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Chile's Next Generation Pension Reform

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Introduction

In 1981, Chile introduced a new system of privately managed individual accounts, also called capitalization, replacing its public pay-as-you-go pension system (PAYG). Since 1990, 10 other countries in the region have adopted some form of what has become known as the "Chilean model": Argentina (1994), Bolivia (1997), Colombia (1993), Costa Rica (1995), Dominican Republic (2003), El Salvador (1998), Mexico (1997), Panama (2008), Peru (1993), and Uruguay (1996).

Over the years, Chile made some major changes to its capitalization system, such as liberalizing investment rules and increasing the type and number of pension funds that a pension fund management company (AFP) must offer its account holders. However, despite these and other changes, a number of policy challenges remain unresolved including large groups of workers who are not covered and irregular worker participation rates, both of which could lead to inadequate retirement benefits. Also, according to international standards, the administrative fees the AFPs are charging account holders are high and could significantly decrease the size of a worker's pension.

Law 20.255 enacted in March 2008 overhauls the individual accounts system and incorporates previously uncovered groups. The law includes measures to provide adequate benefits to a larger portion of the population, ensure more gender equity, encourage greater competition in the pension fund industry, improve the AFP's management of financial risk to increase the return on the workers' contributions, change the rules for financing survivors and disability insurance, establish more opportunities for voluntary savings, and improve financial literacy.

This paper presents a brief overview of Chile's individual account system and the major changes made to it prior to 2007. The paper then focuses on the major policy challenges that have led to additional reforms and summarizes the provisions of Law 20.255 that address many of the system's shortcomings.

System Overview

In 1981, Chile implemented its mandatory individual retirement account system allowing workers to choose between the public PAYG and the privately managed system, except those workers eligible to retire within 5 years. Since December 31, 1982, new entrants to the labor force must join the new capitalization system and set up individual accounts with the AFP of their choice. The public PAYG system is being phased out as the number of beneficiaries declines and is expected to close by 2050.

Workers must contribute 10 percent of their monthly earnings, up to a maximum of 60 Unidades de Fomento (UFs) (US$2,427) per month to their individual accounts.[1] Each month AFPs charge contributors an administrative fee and a premium for survivors and disability insurance: as of September 2008, an average of 0.99 percent of earnings and 1.71 percent of earnings, respectively (SUPEN 2007–2008).

Workers are free to choose any AFP and may change from one AFP to another at any time. Workers may also make voluntary contributions to their individual accounts and to separate, voluntary retirement savings accounts. Employers are not required to contribute to their employees' accounts and participation is voluntary for the self-employed.

An AFP is a private company whose functions are limited to managing pension funds and providing and administering certain pension benefits. AFPs collect workers' contributions, credit them to the workers' accounts, and invest these monies according to regulations set by the government. AFPs also contract with an insurance company to provide survivors and disability insurance for their members. Until July 2008, the Superintendent of Pension Fund Management Companies (SAFP), an autonomous government agency that was associated with the minister of labor and social security, oversaw and licensed AFPs.

At the normal retirement age (65 for men and 60 for women), workers can use the balance in their individual accounts to do one of the following:[2]

- Purchase an immediate annuity to provide the retiree with lifetime benefits.
- Set up programmed withdrawals to provide income over the retiree's expected life span. If the retiree dies early, dependents may inherit the balance in the deceased's individual account.
- Purchase a deferred annuity, which means setting a future date for purchasing an annuity and until that date make programmed withdrawals from the individual account.
- Purchase an immediate annuity with a portion of the funds in the individual account and make programmed withdrawals with the rest of the funds.[3]

Annuities are purchased from an insurance company for an additional administrative fee and most AFPs charge a monthly fee for programmed withdrawals.

Early retirement is permitted for individual retirement account holders under certain conditions, and excess funds can be withdrawn from an individual account for any reason as long as the worker's account balance is sufficient to finance 150 percent of the minimum pension.

Government Guarantees

Account holders who switched from the public PAYG to the individual account system receive a recognition bond at retirement that represents the value of their accrued rights under the old public system. The value of the bond is adjusted annually to changes in the consumer price index and provides 4 percent interest per year beginning on the date the worker enrolled in the new system. The bond is redeemed and added to the mandatory individual account when the worker retires, becomes permanently disabled, or dies. The bond cannot be redeemed at any other time. To date, almost no one has retired with a benefit entirely from an individual account. In addition, the government guarantees retirees a pension up to 45 UFs per month (US$1,813) if their annuity provider goes bankrupt.

The two types of government-guaranteed benefits are gradually being replaced under the new law: the guaranteed minimum pension (MPG) under the capitalization system and means-tested (PASIS) benefits. The MPG has been paid to men aged 65 and women aged 60 with 20 years of contributions to an individual account and whose total income—pension from an individual account plus other sources of income—is below the minimum level set by the government.[4] The MPG is a top-up subsidy that, combined with the retiree's income, reaches the minimum level. For those who have exhausted their funds, the government has provided the entire amount. Retirees who chose the programmed withdrawals option and exhausted their funds by outliving their actuarial life expectancy could also be eligible for the MPG. Disabled workers must have had 10 years of contributions to qualify for the MPG.[5] PASIS benefits were paid to low-income individuals who were either disabled or over the age of 65 and did not qualify for any other type of pension. The recognition bond, MPG, and PASIS have been funded by general revenues.

Survivors and Disability Insurance

An AFP contracts with an insurance company for survivors and disability insurance. Those younger than the normal retirement age (65 for men and 60 for women) who become disabled from an illness or accident not related to work may be eligible for a disability benefit.[6] Certain unemployed workers who become disabled may also be eligible for a disability benefit. The medical commission first determines if the worker's disability is either total, with at least a 66 percent loss of earning capacity, or partial, with at least a 50 percent, but less than 66 percent loss of earning capacity. A temporary disability benefit (either total or partial) is payable for up to 3 years and is financed by the worker's AFP. A higher level of assessment determines if the worker is permanently disabled after 3 years.[7] The funds in a worker's individual account are used to finance the permanent disability benefit.

A monthly disability benefit is equal to 70 percent of the worker's base salary (average monthly wage in the previous 10 years) for total disability and 50 percent for partial disability. If the balance in the individual account is less than the required minimum to finance a total or partial disability benefit, the worker's disability insurance company makes up the difference (SAFP 2007; SSA 2008).

Survivors benefits are payable to a widow, a disabled widower, and children younger than age 18 (age 24 if a student and no age limit if disabled). In some cases, parents of the deceased may receive a survivor benefit. When a retiree dies, if the retiree was receiving an annuity, eligible survivors receive the corresponding survivor annuity. If the deceased retiree was receiving programmed withdrawals, the balance in the individual account is distributed among eligible survivors. If the balance in the deceased's individual account yields a benefit that is lower than the required amount to finance a survivor pension (70 percent of the worker's average salary in the last 10 years before death), the deceased's life insurance makes up the difference (SAFP 2007; SSA 2008).

If the worker dies before retirement, eligible survivors choose whether to receive an annuity or programmed withdrawals.[8] All the deceased's eligible survivors must receive the same type of benefit. If the balance in the deceased's individual account yields a benefit that is lower than the required minimum (70 percent of the worker's average salary in the last 10 years before death), the deceased's life insurance makes up the difference (SAFP 2007; SSA 2008; ISSA 2008).

