metalworkers' union), which emphasized employment security, co-determination, teamwork, skills development, reasonable working hours, equality, and good physical conditions, while placing less emphasis on capital ownership and wages (Abrahamsson and Johansson 2008). In 1990, a similar idea was adopted by LO (the Swedish Trade Union Confederation) as “developmental work” became a central tenet, focusing on occupational health, self-respect, and meaningful work. However, as unemployment rose during the 1990s economic crisis, the focus shifted toward securing the right to work (Abrahamsson and Johansson 2008; Gallie 2003).

A new organization of welfare services emerged through privatization and further deregulation (Korpi and Tåhlin 2011), accompanied by considerable organizational changes in the public sector. The expansion of private options and purchaser-provider models continued into the 2000s (Hartman 2011). New public management reforms, rationalization, and reduced resources had several

potentially negative consequences for the working conditions of public sector jobs (Trydegård 2012).

In the European context, the trend of economic convergence reversed during the 1980s, giving way to growing regional inequalities that reflected the patterns of increasing individual economic inequality (Piketty [2013] 2017; Rosés and Wolf 2018). The inequality was exacerbated in 2008, as the financial crisis and the following European debt crisis severely impacted the economy for all countries, but especially Southern European nations such as Greece, Portugal, Spain, and Italy, leading to deeper recessions and longer recovery (Gallie 2013). The development in job quality does not seem to have followed a similar general path. Rather than increasing inequality, we see stability or decline in inequality for several dimensions of job quality over time [Antón, Grande, and Muñoz de Bustillo (2023); Green2012; greenJobQualityBecoming2013].

Figure 4 shows trend estimates from Westerman and Syk (2023) of skill-upgrading, through the years of education required beyond primary school needed to carry out the job; and service sector expansion, calculated based on the percent of the labor market working in service occupations. The job quality measure (standardized 0-100) is from the first two papers and has a standard deviation of around 22 in the average year.



Source: LNU-data

Figure 4: Development of job quality, skill-upgrading, and service sector expansion between 1968-2010

The two trends of skill-upgrading and service sector expansion have run in parallel with the development of job quality over the last decades. The service sector has expanded from 60% to 75% of the working population in 2010. During the same time, the average educational requirements (in years above primary school) have risen from below 2 to 3.5 years – jobs require much more education over time. While harder to quantify, we can see that job quality has had a similar constant rise over the last decades. The total change in the average corresponds to almost a standard deviation in the measure, which must be seen as a relatively sizable positive change.

5 Ethical considerations

Research in this thesis is carried out in accordance with the ethical guidelines from the Swedish Research Council (Åkerman 2024) and the European Code of Conduct for research integrity (AL-LEA 2023). They outline four key principles that researchers should follow:

Reliability: The researcher is accountable for ensuring the quality of the research throughout every phase of the process, including design, methodology, analysis, and resource use.

Honesty: The researcher is responsible for maintaining transparency throughout the research process, ensuring that all stages (invention, implementation, review, and reporting) are communicated in an objective, open, and complete way.

Respect: The researcher should show respect for the society in which they work, including other individuals involved and the environment.

Responsibility: The researcher should take ownership of all stages in the research process, from the initial idea to the final study and publications, as well as the potential future consequences.

The dissertation has been written in accordance with these principles. It uses survey data concerning human subjects and has been conducted in accordance with ethical standards that respect and protect all respondents. A careful balance between research benefits and potential harm has been maintained throughout. The risk of personal information disclosure is minimized as the data contain limited sensitive information. All respondents have provided informed consent after being fully briefed about the survey's nature, methodology, and the collection of supplementary register information, and were explicitly informed of their right to withdraw from the study at any point. All data have been de-identified, with linking information inaccessible to the researcher, and the data securely stored on protected servers connected to Stockholm University. Individual-level results are never reported; findings are presented only as aggregated means, further minimizing disclosure risks. The research has been approved by the Regional Ethics Committee of Stockholm (EPN, #2009/1802-31/5).

6 Abstracts of the studies

6.1 Study I: Development of job quality in Sweden 1968-2010

Skill-upgrading and service expansion are two trends that have characterised labour markets for a long time. What this entails for job quality over the long term is not well understood. This study considers the development of job quality in Sweden between 1968 and 2010. It explores how

changes in job quality relate to the occupational structure, compared to within-job changes. Using data from the Level-of-Living-survey a measure of job quality including job complexity, physical work environment, stress, and flexibility is constructed. The development is estimated over time and by gender. Regression methods are employed to examine how changes relate to the job distribution. Results show that average job quality has improved for both genders, while variation has decreased. A majority of the increase for women can be explained by changes in the job distribution, while the opposite is true for men. The study contributes to the research by providing uniquely long-running empirical estimates on working conditions and job quality, and a novel view of how the labor market structure has contributed to shaping the level and inequality of job quality between men and women over time.

