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Structural Pension Reform: The Chilean Experience

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Abstract: Chile was the first country to introduce structural pension reform based upon a funded pillar. Implemented in 1981, Chilean pension reform inspired many other Latin American countries. During the nineties, an important literature analysed the positive and negative aspects of pension funds in Chile. This paper is organised as follows: the first section analyzes the macroeconomic implications of the pension fund introduction. I then present the Chilean pension system and its performances with respect to significant indicators in order to see whether Chile achieved the macroeconomic objectives of the reform. In the third section, I analyze the potential risks and difficulties of pension fund introduction, classifying them through their endogenous or exogenous character.

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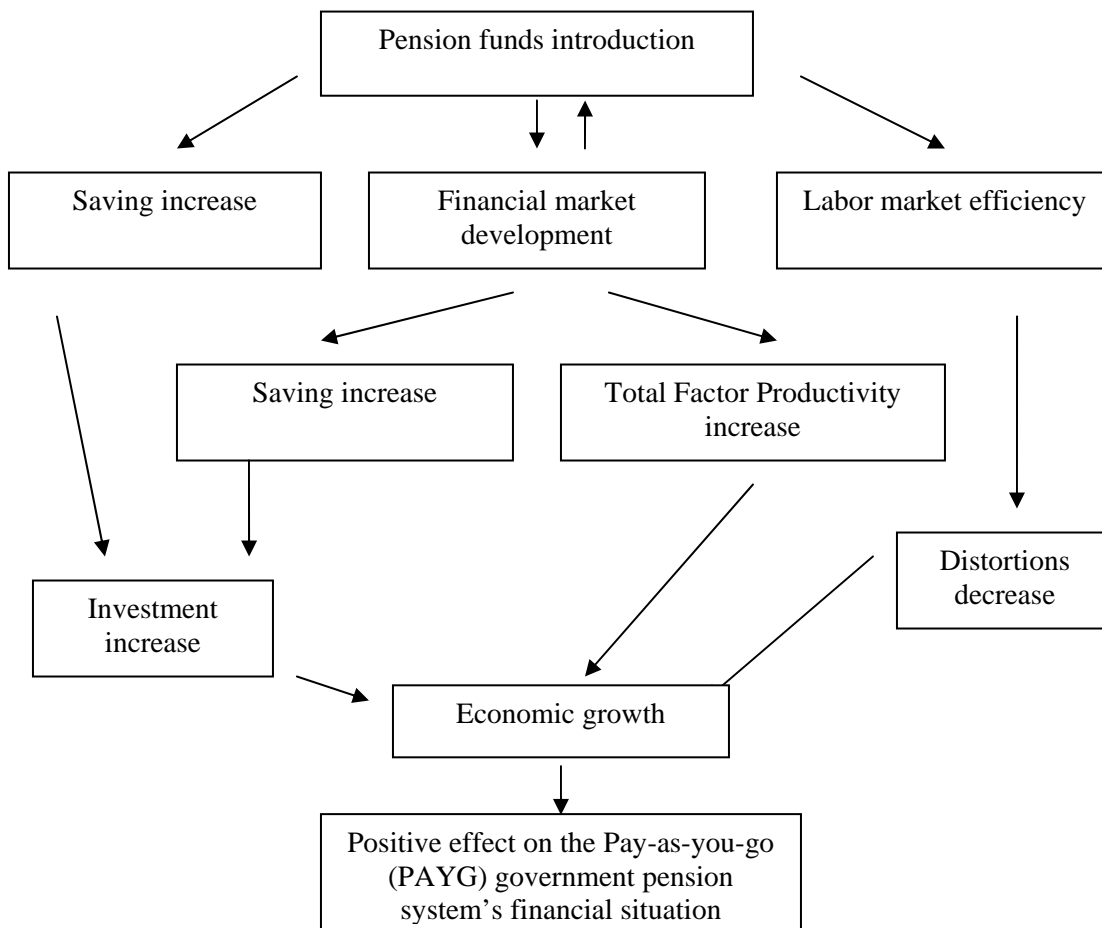
Mehdi Ben Braham

Introduction

Chile was the first country to introduce structural pension reform based upon a funded pillar. Implemented in 1981, Chilean pension reform inspired many other Latin American countries. During the nineties, an important literature analysed the positive and negative aspects of pension funds in Chile. This paper is organised as follows: the first section analyzes the macroeconomic implications of the pension fund introduction. I then present the Chilean pension system and its performances with respect to significant indicators in order to see whether Chile achieved the macroeconomic objectives of the reform. In the third section, I analyze the potential risks and difficulties of pension fund introduction, classifying them through their endogenous or exogenous character.

I. The macroeconomic implications of pension funds introduction: theoretical analysis

Figure 1: Pension fund and economic growth



Theoretical literature on the macroeconomic effects of pension funds introduction (Feldstein 1974; Munnell 1980; Holzman 1996; Blanchet 1998 for examples) identifies three major impacts of pension funds introduction in the case of emerging countries. The **first** impact concerns private savings. The **second** one deals with financial market development (with certain conditions) and the **last** one analyses the impact on labor market. These different impacts have generally positive effects on economic growth.

1. Pension funds and saving

There is no clear consensus on the effects on pension funds on savings. A funded system could have positive and negative effects on private savings. (See Ben Braham M. 2006 for empirical analyse on the Tunisian case). Saving could increase, since workers accumulate assets for retirement in a funded scheme. But this positive effect of pension funds on private savings could be offset by two factors: transition costs, which decrease saving at the national level, and the possible decrease of voluntary savings through a crowding-out effect.