History of Changes to Investment Rules

As the system has matured, Chile has gradually liberalized AFP investment rules. When individual accounts were first introduced, investments were restricted to government bonds, financial institution bonds, and a limited amount of corporate bonds; investment in foreign securities was prohibited. In 1981, AFPs were permitted to invest only in low-risk domestic instruments and they could have up to 100 percent of their assets in government bonds. By 1985, when the country's capital market began to develop, the limit on government-issued instruments was lowered to 50 percent, and AFPs could invest between 10 percent and 30 percent of assets in some stocks (Berstein and Chumacero 2003). A law implemented in 2002 allows the AFPs to invest more of their portfolios in equities (see Multifunds, below).

For the first 9 years of operation, AFPs were prohibited from investing in foreign assets. By 1996, restrictions were eased and AFPs could invest up to 6 percent of assets in foreign instruments. This limit gradually increased to 30 percent in 2004 and 45 percent in April 2008. The goal of these measures was to allow the AFPs to diversify their portfolios and gradually reduce the concentration in domestic instruments to lessen the impact on the domestic financial market. Increasing the foreign investment limit could also provide a higher rate of return (Berstein and Chumacero 2003; Kritzer 2001/2002; SSA 2006–2008).

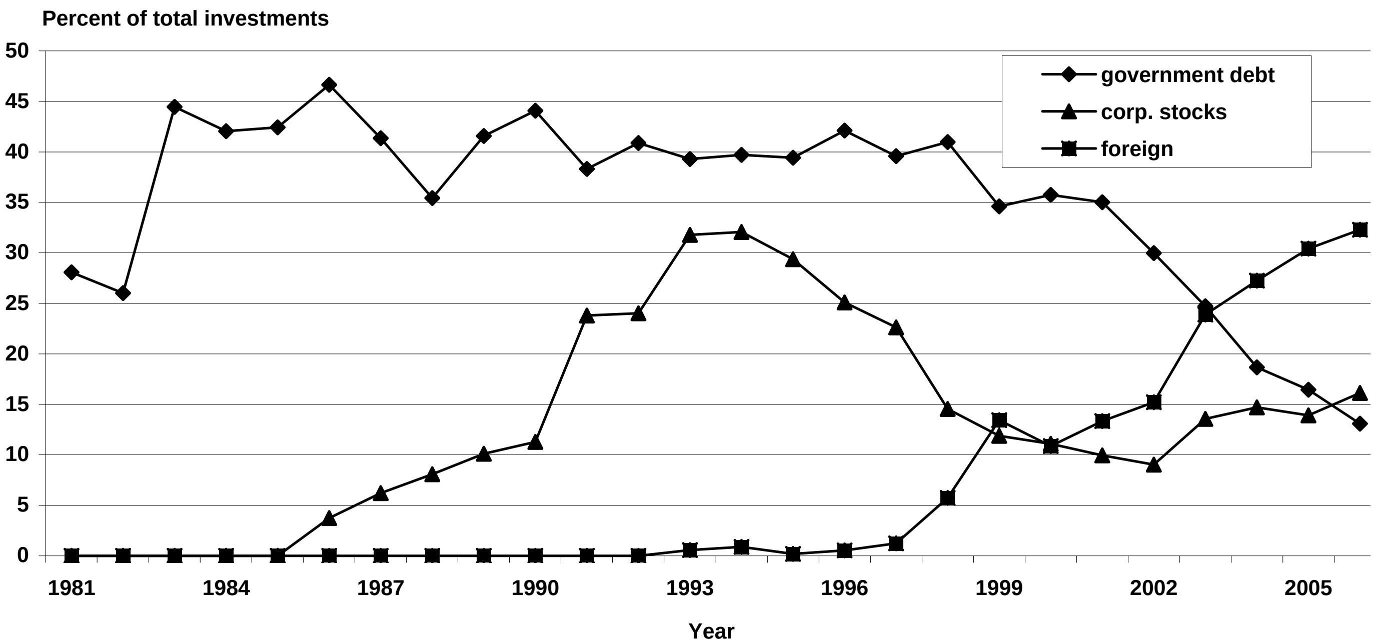
Chart 1 shows the evolution of selected actual pension fund investments since 1981. The relative mix of investments in the combined AFP portfolios has changed dramatically since the program began. Until 2002, the percentage of assets invested in government bonds ranged from a low of 26 percent of investments in 1982 to a high of 47 percent in 1986. In 1992, international investments represented less than 1 percent of AFP assets, and by 2005, that amount had reached about 30 percent.

Multifunds

Pension fund choices have increased. Until 2002, AFPs could offer only one account to a member. The multifund law implemented in August 2002 requires each AFP to offer four different types of funds —called Funds B, C, D, and E—with varying degrees of risk. AFPs may also offer a Fund A with up to 80 percent of its assets in equities. The 2002 law permits account holders to allocate their contributions between two different funds within one AFP, in whatever proportion they choose. Table 1 shows that the limits on investment for each type of fund range from 40 percent to 80 percent of assets in equities for Fund A to mainly fixed instruments for Fund E.

Every fund (Funds A–E) managed by an AFP must maintain a minimum and a maximum rate of return calculated to reflect the average performance of that fund category among all the other AFPs over a 3-year period.[9] Each AFP fund must keep 1 percent of the value of its pension fund as a separate reserve fund whose investments are subject to the same rules as those for the pension funds. If any AFP's fund performance falls below the minimum, it must make up the difference from its reserve fund. If an AFP fund exhausts its reserve fund, the government makes up the difference, dissolves the AFP, and transfers the accounts to another AFP (Law 3500).[10]

Chart 1.
Evolution of selected pension fund investments, by type, 1981–2006



SOURCE: SAFP 2007.

AFP Performance

By the end of 2007, total AFP assets under management reached US$111 billion, about 64 percent of Chile's gross domestic product (AIOS 2007). The historical real rates of return for Fund C, which has been in existence since 1981, have been reported as approximately 10 percent per year. This rate of return includes the high yields within the first 10 years of the program.[11] A recent study found that a worker with average earnings who has contributed regularly since 1981 has earned an average 6.8 percent gross annual real rate of return over the last 10 years (Marcel Commission 2006).

Table 1.
Multifunds' limits on investment (percent)

Fund	Limits on investments in equities	
	Minimum	Maximum
Fund A	40	80
Fund B	25	60
Fund C [a]	15	40
Fund D	5	20
Fund E	b	b

SOURCE: SAFP 2007.

a. Formerly fund 1.

b. Mainly fixed instruments.

Annuities Law

A law implemented in August 2004 changed the way annuities were sold. Until 2004, individual account holders could purchase an annuity at retirement either directly from an insurance company or through an intermediary. The cost of purchasing an annuity in this way was not regulated and retirees paid fees as high as 6 percent of the value of the annuity (Kritzer 2001/2002). The 2004 law required AFPs and life insurance companies to create an electronic bidding system for the purchase of annuities, called pensions consultation and offers system (*sistema de consultas y ofertas de montos de pensión* or SCOMP), so that workers nearing retirement can easily compare the products offered by each company. SCOMP is overseen by the Superintendent of AFPs and securities and insurance.[12]

The 2004 law set a limit on the fees that insurance companies can charge for annuities. Every 2 years, the ministers of labor and social security and finance review the fee caps. Initially, they set the cap at 2.5 percent of the value of the annuity. In 2006, they kept the cap at the same level for the next 2 years.

