

# **CBO PAPER**

---

**SOCIAL SECURITY PRIVATIZATION:  
EXPERIENCES ABROAD**

January 1999



**CONGRESSIONAL BUDGET OFFICE  
SECOND AND D STREETS, S.W.  
WASHINGTON, D.C. 20515**



## **PREFACE**

---

---

---

---

---

This Congressional Budget Office (CBO) paper describes the design of the pension systems in Chile, the United Kingdom, Australia, Mexico, and Argentina. Those countries have implemented policies that either replace the public pension system with mandatory personal retirement accounts or encourage their workers to opt out of the existing public pension system. The paper also compares the different approaches of those systems and discusses six aspects of the privatization efforts that may have relevance for the Social Security debate in the United States.

Jan Walliser and Scott M. Becker of CBO's Macroeconomic Analysis Division wrote the paper under the supervision of Robert Dennis and Douglas Hamilton. Matthew Berger, Ben Page, Ralph Smith, David Torregrosa, and Christopher Williams made valuable suggestions. Ezra Finkin provided research assistance. Outside CBO, Anita Schwarz of the World Bank; Edward Gramlich, member of the Board of Governors of the Federal Reserve System; and Luis Cubeddu of the International Monetary Fund provided important comments and helpful advice. Liz Williams edited the manuscript. Verlinda Lewis Harris and Dorothy Kornegay prepared the document for publication. Laurie Brown prepared the electronic versions for CBO's World Wide Web site (<http://www.cbo.gov>).

Questions about the paper may be directed to the Macroeconomic Analysis Division.

June E. O'Neill  
Director

January 1999



## CONTENTS

---

---

---

---

---

I	INTRODUCTION AND SUMMARY	1
	Characteristics of Selected Countries	3
	Pension Reforms	5
	Relevance of the Reforms for the United States	8
II	THE PRIVATIZATION OF PENSIONS IN CHILE	11
	The Chilean Pension System Until 1980	11
	The Privatized Pension System	12
	Financing the Transition and National Saving	15
	Regulation of Pension Funds and Costs	19
	System Performance	24
III	THE PENSION SYSTEM IN THE UNITED KINGDOM	27
	Overview of the Pension System in United Kingdom	27
	Contracting Out with Occupational Pension Plans	31
	Contracting Out with Personal Pension Plans	33
	The Effect of Pension Reforms on Government Finances and National Saving	35
	Regulation of Pension Plans and Costs	37
	System Performance	40
IV	PENSION FUNDS AND PUBLIC PENSIONS IN AUSTRALIA	43
	The Public Pension System	43
	The Expansion of Superannuation	45
	Tax Treatment	49
	The Superannuation Guarantee, Government Finances, and National Saving	50
	Superannuation Funds: Structure, Oversight, Investments, and Costs	52
	System Performance	57

---

V	THE PRIVATIZATION OF PENSIONS IN MEXICO	59
	The Pension System Before 1992	59
	The 1992 Reform	62
	The 1997 Reform	63
	The Fiscal Costs of the Reform	66
	Regulation of Pension Funds and Costs	67
	System Performance	70
VI	THE PENSION SYSTEM IN ARGENTINA	73
	The History of Argentina's Public Pension System	73
	The 1993 Reform	75
	The Fiscal Costs of the Reform	77
	Regulation of Pension Funds and Costs	79
	System Performance	81
VII	LESSONS FROM OTHER COUNTRIES	83
	Historical Environment	84
	Transition Costs	85
	National Saving	89
	Minimum Benefit Guarantees	89
	Regulation of Pension Funds	91
	Costs of Pension Accounts and Annuities	92

## TABLES

1.	Economic and Demographic Data for the United States and Five Selected Countries, 1996	3
2.	Pension Systems in the United States and Five Selected Countries	6
3.	Transition Costs in Chile as a Share of GDP, 1981-2015	18
4.	Limits on Shares of Assets in Certain Investment Instruments for Chile's Pension Funds, 1997	21
5.	National Insurance Contribution Rates in the United Kingdom, Fiscal Year 1998-1999	32
6.	Maximum Tax-Free Contributions to an Appropriate Personal Pension, by Age	34
7.	Effect of U.K. Pension Reforms on the Cost of SERPS	36
8.	Means-Testing Provisions for the Australian Age-Pension in 1997	45
9.	Mandatory Superannuation Contribution Rates in Australia	47
10.	Assets in Australian Superannuation Funds in March 1998	53
11.	Allocation of Assets in Australian Superannuation Funds in March 1998	54
12.	Current Contribution Rates to Mexico's Pension System	63
13.	Estimates of the Fiscal Costs of Mexico's Pension Reform	67
14.	Fees Charged by AFOREs in Mexico	69
15.	Projected Deficit of Argentina's Pension System	78
16.	Limits on Shares of Assets in Certain Investment Instruments for Argentina's Pension Funds	80

## FIGURE

1.	Chile's Fiscal Position, 1975-1993	17
----	------------------------------------	----

## BOXES

1.	Terms Used in Chile's Pension System	12
2.	Terms Used in the United Kingdom's Pension System	28
3.	Terms Used in Australia's Pension System	44
4.	Terms Used in Mexico's Pension System	60
5.	Terms Used in Argentina's Pension System	74



## **CHAPTER I**

---

### **INTRODUCTION AND SUMMARY**

---

---

---

Social Security's long-term financing problem has spurred a debate about ways to restore the system's actuarial balance. Many recently advanced proposals would allow workers to invest some portion of their payroll taxes in personal retirement accounts. The amounts accumulated in those accounts would replace some of Social Security's benefits. Implementation of such plans has been called a "privatization of Social Security" because a worker's retirement income derives at least partly from private savings rather than the government program.

Other countries have privatized their public pension systems to some extent. Those countries can offer some examples for the design of privatized pension systems. Comparisons should be made cautiously, however, because the countries and their pension systems differ considerably from the United States and its system.

Regardless of the reason for pension reform in any country, the issues involved in privatization are the same among countries. Policymakers must determine how to finance the transition to the new system, what types of mandates and restrictions to impose on workers, and how to regulate the institutions that invest and annuitize the retirement savings accumulated by workers.

All countries considered in this paper started out with some old-age income support system. Those systems relied on "pay-as-you-go" financing in which taxes collected each year mainly or entirely finance the benefits paid to retirees in the same year. For example, in the United Kingdom (U.K.), a payroll tax finances the government's expenditure for pensions (and other benefits) in the same year. Three other countries considered in this paper also generated most of the revenues for their pension systems by earmarked taxes on wages before they reformed the system.

By contrast, systems with personal retirement accounts prefund retirement income by requiring people to accumulate savings during their working years.<sup>1</sup> For example, Chile's system requires workers to invest in personal retirement accounts, from which workers may withdraw money only after they retire. Moving from a pay-as-you-go system to a prefunded private system, however, imposes a financial burden on transitional generations. During the transition, members of those generations must continue to support retirees under the old system while saving for their own retirement.

---

1. Prefunding does not necessarily require the creation of private accounts; however, this paper focuses on countries that chose to implement a funded pension system with private retirement accounts.

Such prefunding through privatization can have benefits for the economy. The funds that workers contribute to personal retirement accounts increase private savings, although not necessarily by the same amount as they increase retirement accounts.<sup>2</sup> As long as government saving does not decline by an equal or greater amount than the increase in private saving, national saving rises. Higher national saving, in turn, increases the capital stock and the productive capacity of the economy.

In a pension system based on personal retirement accounts, policymakers must decide what type of restrictions to impose on those accounts. Other countries have regulated the accumulation of funds and restricted the withdrawal of retirement savings. For example, most privatized systems mandate how much must be contributed to the private accounts, determine the minimum age at which funds may be withdrawn, and restrict the types of withdrawal. Because income from retirement accounts replaces income from government sources, those restrictions generally aim to ensure that people set aside resources for retirement and invest them prudently. Pay-as-you-go systems also set contribution rates, demand minimum periods of contributions, and regulate retirement ages.

The institutions that provide investment services or annuitize retirement savings are also likely to be regulated in some way. In most privatized systems, the government protects retirees against poverty by guaranteeing a minimum pension. Such guarantees, however, may create an incentive for workers to invest in riskier investment instruments than they otherwise would. To limit that behavior, several countries restrict workers' investment choices and regulate pension funds. Such regulation reduces workers' ability to gamble with their savings and lessens the risk of pension funds failing. Regulation may also be necessary to ensure that investment firms do not engage in illegal business practices or fraud.

This paper analyzes the key policy choices that Chile, the United Kingdom, Australia, Mexico, and Argentina have made regarding the privatization of their public pension systems. All those countries add some perspective to the discussion about Social Security privatization in the United States. The first three countries used three distinct models for designing private pension systems. The other two broadly followed the Chilean model, but the differences in the system designs enhance an understanding of available policies and their implications.

The five selected countries are not the only ones with partially privatized retirement systems. Following Chile's example, Colombia, Peru, Bolivia, El Salvador, Poland, Hungary, and Kazakhstan have introduced a system of private retirement

---

2. For a discussion of the impact of pay-as-you-go pension systems on saving, see Congressional Budget Office, *Social Security and Private Saving: A Review of the Empirical Evidence*, CBO Memorandum (July 1998).

accounts. In addition, Switzerland (like Australia) has implemented an employment-based funded system. The reforms in Chile, the United Kingdom, and Australia, however, are referred to most often; Mexico's and Argentina's reforms represent important variations of the Chilean model.

## CHARACTERISTICS OF SELECTED COUNTRIES

The selected countries vary both economically and demographically. Table 1 summarizes some key economic and demographic variables for the United States and the five selected countries. Like the United States, Australia and the United Kingdom

TABLE 1. ECONOMIC AND DEMOGRAPHIC DATA FOR THE UNITED STATES AND FIVE SELECTED COUNTRIES, 1996

	United States	Chile	United Kingdom	Australia	Mexico	Argentina
<b>Economic Data</b>						
GDP per Capita (Dollars)	28,770	4,990	20,680	21,360	3,370	8,440
GDP Growth Rate (Percent)	2.4	7.2	2.4	3.4	5.1	4.3
Inflation Rate (Percent)	2.9	7.3	2.5	2.6	34.4	0.3
Budget Deficit (-) or Surplus (Percentage of GDP)	-1.4	2.2	0.4	-1.0	-0.6 <sup>a</sup>	-1.8
<b>Demographic Data</b>						
Total Population (Millions)	265.4	14.2	57.6	18.4	97.5	35.8
Percentage of Population Over 60 Years Old in						
1990	16.6	8.7	20.8	15.0	5.7	13.1
2010	19.2	12.2	23.0	18.1	8.3	15.1
2030	28.9	26.4	29.5	30.4	24.6	25.9
Life Expectancy at Birth (Years)	76	75	77	80	74	74

SOURCE: Congressional Budget Office using data from World Bank, *Averting the Old Age Crisis* (Oxford: Oxford University Press, 1994); Central Intelligence Agency, *World Fact Book* (1998); and International Monetary Fund, *International Financial Statistics* (Washington, D.C.: IMF, 1998).

