Introduction

This thesis consists of four self-contained essays. Three are concerned with personnel economics, examining in turn the importance of the perception of fair treatment among workers in organizations, the careers of older workers, and the effect of gender-discrimination preferences on firm survival and growth. The fourth essay, concerned with gender differences in economic decision-making, explores player behavior in a television game-show. The gender perspective also appears in two of the essays in the field of personnel economics.

Personnel economics

In microeconomic theory, the firm is regarded as a “black box” in which inputs such as labor and capital are transformed into output according to a production process determined by a production function. The production function defines the output that is technically feasible given efficient operation on the part of the firm, i.e. that every combination of input is used as efficiently as possible. But production theory does not address the way the firm acts to induce workers to put in optimal effort; it simply assumes that labor is used efficiently in the production process in the black box.

In contrast to production theory, personnel economics opens the black box and takes a look at the organization of labor inside. It looks at such questions as how to provide incentives for workers to achieve an optimal level of effort. Is it most efficient to pay workers fixed or variable wages? Should the workers be paid according to absolute or relative performance? How about team compensation, or
maybe bonuses? How do firms create lifelong incentives, and how is turnover kept to a minimum? For an overview of the field of personnel economics, see Lazear (1995).

These questions also attract the attention of industrial and social psychologists, sociologists and personnel researchers. So, is ‘personnel economics’ really economics? Lazear (2000a) defines personnel economics as “the application of microeconomic principles to human resources issues”. He points out that personnel economics differs from other social sciences in three ways: first, constrained maximization is the basic building-block of all theories of personnel economics; second, personnel economics focuses on equilibrium; and third, efficiency is a central concept of personnel economics.

These three characteristics also explain why economists should not leave the personnel area to the psychologists, sociologists and management researchers only; we can also contribute. Maximization is important because it allows us, unlike other social scientists, to make predictions about the behavior of the individual in new situations and how behavior changes with marginal changes in the environment. The equilibrium approach allows us to study the interaction between a variety of actors, the interaction between the firm and the worker for instance, and how this interaction alters if the surrounding conditions change. Finally, if a situation is modeled and the equilibrium derived is inefficient, we can contribute by looking at how different institutions could improve the situation (Lazear, 2000b).

Economics as a field has been much criticized for disregarding psychological and sociological aspects in its analyses. Personnel
economics embodies an effort to change this situation by combining economic tools with sociological and psychological thinking.

**Gender differences**

Two of the following essays focus on gender issues, and the gender perspective is also present in one of the other two essays. Gender differences in economic and labor market outcomes can be attributed to various forms of discrimination. But they can also stem from gender differences in economic decision-making, arising in turn from differences in strategy, risk aversion and confidence. The discrimination perspective appears in the third essay, while the fourth essay seeks to contribute to our understanding of gender differences in economic decision-making.

Theories explaining gender discrimination fall into two main categories: taste for discrimination and statistical discrimination. Becker (1957) laid the grounds for taste-based discrimination when modeling wage differences as a function of (i) employers’, (ii) employees’, or (iii) customers’ taste for discrimination against a group of workers, e.g. women or minorities. In the case of gender discrimination: (i) male employers will only hire female workers (against whom they discriminate) if they can pay them lower wages, (ii) male employees demand higher wages if they are to cooperate with female co-workers, and (iii) male customers are only willing to buy products and services from a woman if the price of the product or service is lower than if they were to buy the same product or service from a man.

Statistical discrimination is based on imperfect information about workers’ productivity levels. When a worker’s true productivity is
unknown, the employer hiring or promoting workers, or determining wages, must rely on some observable but imperfect indicator of productivity. If an employer takes qualities such as gender or race as an indicator of productivity, this is defined as statistical discrimination (see Phelps, 1972, and Aigner and Cain, 1977, for early studies of statistical discrimination).