The annuities law also gradually raised the minimum requirement for an early retirement pension to encourage workers to save more for retirement. In

2004, about half of retirees under the system of individual accounts retired before the normal retirement age. The government was concerned that the earlier workers retire, the more likely it was that over time it would have to supplement a retiree's benefit with the MPG. Under the original rules for early retirement, an individual's pension had to be at least 50 percent of his earnings over the previous 10 years and 110 percent of the current minimum pension. By August 2010, these figures will rise to 70 percent and 150 percent, respectively (Asociación AFP 2004a).

Pension Reform: Policy Challenges and Reform Provisions

Law 20.255 is based largely on the July 2006 President's Pension Advisory Commission Report (Marcel Commission 2006).[13] According to the Commission, the capitalization system is geared toward workers with stable jobs who regularly contribute to an individual account for their entire working lives. The report contends that the system needs to adapt to the changing social conditions in Chile.

The nature of the labor force has been evolving over the past 25 years. Workers are relying less on indefinite labor contracts and more on fixed-term contracts and temporary and part-time jobs. Also, typically, workers in less stable jobs do not regularly contribute to individual accounts. Chile's population is aging and life expectancy is increasing. The population aged 60 or older currently represents 12 percent of the total population and is expected to increase to 17 percent by 2020 and 28 percent by 2050. Since 1980, life expectancy at birth has grown from 70.7 years to 78.5 years and life expectancy at age 60 increased from 16.8 years to 20.7 years for men and 20.2 years to 24 years for women. In addition, more workers are postponing their entrance into the labor force because higher education is available for more individuals aged 15 to 24. As a result, workers are spending fewer years in the accumulation phase for retirement.

The report identified several goals for reforming the 26-year old system of individual accounts including expanding pension coverage, providing an adequate pension, and encouraging competition among the AFPs to lower workers' costs, which would result in a higher net rate of return and a higher pension. This section describes each policy challenge or set of challenges followed by a summary of the reform measure that addresses those issues.[14]

Policy Challenge: Coverage of Workers and Contribution Patterns

A large portion of Chile's labor force has not been covered by any social security program. About 4 million workers, or 61 percent of the labor force, have been covered by either the public PAYG or the individual account system. This figure is about 10 percentage points higher than in 1980 but about the same level as in the mid-1970s, the period just prior to the implementation of the capitalization system (Marcel Commission 2006).

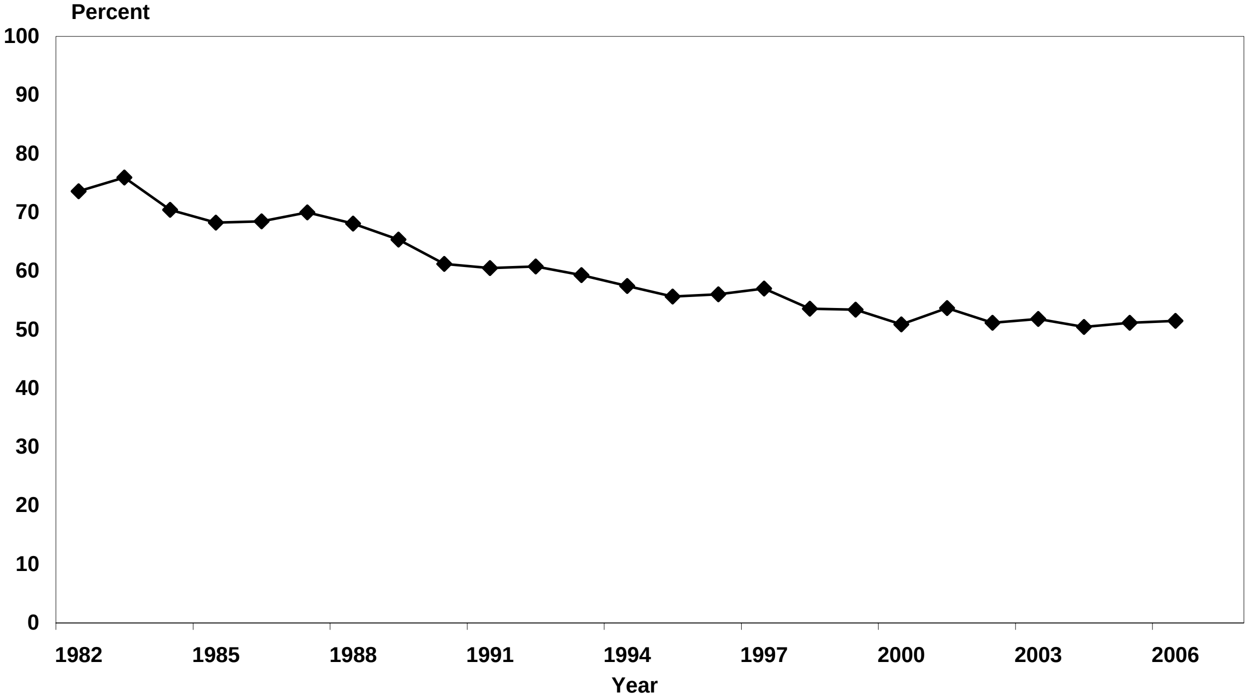
Workers covered by either system include those who do not regularly make contributions because they spend periods of time out of the formal labor force, either in the informal sector or unemployed. While they are in the informal sector or unemployed, they don't contribute to an individual account, which could result in an inadequate pension. Based on their contribution history to date, only a small portion of these workers with an individual account would have enough contributions to qualify for the guaranteed minimum benefit at retirement (Marcel Commission 2006).

Since 1981, the capitalization system has not improved the contribution patterns of workers in the labor force. In 1975, 71 percent of employed workers contributed to the PAYG system and by 1980 that figure had declined to 53 percent (Marcel Commission, 2006). Chart 2 shows that the percent of affiliates (workers with individual accounts) who contributed to their account regularly or sporadically declined from 76 percent in 1983 to 54 percent in 2007 (SAFP 2007; SUPEN 2007–2008). From one month to another, the workers who contribute sporadically are not necessarily the same workers (Arenas de Mesa and others 2006; Berstein, Larrain, and Pino 2006).

Coverage figures for the self-employed, about one-quarter of all workers, are even lower. Their participation has been voluntary and nearly 60 percent have been AFP affiliates. By 2007, close to 40 percent of self-employed affiliates actively contributed to an individual account (Bertranou and Vásquez 2007).[15]

The Social Protection Survey (*Encuesta de Previsión Social* or EPS) conducted by the University of Chile under the aegis of the undersecretary of social security provides a rich source of data for workers' contribution patterns in the capitalization system.[16] A study by several SAFP officials (Berstein, Larrain,

Chart 2.
Percentage of affiliates that contributed to their individual accounts, 1982–2007



SOURCE: SAFP 2007 and SUPEN 2007–2008.

and Pino 2006) that links EPS data with administrative data of some 24,000 individuals found that:

- 20 percent of men and women contributed more than 90 percent of the time, and
- 10 percent of men and 20 percent of women contributed less than 10 percent of the time.

The study also shows the percentage of time workers typically spent in the formal and informal labor force. Women had shorter work histories than men, and men were more likely than women to be formal workers with a contract. Workers in the informal sector do not contribute to social security.[17] Since women, on average, spent more than 50 percent of their working lives outside the formal sector, they contributed to their individual accounts less than 50 percent of their potential working lives.