NOTE: GDP = gross domestic product.

a. Data refer to 1995.

are highly developed countries, and the per capita income in those countries is fairly close to that in the United States. By contrast, per capita income in the three Latin American countries ranges between 12 percent and 30 percent of that in the United States.

Gross domestic product (GDP) grows more rapidly in the developing countries with smaller per capita GDP, reflecting the growth opportunities of economies that are still adopting more advanced technologies of production. The GDP of Chile, Mexico, and Argentina grew about 8 percent during the early 1990s, although those countries' growth has slowed since then, reflecting recent global turmoil. By contrast, the GDP growth rates of the United States, the United Kingdom, and Australia are much more moderate, with average annual growth rates ranging between 2 percent and 3.5 percent.

In addition, the more highly developed economies tend to have lower inflation rates. Argentina had the lowest inflation rate in 1996, however, a result of the tight monetary policy that the government adopted in the 1990s after spells of hyperinflation in the 1980s.

The budgetary situations of the six countries also differ. In 1996, the Chilean government reported a budget surplus of 2.2 percent of GDP, Argentina had a budget deficit of 1.8 percent of GDP, the United Kingdom had a small surplus, and the United States and Australia each had a small deficit. The 1996 figures should be viewed cautiously, however, because fiscal positions can change over time. For example, the U.S. budget deficit has in the meantime given way to a budget surplus. Moreover, current year estimates of the surplus or deficit do not necessarily reveal the long-term obligations of the government.

In addition, the countries considered in this paper differ greatly in size. All the countries have populations that are smaller than the United States, with Mexico's almost 100 million people being the largest next to the U.S. population. Chile and Australia have comparatively small populations of less than 20 million. Argentina's population of 35 million and the United Kingdom's population of 58 million represent the middle range.

The selected countries have populations that are aging significantly. The population in the United Kingdom is already older, on average, than the populations in the other countries, and it is expected to get older, although at a slower pace, than in the other countries. Argentina, the United States, and Australia had a fairly similar share of people older than 60 at the beginning of the 1990s. Australia's and the United States' populations, however, are expected to age faster than Argentina's. Chile and Mexico still have fairly young populations with a relatively small share of people older than 60. Nonetheless, because of an increase in life expectancy and a steep drop in birth rates, the population of both countries is expected to age rapidly.

By 2030, the share of the population older than 60 in those countries is expected to approach or surpass the Argentine figure.

## PENSION REFORMS

---

The pension system reforms instituted by the five countries have varying features. Table 2 summarizes the major features of the pension systems before and after reform. All five countries reformed their systems in the 1980s and 1990s. Chile was the first of the five countries to introduce private retirement accounts, followed by the United Kingdom in 1986. The Argentine and Mexican reforms took place more recently.

Chile replaced its entire pay-as-you-go system with a system based on private retirement accounts. Before 1980, the Chilean system was characterized by retirement funds that were based on occupation. Because the benefits were based on a worker's occupation, they could differ considerably among retirees. Moreover, the funds were financed on a pay-as-you-go basis, with payroll taxes varying between 16 percent and 26 percent. Chile's new system forces all workers joining the labor force to contribute 10 percent of wages to personal retirement accounts. Workers may invest their savings in one of several private pension funds and are free to select among approved and regulated pension funds. Upon retirement, they may choose among several combinations of phased withdrawals and indexed annuities. Workers who participated in the old system may join the new system or remain in the old system. Those who join the new system receive "recognition bonds" for their contributions under the old system. The bond receives a 4 percent annual rate of return from the time the worker switches to the new system until he or she retires. Workers whose savings are not sufficient to finance a minimum pension receive additional resources from the government so that their retirement income equals the minimum pension of about 25 percent of average wages.

By contrast, the United Kingdom's reform has been more incremental. Before reform, the U.K. system offered a "flat" benefit (that is, a benefit independent of previous earnings) and an earnings-related pension. On average, the flat benefit replaced about 15 percent of wages; the earnings-related pension replaced about 25 percent. Workers who participated in employer-based pension plans did not have to join the earnings-related system and received a rebate on their payroll taxes. In 1986, the government permitted those who did not participate in employer-based pension plans to set up personal retirement accounts and receive a payroll tax rebate. In addition, the government took steps in 1986 (and again in 1995) to curb the earnings-related benefit by reducing the replacement rate and making other changes to the benefit formula and the indexation of benefits. Under current law, the replacement rate on the earnings-related pension is expected to drop to 20 percent by 2009.

TABLE 2. PENSION SYSTEMS IN THE UNITED STATES AND FIVE SELECTED COUNTRIES

	United States	Chile	United Kingdom	Australia	Mexico	Argentina
<b>Features of the Old System</b>						
Finance	PAYGO with Ear-marked Taxes	PAYGO with Ear-marked Taxes	PAYGO with Ear-marked Taxes and General Revenue	General Revenue	PAYGO with Ear-marked Taxes	PAYGO with Ear-marked Taxes and General Revenue
Benefits	Earnings-Related	Earnings-Related	Flat and Earnings-Related Benefits	Flat Benefit, Means-Tested	Earnings-Related	Earnings-Related
Replacement Rate <sup>a</sup>	43 Percent	Varies by Occupation	Flat Benefit, 15 Percent; <sup>b</sup> Earnings-Related, 25 Percent	25 Percent <sup>b</sup>	About 60 Percent	About 70 Percent
Other Provisions	Progressive Benefit Formula	n.a.	Workers in Employer Pension Plans May Opt Out of Earnings-Related System	n.a.	Government Contributes 0.425 Percent of Payroll	n.a.
<b>Features of the New System</b>						
Year of Reform	c	1981	1986, 1995	1992	1992, 1997	1994
Changes	n.a.	Replaced Old System with System of Individual Accounts	Allows Workers to Opt Out of Earnings-Related System with Individual Accounts; Reduces Earnings-Related Benefit	Mandates That Employers Contribute to Pension Funds on Their Employees' Behalf	Replaced Old System with System of Individual Accounts	Replaced Old System with System of Individual Accounts

(Continued)

TABLE 2. CONTINUED

	United States	Chile	United Kingdom	Australia	Mexico	Argentina
<b>Features of the New System (Continued)</b>						
Choice Between Old and New System	n.a.	New Workers Must Join New System; Current Workers May Choose Between Systems	Yes	No	All Workers Must Join New System	Parallel System of Individual Accounts and PAYGO Pension
Transition Financing	n.a.	General Revenue and New Debt	General Revenue	Mandate on Employers	General Revenue and New Debt	General Revenue and New Debt
Recognizing Accrued Benefits	n.a.	Bonds Issued to Workers Who Contributed to Old System	Accrued Benefits Paid at Retirement to People Who Opt Out	None	Choice Between Benefits Under Old System and New System at Retirement	Pension Benefit Based on Years of Participation in Old System
Minimum Benefit	n.a.	For Those with Small Account Balances, 25 Percent of Average Wage	Flat Benefit as in Old System	Means-Tested Pension as in Old System	For Those with Small Account Balances, 40 Percent of Average Wage	Flat Benefit, 28 Percent of Average Wage
Regulation	n.a.	Minimum Return, Portfolio Restrictions, One Fund per Provider, Oversight	Oversight	Oversight	Portfolio Restrictions, Oversight	Minimum Return, Portfolio Restrictions, One Fund per Provider, Oversight

SOURCE: Congressional Budget Office using data from House Committee on Ways and Means, *1998 Green Book* (May 1998); and World Bank, *Averting the Old Age Crisis* (Oxford: Oxford University Press, 1994).

NOTE: PAYGO = pay-as-you-go; n.a. = not applicable.

- a. Replacement rate for an average earner with 40 years of contributions.
- b. Replacement rate as a percentage of average male earnings.
- c. Since the United States has not reformed its system, no year applies.

Australia's reform involved imposing a mandate on employers to contribute to workers' retirement funds. Australia provides a means-tested public pension financed by general revenues. For all workers who receive a full pension, that pension replaces about 25 percent of the average earnings of male workers. Starting in 1992, the government began requiring each employer to contribute a certain percentage of each worker's wage to a pension fund. The contribution rate was set at 3 percent in 1992 but is scheduled to rise to 9 percent by 2002. As workers' assets grow, fewer workers are expected to rely on the means-tested pension. The number of Australians who will qualify for the means-tested pension in the future, however, is hard to predict. Because Australia allows lump-sum withdrawals from pension accounts, some people may be tempted to spend their savings until they become eligible for the government pension.

Mexico replaced its previous pay-as-you-go pension system with a system based on private retirement accounts. The old system replaced about 60 percent of wages for workers with average earnings. All workers had to switch from the old system to the new one in 1997. Under the new system, workers must contribute to a personal retirement account managed by an investment company of their choice. The investment company may offer several funds. At retirement, workers who contributed to the old system must choose whether to receive benefits from their new retirement account or according to pre-1992 law. Mexico also offers a minimum benefit of about 40 percent of average wages. That benefit is fixed in real terms and will therefore decline relative to the average wage.

Argentina implemented a parallel system of private retirement accounts and pay-as-you-go pensions supplemented with a universal flat pension in 1994. The Argentine regulation of pension plans follows the Chilean example fairly closely. Before the reform, Argentina had an earnings-related pension system financed on a pay-as-you-go basis. That system replaced about 70 percent of wages for the average worker. Under the new system, workers may choose to contribute to a private retirement account or to the pay-as-you-go system. Moreover, all workers who have contributed to the system for at least 30 years receive a flat benefit of 28 percent of average wages. Workers who choose personal retirement accounts receive an additional pension that depends on the number of years they contributed to the old system.