Empirical studies do not find a clear and positive link between pension funds and saving. Lopez-Murphy and Musalem (2004) analyze this relation in 50 countries and find a positive effect only when pension funds are mandatory. Working on a panel of countries, Samwick (1999) finds that pension funds increased saving only in Chile. So this positive effect depends on the macroeconomic situation, pension reform characteristics and other structural reform. Schmidt-Hebbel (1999) analyses the Chilean case, and finds that between 10 and 45% of the saving increase is the result of pension funds introduction, and the rest is explained by other structural reform. So even if a positive effect exists, we cannot have a precise idea on its value [see Gale (1999) for a literature review].

2. Pension funds and financial market development

The literature suggests a close relationship between pension funds development and financial markets which become deeper, more liquid and more competitive (Holzman, 1996; Walker & Lefort, 2002; Davis and Hu, 2005). When pension funds are introduced, the economy does not depend exclusively on short-run capital flows (often foreign capital flows) because they have an important pool of internal savings to finance investment. The expected investment time horizon of pension funds is longer than that of individuals and firms. Pension funds invest for the

long run, so they can promote financial market development by creating new products, financing the privatization process, decreasing transaction costs, and so on. Great transparency should decrease the riskiness of investment. So pension funds could decrease the average cost of capital, which would increase investment and positively affect economic growth.

Most of empirical studies concern the Chilean case. Holzman (1997) and Schmidt-Hebbel (1999) conclude that pension reform increases private investment. A positive effect on the average productivity of capital had low “t” values, explained by multicollinearity between independent variables. Results obtained by Catalan et al¹ (2000), Impavido et al (2003) and Hu (2005) confirm the positive effect of pension funds on financial market development. Catalan (2004) shows a positive impact of pension funds on the financial market through corporate governance effects. Pension fund activism influences firms’ management and strategic decisions.

3. Pension funds and labor market efficiency

Shifting from a PAYG system to a funded system, which establishes a link between contributions and benefits, often reduces labor market distortions and informal market activities, especially in emerging countries. The new system reduces what can be called the payroll tax on labor, since a contribution to an individual’s account is not seen as a tax on labor. Then formal market development increases retirement coverage of the population. In addition, people are considered to be more interested in their retirement by accumulating assets, being stockholders and participating more actively in economic life. Pension funds could create cultural change. When workers feel that they own a fraction of a country’s assets through stock ownership, they are much more focused on financial markets and the pensions they will receive in the future.

A key concern of any retirement system, especially a PAYG one, is its relationship to economic growth. Cyclical growth reduces unemployment and increases contributions. Structural pension reform introducing pension funds has, theoretically, two advantages: it constitutes a solution to allow an acceptable pension to future retirees, and it promotes economic growth. The direct effect of pension funds on economic growth has been little analysed. It’s not easy to identify precisely the effect of pension funds when other structural reforms are undertaken at the same time. In addition, as Corbo and Schmidt-Hebbel (2003) argue, the short-run impact of the

¹ They found that pension funds positively Granger-cause equity market capitalisation as well as value traded.

reform on growth is different from the long-run impact. They analyse this issue in the Chilean case. Table 1 presents qualitative estimates of past and future effects of the pension reform on growth.

Table 1: Qualitative estimate of past and future effects of the pension reform on growth

| Channel | Historic post-reform period (1980-2001) | Future systemic transition period (2002-2035) | Future steady state (2035-onward) |
|--|---|---|-----------------------------------|
| 1 Investment | ++ | + | Tends towards 0 |
| Domestic saving (public saving less private saving) | - | - | 0 |
| Private saving (compulsory saving less voluntary saving) | +++ | ++ | Tends towards 0 |
| 2. Labor markets | | | |
| Increase in employment and decrease in informality | ++ | 0 | 0 |
| Increase in labor productivity | + | 0 | 0 |
| 3. Financial markets | | | |
| effects on financial development and TFP | ++ | + | 0 |
| Total effects on growth | ++ | + | Tends towards 0 |

Source: Corbo and Schmidt-Hebbel

Using an exogenous growth model, the authors show that pension funds' impact on growth tends to fall over time. The results show temporary positive effects mainly explained by the exogenous character of the model, since the long-term growth rate is independent of any of the channels presented on table 1. I discuss below the results of the Chilean reform after 25 years.

II. The Chilean experience

Viewed as one of the most innovative pension systems when it was created in 1981, the pension system in Chile has been the subject of numerous analyses. Here I analyze the Chilean

experience through its positive and negative aspects. We will see then which points should be improved classifying them through exogenous and endogenous problems.

1. Chilean Pension System

The literature often focuses only on the capitalised system introduced after the 1981 reform, attributing all changes in performance to this single change. But, we must not forget that the retirement system is still based on a multi-pillar system as defined by the World Bank (1994).

The first pillar: three elements compose the first pillar. The first one is the *Pensiones Asistenciales* or PASIS which provides a welfare-based pension for the indigent. The second component is the state-guaranteed minimum pension (MPG) for participants in the *Administradoras de Fondos de Pensiones (AFP)* who contribute for at least 20 years. The (MPG) allows future retirees to obtain a minimum pension level. In practice, the federal government helps poor retirees who are not reaching the minimum pension by making transfers to their AFP account. Finally, the third component is a public-defined system known as the *Instituto de Normalización Provisional (INP, or National Pension Funds)* which administers the old PAYG defined-benefit program, which is closed to new entrants.

The second pillar is based on a mandatory contributory defined contribution plan. This funded system is administrated by AFP. Workers who belong to the old PAYG system were asked to choose between remaining in the old INP system or moving to the new system, receiving then, recognition bonds from INP for their old contribution. The new AFP system was mandatory for new workers except self-employed workers. This has an important impact on coverage rates (see figure 2).

The third pillar works like the second pillar, but it is a voluntary system. It covers workers who want to accumulate more capital for their retirement period. This capital is not liquid and should be invested during a long time.