The 2006 EPS (which covers the period between 2004 and 2006) found that about half of those surveyed were affiliates. Of the affiliates, men contributed on average about 60 percent of the time and women about 40 percent. Workers contributed about three quarters of the time that they were employed. There was no significant difference between employed men and women. More than 50 percent of those surveyed had worked 100 percent of the time and nearly 25 percent had not worked at all. About 20 percent of the men surveyed were unemployed compared with close to 50 percent of the women (Bravo and others 2008).

Other studies found that workers with higher levels of education and higher income generally contributed more often to social security programs than other groups. The Marcel Commission reported that in Chile about 30 percent of low-income workers contributed to social security, compared to about 70 percent of high-income workers.

Policy Challenge: Pension Adequacy

Even though the Chilean government has provided a guaranteed minimum pension (MPG) to account holders aged 65 or older (men) and aged 60 or older (women) with 20 years of contributions, a large percentage of current workers would not have been eligible for this guarantee.[18] A 2006 study done by several SAFP officials (Berstein, Larrain, and Pino 2006) estimated that, based on the proportion of AFP members who have contributed to an individual account, about 45 percent of them were expected to have a pension that is below MPG and most of this group would not have qualified for the MPG. In 2005, about two-thirds of these workers had fewer than 10 years of contributions. The study predicted that without any changes, by 2025 about 85 percent of these workers would not have enough years of contributions for the MPG.

Pensioners who have chosen the programmed withdrawal option may have been able to receive the MPG when they have exhausted their funds by outliving their actuarial life expectancy. Studies have found that those who choose programmed withdrawal generally have lower account balances than those who choose annuities.[19] As of 2003, about 15 percent of all old-age pensioners with programmed withdrawals were receiving the MPG, compared with 44 percent of disability beneficiaries and 19 percent of survivors (James and Iglesias 2007).

In 2005, an average monthly pension from the individual account system was 131,615 pesos per month (US$252) (SAFP 2007) compared with the minimum monthly wage of 127,500 pesos (US$244) (SAFP 2005–2008). However, it is important to note that to date, almost no one has retired with a benefit that is entirely from the individual account system. A portion of these pensions comes from the recognition bond funded from general revenues that represents the worker's accrued value under the public PAYG system.[20]

If no changes were made to the system, most workers with an individual account who retired between 2020 and 2025 would not receive a benefit equal to about 75 percent of their pre-retirement earnings, the goal of the architects of the system. The Superintendent of AFPs estimated an average replacement rate of 44 percent of earnings for this group of retirees. However, there is a wide variation in the rate when considering gender and educational level. Women with an elementary school education were projected to receive an 11 percent replacement rate and those with a university degree 30 percent compared with 47 percent and 110 percent, respectively, for men (Berstein, Larrain, and Pino 2006).

On the whole, workers who retire early receive a lower benefit than if they would have waited until the normal retirement age (65 for men and 60 for women). As of December 2006, almost half of old-age retirees took early retirement. Close to 70 percent of these early retirees were aged 50 to 59 and about 11 percent were under age 50 (SAFP 2005–2008). A 2004 study by the AFP Association (Asociación AFP 2004a) found that for every year a worker retired early, the worker's pension decreased on average between 7 percent and 10 percent. Between 2002 and 2004, on average, women retired 7 years early and men 9 years early. Some of these workers also withdrew the excess funds from their accounts, which further reduced their benefit. The study concluded that if the early retirees had waited until the normal retirement age and had not withdrawn excess funds, the average pension would have doubled.

Pension Reform: Coverage, Contribution Patterns, and Adequate Pensions

Law 20.255 adds a new pillar, known as *Sistema de Pensiones Solidarias* (SPS), to the existing mandatory individual accounts system to expand coverage and provide a basic benefit to a larger percentage of the population. As of July 1, 2008, the means-tested (PASIS) pension was replaced with a noncontributory basic solidarity pension called Pensión Básica Solidaria (PBS). This benefit initially covers 40 percent of the poorest individuals in Chile and will be extended gradually to 60 percent of the poorest individuals by 2012. The government estimates that about 600,000 people will be covered in 2008 and by 2012 about 1.3 million people will receive the basic solidarity pension.

The SPS also provides a top-up benefit called Aporte Previsional Solidario (APS) for those individuals who have contributed to an individual account and whose self-financed monthly benefit is between 50,000 pesos (US$97) and 150,000 pesos (US$290) in 2008 gradually rising to 255,000 pesos (US$494) by 2012. Table 2 provides some details about the PBS and the APS (Ministerio del Trabajo y Prevision Social 2008). Pensioners who were receiving the guaranteed minimum pension when the new pillar was implemented on July 1, 2008, may switch to the SPS. Individuals aged 55 or older in March 2008 who will qualify for the guaranteed minimum pension at retirement may also choose between the two types of benefits. Both of these groups may only exercise this option once.

The reform gradually extends mandatory coverage in the individual account system to the self-employed. Their participation is currently voluntary. Beginning January 1, 2012, contributions by the self-employed will be based on 40 percent of taxable earnings, increasing to 100 percent by January 1, 2014. Beginning January 1, 2015, all self-employed will be required to contribute 10 percent of their taxable earnings to an individual account.

Another provision seeks to encourage youth employment and participation in the capitalization system. The measure requires the government to provide a monthly subsidy to low-income workers (those who earn less than one and a half times the minimum wage,

Table 2.
Solidarity pensions system, requirements, and benefits

Solidarity pensions system benefit	Eligibility requirements	Monthly benefit
Basic solidarity pension (PBS)	**Old-age pension:** not eligible for any other pension, age 65 or older, lived in Chile for at least 20 years including 4 of the 5 years immediately prior to applying for a benefit. **Disability pension:** assessed as disabled by Medical Commission, not eligible for any other pension, age 65 or older, lived in Chile for at least 5 of the 6 years immediately prior to applying for a benefit.	60,000 pesos (US$116) until 2010; 75,000 pesos (US$145) until 2012
Social security solidarity contribution (APS)	**Old-age and disability pensions:** must have contributed to an individual account and have a self-financed pension between 50,000 pesos (US$97) and 70,000 pesos (US$135) a month in 2008, rising to 255,000 pesos (US$494) a month by 2012.	top-up benefit (e.g., up to about 17,000 pesos (US$33) a month in 2008)

238,500 pesos (US$462) per month in July 2008) between ages 18 and 35 and their employers for the first 24 months of employment after they first enter the labor force. Beginning October 1, 2008, the employer subsidy is equal to half of a contribution to an individual account based on the minimum wage (7,950 pesos (US$15) per month in July 2008) and will be provided each time the worker contributes to an individual account. The workers' contributions are not required to be continual. Beginning July 1, 2011, the subsidy for the low-income workers, the same amount as the employers' subsidy, will be deposited into a worker's individual account each time the worker contributes.

Policy Challenge: Toward Gender Equity

Since 1980, the role of women in the family has been affected by the change in structure of a typical household. With the average size of a household decreasing from 4.5 to 3.3 members between 1980 and 2006, the importance of the extended family as a support system has been reduced. Also, between 1992 and 2002, the percent of the population that was married fell from 52 percent to 46 percent. Since 1980, the proportion of one-person households has risen from 7 percent to 13 percent, of which 60 percent are headed by women, who generally have lower earnings, do not qualify for social security benefits, and may not have access to intrafamily transfers (Marcel Commission 2006; Mideplan 2007).