#### RELEVANCE OF THE REFORMS FOR THE UNITED STATES

The efforts to privatize social security programs in the five selected countries have relevance for the Social Security debate in the United States in the following six areas: historical environment, transition costs, the impact on national saving, minimum benefit guarantees, regulation of the system, and the costs of pension accounts and annuities.



The pension reforms in the five countries reflect a particular historical environment. Countries with pressing financial crises generally implemented more radical reforms. Except for Chile, all of the countries relied on some existing structures. Such a strategy can reduce the disruption from reform, which is an important consideration in developed countries like the United Kingdom or Australia. However, the experience of the U.K. reform shows that adding to an existing system can lead to a complicated structure involving several types of pensions.

Each country chose a different way to acknowledge accrued pension liabilities. The way in which governments recognize those liabilities can affect the ultimate cost of the transition and the distribution of burdens within and among generations. Some solutions, such as giving workers a bond (as in Chile), clearly demonstrate future liabilities but may overcompensate workers if the assumptions underlying the calculation of bond amounts are too generous. Other solutions, such as Argentina's parallel system of pay-as-you-go pensions and a private pension account, may constitute large financial risks because future government liabilities depend greatly on the number of workers who leave the old system voluntarily.

Pension reform can raise national saving if the creation of private accounts is accompanied by reduced government liabilities. It is difficult to determine exactly how much national saving was affected in the five countries, however, because future liabilities from remaining public programs and minimum pension guarantees are uncertain. Moreover, many countries combined several fiscal policy measures with pension reform, so the exact impact of the reform on saving is difficult to determine. Some estimates suggest that the Chilean pension reform has raised national saving by 2 percent to 3 percent of GDP. In the United Kingdom, the reform probably has not reduced public saving, but the new saving in pension accounts may have partly replaced other forms of private saving. In Australia's case, analysts find that pension reform raised national saving by 0.2 percent to 0.3 percent of GDP between 1995 and 1997 and that national saving may increase by more than 1.5 percent of GDP in the long run. Because reforms in Mexico and Argentina are more recent, the impact of reforms on national saving has not been thoroughly investigated. In both countries, some of the private saving in personal accounts has probably been offset by less public saving.

Each country guarantees a minimum benefit. Argentina and the United Kingdom provide a universal pension, Chile and Mexico offer a minimum pension to workers with insufficient retirement accounts, and Australia offers a pension to retirees who satisfy a means test. Universal minimum pensions generally cost more than conditional minimum pensions because they are paid to a larger number of retirees. The higher the minimum benefit, the larger the future government liability and the smaller the incentive for workers to contribute to their private accounts.

The five countries used two models of pension fund regulation. The Chilean model features strict regulatory oversight combined with limits on investment in certain assets. That model was followed by Argentina and to some extent by Mexico. Moreover, companies in Chile and Argentina may offer only a single pension fund. The model followed by the United Kingdom and Australia imposes few restrictions on funds other than that funds follow the "prudent-man rule" of investment.<sup>3</sup>

The fees charged by private pension accounts to cover administrative costs and other expenses generally range from 2.5 percent to 3 percent of wages. In Chile, the country with the longest experience with private retirement accounts, those costs can be equivalently expressed as 1 percent of assets, which is similar to costs of mutual funds in the United States. In Australia, some funds achieved significant savings by bundling contributions from many employees and centralizing investments. But those savings come at the expense of restricting workers' choice among different investments.

---

3. Under the prudent-man rule, trustees must "exercise . . . the same degree of care, skill, and diligence as an ordinary person would exercise in dealing with property of another for whom the person felt morally bound to provide." See Superannuation Industry (Supervision) Act of 1993, Section 53(2)(b).

## **CHAPTER II**

---

### **THE PRIVATIZATION OF PENSIONS IN CHILE**

---

---

---

The Chilean pension reform in 1981 was part of a series of policy changes in Chile in the 1970s and 1980s. Between 1973 and 1990, the government introduced a variety of sweeping changes toward a free-market system. Between 1975 and 1979, the government liberalized trade and credit markets and reformed the tax system.

Chile's pension reform involved replacing a pay-as-you-go system with a private system based on individual accounts. Starting in 1981, workers joining the labor force and those deciding to leave the old pension system had to begin contributing to personal retirement accounts. The funds in those accounts will finance retirement income when those workers retire. Workers who contributed to the old system also received compensation for those contributions. Moreover, the government supplements the income of workers with small savings. See Box 1 for a brief description of the terms used in the Chilean pension system.

#### **THE CHILEAN PENSION SYSTEM UNTIL 1980**

---

Chile adopted a social security system in the 1920s. In the early years, contributions by active workers exceeded payments to retirees. In other words, the original system was not purely pay as you go; instead, the surplus was expected to help meet increasing obligations as the system matured. The accumulated funds were poorly managed, however, and the government raised benefits quickly. By the 1970s, the system's assets were gone, and it had become a pure pay-as-you-go system.

One of the difficulties with the original system was its lack of uniformity. The system had over 100 different retirement regimes. As a result, total contributions (by employers and employees) in 1973 varied between 16 percent and 26 percent of wages, depending on the type of occupation. Those differences created large differences in retirement benefits. Some workers could retire with a large pension at age 42, but many blue-collar workers could not qualify for retirement benefits until age 65. In addition, some—but not all—pensions had automatic cost-of-living adjustments.

Chile's traditional retirement system also suffered from a shrinking number of contributors. In 1955, the system had 12 active contributors per retiree, but by 1979 it had only 2.5 contributors per retiree. That figure reflects both a change in demographics and an increasing participation in the underground economy that reduced payroll tax receipts. By 1980, the system was running a deficit equal to 2.7 percent

BOX 1.  
TERMS USED IN CHILE'S PENSION SYSTEM

**Administradora de Fondos de Pensiones (AFP).** A company set up for the sole purpose of administering the accounts of workers in the new Chilean pension system. The company may not conduct any other business. An AFP must invest workers' pension savings in a single investment fund, and each worker must choose one AFP in which to invest his or her entire pension account. AFPs are subject to stringent oversight by the Superintendency of AFPs, which regulates market access. AFPs also face requirements on minimum returns.

**Recognition Bond.** A special bond issued by the Chilean government to workers who contributed to the old pension system and joined the new pension system. The value of the bond is based on a formula that attempts to capture the value of accrued pension payments considering, among other things, the life expectancy of workers and the number of years they contributed to the old system. A recognition bond is paid into a worker's pension account when he or she retires.

of gross domestic product, and the discounted present value of the system's contingent liabilities exceeded gross domestic product.<sup>1</sup> Those deficits put increasing stress on the existing system and heightened the pressure for reform, which occurred in 1981.

### THE PRIVATIZED PENSION SYSTEM

The new private pension system began covering new workers in 1981, at which time those already working were free to opt out of the old system and participate in the new system. Under the new system, workers must save on their own in personal retirement accounts. In addition, they must contribute to disability and survivor insurance. Under the original system, employers financed a portion of the workers' social security contribution. Because contributions to the privatized system are solely the employee's obligation, the government mandated a before-tax wage increase equivalent to the previous employer contribution. That measure reflected the fact that employers' pension contributions are part of the total compensation package, and the government wanted to ensure that employers did not lower compensation when the mandatory employer contribution was eliminated.

The government had to address several basic issues in designing the new private pension system. Policymakers had to decide who should contribute to the new system and how much they should contribute, specify the type of investments that

---

1. Sebastian Edwards, "The Chilean Pension Reform: A Pioneering Program," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), pp. 33-57.

workers could choose, regulate the withdrawal of funds, and consider what guarantees the government should offer in case a person's retirement savings were not sufficient to maintain a minimum standard of living.

### Contributions

Participation in the new pension system is voluntary for workers who were covered by the old system, but it is mandatory for new workers. All workers who joined the labor force after December 31, 1982, and those who opted out of the old system must contribute 10 percent of their wages to their private investment funds. Wages are taxable up to a limit. Workers must contribute another 3 percent of wages to cover term life and disability insurance. Self-employed workers do not have to participate, but they may voluntarily set up retirement accounts with the same basic features.<sup>2</sup>

### Investments

A worker's contributions are invested in a private investment firm (called an Administradora de Fondos de Pensiones, or AFP) of the worker's choice. Workers may select a government-approved AFP and may switch any time after four months with one firm. They must hold their entire account balance with one firm, however, and become so-called affiliates of that firm. Employers transfer contributions to the AFPs. All contributions, including voluntary payments added to the mandatory account, are tax deductible. When the worker retires, the pension is taxable as income.<sup>3</sup>

### Withdrawals

Workers have two withdrawal options when they reach retirement age: they may either purchase a life annuity or withdraw funds on a regular basis according to a predetermined plan. Annuities sold in Chile must be indexed for inflation and provide survivor benefits. Because annuity payments continue as long as the annuitant lives, purchasing an annuity protects people from the possibility of outliving their wealth. Alternatively, Chilean retirees may spend their retirement savings by withdrawing fractions of their remaining account balance according to a schedule (pro-

---

2. Ibid., p. 41.

3. Peter Diamond and Salvador Valdés-Prieto, "Social Security Reforms," in Barry P. Bosworth, Rudiger Dornbusch, and Raúl Lában, eds., *The Chilean Economy: Policy Lessons and Challenges* (Washington, D.C.: Brookings Institution, 1994), p. 268.

grammed withdrawal) set by the government. Withdrawals are set annually according to remaining life expectancy and an interest rate. Although such a provision does not insure people against outliving their resources, it prevents retirees from spending their money all at once and relying on a government pension. Programmed withdrawals also give lower-income workers, who have generally lower life expectancies than higher-income workers, an alternative to the annuities market, which may offer them unfavorable rates. If an account balance is not sufficient to purchase an annuity larger than the minimum pension, the government requires a programmed withdrawal (discussed later in this section).<sup>4</sup>

An individual may retire early if his or her account balance can be converted into an annuity exceeding 50 percent of the average worker's salary and 110 percent of the minimum pension. The retiree may withdraw a lump sum to the extent that the account balance exceeds the amount needed to pay a pension equivalent to 70 percent of the average worker's salary (up to the taxable maximum) and at least 120 percent of the minimum pension.

