Extended abstract

Participation in and contribution to voluntary pension saving in a three-pillar system

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This paper studies the decision of individuals to save in the voluntary private pension pillar of a three-pillar pension system. A three-pillar pension system typically consists of a government-run first pillar, a private but compulsory second pillar and a private but voluntary and tax-exempt third pillar. We ask which factors that make individuals choose to join the third pillar, and which factors that affect the monetary contribution to the pillar given that they have joined.

The paper is pertinent given the on-going debates on how to reform pension systems amid aging societies and rapidly increasing old-age dependency ratios. It is frequently argued that private pension saving must play a greater role in ensuring the adequacy of pensions. This however makes it important to gain detailed knowledge on the factors that make individuals safeguard their own retirement by voluntary third pillar saving.

Numerous studies have considered contributions to 401(k) accounts, the main private pension scheme in the USA. These studies have reached a number of common conclusions although there is no consensus regarding the effects of gender and education on 401(k) saving. Very few studies have considered the factors driving voluntary private pension contributions in Europe, presumably because adequate data have generally not been available. The fact that the voluntary contributions are administered by private funds typically implies that although aggregate data have been collected information on individual characteristics are not available.

We have access to a very fine-grained dataset that is constructed by merging several Estonian data registers with data from 2014 (or 2013 for a few variables). The merged dataset consists of data from the pension fund register, the population register and the education register. The merged
dataset contains information on how much (if at all) an individual contributes to a third-pillar pension fund in 2014, background information on all individuals pertaining and detailed information on the education attainment. The dataset contains data on the full population in the relevant age group living in Estonia (around 700,000 individuals) with the exception that the education data are only available for a subset of the population (around 250,000 individuals).

The paper presents detailed summary statistics to provide a understanding of the features of the data. Algorithms are used to exclude observations where erroneous coding of data can be detected. The empirical analysis takes into account that the voluntary pension contribution is a variable truncated at zero. The main methodology used is Heckman’s selection model which distinguishes between the participation choice of whether or not to save in a voluntary third pillar pension fund and the intensive choice of how much to contribute (given the individual participates). Various other methodologies are used in robustness analyses.

The paper contributes to the literature on voluntary pension saving in several ways. First, it is among the very first to use European data to estimate the effects of individual characteristics on voluntary pension saving. Second, it considers both the extensive choice of whether or not to participate and the intensive choice of how much to contribute. Third, it includes a large number of individual characteristics in the estimations, including the educational attainment. Finally, the analysis uses population-wide data and thus avoids possible selection biases stemming from survey data.

Very preliminary results show that the factors or individual characteristics driving the participation choice are quite different from those driving the contribution choice. The key factor driving the participation choice is whether or not the individual has earlier opened a voluntary pension saving account, while this does not appear important for the contribution choice. We find as expected that high-income earners contribute more than low-income earners, but the effect of income on the participation choice is less certain, perhaps reflecting that a non-negligible share of low income earners also makes contributions. The age enters linearly in the participation choice but in a U-shaped manner in the contribution choice. Finally, the gender does not appear to be of importance for neither the participation choice nor the contribution choice. Further analysis will examine these results and others in much more depth.