Among researchers from a variety of disciplines there is a growing interest in the presence and the causes of gender differences in economic decision-making. Research findings on gender differences in risk aversion and conservative thinking among investors when it comes to savings are still inconclusive (see Powell and Ansic, 1997, and Jianakoplos and Bernasek, 1998, respectively); the same can be said of pension savings (Hinz et al., 1997; Bajtelsmit and Van Derhei, 1997; Papke, 1998; Sundén and Surettet, 1998; Säve-Söderbergh, 2003), and common-stock portfolios (Barber and Odean, 2001). There are, however, pointers in the direction of women being more risk averse and conservative in economic decision-making. Gender differences regarding overconfidence have been studied by Barber and Odean (2001). They found that men are more prone to overconfidence than women and that this reduces the net returns on men’s portfolios, relative to women’s.

Essay 1  Tournaments and unfair treatment

The focus of the first essay is workers’ perceived organizational support and its effect on their behavior. Psychological, social psychological and sociological literature has given generous attention to the relationship between the worker’s perception of being unfairly treated by the firm and the amount of effort they are prepared to make. When they perceive
that they have been unfairly treated, it is found that their behavior is less attuned to supporting the goals of their firm. In economic literature, the effect of unfair treatment on workers’ effort behavior has been examined by Akerlof and Yellen (1988, 1990). They found that when workers perceive their wages as falling short of what they regard as a fair wage, they reduce their effort level.

The present paper contributes to the economic literature by introducing negative feelings associated with the perception of being unfairly treated into a tournament model. In a three-period model these negative feelings are shown to affect the effort level of relatively deprived workers. But, in contrast to the fair wage-effort literature, the effect of unfair treatment on effort is ambiguous in the model. In the tournament model, two countervailing effects arise: a negative impulsive effect and a positive strategic effect. The impulsive effect implies that workers reduce their level of effort in response to a perception of unfair treatment. The strategic effect implies that workers raise their level of effort to improve their career opportunities, in an attempt to avoid suffering stronger feelings of being unfairly treated in the future.

It is not possible to determine in the model which of these two countervailing effects that is the stronger without also specifying the worker’s effort cost function. To this end, survey data from a Swedish municipal utility located in the Greater Stockholm area has been examined. The data indicates that the negative impulsive effect on the level of effort (measured in hours of overtime) prevails over the positive strategic effect. That is, unfairly treated workers put in less effort than fairly treated workers. This suggests that employers should consider the
negative impulsive effect of unfair treatment on effort and overtime when they design contracts or consider promotions.

Essay 2  Late careers in Sweden between 1970 and 2000

Over the last few decades the demand for workers and their skills in most OECD countries has undergone big changes that have affected careers for workers as a whole. Researchers put these changes down largely to the increase in international trade, technological change, changes in work organization and a rise in unemployment. The industry and occupational structure in Sweden has seen extensive changes between 1970 and 2000. For example, employment in manufacturing industry has dropped by 43 percent, while in the public sector it has increased by 40 percent. Production processes today require more highly skilled workers, both blue-collar and white-collar, than 30 years ago.

The late careers of Swedish workers between 1970 and 2000 are studied in this essay, which is part of an international, comparative research project on globalization and the labor market mobility of people nearing the end of their careers. Answers are offered to questions such as: “Is there a difference in career mobility or labor market exits between different cohorts?”; “What affects the late career, and does it differ between cohorts?”; “Are older workers able to pursue a late career following changes in the demand for skills?”

In this essay, it is assumed that adjustments of the labor force depend on the institutional structure of the country concerned. The hypotheses are (i) that in countries where the level of job protection is high, older workers will be re-educated rather than laid off; (ii) that in
countries that give priority to an active labor market policy and/or provide education that is open to adults, older workers will have the opportunity to renew their skills, and inter-firm and inter-industry mobility and labor force participation will all be high; and (iii) that in countries where early retirement opportunities are available, older workers will leave the labor market instead of updating their skills.

The work principle is fundamental to Swedish labor market and social policy, i.e. work should be favored over cash support for workers below retirement age. However, Swedish institutions actually work both for and against this principle. For example, employment protection is high, there is adult education at all levels and active labor market programs are open to all workers. These institutions all work in favor of a late (second) labor market career. But there are other arrangements, such as passive labor market programs, generous disability pensions and the possibility of an early take-up from the public pension system, that pull in the opposite direction towards an early exit from the labor market.