The AFPs that receive the retirement account contributions are also responsible for contracting with an insurance company to provide disability and survivor insurance for the account holder. If a worker dies or becomes disabled, the insurance company pays a large lump sum to that worker's account. The disabled worker or the survivor may purchase a real annuity or withdraw funds according to the programmed withdrawal rules.<sup>5</sup>

### Minimum Pension Guarantees

Workers who have contributed to the system for at least 20 years and whose accumulated funds cannot cover a minimum pension receive a transfer from the government that raises their pension to that minimum. The treasury uses general revenues to fund the minimum pension guarantee, which is about 25 percent of the average income (or about 75 percent of the minimum wage) after contributions to social security. The government supplements payments from retirement accounts that are insufficient to provide the guaranteed minimum pension level. The value of the minimum pension is adjusted for inflation every time the accumulated change in the consumer price index reaches 15 percent. In the past, the minimum pension has been as low as 61 percent of minimum wages (in 1982) and as high as 91 percent of minimum wages (in 1987). People who do not qualify for the minimum pension and are without means are eligible for an assistance pension, which is much less gener-

---

4. Ibid., p. 291.

5. Ibid., p. 276.

ous. Among those receiving the assistance pension in 1987, 82 percent had never contributed to the pension system.<sup>6</sup>

## FINANCING THE TRANSITION AND NATIONAL SAVING

Financing the transition from a pay-as-you-go system to a funded system involves two steps. First, policymakers must decide whether and how to recognize claims against the old system. Second, they must decide whether to finance claims by levying new taxes, selling government assets, cutting other government spending, or borrowing additional moneys.

### Recognition Bonds

Workers who stayed in the existing system when the new system was implemented and people who had already received pensions continued to receive payments under the old law. Workers who decided to switch to the new system received "recognition bonds" from the Chilean government. Those bonds aimed to compensate workers for contributions they had made under the old system. Only workers with at least 12 monthly contributions in the past five years were eligible to receive the bonds. The government credits the recognition bonds to workers' personal accounts when they retire.

The government calculates the value of the bond using the following four-step procedure:

- o First, the average annual base wage rate used to determine contributions to the old system before June 30, 1979, is multiplied by 0.8. That establishes a target replacement rate for the pension according to previous earnings.
- o Second, the product of the first calculation is multiplied by the ratio of total years of contributions to 35 (35 years being the assumed number of working years for obtaining a typical pension). That adjusts the targeted pension by the number of years that a worker contributed.
- o Third, the resulting number is multiplied by 10.35 for males and 11.36 for females. That step multiplies the target pension level by the number of years an average retiree could expect to live, recognizing that women live longer than men.

---

6. Ibid., p. 261.

- o Fourth, the figure obtained in the previous step is multiplied by a factor that varies according to the individual's age and sex. For males, the factor varies between 1 and 1.11; for females, between 1 and 1.31. Since life expectancy is expected to increase, that step adjusts pension values by an actuarial factor depending on how old the recipient of the recognition bond was when the reform took place.

The recognition bond matures when the worker reaches retirement age, dies, or becomes disabled, and it earns 4 percent real (inflation-adjusted) interest between the date of the switch and the date of maturity, reflecting an assumption about the real growth rate of wages.<sup>7</sup> The pension reform raised the retirement age (the date of maturity) by five years, which diminished the value of the recognition bonds.

### Financing the Transition

During the transition, Chile has to finance the pensions under the old system paid to those who did not switch to the new system or were already retired. In addition, Chile has to finance the recognition bonds issued to workers who switched to the new system.

Chile prepared to pay for the transition costs in three ways: raising tax revenues, reducing spending, and selling government assets. About half of the fiscal tightening resulted from a value-added tax introduced in 1975.<sup>8</sup> (That 1975 tax reform also simplified the income tax system and strengthened tax enforcement.) The other half came from spending cuts and asset sales. Those measures generated a surplus of 5.5 percent of GDP before the pension reform in 1980.

Shortly after the reform, the government's budget showed a deficit, but not all of the increased borrowing can be attributed to the pension reform. As Figure 1 indicates, revenues dropped and expenditures increased as a share of GDP for a few years after 1980. Those effects reflect the changes in both revenues and outlays in response to the reform as well as a cyclical downturn of the Chilean economy in those years.

The fiscal costs of the transition peaked at 4.8 percent in the early years of the transition, started to fall in 1988, and are expected to continue to fall (see Table 3). Those costs have two components: the amount by which expenditures for current pensioners and for those who chose to remain in the old system exceeds the revenues received from the payroll tax and the cost of paying for the recognition bonds

---

7. Edwards, "The Chilean Pension Reform," p. 50.

8. Diamond and Valdés-Prieto, "Social Security Reforms," p. 283.

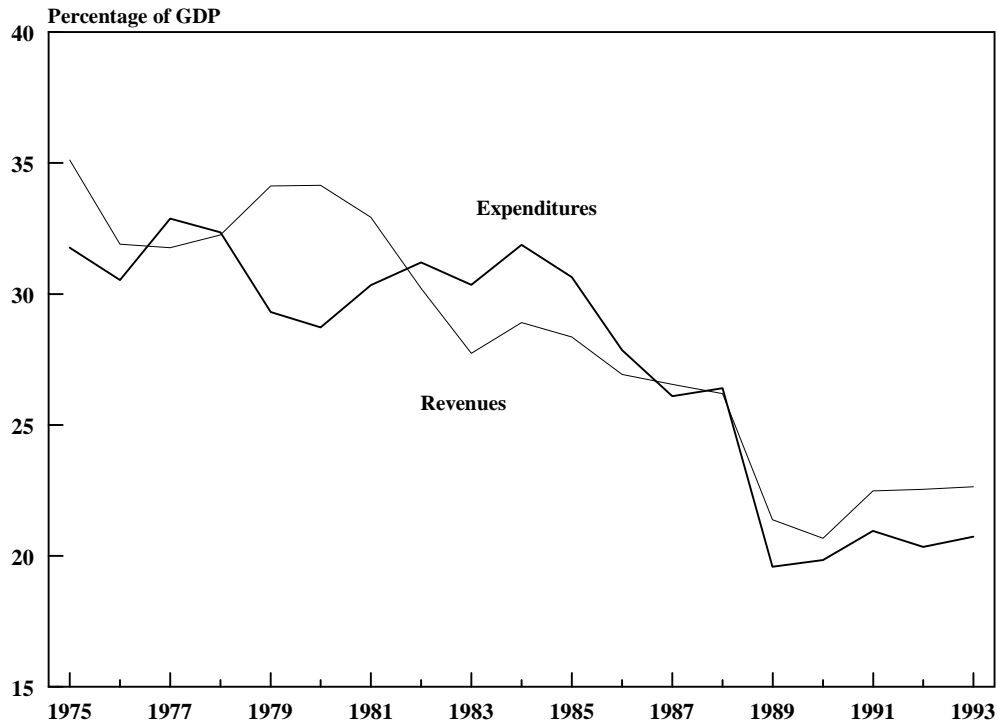


of those workers who opted out of the old system. The costs of paying the benefits to those who stayed in the system are significantly larger than the cost of recognition bonds. The relative importance of recognition bonds increases over time, however, as fewer people claim benefits under the old system.

### National Saving

The change in national saving from pension reform is the sum of changes to public saving and private saving. Estimating those changes is difficult because the estimates depend on assumptions regarding what would have happened without reform.

FIGURE 1. CHILE'S FISCAL POSITION, 1975-1993



SOURCE: Congressional Budget Office using data from International Monetary Fund, *International Financial Statistics Yearbook* (Washington, D.C.: IMF, 1995).

NOTE: Data refer to consolidated central government revenues and expenditures (including all extra-budgetary and social security funds). Data for 1984-1988 also include accounts of some nonfinancial public enterprises and public institutions. Data for 1989 and following years exclude the operations of nonfinancial public enterprises. Revenues include grants received, and expenditures include lending net of repayments.

TABLE 3. TRANSITION COSTS IN CHILE AS A SHARE OF GDP, 1981-2015 (In percent)

Year	Deficit of Old Pension System <sup>a</sup>	Costs of Redeeming Recognition Bonds of Workers Who Left Old Pension System	Total
1981	1.47	0.01	1.48
1982	4.08	0.11	4.19
1983	4.58	0.22	4.80
1984	4.55	0.25	4.80
1985	4.27	0.30	4.57
1986	4.33	0.41	4.74
1987	4.35	0.49	4.84
1988	4.23	0.50	4.73
1995	3.10	0.80	3.91
2000	2.57	0.94	3.51
2005	1.84	0.99	2.83
2010	1.19	0.80	1.99
2015	0.80	0.40	1.20

SOURCE: Congressional Budget Office using data from Sebastian Edwards, "The Chilean Pension Reform: A Pioneering Program," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), Table 1.5.

a. The amount by which expenditures for current pensioners and for those who chose to remain in the old system exceeds the revenues from the payroll tax.

The transition costs and the funds accumulated in personal retirement accounts are benchmarks for the changes in public and private saving. If the government had not tightened its fiscal policy in response to pension reform, the transition costs calculated in Table 3 would have reduced public saving by the same amount that private saving increased. Similarly, if households had not changed their other private saving in response to pension reform, the full amount accumulated in personal retirement accounts would have added to private saving. An upper limit of the impact on national saving would thus simply be the amount of money in retirement accounts. That figure was more than 1 percent of GDP in 1981 and has reached 7 percent to 9 percent of GDP since 1990.<sup>9</sup>

Fiscal tightening, however, has probably not financed the transition costs in full. In addition, households have probably reduced other saving somewhat in response to the mandate to accumulate money in personal retirement accounts. Assuming that half of the transition costs have been financed through fiscal tightening and half of the accumulation in personal retirement accounts is offset by lower pri-

9. Robert Holzmann, "Pension Reform, Financial Market Development, and Economic Growth: Preliminary Evidence from Chile," *IMF Staff Papers*, vol. 44, no. 2 (1997), Table 6.

vate saving would put the effect on national saving between 2 percent and 3 percent of GDP for the 1990s.

## REGULATION OF PENSION FUNDS AND COSTS

In privatizing the pension system, the Chilean government had to decide how to administer and regulate the privatized system. That decision involved determining who would manage the investment funds and what sort of investments and annuities to allow.