Table 2: Chilean pension system characteristics

| System | Contributions (rate) | Benefits | Administration | Administrators (Annual changes allowed) | Minimum returns | Minimum pension |
|---------|-------------------------|-----------------|----------------|---|--------------------|--|
| Private | Defined (10%) | Non- defined | private | AFP (4) | Relative | 112-133\$ after 20 years of contribution ² |

² For a detailed presentation of minimum pensions rights see Mendez (2003)

2. First results of the reform

Olivia Mitchell³ provides four reasons for the popularity of the Chilean pension system.⁴ The first is related to the fact that the new pension system replaced the old state one, which went bankrupt because of corruption and insolvency. The second reason is that the new pension system is based on an individual accounts, which can be better protected against political risks. Third, the pension system includes a minimum pension guaranteed by the government. Finally, the Chilean model has existed for 25 years and is working well. The first results tend to inspire confidence. The macroeconomic effects of the reform are difficult to measure since the capitalized system was implemented together with a certain number of structural reforms. The success of Chilean pension reform could be analysed through a certain number of indicators. But we must keep in mind that some problems are endogenous to the capitalised system whereas others are completely exogenous.

The transition costs

Before presenting the evolution of the main indicators, we must consider that structural pension reform creates transitional costs. Government still must pay the promised pension of future retirees in the old system while workers who switch to the new system stop contributing in the old system and new workers also contribute to the new system. So, how to cover these transitional costs? Pension fund introduction is very expensive and reform financing constitutes a real challenge. Chile used a system of “recognition bonds.” The amount of this recognition bond paid by the State to retirees was the equivalent to their past contributions to the old system. Theoretically, transition costs could be financed in a variety of ways: cutting other government spending, raising taxes, incurring debt or using revenues from public firms’ privatization (selling assets). The choice between these different possibilities depends on the macroeconomic situation, workers situation and other condition. Chile used a certain number of instruments to finance the reform. The Chilean government accumulated a fiscal surplus before the reform, allowing them to cover some transition costs. Also, the government financed the transition by cutting spending on distribution programs like health and education. In addition, the government decreased

³ Executive Director of Wharton’s Pension Research Council

⁴ See “Chile’s pension reform: an inspiration to others” from Universia.knowledge@wharton

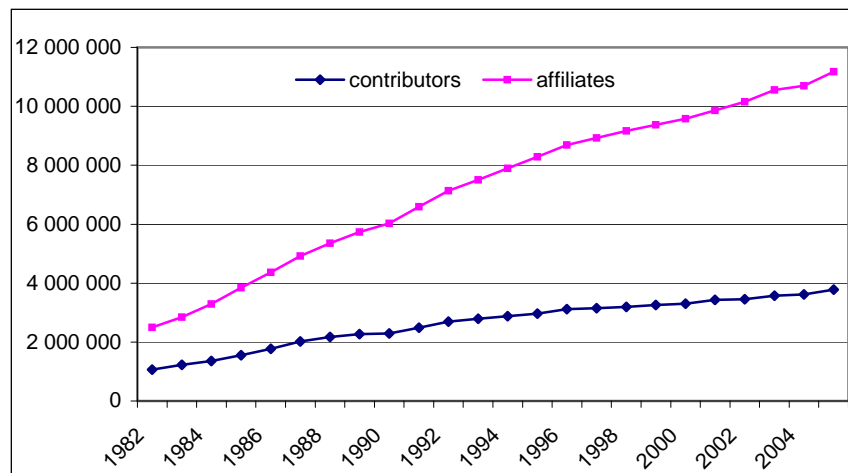
pension debt by downsizing the old system, mainly by raising the retirement age. Transition costs are very important in the case of radical reform where a PAYG system is totally replaced by a funded one. If the reform keeps a PAYG system behind pension funds, transition costs should be lower. Transition costs are temporary, however, since they will decrease and disappear with the decrease of the number of retirees who belong to the old system.

Coverage rate problem

As Mesa-Lago (2002) notes, it is not possible to compare coverage before and after the reform because of absence of data prior to the reform. But the important gap between contributors and affiliates is an important problem (Figure 1). A certain number of workers will not accumulate enough funds. But this problem is not only a concern for a capitalized system. Also, problems of unemployment and a large informal sector would be the same with a PAYG system. This exogenous problem has been analysed by specialists and some alarming conclusions have been made for the future.

Figure 1 shows important results: at first, there is an important gap between affiliates and persons who are really contributing to the system.⁵ Secondly, we see that this gap is increasing continually since the new system adoption. An important part of the work force is not contributing continuously and accordingly, will receive low pensions.

Figure 1: Affiliates and contributors evolution (As of 31 December of each year)



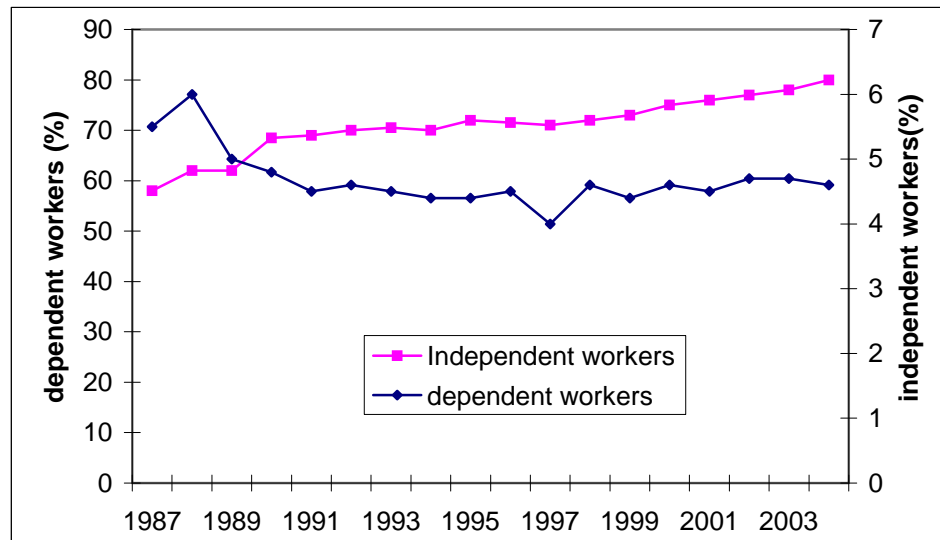
source: FIAP

This is a serious problem for the pension system. A precise analysis of the coverage rate by type workers is needed to find a solution to increase coverage and encourage workers to contribute

