

Economic Studies 229



Kristina Karlsson
Essays on Labor Economics,
Household Savings, and Pension Reforms

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ECONOMICS AT UPPSALA UNIVERSITY

The Department of Economics at Uppsala University has a long history. The first chair in Economics in the Nordic countries was instituted at Uppsala University in 1741.

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- * Labour economics
 - * Public economics
 - * Macroeconomics
 - * Microeconometrics
 - * Environmental economics
 - * Housing and urban economics
-

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Essays on Labor Economics,
Household Savings, and Pension Reforms



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Abstract

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Essay I: Increased longevity has prompted many countries to reform their pension systems by strengthening the link between contributions and future benefits. This paper examines a Swedish pension reform that reduced average public pension wealth by 6.2 percent for individuals approaching retirement and evaluates its impact on private pension saving and labor supply decisions. I find no evidence that the reform affected private pension saving at the aggregate level, either on the extensive or the intensive margin. However, subgroup analyses reveal a decline in saving among higher-income individuals with long pension contribution histories. Labor supply responses are stronger, with individuals extending their working lives in response to the reform. I estimate a 2 percent increase in extensive margin labor supply, and evidence also points to positive responses along the intensive margin.

Essay II: This paper studies the effect of a pension reform on private saving behavior among young individuals early in their careers. The reform shifted the occupational pension system from a defined benefit to a defined contribution structure, resulting in an average reduction of 21 percent in expected occupational pension wealth using an assumed rate of return. However, the effect is highly sensitive to the return assumption. When applying a return based on actual investment performance, the reform instead leads to an average increase in pension wealth. Using a difference-in-differences approach, I find modest effects on private pension saving, where participation increases slightly, but this is only marginally statistically significant. Subgroup analyses indicate a positive saving response among individuals with low income and high education. Overall, the reform did not lead to broad changes in saving behavior.

Essay III (with Spencer Bastani, Jonas Kolsrud and Daniel Waldenström): Using Swedish military enlistment and linked administrative tax registers, we compare the returns to cognitive ability in the labor and capital markets. A one-standard-deviation increase in ability raises capital income almost twice as much as labor income. This capital advantage survives controls for education, occupation, parental background, and inheritance. A decomposition shows that the gap is driven equally by the superior risk-adjusted performance of high-ability individuals and their higher savings rates. The evidence highlights cognitive ability as a critical determinant of capital market success and suggests that ability-based return differentials are an underappreciated mechanism behind rising wealth inequality.

Keywords: Pension reform, retirement, retirement saving, saving, cognitive ability, labor income, capital income.

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To Bawer

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Stockholm, June, 2025

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Introduction

Over the past several decades, demographic change, increased longevity, and growing fiscal pressures have prompted significant pension reforms across many advanced economies. As populations age and old-age dependency ratios rise, governments have faced mounting challenges in maintaining the sustainability of pay-as-you-go public pension systems. In response, many countries have reduced the generosity of public pensions, raised statutory and early retirement ages, and transformed the pension system to better align pension benefits with contributions (Giupponi and Seibold, 2024).

These pension reforms can have important implications for individual pension wealth, not only by altering the level of future benefits but also by shifting financial risk from the collective to the individual. Previously, when pension systems were mainly organized as defined benefit schemes, workers could rely on benefits based on their final or best-year salary from public and employer-provided pensions. Today, however, many workers are covered by defined contribution plans, which may combine funded accounts with unfunded elements. This shift means that individuals increasingly bear responsibility for planning and securing adequate income in retirement. It involves making saving decisions, navigating a wide range of financial options, and understanding the implications of contribution rates and fees.

The extent to which individuals can respond effectively to these new incentives depends not only on their financial capacity but also on their ability to process and act on complex information. Studies have shown that many individuals have a limited understanding of basic financial concepts, including interest rates, inflation, and risk diversification (Lusardi and Mitchell, 2007, 2011). This could limit their ability to plan effectively for retirement, particularly in systems where individuals are expected to choose between fund managers, investment options, and withdrawal plans.

The shift in pension systems has also contributed to reshaping the broader landscape of private wealth accumulation. Waldenström (2024) documents a major transformation in the composition of wealth in the United States and Europe over the twentieth century: from a concentration in land and business assets held by a few to more widely held forms of wealth, such as housing and pension savings. The move from defined benefit to defined contribution pension schemes has played an important role in this development by expanding ownership of financial assets through funded retirement saving. As financial assets become a more common component of household wealth, the outcomes individuals experience in retirement increasingly depend on how their

investments perform. Even among individuals with similar labor earnings, differences in financial choices could lead to large disparities in accumulated wealth. In this way, capital income is shaped not only by how much people save but also by the returns they achieve.

Taken together, the essays in this dissertation contribute to our understanding of how pension systems influence individual behavior over the life course in an environment where individuals are expected to take on greater responsibility for their own retirement security. Furthermore, I provide an analysis of the role of ability in both the labor and capital markets, offering new insights into how differences in individual characteristics translate into disparities in financial outcomes.