### Requirements for Investment Firms

Private investment companies (AFPs) manage the individual retirement accounts. Each AFP may manage only one retirement fund, and the retirement fund's assets are strictly separated from the firm's assets.<sup>10</sup> In 1996, 15 such companies operated in Chile. Although the firms determine their own fees and commissions, they may not charge an exit fee or impose management fees on accounts (including inactive accounts) according to the value of those assets. Instead, the firms charge fees on the basis of contributions.

AFPs have a minimum capital requirement of about US\$160,000. That amount rises with the number of account holders. For example, the minimum capital requirement for a fund with 10,000 account holders is US\$650,000.<sup>11</sup>

AFPs may not enter into marketing agreements with other firms, including banks, which prevents joint marketing that may allow account holders to receive services in addition to those specified by law. Otherwise, some people who wish to consume more and save less may be inclined to accept gifts in exchange for lower rates of return.<sup>12</sup>

---

10. Edwards, "The Chilean Pension Reform," Table 1-2.

11. Joaquín Vial Ruiz-Tagle and Francisca Castro, "The Chilean Pension System" (paper presented at a meeting of Senior Budget Officials, Organization for Economic Cooperation and Development, Paris, June 10-11, 1997), p. 6.

12. Diamond and Valdés-Prieto, "Social Security Reforms," p. 278.

### Oversight

The Superintendency of AFPs regulates AFPs and their investment portfolios. It also regulates entry of new AFPs into the industry. In August 1982, the Registry of AFP Salespeople was created, and it restricted AFPs to hiring from the registry only. The rules allow the Superintendency to regulate sales practices.

### Regulation of Investments and Returns

Originally, investment funds were mainly restricted to government securities, bank deposits, investment-grade corporate bonds, and mortgage bonds. Now, however, AFPs invest in many types of investments, including equity, foreign securities, and real estate, although some restrictions remain on the extent to which funds may be held in a particular type of investment. Table 4 shows the specific limits for certain types of assets that an AFP may hold in its portfolio.

Even though restrictions initially imposed on AFP investments have been eased, diversification is still limited in practice. In September 1996, 41 percent of AFP investment assets were held in government-issued securities, about 28 percent were in domestic equity, and almost 17 percent were in mortgage bonds. By contrast, only 0.3 percent of total assets were held in foreign investments.<sup>13</sup> In addition, to limit their losses in the wake of global financial turmoil in equity markets, AFPs have recently reduced their exposure to Chilean equities to less than 20 percent.<sup>14</sup>

The system further restricts AFPs by limiting the deviation from the average rate of return among all firms in any given year to 2 percentage points or one-half the average rate, whichever is greater. If an AFP exceeds the maximum rate of return, it must deposit the excess funds in a "profitability reserve," which may be used if the portfolio underperforms in the future. The reserve is invested in a portfolio identical to the fund's. In addition, an AFP must hold a cash reserve of 1 percent of assets. If an AFP's returns are below the minimum, it must make up the difference with funds drawn first from the profitability reserve and then from the cash reserve. If the AFP cannot pay the minimum return from its reserves, the AFP is liquidated, and the government makes up the difference.

---

13. Julio Bustamante, "15 Years of Regulating and Supervising Chile's Pension System," in Klaus Schmidt-Hebbel, ed., *Pension Systems: From Crisis to Reform* (Washington, D.C.: World Bank, forthcoming).

14. "Pensioners Quiver as Markets Fall," *New York Times*, Week in Review Section, August 16, 1998, p. 4.

### Regulation of the Annuities Market

The annuities market is separate from the investment management market, and annuity insurers may not also act as AFPs. That regulation is supposed to restrict AFPs' market power, which might otherwise limit the switching among AFPs by locking retirement savings into annuities early on.

Insurance companies may segment the market into different risk classes depending on life expectancy. For example, annuity companies may price annuities differently for men and women, or for people who differ in their health status. A

---

TABLE 4. LIMITS ON SHARES OF ASSETS IN CERTAIN INVESTMENT INSTRUMENTS FOR CHILE'S PENSION FUNDS, 1997

---

Investment Instrument	Limit (Percent)
Government Securities	50
Deposits and Certificates Guaranteed by Financial Institutions	50
Commercial Paper	20
Bonds	
Mortgage bonds	50
Public and private corporate bonds	50 <sup>a</sup>
Public and private convertible corporate bonds	15 <sup>a</sup>
Equities	
Corporate stocks	40
Shares in corporate development investment funds	5
Shares in investment funds	10
Shares in securitized-credit investment funds	10
Foreign Securities	
With fixed returns	12 <sup>b</sup>
With variable returns	6 <sup>b</sup>
Other	
Other publicly offered instruments	5
Hedging operations	15

---

SOURCE: Congressional Budget Office using data from Joaquín Vial Ruiz-Tagle and Francisca Castro, "The Chilean Pension System" (paper presented at a meeting of Senior Budget Officials, Organization for Economic Cooperation and Development, Paris, June 10-11, 1997).

a. Combined investment in public and private corporate bonds and convertible corporate bonds may not exceed 50 percent.

b. Combined investment in foreign securities with fixed and variable returns may not exceed 12 percent.

---

worker may freely choose from annuities offered by different companies. The government guarantees 75 percent of the pension payments above the minimum pension in case an annuity insurer defaults. To reduce the government's risk, annuity reserves are strictly regulated.

### Experiences with Fees and Commissions

Fees and commissions include the cost of administration, marketing, sales, and the AFP's profit but exclude costs of disability and survivor insurance. Chilean AFPs may charge the following types of fees: proportional and flat fees on mandatory contributions, fees for voluntary contributions, new account fees, and fees for programmed withdrawals (if the retiree does not annuitize the pension savings). Because AFPs may not charge fees according to the assets held in accounts, all fees are charged when contributions are made, and thus charges are front-loaded. Moreover, active contributors implicitly subsidize account holders who do not contribute to their accounts.

Costs can be measured in a variety of ways. Comparing costs among different pension systems is often difficult, and analysts use a variety of cost measures. Those measures differ in the way they normalize costs: one expresses the costs as a percentage of accumulated assets; another, as a percentage of contributions to the pension system; and another, as a percentage of either wages or benefits paid.

The Chilean system had fairly significant start-up fees and commissions. In 1983, commissions and fees made up 18 percent of accumulated assets but dropped to 1.1 percent of assets in 1995, a figure similar to the cost of actively managed mutual funds in the United States. That comparison is somewhat misleading, however, because Chilean AFPs charge fees on contributions, so fees fall more heavily on contributors than on account holders (who may not actively contribute) relative to fees charged on assets.<sup>15</sup> Measured as a percentage of contributions, fees and commissions of the Chilean pension system amounted to 55 percent in 1983 and 23.6 percent in 1995, or 5.5 percent and 2.4 percent of average wages.<sup>16</sup>

Another way to compare costs among different pension systems is to analyze the cost per contributor. In Chile, the average cost (commissions and fees) per active contributor was the equivalent of US\$49.30 in 1995, a figure similar to the

---

15. It is difficult to convert a charge on contributions to a charge on assets (typical for a U.S. mutual fund). The calculation depends on the rate of return and the length of the investment horizon and therefore does not yield a single figure.

16. CBO calculations based on figures reported by Hemant Shah, "Towards Better Regulation of Private Pension Funds" (draft, World Bank, Washington, D.C., April 1997).

US\$51.60 reported in 1991, indicating that costs per contributor have remained fairly constant since 1991.<sup>17</sup> The figure is also in line with the cost of many U.S. employer-sponsored pension plans.

Because of the AFPs' commissions and fees, the very high rates of return of Chilean pension funds—averaging 12.7 percent in real terms between 1981 and 1995—have not yielded equally high rates of return for account holders. According to some estimates, Chilean workers who invested their money in an AFP in 1981 have received an internal rate of return of 7.4 percent on that investment through 1995.<sup>18</sup> (The internal rate of return is the constant interest rate that would generate the same asset value at the end of the investment period as the actual market interest rates net of AFP charges.) Because of the front-loaded fee structure, realizing substantial returns takes time: a worker who joined the private pension system in 1986 received an internal rate of return of 1.6 percent through 1991 and 6.6 percent through 1995. Some analysts have also calculated, however, that the total costs of the new system are 42 percent lower than the average costs of the old pay-as-you-go system, which was highly inefficient.<sup>19</sup>

Additional costs arise if retirees decide to annuitize their retirement savings. Because annuities must be sold by companies unrelated to AFPs, retirees pay additional commissions when they choose to purchase an annuity. Commissions for annuity brokers were between 2 percent and 3.5 percent of premiums in the late 1980s and early 1990s, and overall individual annuitization may have added costs of US\$30.80 per worker per year.<sup>20</sup> Recent evidence also shows, however, that brokers return some of the commissions, which sometimes reach 8 percent to 9 percent of retirement assets, to workers who annuitize their savings. Thus, estimates of administrative costs for annuitization could be overstated.<sup>21</sup> A similar argument applies to commissions payable when workers switch from one AFP to another. Brokers often share those commissions with workers.

---

17. Diamond and Valdés-Prieto, "Social Security Reforms," p. 260.

18. See Shah, "Towards Better Regulation of Private Pension Funds," p. 6.

19. See the discussion in Sebastian Edwards, "Chile: Radical Change Towards a Funded Pension System," in Horst Siebert, ed., *Redesigning Social Security* (Tübingen, Germany: J.C.B. Mohr, 1998).

20. Diamond and Valdés-Prieto, "Social Security Reforms," Table 6-15.

21. Salvador Valdés-Prieto, "Design of Pensions and the Mandate to Annuitize" (draft, World Bank, Washington, D.C., October 1997), p. 37.

---

## SYSTEM PERFORMANCE

---

The overall participation of the labor force in the pension system has increased since the reform. Analysts estimate that in 1995, about 65 percent of the labor force was either covered by the old or the new pension system, an increase of 12 percentage points from 1982.<sup>22</sup>

In fact, the new pension system enticed many workers who accrued benefits under the old system to switch to the new system. Workers did not necessarily switch to the new system, however, because they expected a higher retirement income. Instead, many workers switched because they would receive an 11 percent increase in their after-tax wages.<sup>23</sup>

Regardless of the reason for switching, participation in the old system declined. In 1987, only about 21 percent of those who contributed to either the old or the new pension system were members of the old system. By 1990, that figure had declined to less than 16 percent.<sup>24</sup>

Nonetheless, some people are concerned that only two-thirds of the workforce participate in the pension system. Three reasons are generally cited to explain why participation rates have not been higher. First, a significant portion of Chile's labor force does not participate in the formal sector of the workforce. Second, many self-employed workers do not contribute to the private pension system. Third, the minimum pension guarantee raises a moral hazard issue; lower-income individuals may have an incentive to minimize their contributions and rely on the minimum pension.

