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INVESTMENT CHOICE IN THE SWEDISH PREMIUM PENSION PLAN

BY MÅRTEN PALME, ANNIKA SUNDÉN, AND PAUL SÖDERLIND

Many countries are discussing how to reform their pension systems in order to meet the demands of an aging society. A trend in these reform discussions is to introduce individual accounts as part of both public and occupational schemes. Sweden was an early mover in this process. In 1998, Sweden passed a pension reform that introduced a second tier of mandatory individual accounts, the Premium Pension, in the public system. The individual account component in the pension system was designed as a carve-out. The contribution rate to the overall system is 18.5 percent: 16 percent is paid to the first tier, which is financed on a pay-as-you-go basis and pays a benefit determined by a worker's lifetime earnings, while 2.5 percent is credited to a funded individual account. In addition, a means-tested guarantee benefit provides a minimum pension for workers with low earnings.

The individual accounts are self-directed and participants can invest in a broad array of domestic and international funds. For individuals who do not wish to make an "active" investment decision, a government-run default fund has been established. The first investment selections in the Premium Pension plan took place in the fall of 2000 – known as the "Big Bang" in Sweden's financial sector – when all Swedes born after 1938 were able to choose how to invest their contributions from a menu of about 650 mutual funds. Approximately 70 percent of participants made an "active choice."

The number of funds vastly exceeds what is available in other countries with individual accounts in their national or occupational schemes. The large number of choices could be motivated by the fact that it gives participants opportunities to tailor their portfolios to their risk preferences. However, the system is associated with large costs. The administrative fee for the system is 0.3 percent of assets while the average money management fee is 0.43 percent of assets so the average participant pays 0.73 percent of assets in administrative fees.

This paper examines investment choice in the Swedish individual account scheme – focusing on two aspects of the investment decision. First, do workers with high risk (variability) in their human capital diversify their overall portfolio by investing their pension funds in low-risk funds? Second, to what extent do participants exhibit "home bias" and invest their pension funds in Swedish assets, thereby concentrating their pension assets in securities highly correlated with their human capital? The results are important because participants with high variability in their human capital are at risk for receiving low benefits from the pay-as-you-go portion of the public pension. One way to offset these risks is to take less risk in the investments in the Premium Pension.

To examine investment behavior, we use a large longitudinal data set, the Swedish Longitudinal Individual Data panel, which includes detailed information on individual earnings histories back to 1960, other income components, education level, and sector of work for a sample of more than 300,000 individuals. This data set is then matched with information on individuals' investment selections in the individual accounts in 2000. We estimate a set of models that relate participants' portfolio choices and risk levels to demographic characteristics, income and measures of the exposure to risk in human capital.

Two pieces of evidence in this study support rational investment decisions. First, we establish a positive relationship between income and the level of risk. Second, married participants appear to pool their risks. In particular, married women take more risk in their portfolios than unmarried women controlling for differences in age and income.

On the other hand, the results also show that participants at the bottom of the income distribution take on as much risk as those at the top indicating that they are not diversifying their overall portfolio. Variability in income and the risk of exiting the labor market through disability, unemployment, or sickness insurance do not appear to affect the investment decision. This finding could reflect that workers with high risk in their human capital ignore these risks and thus take on too much risk in their Premium Pension investments. Participants who expect to receive the guarantee benefit have little to lose by taking on additional risk in their pension investments because the level of the guarantee benefit provides a minimum secure benefit. Finally, participants employed in sectors that are affected by foreign competition are less likely to diversify their portfolios and invest in foreign assets compared to the public sector. Instead, these workers exhibit "home bias" in their investments. Ignoring human capital risk and investing too much in Sweden potentially have severe consequences for future pension benefits and put these participants at risk for very low income in retirement.

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CENTER FOR RETIREMENT RESEARCH AT BOSTON COLLEGE

Fulton Hall 550, 140 Commonwealth Avenue, Chestnut Hill, MA 02467-3808
phone 617.552.1762 fax 617.552.0191 crr@bc.edu www.bc.edu/crr