The analysis in this essay shows that between 1970 and 2000 Swedish workers’ late careers include few job changes: approximately 80 percent of the workers had the same job when they left the labor market as they had when they were 55. Of those employees who leave their jobs and embark on a non-gainful activity, only 3 to 5 percent ever become employed again. Three of four older workers who are engaged in a non-gainful activity at the age of 55 remain in that activity until retirement. Changes in these patterns between 1970 and 2000 are negligible.

During the 1970s and until the mid-1980s, 56 percent of the older workers left the labor market before the normal retirement age of
The average drop-out age was 63. During the late 1980s and the 1990s, the share of older workers who made an early exit had risen to 76 percent, and the average drop-out age had fallen to 61.5. During this period Sweden was undergoing a recession with high unemployment, and special early retirement opportunities were available.

During the 1970s and until the mid-1980s, skills appear to have affected old workers’ risk of exiting the labor market, but this does not apply to the late 1980s or the 1990s. Old workers in low-skill occupations or with the shortest educations exited the labor market to a greater extent than old workers with higher skills or longer education during the first of these periods, while old workers at all levels of skill and education were equally likely to leave the labor market during the second period.

Male and female workers ran the same risk of exiting the labor market in the 1970s and up to the mid-1980s, while women were more likely to do so than men in the late 1980s and during the 1990s.

Older workers in the agriculture, forestry and fishing industries, the construction industry, the public sector and the transport, postal service and telecommunication industries were all more likely to leave the labor market than older workers in other industries during the 1970s and the first part of the 1980s. During the late 1980s and through the 1990s, however, workers in most industries were equally likely to exit the labor market. The exceptions were workers in the transport, postal service and telecommunication industries whose probability of exiting was higher.

In conclusion we can say that between 1970 and 2000 the late careers of Swedish workers were more a matter of “trying to keep the
job you had in your mid-fifties” than of climbing up the promotion ladder, and no differences can be found between the cohorts. For old workers in the 1970s until the mid-1980s the share of workers who exit early is lower and the average drop-out age is higher compared with older workers in the late 1980s and during the 1990s. Skills, industry, tenure, firm size, labor force experience and gender are all factors that affect the late career, and the effects of these factors on late careers are different as between the 1970s until the mid-1980s on the one hand, and the late 1980s and the 1990s on the other.

**Essay 3 The growth and survival of establishments: does gender segregation matter?**

The third essay, written together with Helena Persson, examines the personnel decision regarding gender distribution at the establishment level and the effect of this decision on survival and growth. The study starts out from Becker’s model of employer discrimination (Becker, 1957). In the model, it is assumed that some employers have a taste for discrimination against women. These discriminating employers will only hire women if it is possible to pay them lower wages to compensate for the utility loss resulting from their employment in their firm. But, if women as a whole are paid lower wages, it becomes profitable to hire them. This implies that non-discriminatory employers primarily hire female workers, thus becoming more profitable and more likely to survive and grow by underselling other firms in the competitive product market.

To test these implications empirically we first study the gender distribution of workers at the establishment level and see how it changes
over time. We then test first whether or not female-dominated establishments have a higher probability of surviving, then whether or not such establishments grow faster than others (in terms of employment). For our tests of the dynamic implications of the Becker model we used a unique Swedish matched employer-employee data set.

In comparison with other countries for which analogous studies are available, we found that the extent of inter-establishment gender segregation in Sweden between 1987 and 1995 resembles that found in the U.S. but is less than in Korea or Portugal. It appeared that establishments with a moderate male bias (i.e. establishments with 50 to 75 percent male employees) became slightly more segregated over time, while all other establishments became slightly more integrated. Further, we found that the probability of surviving is less for female-dominated establishments and that, conditional on survival, female-dominated establishments grow more slowly than other establishments. These two results tell against the Becker model.