In general, the Chilean privatization has been quite successful in managing the transition from a pay-as-you-go to a fully funded privatized retirement system. In particular, the transition has thus far been financed without seriously disrupting fiscal policy. The new system has been popular, and its participation rates are higher than the old system's. Real rates of return in the system—although diminished by administrative and sales costs—have been fairly high.<sup>25</sup> Finally, among workers who can retire before the normal retirement age, 94 percent have chosen the annuity option despite the imperfections in the annuities market.<sup>26</sup>

---

22. Vial Ruiz-Tagle and Castro, "The Chilean Pension System," p. 10.

23. Edwards, "The Chilean Pension Reform."

24. Diamond and Valdés-Prieto, "Social Security Reforms," Tables 6-3 and 6-4.

25. Shah, "Towards Better Regulation of Private Pension Funds," Table 3.

26. Valdés-Prieto, "Design of Pensions and the Mandate to Annuitize," Table 1.



Chile's system still faces important challenges, however. Coverage is far from universal, and the lack of pension savings may create social problems and present a significant fiscal risk for future Chilean governments. Moreover, the structure of Chile's private investment firms encourages high marketing costs that are passed on to workers through lower rates of return. The system allows frequent transfers of funds and encourages competition among AFPs with almost identical investment portfolios. Accordingly, a significant share of AFPs' costs reflect efforts to attract investors, and in 1997, 65 percent of account holders changed their investment firm at least once.<sup>27</sup> Marketing and sales costs in 1991 were estimated to exceed one-third of AFPs' total costs.<sup>28</sup> The total sales force of the pension system has increased from 3,500 in 1990 to almost 15,000 in early 1995.<sup>29</sup> In addition, critics have noted the fairly high cost of annuitization and the lack of transparency in the life annuities market as other challenges to the system. The full impact of privatization on retirement income, however, cannot be assessed until the system has fully matured.

---

27. "Die Chilenen haben ihr Rentensystem umgestellt-mit Erfolg," *Der Spiegel*, August 3, 1998, p. 68.

28. Salvador Valdés-Prieto, "Cargos por administración en los sistemas de pensiones de Chile, Los Estados Unidos, Malasia y Zambia," *Cuadernos de Economía*, vol. 93 (August 1994), pp. 184-227.

29. Edwards, "The Chilean Pension Reform," p. 45.



## **CHAPTER III**

### **THE PENSION SYSTEM IN THE UNITED KINGDOM**

---

---

---

---

The United Kingdom reformed its pension system as part of the policies that led to reducing the government's role in the economy. The Conservative government, whose rule lasted from 1979 to 1997, curtailed the power of trade unions, privatized many public enterprises, and reduced government regulation. In addition, the government cut back on welfare programs and made labor markets more flexible. Those government policies aimed to restore market incentives and limit the rapid growth of the state sector to overcome the United Kingdom's sluggish economic performance during most of the postwar period.

The government made several changes to its pension system in 1986 and 1995. One of the most significant changes enacted in 1986 allows people to partially opt out of the public pension system in favor of private pensions. In return, those workers receive a rebate on their pension contributions. In addition, the United Kingdom changed the benefit and indexation rules of the pension program in 1986 and instituted another reform in 1995, substantially reducing future benefit levels. Box 2 explains some of the terms used for U.K. institutions and programs.

#### **OVERVIEW OF THE PENSION SYSTEM IN THE UNITED KINGDOM**

---

The United Kingdom's current pension system consists of three tiers. The first tier provides a basic state pension. The second tier provides a mandatory earnings-related pension. The government offers an earnings-related pension, or if a worker opts out of the government system, an employer-sponsored plan or a personal pension plan provides the pension. The third tier, which is not discussed in this paper, is completely discretionary and consists of additional contributions to a company or personal pension plan or any other form of saving.

Both the government's basic state pension and its supplementary pension are financed by the National Insurance Fund, which receives the proceeds of a payroll tax. (Besides state pensions, the fund also pays for part of the National Health Service, unemployment benefits, and other government support programs.)

Until 1975, employees and employers financed the National Insurance Fund with lump-sum contributions not related to earnings. In 1975, the government replaced the lump-sum contribution with an earnings-related contribution, up to a ceiling, similar to the U.S. payroll tax. The U.K. payroll tax is called the national insurance contribution; contribution rates are set annually with the budget.

In almost every year between 1948 and 1989, the U.K. Treasury made supplementary payments to the National Insurance Fund from general revenues. Although the government initially intended to prefund the basic state pensions by accumulating a stock of assets, the fund has been financed on a pay-as-you-go basis from the beginning: workers who retired at their pensionable age after 1946 received

BOX 2.

TERMS USED IN THE UNITED KINGDOM'S PENSION SYSTEM

Government Pensions

**Basic State Pension.** A basic pension paid by the government to workers who have contributed for a sufficient number of years. The size of the pension varies with the years of contributions but does not depend on previous earnings.

**State Earnings-Related Pension Scheme (SERPS).** A supplementary government pension, paid in addition to the basic state pension. SERPS benefits depend on the number of years a worker contributed and previous earnings.

Financing

**National Insurance Fund.** A fund that finances social security and welfare benefits in the United Kingdom. Among other benefits, the fund finances the basic state pension and SERPS benefits, parts of the National Health System, and unemployment benefits.

**National Insurance Contribution.** A wage-based contribution to the National Insurance Fund. Employees and employers both contribute on the basis of a worker's earnings. Contribution rates differ for employers and employees, and the rates also depend on participation in private pension plans. Contributions are subject to lower and upper earnings limits for employees and a lower earnings limit for employers.

Private Pensions

**Occupational Pension.** A pension plan offered by employers. In most cases, workers and employers contribute to occupational pension plans, and occupational pensions pay a benefit according to previous earnings and length of service.

**Appropriate Personal Pension.** A private individual pension plan financed with worker contributions. Retirement income depends on the investment returns of the savings in personal pensions, which are offered by banks, insurance companies, and other financial institutions.

**Contracting Out.** A special provision in U.K. law that permits workers to opt out of SERPS. In return, workers receive a rebate of some of their national insurance contributions. Workers qualify for the rebate by participating in an occupational pension plan or by setting up an appropriate personal pension.

benefits without having contributed to the system, and those benefits were financed by contributions from the working population.

### The Basic State Pension

In 1946, the United Kingdom passed the National Insurance Act, which provided for the basic state pension and other social insurance benefits. The value of the basic state pension was set just above a deemed subsistence level, and workers who wished to obtain higher pensions had to purchase additional private insurance.

Through the years, the most dramatic change in the basic state pension has been the change in indexation rules. The value of the pension was adjusted in discretionary steps until 1975. Between 1975 and 1981, benefits for retirees were automatically adjusted by the larger of the growth in earnings or inflation. Since 1981, the pension has been indexed to the price level, resulting in a significant decline of benefits relative to earnings over time. For long historical periods, earnings have grown faster than inflation because earnings growth reflects both the increase of the price level and the increase in economic productivity over time. In 1978, the pension for all workers was 20 percent of the average earnings for males, but it had fallen to 15 percent in the early 1990s and is expected to fall to 9 percent by 2030.<sup>1</sup> The full basic state pension was £62.45 per week in fiscal year 1997-1998 (about US\$101 at average 1997 exchange rates).<sup>2</sup>

The basic state pension does not depend on previous earnings: all qualifying retirees receive a pension based solely on years of coverage, which refers to the number of years the pension system credits to the worker when determining pension benefits. A full pension requires that workers make sufficient contributions for at least 90 percent of their working lives. (Working lives are between the ages of 16 and 65 for males and 16 and 60 for females.) The pension is reduced proportionally if the coverage is less than the required years, but workers may receive credits for childrearing, caregiving, education, disability, and unemployment. Workers whose coverage is less than the number of years needed to qualify for 25 percent of the full pension do not receive the basic pension.<sup>3</sup>

- 
1. Alan Budd and Nigel Campbell, "The Pensions System in the United Kingdom," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), pp. 99-127.
  2. Fiscal years in the United Kingdom begin on July 1 of one year and end on June 30 of the following year.
  3. In addition to the basic state pension, the U.K. government pays welfare benefits (a noncontributory pension) to people older than age 80 with either no or very small pension entitlements.

### The State Earnings-Related Pension Scheme

The 1975 Social Security Act established a new state earnings-related pension scheme (SERPS) for supplementing the basic state pension and a proportional payroll tax for financing the National Insurance Fund. Workers may opt out of SERPS if they are enrolled in an approved occupational (employer-sponsored) pension or if they establish a personal pension.<sup>4</sup> People in the United Kingdom refer to the decision to opt out of the government program as "contracting out."

SERPS benefits are based on earnings subject to certain limits. Workers receive no benefits if their weekly earnings are less than the lower earnings limit (£64 in 1998), and they receive no additional benefits for weekly earnings above the upper earnings limit (£485 in 1998). In addition, the upper earnings limit is indexed to prices rather than wages, so the value of the SERPS pension in relation to average earnings will decline over time as real wages grow.

The National Insurance Fund finances SERPS benefits (and other welfare programs) with payroll tax revenues. Employees who do not participate in an occupational pension plan and have weekly earnings above the lower earnings limit must contribute 2 percent of the lower earnings limit plus 10 percent of any earnings between the lower and upper limits. Employers must also make earnings-related contributions. Employers' rates rise from 3 percent to 10 percent and are not capped at the upper limit. Self-employed workers expecting to earn more than £3,590 for the year must contribute £6.35 a week plus 6 percent of their net income between £7,310 and £25,220 a year.

In the wake of the 1986 and 1995 reforms, the United Kingdom also substantially reduced its future SERPS obligations by curtailing those benefits. The adjustment that most significantly reduced SERPS benefits involved changing the method of determining benefits. For pensioners retiring between April 1999 and April 2009, SERPS benefits will gradually decrease from 25 percent to 20 percent of average earnings. In addition, the calculation of average earnings will be based on lifetime earnings, not on the 20 years of highest earnings.<sup>5</sup>

A variety of other changes have reduced the cost of SERPS. In the future, widows and widowers over 65 will inherit half of their spouse's SERPS rights instead of the full amount. The 1995 pension reform also removed the government's obligation to provide limited price indexation for the occupational pensions that

---

4. See the section on contracting out with occupational pensions in this chapter for more detail on requirements for occupational pension plans.