⁵ Statistically, contributors are workers who contributed regularly during the last 12 months. Affiliates are workers who contributed to the system, but not regularly.

continuously. A first interesting step is to distinguish independent workers from dependent workers. The following figure shows the relative size of the dependent and independent workers' coverage.

Figure 2: AFP (Administradoras de Fondos de Pensiones) system coverage rate (by workers type)



source: AFP

We can see an important difference in the coverage rate for the two types of workers. Few independent workers are contributing to the capitalised system [for coverage in Chile, see Valdes Prieto (2006)]. Contributions are not mandatory for independent workers, which explains their very low cover rate. The Chilean pension system leaves the independent workers, who do not contribute during the 20 years required to obtain the minimum pension, with no pension during the retirement period. One problem is that nothing could be done to impose social security contributions on independent workers. They can easily evade any obligation to contribute. The only way to increase participation is to create tax incentives and, by the same way, to increase voluntary savings. Nevertheless, saving for retirement has the disadvantage that such capital accumulation is not liquid compared with other types of financial products.

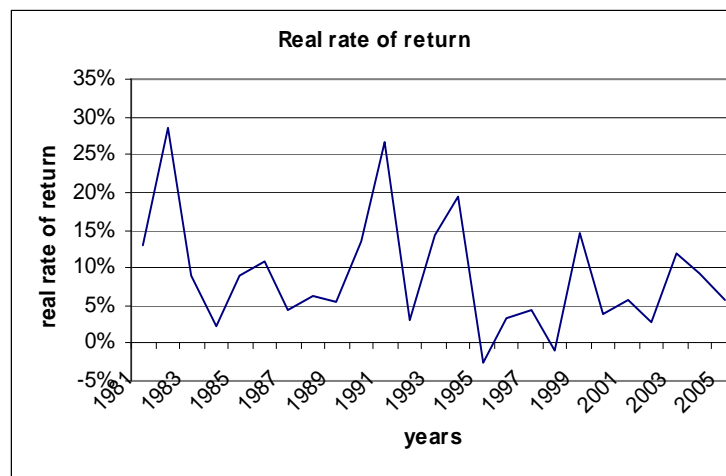
One objective of the transition from a PAYG system to a multi-pillar system, based on a funded individual account, is to make workers more interested in participating in the system and in contributing. The AFP's system allows them to make investment choices, to follow their capital accumulation and to be informed on investment returns and so on. But for the independent workers (figure 2), we see that this objective is not actually being achieved. Several

reasons could explain these results, such as financial culture, education level and informal sector. Two other key factors are wage level and the choice between consumption today and tomorrow.

According to the president's Advisory Council on Pension Reform⁶ report, "without changes to the system, estimations reveal that, within 20 years, only half of Chile's senior citizens will receive more than the minimum pension, less than five percent will have access to the minimum income guaranteed by the state, and the rest will scrape by on less than the minimum, a poverty pension or nothing." The latter population will be especially low-paid workers, temporary workers, the self-employed and a large proportion of women. As noted by James (2007), the Chilean government does not have the capacity to enforce contribution collections on small firms, self-employed individuals or agricultural workers who constitute a large portion of the labor force. Conclusions in term of households are less worrying. As noted by Mitchell, new survey data shows that three-quarters of those not making contributions are women, and two-thirds of those women are not the heads of their household. Low coverage rates for some individuals are compensated by a certain degree of family protection.

The first preoccupation of future retirees on the microeconomic level is the pension received during their retirement period. The real rate of return gives us an idea on pension funds' investment efficiency, even if the period taken into account (1981-2005) is not long enough. In addition, past returns don't give any idea of future returns. Economic crisis or financial crisis could provoke dramatic erosion of pension funds values (Argentina represents a good example).

Figure 3: Pension funds real rate of return



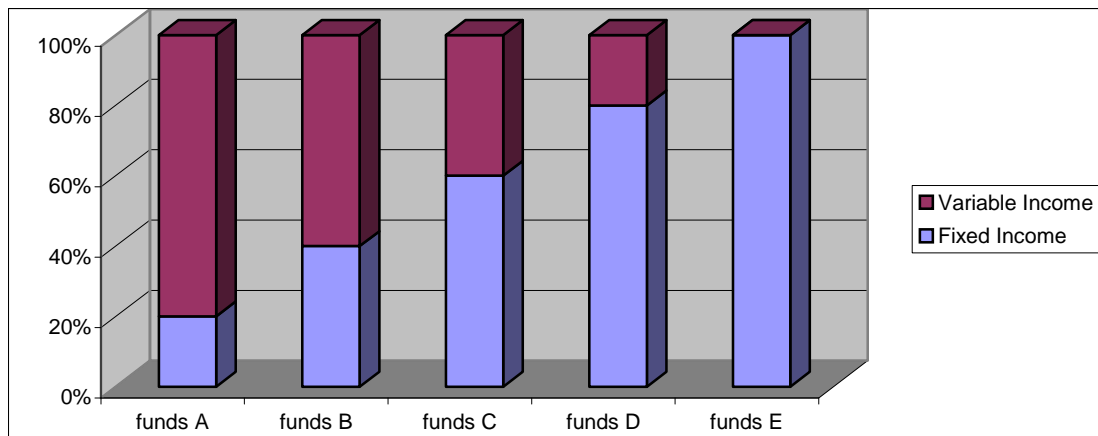
Source: FIAP

⁶ Created by President Bachelet on March 17, 2006.