Generally, more men in Chile are in the labor force than women. Chilean women represent 38 percent of the labor force, compared to 44.7 percent in all of Latin America (Umar 2007). Women have shorter work histories than men and men are more likely than women to be formal workers with a contract. Workers in the informal sector do not contribute to social security. Since women, on average, spend more than 50 percent of their working lives outside the formal sector, they contribute to their individual accounts less than 50 percent of their potential working lives (Berstein, Larrain, and Pino 2006).

A greater proportion of lower income women than men are unemployed, and women tend to work fewer hours in paid labor than men, in part to care for children, older family members, and the household. On the whole, women earn lower salaries than men. According to the latest household survey (CASEN), 29 percent of female workers earn the minimum wage compared with 9.2 percent of male workers. For those with the fewest years of education, men earn close to 25 percent more than women (Marcel Commission 2006; Mideplan 2007). As a result, women have contributed less than men to individual accounts and have had lower account balances, which provide lower retirement benefits.

Since women generally live longer than men, but retire at a younger age and have lower account balances, women's pensions have been between 30 percent to 40 percent less than men's. Also, because companies must use gender-specific mortality tables to calculate annuities, women with the same account balances as men at retirement receive smaller monthly pensions. However, the total value of all future pension payments have been about the same for women and men with the same account balances, since women usually live longer (Marcel Commission 2006).

Under the old rules, married men are required to finance an annuity that provides a survivor benefit to widows; married women have to finance an annuity with survivor benefits only for their disabled husbands. Widows are permitted to receive both a survivor pension and a pension from their own individual account.

Pension Reform: Toward Gender Equity

A number of reform measures address gender equity.[21] Beginning July 1, 2009, to increase a woman's pension, the government will provide a woman aged 65 or older with a bond equal to 18 monthly contributions based on the minimum wage, for each child she had. The bond covers the period of time from the child's birth up to the woman's 65th birthday. The rate of return will be based on the average annual rate (nominal) for Fund C less administrative fees for that time period. Both biological and adoptive mothers may receive the bond. The bond may be redeemed after the woman's 65th birthday and is combined with her retirement pension at that time.

Women who are eligible for this bond include those who have contributed to an individual account at least once during their working lives, those who receive the basic solidarity pension, and those who receive a survivor pension from either the individual account system or the public pension system. Women who retired before July 1, 2009, are not eligible for the bond.

Another measure to increase a woman's pension is related to premiums for survivors and disability insurance. An insurance company must calculate these premiums based on gender. Since women generally have lower incidences of survivors and disability claims, their rates are expected to be lower in most cases. The company will continue to charge the same premium for men and women, but refund to each woman the difference between the rate that she would have received and the rate for a man. That refund will be deposited directly into a woman's individual account and she will have a higher pension as a result.

Other provisions of the new law provide more gender equity:

- Widowers can become eligible for a survivor pension. (Previously, only disabled widowers were eligible.)
- In case of divorce or marriage annulment, the assets in an individual retirement account can be divided evenly between the ex-spouses, beginning October 1, 2008. Each ex-spouse can only receive 50 percent of the amount that had been accumulated during the marriage.[22]
- A worker is allowed to contribute to another person's individual account. The contribution must be at least based on the minimum salary.
- Women and men must be covered for survivors and disability insurance up to age 65. (Previously, women were covered up to age 60 and men up to age 65.)
- Beginning January 1, 2011, wages for domestic workers must be no less than the minimum wage for a full week of work or a percentage of the minimum wage for part-time work.[23] This will increase domestic workers' earnings and could result in a higher pension for these workers.

Policy Challenges: AFP Fees, Competition, and Profits

AFPs are a major focus of the pension reform. Since there has been little competition among the AFPs, the administrative fees they charge account holders are high, resulting in profits that are much larger than other sectors of Chile's financial services industry. Account holders have had lower net rates of return (and smaller pensions) in part because AFPs have charged high administrative fees.

Administrative Fees

Administrative fees charged to account holders have been high according to international standards. AFPs have been allowed to charge two types of administrative fees each time a worker contributes to an individual account: a percentage of earnings and a fixed fee. Between 1981 and 1987, the AFPs were also permitted to charge fees on the account balance. According to Mesa Lago and Arenas de Mesa (2006), the average cost of the combined fees to account holders increased by 4.8 percent between 1982 and 2003. In September 2008, the five existing AFPs charged an average of 1.71 percent of earnings and two out of the five AFPs charged fixed monthly fees: 320 pesos (US$0.61) and 690 pesos (US$1.31) (SUPEN 2007–2008).

Account holders only pay an administrative fee when they contribute to their account. In effect, the contributors are subsidizing the noncontributors. According to the Association of AFPs (2008a), by the end of 2007, some 3.5 million mandatory individual accounts (about 40 percent of all mandatory accounts) were subsidized. This means that about 40 percent of affiliates with mandatory accounts were noncontributors and were not paying any administrative fees.

Even though most AFPs had eliminated the fixed fee by the middle of 2008, they raised their percentage of earnings fees. In April 2006, when five of the six AFPs charged a fixed fee, they charged an average 1.60 percent of earnings fee. As of April 2008, when only two AFPs had fixed fees, the average percentage of earnings fees was 1.67 percent (SAFP 2005–2008).

Fixed fees are proportionately higher for low-wage earners than for high-wage earners. For example, between 1981 and 2004, a low-income affiliate with about US$315 in an individual account had an average real net rate of return of 6.2 percent per year compared with 8.2 percent per year for a higher income affiliate with a US$950 account balance (Mesa Lago and Arenas de Mesa 2006). The higher cost of the fixed fees on lower earners could have created a disincentive to participate in the individual account system (Gill, Packard, and Yermo 2005).

A 2005 SAFP study (Castro 2005a) calculated the effect of the fixed fee on a worker's final account balance just before retirement: a 1 percent reduction in the fixed fee would result in a 9 percent increase over the worker's lifetime for lower earners and a 3 percent increase for an average earner. The effect on higher earners is even lower. By completely eliminating the fixed fees, a minimum wage worker's account balance would increase by 4 percent each time he or she contributed and an average earner's balance would increase by 1.5 percent. The fixed fee represented about 9 percent of AFP earnings.

The 2005 study also concluded that eliminating the fixed fee would encourage competition among the AFPs while reducing AFP profits. The study predicted that AFPs would probably raise their percentage of earnings fees by 20 percentage points and would probably offer fewer products for the lower earner. If workers in general paid no fixed fee, their pensions could increase by between 15 percent and 20 percent. As a result, by 2024 the government would pay about 5.5 percent less for the guaranteed minimum benefit because workers' pensions would be higher.

The International Association of Pension Fund Management Companies Supervision Bodies (*Asociación Internacional de Organismos de Supervisión de Administradoras de Fondos de Pensiones* or AIOS) compared administrative fees as a percentage of the contribution to an individual account (mandatory contribution plus administrative fees) in 10 Latin American countries as of June 2007. In some countries both the employer and the employee are required to make monthly contributions. Table 3 shows that the fees ranged from 4.8 percent of the contribution in Bolivia to 17.8 percent in Argentina and the fees in Chile represented 14.6 percent of the contribution (AIOS 2007).

