



*The Economics of Pension Reforms.*  
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# **The Economics of Pension Reforms**

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## **Summary**

In recent decades, economic and demographic changes have put pressure on social security systems all over the world. Indeed, the financial sustainability of pension arrangements and the resulting need for reform are high on the agendas of national policymakers as well as of international organizations. As a result, many countries have legislated and/or implemented measures to enhance the sustainability of their pension system. This dissertation discusses and investigates several topics on pension reforms. More specifically; it reviews the trends and facts of pension reforms; it investigates the main political, macroeconomic and demographic drivers of pension reforms, it explores whether these drivers differ between OECD and non-OECD countries, and it investigates the consequences of such reforms on voluntary household savings.

Chapter 2 presents and discusses a new and comprehensive dataset of pension reforms for an extended period of time and a broad set of countries. The reforms include the substantial, institutional reforms as well as the smaller, incremental reforms. We gathered data on institutional reforms for all countries for the time span 1980–2013. For the incremental pension reforms, we gathered data for 151 countries, most of them covering the period 1995–2013. For the first 24 OECD members, we have data on both institutional and incremental reforms over the period 1970–2013. We detect several trends in both the institutional and the incremental reforms. The most evident trend has been the adoption of fully-funded (FF) DC schemes. During the period 1980–2013, a total of 38 countries added a private second pillar, either as a supplement to or a substitute for the first pillar. The most salient incremental reform trends took place in the OECD. In the years preceding the millennium shift, 1995–1999, there were a substantial number of reforms expanding pension arrangements. However, from our data it seems that the recent global economic and financial crisis has given a boost to reforms aimed at reducing the

generosity of pension arrangements. For the non-OECD countries in our dataset, trends are not so clearly visible.

Chapter 3 explores the determinants of those reforms in OECD countries based on information on the state of the economy, demography and political landscape available at the moment these reforms are legislated. We distinguish three reform regimes: a regime characterized by reforms that expand pension arrangements through coverage and eligibility, a regime characterized by contractionary reforms aimed at increasing financial and fiscal sustainability and stimulating work incentives, and a regime that combines the aforementioned expansionary and contractionary reforms in the same year. These regimes are, respectively, labelled as “Expanding only”, “Contracting only”, and “Expanding and contracting”. Our empirical results are the following. First, we find only limited or no effect of projected future changes in the demographic composition of the population on reforms. Second, there is substantial evidence that the current state of the economy, broadly defined, affects reform measures: when the current state is good, there are more expanding reform measures, and vice versa. As pension reforms are primarily aimed at the longer run, the limited role of projected demographic changes and the substantial role of the current state of the economy is remarkable. Third, the supranational European budgetary constraints do not seem to play any role. Fourth, political variables play only a limited role. Finally, we find no evidence that the presence of a crisis affects the likelihood of ending up in one of the reform regimes. We construct a simple theoretical framework that can simultaneously explain why the cyclical state of the economy can trigger adjustments in pension generosity, while projected changes in the old-age dependency ratio cannot. These dynamics can be explained by a government which cares about the income position of the elderly, and, at a fixed cost, is willing to adjust pension pay-outs if that current pension pay-out deviates too far from the optimal one. The current optimal pension pay-out depends on the current old age dependency ratio and the current state of the economy. If the current optimal pension pay-out drifts further from the actual one, the incentive for the government to take reform measures strengthens. However, this incentive is countered for two reasons. One, waiting an extra period before reforming provides more information about the future old-age dependency ratio, allowing for a more appropriate reform decision. Second, postponing the reform decision reduced the discounted reform cost. By means of realistic calibration, the model predicts that the current state of the economy plays the main role in

determining the incentive to reform, while the effect of changes in the future old-age dependency ratio play no role.

Chapter 4 investigates whether the driving forces of pension reforms differ between OECD and non-OECD countries. Reforms are categorized in a similar way as in Chapter 3. We conclude that the reform drivers do indeed differ between the two groups of countries. For the OECD country sample, we find no statistically significant evidence of a role of the old-age dependency ratio, whereas for the Non-OECD countries we find that a larger projected increase of this ratio reduces the likelihood of contractionary reform measures. Although this finding seems counterintuitive, it can perhaps be explained by the fact that many of such countries still have rather underdeveloped pension arrangements, making it impracticable and infeasible to cut back on such systems. Further, we find substantial evidence for the role of the current state of the economy for reform measures. For the “All countries” and the “OECD countries” sample we find evidence that during periods of high economic growth, the likelihood of the “Expanding only” regime increases and the likelihood of “Contracting only” regime decreases. For the “Non-OECD countries” sample the evidence in this direction is weaker, although we find that reforms in the “Expanding and contracting” regime becomes more likely if GDP growth increases. For the OECD country sample, we also find that higher unemployment makes reforms in the direction of “Contracting only” more likely, while a higher deficit enhances the likelihood of the “Expanding and contracting” regime. In the end, these findings are all a reflection of the role of the state of the economy. The state of the economy manifests itself in different ways, implying that the importance of using different variables to capture the state of the economy varies across the various regressions. We also observe that the current state of the economy has a considerably larger role in determining pension reform decisions in OECD countries than in non-OECD countries. This may well be the result of the fact that pension arrangements in the non-OECD are in build-up transitional phase.

Chapter 5 empirically investigates the effects of pension systems and pension reform measures on voluntary household savings. For this analysis, we conduct a panel analysis that covers 19 OECD countries over the period from 1970 to 2013. We distinguish between contemporaneous pension arrangements and pension reform measures. Contemporaneous pension arrangements are measured through the contemporaneous replacement rate and the statutory retirement age. Pension reforms are measured by their legislation date and are expected

to change the system in the future. We distinguish between different types of reform measures, according to their expected effect (positive, ambiguous, or negative) on voluntary household savings. Our empirical analysis provides robust evidence that the replacement rate of mandatory pensions has a negative effect on voluntary household savings. Further, we find no statistical significant evidence that the statutory retirement age has an effect on voluntary household savings. As for the effects of pension reform measures, we find some evidence that reform measures with an expected positive effect on voluntary household savings do indeed have a positive effect on the household savings ratio. These findings are, however, not robust to all other regression specifications.