Figure 3 shows that pension fund returns in Chile are characterised by important variations since the reform of 1981. The return reached a level near 25% (in 1983) but decreased to a negative level in periods of economic crisis (1996 and 1999). Exceptional returns of pension funds during the eighties are explained by two main factors: pension funds invested strongly in bonds whose value has considerably increased with the decrease of inflation and interest rates in the 1981-1997 period. Secondly, pension funds made large gains on equity bought in the first period of the privatization program. The returns have decreased since 1997 and will be undoubtedly lower compared to the eighties.

A high level of capital accumulation also could lead to a decrease of capital's return. International diversification of pension funds investment could be a solution (see Figure 5). In addition, since the multiple fund creation in September 2002, returns are different from one fund to another. The funds are classified through risk degrees of investment (see Figure 4). Five funds are available, classified from funds A (the less secure one) to funds E (made up of only fixed income investment).

Figure 4: Funds characteristics



The following table represents the different fund's return. Fund "A" is the riskier one, whereas Fund E corresponds to the more secure one.

Table 3: Pension funds returns by type

| Type of fund | December 2006 | Jan 2006-Dec 2006 (year) | Sep2002-Dec 2006(accumulated) |
|--------------|---------------|-----------------------------|----------------------------------|
| Fund A | 4.80% | 22.25% | 96.65% |
| Fund B | 4.11% | 18.83% | 63.29% |
| Fund C(*) | 3.23% | 15.77% | 45.11% |
| Fund D | 1.97% | 11.46% | 32.48% |
| Fund E(**) | 0.51% | 7.44% | 16.91% |

Source: FIAP (2003)

* Fund C corresponds to the old “type 1” or traditional pension fund that existed before the creation of multiple funds. Return is given for the last twelve months.

** Fund E corresponds to the old “type 2” pension funds.

The type C fund is the most popular, with 69.4 % of total system fund. Fund A, the riskier one, is characterised by an annual rate of return equal to 22.25 % for the year 2006, while the secure fund “E” had an annual rate of return of 7.44%.

Using these past returns, it would be interesting to have an idea of the replacement rate offered by the new system. An average Chilean worker who contributes for all 40 years of his working life and retires at age 65 will get a price-indexed pension equal to 60 percent of his final wage, assuming a 5% average rate of return. This pension will also cover his wife after he dies. If he began contributing 25 years ago when the system began, and earned the 10% average return, his pension will reach 85% of his final wage. The high level of return in the first period of the reform compensated for the irregular contributions of workers and maintains a high replacement rate. But the impact of these exceptional returns will progressively disappear and the replacement rate will decrease if contributions remain irregular, as is the case for a large majority of workers. Workers who contributed during a minimum period of 20 years could benefit from a minimum pension which is actually around US\$130/monthly. This minimum pension is lower than the minimum wage which is evaluated for 2001 to US\$175/monthly (Infante and *al*, 2003), however.

Pension fund investment evolution

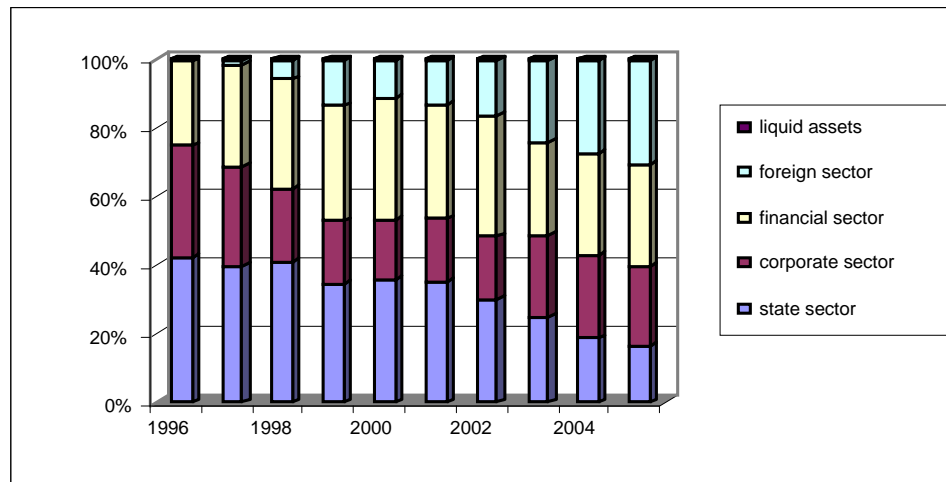
Pension fund investment regulation has an important role in the success of the reform. In the early years of the reform, a strict regulation of pension funds investment was adopted,

limiting the investment in the foreign sector and obliging pension funds to invest in the state sector. But today, investment regulation allows pension funds to invest more in the financial sector and the foreign sector. Investment diversification is more developed (figure 5).

Surprisingly, figure 6 shows that legislation did not require the earlier low level of foreign investment, especially during the 1990s. Foreign investment is less than it is allowed to be.

At the beginning there was only one portfolio, but as we have seen, today there are five funds.