5. U.S. Social Security Administration, *Social Security Programs Throughout the World* (1997), p. 369.

qualify for contracting out of SERPS. Finally, the pensionable age for women will rise from 60 to 65 after 2010.

### CONTRACTING OUT WITH OCCUPATIONAL PENSION PLANS

Workers covered by an approved occupational pension plan do not have to participate in the government's SERPS. Since the introduction of SERPS in 1975, workers who were already covered by an approved occupational defined benefit pension plan or who had just joined such a plan could opt out of SERPS. A defined benefit plan offers a pension based on a worker's salary and years of coverage, similar to SERPS. (Employers, however, may not force their workers to join the company pension plan.)

Another type of occupational pension plan is the defined contribution plan. In such a plan, a pension depends on the assets a worker has accumulated in an account during his or her working years. Since 1986, the government has also allowed participants in those plans to leave SERPS. The regulations governing the rebates for taxation and withdrawal of funds from occupational defined contribution plans generally match the regulations established for personal pensions and are discussed in the following section.<sup>6</sup> Unless otherwise noted, the term "occupational pension plan" refers to a defined benefit plan.

An occupational pension plan substituting for SERPS must meet certain requirements to receive government approval. In general, occupational pensions must provide benefits that are at least as generous as those received under SERPS, and the plans must be funded according to actuarial principles. Since 1995, occupational pension plans have had to increase pension benefits by the rate of inflation or by 5 percent per year, whichever is less.

Employers and employees who contract out of SERPS receive a rebate on their national insurance contributions. Currently, employees in an occupational pension plan receive a 1.6 percent contracted-out rebate. Instead of paying 10 percent on earnings between the lower and upper limits, those employees contribute only 8.4 percent of their earnings between those limits (see Table 5). Employers also receive a contracted-out rebate of 3 percent of earnings between the two limits.

The amount of employees' and employers' contributions to an occupational pension plan depends on the particular plan. In 1991, over 70 percent of private-

---

6. Occupational defined contribution plans play a small role in the United Kingdom, covering only about 2 percent of workers contributing to pensions other than the basic state pension in 1991. See Andrew Dilnot and others, *Pensions Policy in the UK: An Economic Analysis* (London: Institute for Fiscal Studies, 1994), Table 2.4.

TABLE 5. NATIONAL INSURANCE CONTRIBUTION RATES IN THE UNITED KINGDOM, FISCAL YEAR 1998-1999

Weekly Earnings	Remaining in SERPS	Contracting Out of SERPS
<b>Employee Contributions</b>		
Less Than £64	0	0
£64 to £485	2 percent of £64 plus 10 percent of earnings between £64 and £485	2 percent of £64 plus 8.4 percent of earnings between £64 and £485
More Than £485	2 percent of £64 plus 10 percent of £485	2 percent of £64 plus 8.4 percent of £485
<b>Employer Contributions</b>		
Less Than £64	0	0
£64 to £109.9	3 percent of earnings	3 percent of £64
£110 to £154.9	5 percent of earnings	5 percent of £64 plus 2 percent of earnings between £64 and £154.9
£155 to £209.9	7 percent of earnings	7 percent of £64 and 4 percent of earnings between £64 and £209.9
£210 to £485	10 percent of earnings	10 percent of £64 plus 7 percent of earnings between £64 and £485
More Than £485	10 percent of earnings	10 percent of £64 plus 7 percent of (£485-£64) plus 10 percent of earnings above £485

SOURCE: Congressional Budget Office using data from the U.K. Department of Social Security.

NOTE: SERPS = state earnings-related pension scheme.

and public-sector employees in defined benefit plans contributed between 5 percent and 7 percent of their salary. Nonetheless, almost 19 percent of private-sector employees did not have to contribute at all to their pensions.<sup>7</sup> Employer contributions vary depending on the benefit rules established for the pension plan and the investment returns of the pension fund. According to some estimates, employers

7. CBO calculations using data in Budd and Campbell, "The Pensions System in the United Kingdom," Table 3.7.



contribute about 10 percent of salaries on average.<sup>8</sup> In the case of occupational defined contribution plans, the total contribution must at least equal the combined contracted-out rebate of the employer and the employee.

Contributions to pensions and pension savings are exempt from income taxation up to a limit. In defined benefit plans, the maximum tax-free employee contribution is 15 percent of earnings, and in fiscal year 1998-1999, only income up to £87,600 is tax-free. The total tax-free contribution of employers and employees may not exceed 17.5 percent of salary, with higher limits for workers older than 50.<sup>9</sup> (Employers may contribute more, but those contributions are taxable.) In addition, investment income and capital gains of pension funds are not taxed. Moreover, workers may withdraw tax-free an amount up to 150 percent of their annual income in their last year of work in exchange for a lower pension. Normally, the pension from occupational pension plans is fully taxable under the income tax laws.<sup>10</sup>

### CONTRACTING OUT WITH PERSONAL PENSION PLANS

The 1986 reform allowed workers to opt out of SERPS and establish personal retirement accounts, called appropriate personal pensions. Banks, mortgage companies, insurance companies, investment trusts, and other financial institutions offer those plans. If a worker is enrolled in an occupational pension plan and receives the rebate for opting out, however, he or she may not enroll in a personal pension plan as well.

Workers who establish personal pensions and their employers must initially pay the usual national insurance contribution rates, but workers receive a rebate later on. At the end of the fiscal year, the Department of Social Security pays a rebate from the National Insurance Fund into the personal pension of a worker's choice. Those investments are made with an average delay of about nine months, during which the worker receives no investment returns.<sup>11</sup> Since 1997, the rebate for personal pensions has differed from the rebate for occupational defined benefit plans and has become dependent on age. The rebate starts at 3.4 percent of earnings and increases to 9 percent for older employees.

---

8. David Blake, "Pension Choices and Pension Policy in the United Kingdom," in Salvador Valdés-Prieto, ed., *The Economics of Pensions: Principles, Policies and International Experience* (New York: Cambridge University Press, 1997), pp. 277-317.

9. *Ibid.*, p. 294.

10. Dilnot and others, *Pensions Policy in the UK*, pp. 90-91.

11. Blake, "Pension Choices and Pension Policy in the United Kingdom," p. 291.

TABLE 6. MAXIMUM TAX-FREE CONTRIBUTIONS TO AN APPROPRIATE PERSONAL PENSION, BY AGE

Age (Years)	Maximum Contribution (As a percentage of income below £87,600)
Under 36	17.5
36 to 45	20.0
46 to 50	25.0
51 to 55	30.0
56 to 60	35.0
Over 60	40.0

SOURCE: Congressional Budget Office using data from David Blake, "Pension Choices and Pension Policy in the United Kingdom," in Salvador Valdés-Prieto, ed., *The Economics of Pensions: Principles, Policies and International Experience* (New York: Cambridge University Press, 1997), p. 295.

From 1988 to 1992, the government encouraged contracting out to private pension plans by establishing an incentive program. During that period, the government paid not only the standard contracting-out rebate to personal pensions but also an additional 2 percent incentive tax rebate. Since 1993, the incentive tax rebate has dropped to 1 percent of earnings for people older than 30.

Personal pensions receive special tax treatment similar to that of occupational pension plans.<sup>12</sup> The investment returns and capital gains accruing to personal pensions are exempt from the income tax. Moreover, contributions to personal pensions, whether made by the employee or employer, are tax-free up to a limit. The maximum permissible tax-free contribution to a personal pension starts at 17.5 percent for workers age 35 and younger and increases incrementally to 40 percent for workers older than 60 (see Table 6). In addition, the amount of earnings to which those rates may be applied is capped at £87,600 in fiscal year 1998-1999. Although contributions in any single year are limited, a worker may carry forward unused tax relief for up to six years. If, for some reason, a worker decides not to make a full contribution in a given year, that worker may then contribute an amount exceeding the cap in a following year.<sup>13</sup>

12. See Dilnot and others, *Pensions Policy in the UK*, p. 104, for a description of the tax treatment and withdrawal rules for occupational defined contribution plans.

13. Blake, "Pension Choices and Pension Policy in the United Kingdom," p. 286.

Special rules govern the withdrawal of funds from a personal pension. The portion of assets accumulated from the government rebate must be annuitized at some time when the worker is between the ages of 50 and 75 and be indexed to inflation up to 3 percent (referred to as limited inflation protection). That annuity must also provide a 50 percent benefit for surviving spouses.<sup>14</sup> Of the remaining account balance, 25 percent may be withdrawn tax-free in a lump sum. The rest must also be converted into an annuity when the worker is between the ages of 50 and 75, but the annuity does not have to be indexed to inflation or provide survivor benefits. Before any of the retirement savings are annuitized, a worker may withdraw certain amounts from the savings—an action known as an "income draw-down." Annuity payments and income drawdowns are taxable as regular income.

#### THE EFFECT OF PENSION REFORMS ON GOVERNMENT FINANCES AND NATIONAL SAVING

---

By allowing workers to opt out of SERPS, the government lowered the revenue of the National Insurance Fund. By 1995, almost 6 million workers, or 25 percent of the workforce, chose to purchase personal pensions. About 5.4 million of those workers had been previously enrolled in SERPS; the rest left occupational pension plans.<sup>15</sup> As mentioned, the government incurred additional costs by offering a special incentive rebate to workers who opted out of the system.

The United Kingdom faces some of the typical costs of making the transition from a pay-as-you-go system. Those costs arise because retirees and older workers continue to collect government-financed benefits, and younger workers who opt out of SERPS reduce their national insurance contributions. Moreover, workers who have opted out may still claim SERPS benefits according to the number of years they were covered under SERPS.

The U.K. government has been able to manage those transition costs fairly easily for several reasons. First, since not all workers opted out of SERPS, the pension system has been only partially privatized. (Of course, the government also retained obligations in SERPS for workers who remain in the program.) Second, because SERPS is a fairly young program, a relatively small number of current retirees receive any benefits. Most retirees receive benefits only from the basic state pension, which is less generous. Third, changes in the program's tax rate of up to 1 percentage point do not require parliamentary approval. Changes in national

---

14. John A. Turner and Noriyasu Watanabe, *Private Pension Policies in Industrialized Countries: A Comparative Analysis* (Kalamazoo, Mich.: W.E. Upjohn Institute for Employment Research, 1995), p. 38.