The first chapter of this thesis, *Public Pension Reform, Labor Supply and Private Saving: Evidence from Sweden*, examines how individuals very close to retirement respond to a major reform of the Swedish public pension system. The reform shifted the system from a defined benefit to a notional defined contribution structure, linking pension benefits more closely to lifetime earnings and contributions. To identify labor and saving responses, I exploit the fact that the reform applied only to cohorts born in 1938 or later. This allows for a difference-in-differences approach comparing adjacent birth cohorts that are otherwise similar but exposed to different pension rules.

I estimate that the reform reduced average public pension wealth by approximately 6.2 percent. Despite this sizable reduction, I find no clear effect on private pension saving at the population level, neither on the extensive nor the intensive margin. However, the analysis reveals important heterogeneity. In particular, individuals with both high pre-reform income and long contribution histories reduce their saving in response to the reform. This may reflect that these individuals were less affected by the benefit cut due to their stronger earnings histories, and that they had already accumulated sufficient retirement resources, lowering the need to adjust their saving further.

In contrast, the labor supply response is more pronounced. I find that individuals extended their working lives following the reform. Estimates suggest a 2 percent increase in labor force participation at older ages when using variation across cohorts and years, and up to a 6 percent increase when using variation across both age and cohort. The response is strongest at ages 63 to 64, just before the statutory retirement age. I also find some evidence of positive responses on the intensive margin. Among those most affected by the reform, individuals with fewer than 30 years of pension contributions, I find positive labor supply responses only among those with below median income. A similar pattern emerges among individuals with longer contribution histories, as only lower-income individuals appear to adjust their behavior. Overall the findings indicate that the reform mainly influenced labor supply decisions, with limited effects on private saving.

The second chapter, *Early-Career Saving Responses to an Occupational Pension Reform*, examines how individuals in the early stages of their careers

respond to changes in the structure of occupational pensions. The paper focuses on a major reform of the occupational pension plan for white-collar private sector workers in Sweden. This reform replaced a defined benefit system, in which benefits were based on final salary earnings, with a defined contribution system, where future pension benefits depend on accumulated contributions and the returns on invested capital. To examine saving responses, I exploit the natural experiment created by the reform and use a difference-in-differences approach.

The findings suggest that the reform reduced expected occupational pension wealth by approximately 21 percent under the assumed baseline return. However, this effect is highly sensitive to the return assumption. When applying a return based on actual historical investment performance, the reform instead results in an average increase in pension wealth. This illustrates that individuals' perceptions of the reform may depend on the rate of return they assume. At the population level, behavioral adjustment appears limited. In the main specification, I estimate a 4 percent increase in private pension participation among the treated group, which is only marginally statistically significant.

In the heterogeneity analysis, I find that individuals with below-median income before the reform increase private pension saving along both the extensive and intensive margins, particularly among those with higher education. In contrast, low-income individuals with lower education levels show no response. One possible explanation is that low-income individuals with higher education had lower baseline saving and were catching up as their careers progressed. Still, it is difficult to determine whether this increase would have occurred even in the absence of the pension reform. Taken together, the results suggest that the transition to a defined contribution system did not lead to large-scale changes in private saving behavior among younger workers.

In the final chapter of the thesis, *The Capital Advantage: Comparing Returns to Ability in the Labor and Capital Markets*, co-authored with Spencer Bastani, Jonas Kolsrud and Daniel Waldenström, we study the difference in returns to cognitive ability in the labor versus capital markets. While a large literature has established that cognitive and non-cognitive skills are important determinants of labor market outcomes, much less is known about how these abilities affect success in capital markets. This paper addresses this gap by directly comparing the returns to ability in both domains, thereby providing a broader view of how individual characteristics influence income and wealth accumulation.

Using rich Swedish administrative data linking cognitive ability measured at military enlistment to long-run tax records, the paper estimates the association between ability and both labor and capital income. The main finding is that cognitive ability yields significantly higher returns in the capital market than in the labor market. A one standard deviation increase in cognitive ability is associated with a 19 percent increase in labor income, which is consistent with prior research, but also with a markedly larger 32 percent increase

in capital income. This return differential remains robust after controlling for education, occupation, parental background, and inheritance, and is not driven by self-employment or business ownership.

To understand the mechanisms behind this premium, the paper presents a theoretical framework and decomposes the observed capital income return into components. The results suggest that high-ability individuals both save more and earn higher returns on their investments. These higher returns are not fully explained by differences in income or portfolio risk, but appear to reflect better investment decisions, such as superior stock selection and a lower propensity for hand-to-mouth consumption. Notably, these differences are most pronounced at the lower end of the ability distribution, where poor financial decisions and lower saving rates significantly reduce long-run wealth accumulation.

The paper also explores several extensions. Controlling for education and occupation attenuates but does not eliminate the capital income advantage, suggesting that formal qualifications explain part, but not all, of the observed differences. Accounting for family background, through parental income and sibling fixed effects, slightly reduces the ability premium, but the capital advantage remains significant. Furthermore, similar patterns are observed for women using high school grades as a proxy for ability, indicating that the findings are not limited to men.

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