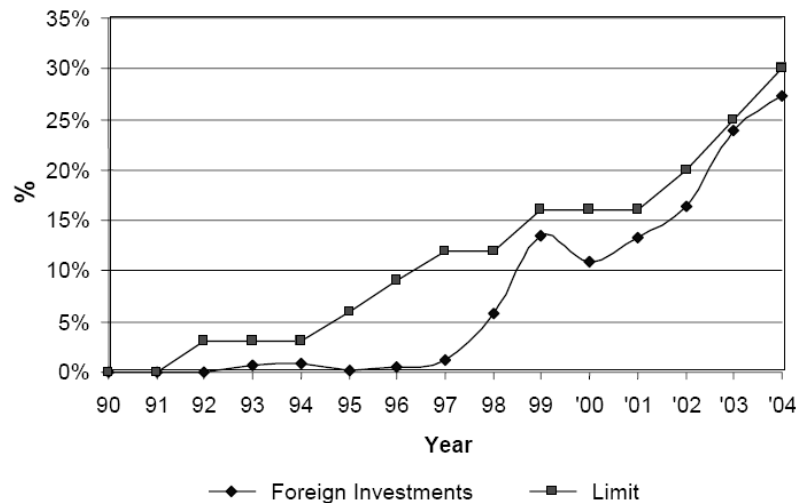
Figure 5: Pension funds investment evolution



Source: FIAP

Figure 6 presents foreign investment and limits imposed by legislation.

Figure 6: Pension funds foreign investment and limits



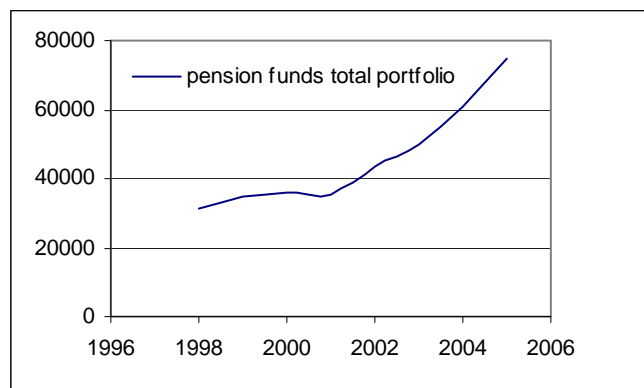
Source: S. Berstein (2006)

Legislation allows gradually pension funds to invest more in foreign assets. Since 2001, pension funds are close to the limits.

Pension fund assets evolution

Currently, AFP manage more than US\$60 billions in assets. Figure 7 shows assets evolution between 1998 and 2005.

Figure 7: pension fund total portfolio 1998-2005 (US \$ millions)



source: FIAP (2007)

In 2005, pension funds assets represented 64.9% of GDP (OECD, Database). Pension funds have become an important actor on the Chilean financial market.

AFP number and high administrative costs

Figures 8 and 9 reveal microeconomic problems due to pension funds creation. Competition between high numbers of AFP (Pension Funds Administrators) led to relatively large marketing expenditures because AFP could not distinguish themselves by investment policies because of investment regulations.

Lack of competition is explained by certain factors [Berstein, (2006)]:

- The products are difficult to understand. This financial product and the complexity of benefit calculations do not attract people who are not educated.
- Delay between contributions and benefits.
- Low interest in information. People don't get involved with it.

Figure 8: AFP administrators

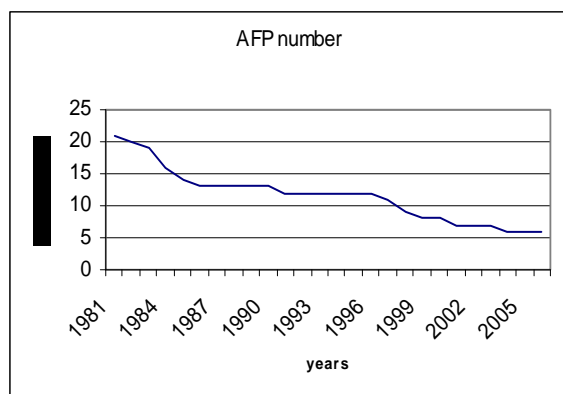
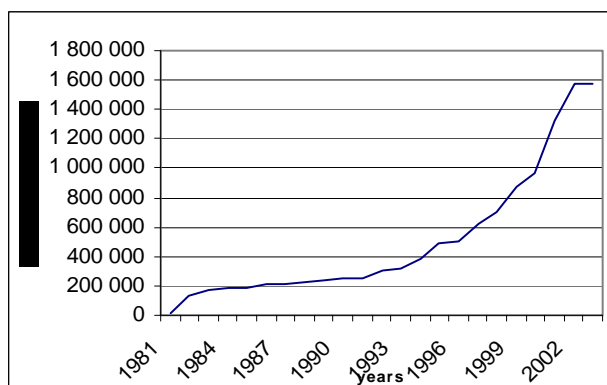
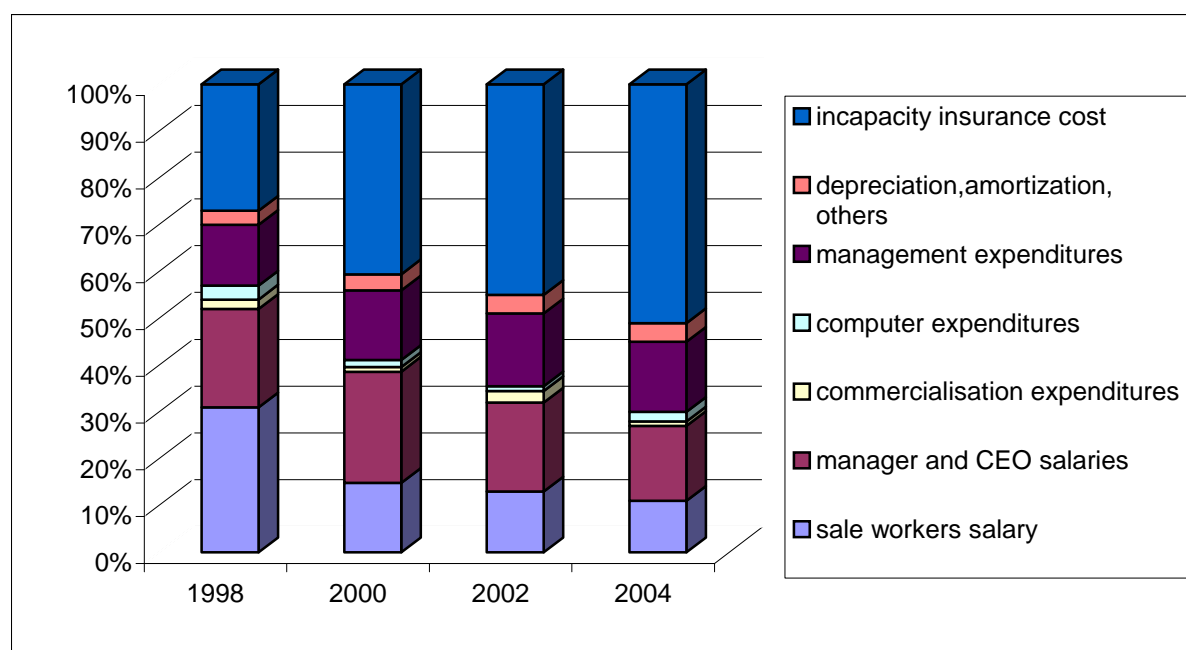