6.2 Study II: Career development in Job Quality: An intergenerational study of Sweden from 1968 to 2020

This study bridges the two fields of job quality and intragenerational mobility by introducing longitudinal individual career trajectories and exploring group differentials in nonmonetary job quality (including job complexity, stress, work intensity, and flexibility), compared to wages and prestige, using random and fixed effect growth curve models. Analyses are based on Swedish Level-of-Living Survey panel data (1968-2021), including 4,750 respondents and 12,865 observations. Results show that cohorts successively gained better average job quality over their career. There was a large and persistent gap in job quality based on individuals' education that was not alleviated by career mobility. The association was slightly polarized over the career for men. A gender gap emerged over the career where men gained a slight advantage with increasing experience. The career structures are relatively similar for wage, prestige, and job quality. Analyses show that much of the variation in job quality is located within occupations, demonstrating the importance of using individual-level measures for capturing job quality. Disparities in job quality have far-reaching consequences for well-being throughout the working life but have not grown over time. The evolution has been positive, with rising average levels, without a corresponding rise in inequality. This study contributes one of the first longitudinal analyses of intragenerational working conditions to date, offering novel insights into how job quality evolves over the course of individual careers. This is important because this can be seen as improving measurements of job quality. But specifically, it provides a first view of how career mobility in job quality unfolds, and how it relates to canonical measures such as wage and occupational prestige.

6.3 Study III: Class inequality in non-monetary job quality: 20 years of evidence from Europe

Over the last decades, the class structure has undergone significant change, yet our understanding of how this relates to the quality of jobs and well-being remains limited. I study the development of four job quality dimensions: autonomy, physical environment, work intensity, and work time quality to assess their change, and how class variation is structured over time and between countries, compared to income. Following eight occupational classes in 15 European countries from 1995 to 2015, using the European Working Conditions survey. While most of the variation was

within classes, there were clear class gradients in physical environment and autonomy. There was minimal variation by year (less than 1%) and country (2.6%); while class explained considerably more for all outcomes, except work intensity. Regional patterns of inequality were evident: Nordic countries (especially Denmark) and the Netherlands had lower between- and within-class inequality. Lower-skill classes consistently had greater variation in working conditions, which largely drove regional differences. Class is important for understanding job quality, especially compared to the other dimensions included here. We need to broaden our explanations, however, to better understand inequality in job quality. This paper contributes by documenting the class inequality structure—how variation within the occupational classes relate to variation between classes—for several countries in EU over time. By comparing the dimensions of time, country, and class we get a better idea of how the dimensions relate, and which is more important for job quality. We should refocus our attention from countries (where differences are relatively limited) to class and other dimensions of interest.

7 Concluding remarks

The studies in this dissertation demonstrate considerable positive developments in job quality, particularly across the longer timeframe (1968-2020) in Sweden. Job quality has generally improved through increased job complexity, better physical working environments, and enhanced flexibility, though there has been a rise in jobs characterized by negative stress. During this period, the previously observed gender gap in job quality has disappeared. For women, this improvement primarily stems from occupational redistribution—they now hold different, higher-quality jobs than before. While men have also benefited from this structural change, their improvements more often occurred through changes within existing occupational categories. Consequently, women can be viewed as the principal beneficiaries of these structural labor market transformations, at least regarding non-monetary working conditions.

Each successive birth cohort has experienced enhanced job quality throughout their careers. While educational inequalities persist, they have not substantially increased over time. Although economic inequality has grown markedly since the 1980s, non-monetary working conditions have not followed this trend. Claims about rising inequality, polarization, and precariousness in various working conditions are common, but most empirical evidence, including the results presented here, indicates stability or convergence, both within and outside Sweden (Antón et al. 2023). Commonly discussed developments, such as the poor working conditions in gig work, are concerning but remain a relatively marginal phenomenon (Palm 2019) and cannot yet significantly affect overall measures of job quality.

There often seems to exist a disconnect between what we value in work and what we prioritize. Calculations based on earnings are relatively straightforward, while intrinsic values—those related to eudaemonic well-being—are hard to evaluate and consequently more difficult to prioritize. We may only recognize what matters after gaining experience, by which time we may already be constrained by adjusted habits or expectations. This tension between extrinsic and intrinsic

rewards is central to understanding the labor market, and I hope this dissertation has contributed to that end.

8 References

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