Discussion: Chile - Assessing Fiscal Costs and Pension Distribution in Transitions to Defined Contribution Systems: A Retrospective Analysis for Chile

The authors investigate what would have happened in Chile if, instead of the original financial defined contribution (FDC) system introduced in 1981, the country had implemented a nonfinancial (notional) defined contribution (NDC) scheme. With this aim in mind, they construct the account balances for the hypothetical NDC scenario, using actual contribution data from a representative sample of affiliates between 1981 and 2006 and projecting the balances for 2007–26, applying a method similar to that of Berstein, Larrain, and Pino (2006).

Pay-as-you-go (PAYG) systems in Latin American countries collapsed for various reasons—serious economic problems, obvious design flaws, a general lack of trust in politicians, the inability of the state to administer the public systems, the low level of coverage, unfair differences among beneficiaries, regressivity in the distribution of income, high administrative costs, and bad management of existing funds (Schulthess 1999). Reforms in some of these Latin American countries partially or completely transformed their pension systems into individual capitalization systems in which individual responsibility and freedom of choice were accorded greater importance. These systems were installed with the goals of consolidating investment markets, reducing the charge on the state, bringing about greater participation by private management and individuals in providing for personal risk, increasing fairness, diversifying the risks associated with pure PAYG systems, and, above all, increasing the clarity and transparency of the system by making it more independent of political factors. Chile pioneered the reforms in 1981 and was perhaps the country that put them into practice in the most drastic way, owing to its own particular political situation.

According to Edwards (1996), in 1980 the Chilean pension system was in crisis. It was paying more in benefits than it was receiving in contributions, and the projected actuarial imbalance was greater than the country’s gross domestic product (GDP). The traditional Chilean system was chaotic and vulnerable to political pressures, as Soto (2005) has pointed out. The “system” was nothing more than a collection of more than 100 separate pension regimes. Each regime had its own rules, demanded different levels of contributions, and promised different benefits, tailored to satisfy special interest groups. In some cases, white-collar workers could comfortably retire in their 40s, whereas bluecollar workers had to wait until their 60s to qualify for minimum retirement benefits. The contribution rate reached levels that discouraged participation and compliance. In the mid-1970s, for example, average contribution rates exceeded 20 percent of taxable wages. Acuña and Iglesias (2001) describe the system as poorly administered and inefficient.

The main conclusion reached by Fajnzylber and Robalino is that the transition costs under an FDC system are considerably higher than they would have been if an NDC system had been implemented. In particular, introducing an NDC system would have produced fiscal savings during the first 45 years after the reform equivalent to 50 percent of the initial GDP. Our first comment is that the authors should give special attention to the transition costs of two alternatives:

 • A shift from a defined benefit PAYG scheme to an FDC scheme, which in principle generates fiscal costs by diverting PAYG contributions to the funding or capitalization system

• A shift from a defined benefit PAYG scheme to an NDC scheme, which in theory does not generate fiscal costs because there is no diversion of contributions. What happens, basically, is a change in the way the benefits—specifically, retirement pensions—are calculated.

The authors should have stressed more strongly the fact that the fiscal cost of the second alternative really emerges because there was an appreciable decrease in the contribution rate when the system was reformed in 1981, as Valdés-Prieto (2006) points out. If the reform had not brought with it this decrease in contributions, the second alternative would not have incurred a fiscal cost deriving from the diversion of contributions. If, instead of introducing the FDC system in 1981, an NDC system had been implemented without reductions in contributions and with additional financing for the redistributive component deriving from minimum pensions and the real increases in benefits, the fiscal cost would have been nil. Indeed, in the proposal by Boado-Penas et al. (2007) that recommended the introduction of an NDC system in Spain, the fiscal impact of the reform was forecast as positive because the income from contributions would have been maintained and the amount of new retirement pensions awarded would have been lower as a result of the effect of actuarial rebalancing under the NDC system.