Figure 9: Switchover number evolution



The number of plan administrators is decreasing due to restructuring. This evolution explains the increasing level of switchover. In addition, figures 8 and 9 do not reveal the excessive market concentration. Three of the six administrators operating in the Chilean market represent 80% of the country's total affiliates. It's interesting to see also the composition of the administrators' expenditures. A high level of expenditures decreases the pension funds return. So it is therefore important to analyze these expenditures and to see where some efforts could be made to decrease them.

Figure 10: AFP's operational expenditures composition



Source: Berstein (2006)

Figure 10 shows the important effort made in order to control sale workers' salaries, which represented 30% of total expenditures in 1998. Competition between AFPs leads to important marketing expenditures since investment strategy was the same, limited by the legislation and the regulation on investments. These expenditures cut pension funds returns and lead to lower pension level. But, we can expect that gradual liberalization of investment regime will reduce these excessive costs. Future retirees are not always aware of this question and the reasons of this lack of interest must be presented.

The information problem

This problem is related especially to the capitalised system. EPS⁷ survey (2002) reveals that 93% of affiliates did not know how they were charged by the AFP. Literature (Valdes & Marinovic, 2002; Berstein & Micco, 2003) shows the existence of low demand elasticity to prices and return. Berstein (2006) provides three reasons:

- The products are difficult to understand
- The delay between contribution and benefit
- Low interest in information. People don't get involved with it.

So even if the majority of contributors confirm the reception of periodic reports on past contributions and future benefits, only a small share have a precise idea of payroll tax rates and commission rates. In addition, most contributors do not know their AFP balances or details of the multifund system. So, an important gap in term of information exists in Chile. "One of the things I found disappointing is how little people know about their pension system," writes Olivia Mitchell.⁸ In the survey, a majority did not know their contribution rates, 80% did not know how the benefit would be computed and over half did not know their pension balance amounts. As noted by Olivia Mitchell,⁹ "there is a huge task ahead, to educate people about both retirement needs and the system they are paying into."

⁷ *Encuesta de Prevision Social* is a household survey conducted by the Micro-data Center of the Department of Economics of the Universidad de Chile.

⁸ In Knowledge @ Wharton, "How well has Chile's retirement program aged?" 2005.

⁹ In Knowledge @ Wharton "How well has Chile's retirement program aged?" 2005.

The gender problem

In Latin America, womens' pensions are usually lower than mens' pensions for at least three reasons:

- (1) Womens' salaries are often lower than men in the same position and women are more likely to work in the informal sector and earn lower income;
- (2) Womens' age of retirement is earlier than for men (as much as 5 years) and they accumulate less contributions than men because of temporary withdrawal from the labor force for child rearing; and
- (3) Females' life expectancy is higher than males'.

Gender inequalities are more important in the private pension system compared with the public one. Public systems apply some gender neutrality since the benefit formula relies on "unisex" life tables, which distribute equal monthly benefits while women have a longer life expectancy. Nevertheless, if women retire earlier, with lower years of contribution, their pensions would be lower. Conversely, private systems apply gender-based mortality tables both for annuities and scheduled withdrawals. Accumulated funds in the individual account are spread over the longer average years of life expectancy. With this method, womens' pensions are lower than those of men, and even more so if they retire earlier because of their smaller accumulated funds (Mesa Lago, 2002).

Pension funds impact on growth: quantitative results

Corbo and Schmidt-Hebbel (2004) estimate the contribution of pension reform to growth in Chile between 1980 and 2001. Their results depend on employment creation assumptions. Three cases are considered: employment creation range from 0.04 to 0.11 percentage points with an intermediate value of 0.07 percentage points. Results are presented on table 4 (see Corbo and Schimdt-Hebbel, 2004, for details about methodology and estimated equation).