Competition Among the AFPs

Since there has been little competition among the five existing AFPs, little incentive exists for them to lower their fees. According to the Marcel Commission, competition is weak because:

- Most workers do not compare administrative fees before choosing an AFP.

Table 3.
Fees and contributions in individual accounts in Latin American countries as of June 2007 (percent)

Country	Admin fee [a]	Mandatory contribution [a]	Fees as a percentage of contributions
Argentina	1.00	4.61	17.8
Bolivia [c]	0.50	10.00	4.8
Chile	1.71	10.00	14.6
Colombia [d]	1.58	11.00	12.6
Costa Rica	0.29	3.96	6.7
Dom Rep	0.60	7.40	7.5
El Salvador	1.40	10.00	12.3
México	1.02	7.48	12.0
Peru	1.81	10.00	15.3
Uruguay [e]	1.79	12.22	12.8

SOURCE: AIOS 2007.

NOTE: AIOS = Asociación Internacional de Organismos de Supervisión de Administradoras de Fondos de Pensiones.

a. As a percentage of the worker's salary.

b. The employee's contribution as a percentage of salary, except in Colombia, Dominican Republic, El Salvador and Mexico where the figure also includes the employer's contribution as a percentage of covered payroll.

c. A fee for administering the investment portfolio is also charged.

d. Fees are also charged for transferring, exiting, and making voluntary contributions.

e. A custody fee on the account balance is also charged.

- AFPs are required to charge all their members the same fees. Since the profit margins are higher for higher earners, AFPs have tended to target higher earners. AFPs did not have to lower their fees since they often used gifts and other incentives to lure new members.
- Regulatory barriers have made it hard for new companies to enter the pension market. Banks are specifically prohibited from setting up an AFP.

When the system of individual accounts was implemented in 1981, there were 12 AFPs and by 1994, there were 21. In 2008 there are five AFPs. The decline in the number of AFPs was due to mergers and closures. Also, between 1982 and 2007, the percentage of affiliates in the largest three AFPs grew from 64 percent to nearly 80 percent (Mesa Lago and Arenas de Mesa 2006; SAFP 2005–2008).

AFP Profits

Pension fund industry profits have been much higher than other related industries. Between 1991 and 2004, AFPs earned an average of 27 percent on assets compared with an average of 15.7 percent during the same period for the Chilean financial services industry. In 2005, administrative fees represented 91 percent of an AFP's income and the yield on investments from the reserve fund was about 8 percent. AFP expenses for the same year included the cost of survivors and disability insurance (51 percent), administrative expenses (30 percent) and sales force salaries (11 percent) (Marcel Commission 2006).

Pension Reform: AFP Fees, Competition, and Profits

To increase competition among AFPs and lower costs to account holders, Law 20.255:

- Eliminates the monthly fixed administrative fees that most AFPs charge their account holders.
- Assigns all new labor force entrants to an AFP with the lowest fees. The AFP would have to maintain that fee for 24 months and offer the same low-rate fee structure to all its account holders.
- Eliminates the rate-of-return fluctuation fund and distributes the monies to AFP members beginning October 1, 2008. Previously, if a particular AFP fund's (Funds A through E) performance exceeded the average by a given percentage, it had to place the excess in a rate-of-return fluctuation fund. If any AFP fund's performance fell below the average, it had to make up the difference from both its excess rate-of-return and reserve funds.
- Improves AFP efficiency by allowing them to contract out certain functions such as administering the individual accounts and receiving applications for pensions and submitting them to the appropriate AFPs.
- Allows insurance companies to set up AFPs as a subsidiary. Congress rejected the provision that allows banks to set up an AFP as a subsidiary.

A number of provisions of the new law aim to improve the system's rate of return. A 1 percent increase in the rate of return during a person's working life can increase a pension by about 20 percent. The law gradually increases the limit on foreign investments to 80 percent of assets (from the current 45 percent) and intends to make the structure of all investment limits more flexible. For advice on investment of assets, a technical investment council will be created. The council will have five members: one designated by the president, another by the Central Bank, one by the AFPs, and two nominated by the deans of economic departments in accredited Chilean universities. In addition, each AFP must set up a technical investment committee that establishes investment policies for each type of fund.

Policy Challenge: Premiums for Survivors and Disability Insurance

Premiums for survivors and disability insurance have increased recently, another cost for the worker. Each AFP contracts with an insurance company to provide survivors and disability insurance for its account holders. The amount of the premium has varied from one AFP to another and the average premium among all the AFPs has fluctuated over time. Between 1994 and 2003, the average premium rose from 0.86 percent to 1.14 percent of a worker's earnings (Castro 2005b). At the end of 2006, the average cost was 0.73 percent of a worker's earnings and by September 2008, that figure had risen to 0.99 percent (SUPEN 2007–2008).

Pension Reform: Survivors and Disability Insurance

Law 20.255 makes a number of changes to survivors and disability insurance:

- All AFPs must select an insurance company for survivors and disability insurance through a bidding process.
- Premiums will be the same for all account holders.
- Beginning July 1, 2009, employers must pay the cost of survivors and disability insurance for their employees. Until June 2011, employers with fewer than 100 employees will be exempt.

The disability determination process has also been changed. While the definitions of total and partial disability remain the same (according to the percentage loss of earning capacity), a worker will no longer have a 3-year waiting period to be assessed as permanently totally disabled. Only partial disability will require a final assessment after 3 years. In addition, a worker will be able to select his or her own doctor for a medical evaluation, paid for by the worker. Otherwise the Medical Commission will pay for an evaluation performed by the doctor that it selects (Asociación AFP 2008b).

Policy Challenge: Voluntary Retirement Savings

Workers have not saved enough for retirement through additional voluntary contributions. Since August 1987, they have been permitted to set up separate voluntary retirement savings accounts. A 2002 law provides tax incentives for voluntary retirement savings and encourages competition by allowing other types of institutions—including banks, brokerage houses, insurance companies, and mutual funds—to offer voluntary retirement savings accounts (Kritzer 2001/2002). However, the tax incentives have benefited mainly higher income workers (Berstein, Larrain, and Pino 2006). At the end of 2006, 20 percent of the close to 7.7 million AFP members had voluntary retirement savings accounts. Nonetheless, 46 percent of these accounts had a zero balance (SAFP 2005–2008).

Pension Reform: Voluntary Retirement Savings

The reform includes a provision to encourage more voluntary retirement savings. At present, few Chilean companies offer occupational pension plans. One reform measure creates employer-sponsored voluntary pension plans, known as *Ahorro Previsional Voluntario Colectivo* (APVC), which target the middle class. APVC supplements the existing voluntary retirement savings accounts beginning in October 2008. Both employers and employees can contribute to an APVC. Workers enrolled in an APVC plan who contribute up to 1.5 million pesos (US$2,913) a year to a voluntary account (and regularly contribute to a mandatory retirement account) will be eligible for an annual government subsidy of 15 percent of the amount that the worker has voluntarily saved for retirement.[24]

Policy Challenge: Financial Literacy

Workers on the whole do not understand the system of individual accounts, according to the results of the EPS. The Marcel Commission acknowledged that the system is difficult to comprehend.