With regard to the comparison between pension distributions and replacement rates at the aggregate and individual levels, anyone familiar with the Chilean system would know the result beforehand, given that the real returns achieved by the capitalization system have been extremely high. It would be difficult for any notional formula to do it better. The questions are whether the result is the same when the risk involved, or the degree of risk aversion, is taken into account, and whether this extremely high return could reasonably be maintained in the future. According to Vidal-Meliá, Boado-Penas, and Settergren (2010), the Swedish experience shows that during the period 1995–2007, the average rate of return in the notional-type (Inkomstpension) system, measured as the capital-weighted rate of return, was 3.1 percent. The average annual variation in the rate of return, as measured by the standard deviation, was 1.1 percentage points. Since the first payments into the funded pension system in 1995, the average return of this system, after deduction of fund management fees, has been 5.8 percent. The annual variation in this rate of return, as measured by the standard deviation, was 14.3 percentage points. The risk-adjusted return for the Inkomstpension system would be 2.81 percent, but it is barely 318 0.41 percent for the premium pension system. If the return were measured by methods that took into account the degree of risk aversion, the comparison would still be more favorable for the notional account system.

If we consider the period 1995–2008, the average rates of return in Sweden’s notional-type and premium pension systems were 3.1 and –0.8 percent, respectively. The 2008 annual report does not provide information about the annual variation in this rate of return.

As Fajnzylber and Robalino acknowledge, the results reported in chapter 9 depend strongly on nontrivial assumptions about the evolution of the most relevant parameters (growth of GDP and wages, interest rates, and coverage and contribution densities). The authors therefore carried out sensitivity analyses in order to study different scenarios over the long term. What struck us is that the authors assume, as a baseline scenario, a fixed rate of return, set at a level of 4 percent per year, when the historical annual rate for the system between 1981 and 2007 was 10.1 percent. The same rate is used for both schemes in spite of their very different natures. In an FDC scheme, the contributions are indexed in line with the rate of interest in the financial markets, whereas the notional rate for contributions under an NDC scheme is meant to reflect the financial health of the system and, accordingly, is usually linked to some macroeconomic index such as GDP growth.

Finally, in our estimation, what these calculations really show is that the Chilean system has two serious problems. The first problem, which the authors have rightly stressed, concerns coverage and the density of contributions. The authors show that more than 50 percent of contributors will be unable to finance a minimum pension even though, during the first 26 years of operation, the annual rate of return was extremely high in real terms—a feat which will be difficult to maintain in the future. The second is a design problem: with contributions set at 10 percent of taxable salary and a scenario in which longevity continues to increase, it is difficult to see how worthwhile pensions can be achieved. The contribution rate should be higher, or contributions should be paid over a longer period of time, or both.

It is worth mentioning two examples in order to address the problem of the very low contribution rate in Chile. In Sweden, the contribution rate for the retirement contingency is 18.5 percent (16.0 percent plus 2.5 percent). In the base scenario (SSIA 2008, 34), the average pension level for the year when the individual turns age 65 drops from 66 percent for birth cohort 1944 to approximately 53 percent for birth cohort 1990. For Spain— assuming a 15 percent contribution rate for the retirement contingency and following several macroeconomic projections—Boado-Penas, Domínguez-Fabián, and Vidal-Meliá (2007) analyze the impact on the initial amount of retirement pension and the internal rate of return of applying 10 different formulas for the calculation of the retirement pension based on notional accounts. For a retiree age 65, after 50 years of contributions, the average replacement rate as a function of the average wage would be about 62 percent. If, however, the increase in longevity observed over the past 50 years in Spain continues into the next 50 years, and the aim was to preserve the financial equilibrium of the system, the replacement rate should be set at 51 percent of the average wage after 40 years of contributions.

Overall, the chapter attempts to shed some light on the consequences for the Chilean pension system of a hypothetical NDC reform in 1981. Special attention is paid to the fiscal impact and the distribution of the pensions. The authors have put considerable effort into working with a large database and applying a sophisticated methodology to project some of the variables. However, as mentioned above, the results are quite dependent on the assumptions used. We encourage the authors to produce further studies under different and more realistic assumptions or to apply their model to other countries. It would also be interesting to consider different retirement ages (replicating the current retirement age distribution), to model married individuals and study their pension distribution, or to take account of survivorship pensions.

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