Table 4: Estimates of the pension reform effects on the growth and level of GDP (in percent).

| Indicator | Case 1 | Case 2 | Case 3 |
|---|--------|--------|--------|
| Real average growth of the GDP 1980-2001 | 4.63 | 4.63 | 4.63 |
| 1.Estimated effects of the reform on GDP growth | | | |
| 1. saving and investment | 0.03 | 0.13 | 0.32 |
| 2. labor market | | | |
| 2.1 Increase in employment | 0.04 | 0.07 | 0.11 |
| 2.2 Increase in productivity | 0.01 | 0.03 | 0.04 |
| 3. Financial development and TFP | 0.13 | 0.2 | 0.27 |
| Total** | 0.22 | 0.49 | 0.93 |
| 2. Estimated effects of the reform on the level of GDP in 2001 | | | |
| 1. saving and investment | 0.27 | 1.39 | 4.28 |
| 2. labor market | | | |
| 2.1 Increase in employment | 0.35 | 0.78 | 1.40 |
| 2.2 Increase in productivity | 0.12 | 0.27 | 0.50 |
| 3. Fincancial development and TFP | 1.19 | 2.17 | 3.57 |
| Total** | 1.92 | 4.62 | 9.75 |

** The total is calculated as a compound rate and is therefore not equivalent to the sum of the individual effects.

In all three cases, pension reform has a positive impact on growth through three principal channels. The effect of the reform on growth through financial development is estimated within a range of 0,13 to 0,27 percentage points, with an intermediate value of 0,2 percentage points. These results imply an output gain of 2,17% of GDP in 2001 for the intermediate case with a range from 1,19% to 3,57% of GDP. We can see that financial development and TFP have, in general, a higher impact on growth than the two others channels (except for saving and investment in case 3).

These macroeconomic results are important for countries following the Chilean experience by introducing a funded system or expecting to do that. The positive impact on growth should encourage countries to undertake this type of reform. Despite this positive impact at the macro level, the new pension system has needed some reforms at the micro level.

3. Recent reform

The reform of 2005:

A) “Multifondos”: in the beginning of the reform, each AFP offered only one portfolio which was very similar from one AFP to another (because of investment regulation). The reform provided for the creation of different portfolios. This gives affiliates the possibility to invest differently by taking into account their risk aversion.

B) The “SCOMP” (an electronic market for annuities): this is a closed market for all companies allowed to sell annuities or to provide programmed withdrawals. This market allows each individual to obtain, at no cost, all relevant offers of annuities. These two reforms give more information, options and entitlement to participants (Hartley, 2005). A high number of retirees are converting their pension benefits into annuities.

C) Information to affiliates: As argued by Rios (2005), when there was only one possible portfolio, the benefit of being informed was smaller compared to the cost. Now, pension funds are trying to give more information and clearer statements.

Reform Project

After the 2006 presidential elections, reform projects were proposed to improve retirees’ economic situation. The main proposal is the creation of a Basic Solidarity Pension (PBS) for workers who are unable to save for their retirement. It initially affects the poorest 40 percent of the population. It will be US\$115 a month in 2008 and will be increased to US\$142 in 2009. By 2017, the lowest-earning 60 percent of the population will receive the PBS. Sometimes conflict appears between a political approach and an economic approach. The Council proposed the PBS creation with a progressive increase in its value to US\$142 in 2025, in order to maintain incentives to save. But President Bachelet changed this, allowing the lowest income population to receive this amount in 2009, an election year. This is a good example showing that pension reform could be influenced by political context and choices.

The Council also proposed to increase the retirement age of women to 65 years (the legal retirement age is actually fixed at 60 years). This was rejected by President Bachelet. The report also recommends eliminating the distinction between dependent and independent workers and

creating a user committee with state, AFP and workers representatives, to better monitor performance of the system. Another suggestion proposes increased competition between administrators in order to reduce administrative costs.

III. Conclusion

The main objective of a retirement system is to provide adequate resources for a secure retirement. Many emerging countries have diversified retirement financing and introduced a funded system with a double objective: solving the pension problem and promoting economic growth. Chile is a leading example with 25 years experience. An important literature analyzed the Chilean case underlining the positive and negative aspects of the reform. Nevertheless, the new Chilean pension system is still very young and in a transition phase. Many of the workers who have retired did not contribute to the new system during all of their work lives. Their pensions come from the recognition bond. So more time is required to see, for example, how many pensions will be financed totally by AFP and what would be the replacement rate.

Many emerging countries will face ageing population and will have to reform their pension systems. While each reform should be analyzed with the specificities of each country, the Chilean experience provides a very good benchmark, at least to avoid its mistakes. This paper presents the macroeconomic impact of pension funds, at a theoretical level, and analyzes the first results of the Chilean reform. The empirical analysis shows the positive and negative aspects of the reform and evaluates whether the macroeconomic goals were achieved.

Pension funds became important actors in the economic life in Chile. They participated in the financial market development by accumulating assets, representing 65% of GDP in 2005. Empirical studies conclude that pension funds contribute significantly to economic growth in Chile through different channels. But pension funds are not solving all the problems and sometimes they have created new ones. The coverage rate in Chile is still low and an important gap exists between contributors and affiliates. Until now, the pension system has failed to provide adequate coverage to independent workers. In addition, pension funds are characterised by high administrative costs even as efforts are made to decrease them.

One of the objectives of my analysis is to answer to the questions of what we can learn from the Chilean experience. There are some positive economic impacts, but some challenges, too. This reform constitutes a challenge and an opportunity in the same time. Experts often point

out the financial feasibility of the reform and the necessity of having a well-developed financial market, but the literature does not warn sufficiently about the necessity to sensitize and educate people or raise their interest in retirement preparation through pension funds. Reform must be followed by cultural change, with perfect transparency. This point is important for countries planning to introduce pension funds.

Another question arises with a multi-pillar system. Wages are often very low in emerging countries, so could poor worker support additional pension contributions? Should the capitalised system only apply to workers above a certain wage level? Could the low coverage rate be explained in part by the low wage level? Maybe workers with low wages do not have the possibility to contribute to their retirement, even if they want to do so. All these questions are important for countries where a capitalized pillar will have to be introduced. For example, North African countries and especially Tunisia will need to reform their pension systems. The aging population in Tunisia will lead to financial insolvency of the PAYG retirement system, for example [Ben Braham(2005)]. The Chilean experience may provide a good benchmark for reform.

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