According to the EPS for 2004, most of those surveyed did not know how their pensions were calculated, did not understand the relationship between contributions to an individual account and their pensions, and were not familiar with the basic facts about the guaranteed minimum pension and its requirements. EPS findings include:

- Fewer than 50 percent of those surveyed reported that they were aware of the required monthly contribution; only about 30 percent of respondents provided accurate answers. About 2 percent were familiar with either the fixed or percentage administrative fee; none were familiar with both types of fees.
- Of the 50 percent who reported that they were aware of how much they had in their individual account, the amount that two-thirds of them reported was more than 20 percent different from the actual amount.
- Only about 8 percent of those surveyed knew how pensions are calculated.
- Even though half of them stated that they knew about the multifunds, only 20 percent knew how many fund options exist.
- Those with less education and less money are less likely to have knowledge about the system.
- The majority of those surveyed knew the correct normal retirement age.
- About two-thirds of the pensioners surveyed were aware of what kind of benefit they receive, but the amount they reported receiving ranged from 20 percent less to 20 percent more than the actual benefit amount (Bravo 2006; Arenas de Mesa and others 2006).

Pension Reform: Financial Education

To improve financial literacy in Chile, the new law establishes a social security education fund, financed by contributions from the state and private donations to develop a financial education program through a competitive process. The fund was set up in July 2008 and is supervised by the ministry of labor and undersecretary of social security. Also, the government will establish an accreditation system for pension advisors to create a network of professional advisors that provide professional and independent financial advice to account holders. These professional advisors will be permitted to charge a fee of 2 percent of the worker's individual account balance, up to a maximum of 60 UF (US$ 2,427) (Asociación AFP 2008a).

Pension Reform: New Government Agencies

The reform creates a new organizational structure. On July 4, 2008, the Superintendent of Pensions (SUPEN) replaced the Superintendent of Pension Fund Management Companies (SAFP) (SUPEN 2008). SUPEN supervises both the mandatory and voluntary individual account systems and oversees the Social Security Institute (IPS), another new agency responsible for the new solidarity pillar as well as the public PAYG pension system. The IPS will set up local offices around the country to provide more access and better service to the insured.

Every 5 years SUPEN and the ministry of finance's budget director will be responsible for an actuarial study that evaluates the effect of demographic and financial changes on the replacement rates for the individual account system.

Projected Cost of the Reform

The Marcel Commission estimated the annual cost of the new solidarity pillar at 2.5 percent of GDP and its recommended changes to the contributory pillar at about 2.9 percent of GDP. By 2025, these combined annual costs could equal about 1.3 percent of GDP more than the cost of operating the current system including means-tested benefits and the obligations of the PAYG public system (benefits to current pensioners plus the recognition bonds). To provide greater financial stability for future social program spending, the government set up a pension reserve fund in 2006, financed in part from the budget surplus and the revenues from the sale of copper[25] (SSA 2006–2008).

Conclusion

In 1981, Chile was the first country to switch from a public PAYG pension system to individual accounts. Over the years, the system has undergone some major changes, including broadening the allowable investments and introducing a choice of several types of pension funds with varying degrees of risk levels. Twenty-six years later, the country's new pension reform law provides the most comprehensive overhaul of the individual account system since its inception. The International Monetary Fund supports these changes because they strive to retain the basic features of the individual account system and, at the same time, address its major shortcomings. The reform expands coverage and creates a basic benefit for many Chileans who would not otherwise qualify for a pension. Other measures will improve gender equity, encourage competition in the pension fund industry, and lower costs to help raise the net rate of return for account holders; thus, providing higher pensions.

Since the 1990s, 10 other Latin American countries have adopted some form of an individual account system either to replace or supplement their PAYG systems. As other capitalization systems in the region have matured, they too have begun expanding allowable AFP investments and a few have increased the number of fund choices. Just as Chile has passed a major overhaul of its individual account system, other countries are beginning to examine the shortcomings of their systems. Peru has set up a pension commission and Uruguay has created a "social security dialogue." Mexico introduced multifunds in March 2008 and Colombia will follow suit. Both Argentina and Peru have passed laws that allow workers to switch back to the public system.

Chile's next generation pension reform could influence changes in a number of these Latin American countries. Law 20.255 addresses many of the same issues that other systems are confronting and can serve as a frame of reference for these other countries. The individual account systems in each of these countries are a work in progress.

Notes

[1] Unidad de Fomento (UF) is a monetary unit adjusted daily to reflect changes in the consumer price index. In Chile, most financial contracts, including pensions, are denominated in UFs. On September 4, 2008, one UF equaled 20,820.35 pesos (US$40) (http://www.uf.cl).

[2] For a more extensive comparison of the different options at retirement, see Asociación AFP 2008d.

[3] This fourth option was created by the 2004 Annuities Law.

[4] As of April 2008, the monthly MPG for retirees under age 70 was 96,390.73 pesos (US$187), between ages 70 and 75 was 105,395.85 pesos (US$204) and 75 or older, 112,453.82 pesos (US$218). At the same time, the minimum monthly wage was 144,000 pesos (US$330) (SAFP 2005–2008).

[5] To qualify for the MPG, a disabled worker must have at least 2 years of contributions in the 5 years before the onset of the disability or be making contributions at the onset of the disability (SSA 2008).

[6] Workers compensation is a separate program.

[7] When the provisions of the new law relating to disability are implemented, the disability determination process will be modified (see section "Pension Reform: Survivors and Disability Insurance.")

[8] An immediate annuity, a deferred annuity, and an immediate annuity with programmed withdrawals.

[9] The minimum and maximum rate of return has been a requirement since the inception of the program. The multifund law expanded the requirement so that each type of fund has its own minimum and maximum rates of return.

[10] The Association of AFPs publishes a series entitled, "Multifonds, Resultados y Tendencias" every 3 months that monitors the performance of the multifunds. The most recent issue is March 2008 (Asociación AFP 2008c).

[11] In the 1980s a major portion of AFPs assets under management were in government bonds. At that time, the government paid high interest rates to the AFPs for these bonds, especially during the first few years after the individual account system was implemented. Several analysts also consider these high interest rates a result of the government fiscal crisis in 1982 that raised the bonds' risk level (Williamson 2005).

[12] For more information on SCOMP, see Asociación AFP 2004b.

[13] The President's Pension Advisory Commission was appointed by President Bachelet in March 2006 to evaluate the individual accounts system. The Commission, also known as the Marcel Commission (Mario Marcel, the former budget director, led the Commission), presented their report to the President in July 2006. It contained a comprehensive evaluation of the system as well as 70 reform proposals (Marcel Commission 2006; SSA 2006–2008).

[14] The sources for the details of law 20.255 are Ministerio del Trabajo y Prevision Social 2008 and DL 20.255, unless otherwise noted.

[15] For a detailed study on social security coverage of the self-employed, see Bertranou and Vásquez 2007.

[16] The 2002 survey was called the History of Labor and Social Security Survey. After the 2004 EPS was conducted, to simply the terminology, researchers began to refer to the 2002 survey as an EPS as well. The EPS was conducted for 2006 and is scheduled for 2008. It is expected every two years after that, subject to funding availability (Bravo 2008; Arenas de Mesa and others 2006; Berstein, Larrain, and Pino 2006). For more information on the EPS, go to http://www.proteccionsocial.cl/noticias.asp

[17] For an extensive study on the informal sector in Chile and other countries in Latin America, see Perry and others 2007.