An important additional finding in our paper is that establishments whose workforces are skewed in terms of age, education and/or gender distributions, have less probability of survival. Furthermore, establishments with skewed age and/or gender distributions also grow less than other establishments. Thus, integrated heterogeneous establishments seem to be more successful than other establishments. This result is intuitive, since workers representing different demographic characteristics can help to nourish a creative working environment with their different experiences, their greater variety of information sources and their different “thinking”. Thus,
attempts by legislators to integrate firms along all the dimensions of diversity may have a positive effect on the growth and survival of firms.

**Essay 4 Risk and over confidence – Gender differences in financial decision-making as revealed in the TV game-show Jeopardy**

Gender differences in economic and financial decision-making, e.g. gender differences in strategies and risk-propensity, might lead to gender differences in economic outcomes. Examples of this are gender differences in the choice of high-risk career paths, wage bargaining, entrepreneurial activities and investment strategies, all of which produce gender differences in income and wealth.

Stereotypical beliefs about gender differences in economic decision-making can also generate gender differences in economic outcomes. For example, they may generate discrimination and institutional barriers to career development in the workplace, and differences in the marketing of financial products to men or women (see e.g. Powell and Ansic, 1997).

Gender differences in economic and financial decision-making are attracting a growing interest among researchers in a variety of disciplines such as psychology, sociology and economics. The literature is expanding rapidly, but when it comes to the question of whether gender differences really are present, the results are inconclusive. The fourth essay, which is co-authored with Jenny Säve-Söderbergh, discusses the prevalence of gender differences in economic and financial decision-making with the help of a “real-world” experiment, the Swedish version of the game-show ‘Jeopardy’.
In *Jeopardy* three players compete against each other in a quiz game. After playing two successive rounds, in which the contestants earn scores according to their ability to answer questions correctly, the players enter the *Jeopardy* final. In the final, the players wager any amount of their pre-final score on a subject area that is given by the game-show host and in which the final question will be posed. After the wagering, the question is revealed and contestants give their answers. If the answer is correct, the amount wagered is added to the pre-final score. If the answer is wrong, the amount wagered is subtracted from the pre-final score. The contestant with the highest score wins the game and is invited to join the next show. We focus here on gender differences in the wagering strategies in this final round.

For two reasons we expect that the sample of contestants in *Jeopardy* consists of individuals who are more risk-prone than the average: first, contestants suffer a psychological risk in terms of the disapproval of the audience and, second, there is a gambling risk involved. Therefore, we suggest that our results should be applicable primarily to gender differences in outcomes following high-risk decisions, involving such things as high-risk career paths and, entrepreneurial or managerial activities.

In an earlier analysis of wagering behavior in the U.S. version of *Jeopardy* (where the focus was not on gender differences), Metrick (1995) found that players use an “empirical best-response” strategy when making their wagering decision. We rule out the existence of empirical best-response strategies in the Swedish version. This result is primarily a function of country-specific game differences regarding the amount of information given about the score levels of the other players.
Instead, we model the wagering decision as a function of risk preferences, the assessed probability of giving a correct answer to the final question, and the assessed probability of winning. The assessed probability of winning is assumed to be a mix of (i) an individual’s subjective probability of giving the correct answer and (ii) the assessed objective probability of answering correctly, i.e. the degree of difficulty of the subject area in which the final question will be posed. The more risk averse the contestant, the lower their wager is assumed to be; the higher their subjective probability of giving a correct answer to the final question, the higher their wager and the higher the objective probability to give a correct answer to the final question (i.e. the greater the number of players who answer correctly), the more they have to wager to win.

We use 206 Swedish broadcasts of Jeopardy for an empirical examination of the prevalence of gender differences in financial decision-making. The results suggest that women adopt conservative and diversified strategies, while male strategies aim at the highest possible gain. Further, women’s strategies are more responsive to the competence measures, i.e. the subjective and objective probabilities of giving the correct answer to the final question. This is interpreted as meaning that women are less overconfident than men. Together, these characteristics make women more successful players in terms of winning the game. Our results match earlier results reported in Barber and Odean (2001) and Agnew et al. (2003) on gender differences in financial trading.
References


