RESEARCH Brief

University of Michigan Retirement Research Center

Investor Behavior and Fund Performance under a Privatized Retirement Accounts System: Evidence from Chile

Elena Krasnokutskaya and Petra Todd*

September 2009

The United States and many European countries are currently considering how best to reform their pay-as-you-go social security systems. Demographic trends indicate rising numbers of pensioners per worker and pending insolvency of many social security systems. The kinds of reforms being considered include increasing the required social security contribution per worker, raising the standard retirement age, or overhauling the system by transiting to a fully funded system. Chile has been at the forefront of pension reforms, having switched to a fully funded private retirement accounts system 28 years ago. Numerous other Latin American countries implemented similar pension reforms, building on the Chilean model. These include Peru (1993), Colombia (1994), Argentina (1994), Uruguay (1996), Bolivia (1997), Mexico (1997), El Salvador (1998), Costa Rica (2001), the Dominican Republic (2003), Nicaragua (2004) and Equador (2004).

Previous research on Chile mainly examined the impact of pension reforms on the macro-economy, capital markets and aggregate savings. It found substantial benefits of moving to a private retirement accounts system in developing well-functioning capital markets and in stimulating economic growth. However, there continues to be a heated debate about other relative merits of a decentralized, private system. Critics of privatization point to low coverage rates and commissions and fees that are thought to be excessive. Low coverage rates are mainly due to the presence of an informal sector of the economy, where workers do not contribute to the system, and to low labor force participation among some groups, including women.

With regard to commissions and fees, it was initially thought that free market entry and competition among fund administrators — called Administradoras de Fondos de Pensiones (AFPs) — would ensure that fees and commissions would be kept at minimal levels. However, low rates of financial literacy may be a factor inhibiting consumers from selecting wisely among plans, which could facilitate the survival of higher cost AFPs.

The plans for pension reform that have been proposed in the US and in Europe have many features in common with Chile's current pension plan. They outline a system under which all workers are mandated to contribute a pre-specified part of their income to their pension account, which is managed by money manager(s) (either a government-owned company or competitive industry of money managers). The government serves as a last resort guarantor who supplements pension income if pension accumulations are insufficient (below a pre-specified minimal level) either because of low income or unfavorable returns on investment. All these features are present in the Chilean pension fund system.

Two important concerns have been raised about fully funded pension systems. The first is that government obligations can be large, particularly in years with unfavorable market outcomes. Second, the government guar-

Elena Krasnokutskaya is an assistant professor of economics and Petra E. Todd is a professor of economics at the University of Pennsylvania. This Research Brief is based on MRRC Working Paper WP 2009-209.

antee of minimal support may induce moral hazard problems by encouraging consumers with low income to choose risky investment options. If the system is run by a competitive industry, then money managers may offer products to meet this demand, which, in turn, can raise government obligations. This is clearly an undesirable feature of the competitive industry, although competition also brings potential benefits of more efficient pricing, incentives for cost efficiency, and quality improvement.

Chile has a competitive industry overseeing pension investments, but the industry is subject to a number of government regulations that were designed to limit the riskiness of the investment products offered. An especially important regulation is a return requirement under which money managers are responsible with their capital for delivering a rate of return no lower than 2 percent below industry average. This requirement essentially shifts the investment risk from consumers to firms.

This paper investigates the choice of product and subsequent pricing in Chile's pension industry, taking into account the regulatory environment. It also investigates the effectiveness of the current Chilean regulation in limiting risk and compares it to alternative forms of regulation. The question of whether and to what extent governmental regulations imposed on a privatized account system can protect investors from risk without too greatly compromising investment returns is pertinent not only for Chile, but also for any other country considering a privatized account system.

Our analysis combines data from multiple sources: longitudinal household survey data gathered in 2002 and 2004, administrative data on contributions and fund choices from 1981–2004 that were obtained from the pension fund regulatory agency, market data on the performance of the various funds, and a data series on the fees charged by funds, as well as accounting cost data.

Under the Chilean pension system, consumers are required to invest all their pension accumulations with one money manager, but can freely move their savings from one manager to another. Additionally, funds are not allowed to charge fees to set up an account or to withdraw money. Our model assumes that a consumer chooses an AFP to manage his/her pension savings at the beginning of each year, taking into account the product's characteristics (average return and risk) and on the fees charged by that fund. The pension funds charge fixed and variable fees that depend on account balances and contribution levels. Repeated pension fund choices along with returns over time determine the consumer's balance accumulation. Aggregation over consumers generates the market demand for an AFP product. Additionally, we model the consumer's decision of whether to contribute to the pension system in a given period as a decision of whether to be employed in a formal or informal sector (contribution is mandatory for workers in the formal sector). The supply side of the market is modeled as an oligopolistic environment in which AFPs sequentially choose their product attributes (average return and risk) and set their fees while taking into account the characteristics of consumers in the market.

After estimating the parameters of the demand and supply model, i.e., the distribution of consumers' tastes and companies' cost functions, we use the model to conduct counterfactual experiments that study firm and consumer behavior under alternative regulatory schemes. For example, instead of requiring AFP firms to deliver returns close to the industry average, an alternative regulation would explicitly regulate the choice of investment instruments. We use average lifetime pension accumulation of individuals as a criterion for choosing among regulatory schemes.

University of Michigan Retirement Research Center
Institute for Social Research 426 Thompson Street Room 3026 Ann Arbor, MI 48104-2321
Phone: (734) 615-0422 Fax: (734) 615-2180 mrrc@isr.umich.edu www.mrrc.isr.umich.edu

The research reported herein was performed pursuant to a grant from the U.S. Social Security administration (SSA) through the Michigan Retirement Research Center (MRRC). The findings and conclusions expressed are solely those of the author(s) and do not represent the views of SSA, any agency of the federal government, or the MRRC.

Regents of the University of Michigan: Julia Donovan Darlow, Laurence B. Deitch, Denise Ilitch, Olivia P. Maynard, Andrea Fischer Newman, Andrew C. Richner, S. Martin Taylor, Katherine E. White, Mary Sue Coleman, Ex Officio