[18] The MPG is equal to about 25 percent of average wage for retirees younger than age 70. The MPG for those aged 70 to 74 is about 27 percent and 29 percent for those aged 75 or older (James and Iglesias 2007).

[19] About two-thirds of old-age pensioners have annuitized—most of them have retired early. Close to two-thirds of disability pensioners have programmed withdrawals (James, Martinez, and Iglesias 2006).

[20] Recognition bonds are calculated using wages paid between 1976 and 1980. In Chile, during this time period, there were high rates of unemployment. As a result, those without a job at the time would not be eligible for the recognition bond (Berstein, Larrain, and Pino 2006).

[21] The Marcel Commission proposal to raise the retirement age for women from age 60 to age 65 was not included in the President's pension reform bill.

[22] Divorce was legalized in Chile in 2004. A 2005 ruling stated that ex-wives (as a result of divorce or annulment) are not entitled to a widow's pension (Asociación AFP 2006).

[23] This change will be phased in—from 83 percent of the minimum wage beginning January 1, 2009 to 92 percent of the minimum wage a year later.

[24] Up to a ceiling of 217,000 pesos (US$422) as of August 2008.

[25] The Pension Reserve Fund has assets of more than US$1.1 billion (Gallardo 2008). By the end of 2007, the budget surplus reached about US$16.3 billion, 8.7 percent of the country's GDP (San Juan 2008).

References

Arenas de Mesa, Alberto and others. 2006. The Chilean pension reform turns 25: Lessons from the social protection survey. Pension Research Council Working Paper No. 2006-9, Philadelphia, PA: The Wharton School, University of Pennsylvania.

Asociación AFP. 2004a. Nuevo sistema previsional está pagando 530 mil pensiones. Serie de estudios Número 46.

———. 2004b. Sistemas de consulta y ofertas de montos de pensiones: Afiliados de AFP deberán aceptar o rechazar formar parte del listo público para pensionarse. Serie de estudios Número 44.

———. 2006. Nuevo dictamen de la superintendencia de AFP: Mujeres divorciadas y anuladas no tienen derecho a pensión de viudez. Serie de estudios Número 55.

———. 2008a. AFP han impulsado el ahorro individual y hoy administran 11.6 millones de cuentas. Serie de estudios Número 63.

———. 2008b. Comunica AFP. Número 98.

———. 2008c. Multifondos resultados y tendencias. *Multifondos Boletín* Número 20.

———. 2008d. Retiro programado y renta vitalicia son modalidades complementarias. Serie de estudios Número 65.

[AIOS] Asociación Internacional de Organismos de Supervisión de Fondos de Pensiones. 2007. *Boletín Estadístico* Número 18.

Berstein, Solange, Guillermo Larrain, and Francisco Pino. 2006. Chilean pension reform: Coverage facts and policy alternatives. *Journal of the Latin American and Caribbean Economic Association* 6(2): 227–279.

Berstein, Solange, and Rómulo Chumacero. 2003. Quantifying the costs of investment limits for Chilean pension funds. The Pensions Institute Discussion Paper No. PI-0403, London: Cass Business School.

Bertranou, Fabio M., and Javiera Vásquez. 2007. Trabajadores independientes y cobertura de seguridad social en Chile. Oficina Internacional del Trabajo. (24 de agosto).

Bravo, David, 2006. The Chilean pension reform turns 25: Lessons from the social protection survey. Paper presented at the 2006 Atlanta Federal Reserve Conference.

Bravo, David and others. 2008. Encuesta de protección social 2006: Presentación general y principales resultados. (Enero).

Castro, Rubén. 2005a. Efectos de largo plazo de la comisión fija en el sistema chileno de AFP. Serie Documentos de Trabajo, Número 9, Superintendencia de Administradoras de Fondos de Pensiones.

———. 2005b. Seguro de invalidez y sobreviviencia: Qué es y qué le está pasando. Serie Documentos de Trabajo, Número 5, Superintendencia de Administradoras de Fondos de Pensiones.

[Marcel Commission] Consejo Asesor Presidencial para la Reforma Previsional. 2006. El derecho a una vida digna en la vejez: Hacia un contrato social con la previsión en Chile. http://www.consejoreformaprevisional.cl/view/presentacion.asp.

[Law 3500] Decreto Ley Número 3500 de 1980. Actualizado a julio de 2007.

[Law 20.255] Decreto Ley Número 20.255. el 11 de marzo de 2008.

Gallardo, Eduardo. Chile's model pension system reformed. *Miami Herald*. March 17, 2008, http://www.miamiherald.com/.

Gill, Indermit S., Truman Packard, and Juan Yermo. 2005. *Keeping the promise of social security in Latin America.* Washington, DC: The World Bank.

[ISSA] International Social Security Association. 2008. *Social Security worldwide*. http://www-ssw.issa.int/sswlp2/engl/page1.htm.

James, Estelle, and Augusto Iglesias. 2007. Disability insurance with prefunding and private participation: The Chilean model. Michigan Retirement Research Center, Policy Brief Number 4, Ann Arbor, MI: University of Michigan.

James, Estelle, Guillermo Martinez, and Augusto Iglesias. 2006. The payout stage in Chile: Who annuitizes and why? *Journal of Pension Economics and Finance* 5(2): 121–154.

Kritzer, Barbara. 2001/2002. Recent changes to the Chilean system of individual accounts. *Social Security Bulletin* 64(4): 67–71.

Mesa Lago, Carmelo, and Alberto Arenas de Mesa. 2006. The structural pension reform in Chile: Effects, comparisons and other Latin American reforms, and lessons. *Oxford Review of Economic Policy* 22(1): 149–167.

[Mideplan] Ministerio de Planificación. 2007. Encuesta CASEN evidencia importantes cambios en las familias chilenas. http://www.mideplan.cl.

Ministerio del Trabajo y Previsión Social. 2008. Reforma previsional Chile valora tu vida, manual informativo. http://www.reformaprevisional.cl/reforma_previsional/documentos/Manual%20Informativo%20Reforma%20Previsional.pdf.

Perry, Guillermo E. and others. 2007. *Informality exit and exclusion*. Washington, DC: The World Bank, Latin American and Caribbean Studies.

San Juan, Patricia. 2nd update: Chile '07 fiscal surplus hits record 8.7 percent of GDP. *Dow Jones International News*, January 30, 2008.

[SAFP] Superintendencia de Administradora de Fondos de Pensiones. 2005–2008. *Boletín Estadístico.*

———. 2007. *El sistema chileno*. 6ª Edición. Santiago, Chile.

[SUPEN] Superintendencia de Pensiones. 2007–2008. Centro de Estadísticas. Sistema de Pensiones. http://www.safp.cl/safpstats/stats/.sc.php?_cid=41.

———. 2008. Comunicado de prensa. el 4 de julio de 2008.

Umar, Tarik. 2007. Americas: Breaking barriers. *Harvard International Review* 28(4).

[SSA] Social Security Administration. 2006–2008. *International Update*. http://www.ssa.gov/policy.

———. 2008. *Social Security programs throughout the world: The Americas, 2007.* Washington, DC: Office of Retirement and Disability Policy, Office of Research, Evaluation, and Statistics.

Williamson, John. 2005. An update on Chile's experience with partial privatization and individual accounts. AARP Public Policy Institute. (December). http://assets.aarp.org/rgcenter/econ/2005_19_chile.pdf.