15. Richard Disney and Paul Johnson, "The United Kingdom: A Working System of Minimum Pensions?" in Horst Siebert, ed., *Redesigning Social Security* (Tübingen, Germany: J.C.B. Mohr, 1998).

TABLE 7. EFFECT OF U.K. PENSION REFORMS ON THE COST OF SERPS  
(By fiscal year, in billions of pounds at 1994-1995 prices)

	1994-1995	2000-2001	2010-2011	2020-2021	2030-2031
Original System	1.8	4.2	12.0	25.0	41.0
1986 Reform	1.8	4.2	9.2	14.5	18.7
1995 Reform	1.8	4.2	8.4	10.9	12.0

SOURCE: Congressional Budget Office using data from Alan Budd and Nigel Campbell, "The Pensions System in the United Kingdom," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), Table 3.5.

insurance contribution rates are therefore easier to implement than changes in income taxes. According to some analysts, the national insurance contribution rates have been about 2 percentage points higher than they otherwise would have been.<sup>16</sup> Finally, in some years the National Insurance Fund has received transfers from general revenues, which helps reduce the fund's deficits.

In addition, the reforms in 1986 and 1995 substantially reduced future benefits from SERPS. As mentioned, SERPS benefits were cut back from 25 percent of wages to 20 percent. Table 7 shows the effects of those reforms. Although the cut in benefits lowered the cost of SERPS, much of the reduction in long-term liabilities stemmed from workers contracting out of the program.

Because of the cut in SERPS benefits, the basic state pension accounts for most of the government's remaining obligation. Although basic benefits are projected to decline substantially relative to average earnings, the cost of the basic state pension is still expected to rise from £26.9 billion in 1994-1995 to £41.9 billion (in 1994-1995 prices) in 2030-2031, more than three times the projected cost of SERPS. That increase reflects the aging of the U.K. population, which more than offsets the cuts in benefits per recipient.

Nonetheless, because of the 1986 and 1995 reforms, the overall payroll tax rate is expected to fall from 18.3 percent in fiscal year 1994-1995 to 17.4 percent in 2030-2031 (and then to 14.1 percent in 2050-2051) despite demographic pressures.<sup>17</sup> Because the national insurance contribution rate is probably 2 percent higher today than it otherwise would have been, the United Kingdom's reform also

16. Ibid.

17. Ibid., Table 1.

reflects the trade-off between higher costs for funding today and lower costs for pensions in the future.<sup>18</sup>

### National Saving

The extent to which the U.K. pension reform affected national saving depends on the extent to which it changed public and private saving. The changes to public saving are fairly straightforward: although the rebate of national insurance contributions works to reduce government revenues, the government raised national insurance contribution rates; therefore, government saving did not decline after the pension reform. In the long run, benefit cuts will further alleviate budgetary pressures and possibly increase public saving. The response of private saving to the pension reform is unknown. If U.K. workers are prudent and forward looking, they will not only save in personal pension plans but also make up for their loss of SERPS benefits by saving more in general. If government saving stays the same, any increase in private saving resulting from the pension reform will also increase national saving.

## REGULATION OF PENSION PLANS AND COSTS

Few regulations govern investments in and sales of personal pension plans in the United Kingdom. Some people have had concerns, however, about the charges for personal pension plans and annuities.

### Regulation of Investments and Sales

Neither occupational nor personal pension plans are subject to strict investment regulations. Generally, those plans must invest according to the so-called prudent-man rule, which requires that investments be sufficiently diversified. No more than 10 percent of investments may be made in the same asset, and plans may not invest more than 5 percent in the company offering the plan.

A variety of financial institutions, including insurance companies, banks, and mutual funds, offer personal pension plans. Each provider commonly offers its customers investment options with varying degrees of risk. A typical personal pension

---

18. The British National Audit Office reported in a widely cited study in the early 1990s that the cost of opting out exceeded the present value of future savings for the government; however, according to Budd and Campbell, "The Pensions System in the United Kingdom," p. 110, the study did not include the full effect of opting out of SERPS and the related decline in future public pension costs.

plan has 55 percent of its investments in U.K. equities, 40 percent in international equities, and 5 percent in bills and bonds.<sup>19</sup>

Following the so-called mis-selling scandal, the government tightened oversight of personal pension plans in the mid-1990s. The mis-selling scandal involved salespeople wrongly advising workers to leave occupational pension plans and join personal pension plans. Many of the 560,000 workers who switched from occupational pension plans to personal pension plans suffered predictable losses in future retirement income because they lost vesting rights in the occupational plans. Consequently, the U.K. Securities and Investments Board started a thorough review of all such cases and found extensive evidence of high-pressure sales tactics that overstated the benefit of switching to the new plans. Compensation of those who suffered losses has been slow, however, and will impose considerable costs on pension plan providers.<sup>20</sup>

To protect workers, the Securities and Investments Board introduced stricter rules governing transfers between occupational and personal pension plans in 1994. New pension transfer contracts must now include a 14-day cooling-off period during which workers may back out of the contract. In addition, every transfer recommendation must include a written explanation of why the pension adviser believes the transfer is favorable. The adviser must use a computer program that analyzes the value of the transfer and must share the results with the worker.

Furthermore, the Securities and Investments Board established new standards designed to remove negligent or corrupt pension advisers. Only a restricted group of trained individuals may now work as pension advisers. Moreover, the board requires pension transfer advisers to establish separate and independent units to double-check every transfer recommendation.<sup>21</sup>

### Annuitization

Members of personal pension plans use funds remaining after a permissible lump-sum withdrawal to purchase an annuity from a life insurance company. Members must make the purchase before age 75. Most personal pension plans include an option for annuitization through the plan's life insurer. The worker can withdraw

---

19. David Blake and Michael Orszag, "Towards a Universal Funded Second Pension" (draft, The Pensions Institute, London, October 1997), p. 103 (also available at <http://www.econ.bbk.ac.uk/pi>).

20. "Social Security Switch in U.K. Is Disastrous: A Caution to the U.S.?" *Wall Street Journal*, August 10, 1998, p. A1; and "Taxing Reforms for British Retirees," *Washington Post*, August 9, 1998, p. R1.

21. Blake and Orszag, "Towards a Universal Funded Second Pension," p. 80.

his or her funds from the plan, however, and purchase an annuity from another life insurer (known as an open-market option). The market offers a variety of annuities: annuities with or without coverage of survivors, flat annuities, and annuities with escalating benefits. Insurers also offer inflation-indexed annuities.<sup>22</sup> U.K. insurers may segment the market into risk classes and are reportedly offering higher-yielding annuities to sick people and those with unhealthy habits such as smoking.<sup>23</sup>

### Costs of Personal Pensions and Annuities

Savings in personal pensions are subject to several charges, which can differ substantially by provider. In addition, the cumulative effect of the charges on a worker's ultimate pension is often difficult for a worker to assess. Most personal pension providers charge commissions on new contributions; some also withhold a certain percentage of the first contribution to the fund as a commission. Moreover, personal pensions have charges on assets, lump-sum administrative charges, and penalties for withdrawing funds or exercising an open-market option for annuities.

One recent study examines a personal pension plan with excessive charges to illustrate the variety of fees.<sup>24</sup> The plan had a repurchasing value that was 5.3 percent below its sales price, and annual management charges were 1.5 percent; the plan also withheld 40 percent of the start-up contribution as a commission. Moreover, the plan charged a monthly lump-sum fee of £2 and a 5 percent penalty for leaving the fund and purchasing the annuity from another provider.

Of course, that example reflects an extreme case, not the average cost of personal pensions. According to one estimate, average costs for U.K. personal pension plans include charges on new contributions of approximately 10 percent and management charges of 0.6 percent to 0.7 percent of assets per year.<sup>25</sup> According to some other estimates, personal pension plan charges reduce the fund value of a five-year investment plan with monthly contributions of £200 and retirement at age 65 by an average of 13 percent, with a minimum charge of 3.3 percent and a maximum of 24 percent. Those costs are equivalent to reducing investment returns by an average of 1.5 percentage points.<sup>26</sup>

---

22. Ibid., p. 124.

23. Budd and Campbell, "The Pensions System in the United Kingdom," p. 115.

24. See Blake and Orszag, "Towards a Universal Funded Second Pension," p. 83.

25. Ibid., Table 3.10.

26. Richard Disney, "Comment," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), Table 3C.3.

The U.K. annuities market suffers from imperfections similar to those in the U.S. market.<sup>27</sup> First, people with long life expectancy (the bad risks for insurance companies) are more likely to purchase annuities than people with short life expectancy, a problem known as adverse selection. That behavior is reinforced by the U.K. policy of allowing people to defer annuitization until age 75. People who think they will not live until age 75 delay annuitization because they can bequeath the remaining account balance. According to some estimates, adverse selection reduces the value of annuities for a 65-year-old male by 15 percent.<sup>28</sup> Second, identical annuities are often sold at puzzling price differentials: in 1994, the fixed annuity for life offered to a 65-year-old male for a premium of £10,000 varied between £1,158 and £888 per year, a difference of 23 percent.<sup>29</sup>

## SYSTEM PERFORMANCE

---

The U.K. pension reform successfully reduced the government's long-term costs for the state earnings-related pension scheme. Two policies have reduced those costs: encouraging workers who had not previously participated in occupational pension plans to provide for their own retirement income through personal pension plans and cutting the benefits offered to those who remained in SERPS. By 1995, almost 6 million people—about 25 percent of the workforce—had chosen personal pension plans. Another 9.3 million workers participated in occupational pension plans.

Because the government acted early and participation in personal pension plans is voluntary, opposition to those policies was minimal. By the time future SERPS benefits were cut significantly, a relatively small number of workers had accrued significant pension rights in that program. Moreover, every worker who left SERPS did so voluntarily and may return to SERPS if desired. By basing tax rebates on age, the government has greatly reduced the incentive for workers to return to SERPS at older ages.

In addition to the inappropriate advice offered by pension providers and the personal pension plans' complicated fee structure, other concerns have been raised about the U.K. pension system. First, the complex system requires workers to choose among SERPS, personal pensions, or occupational pensions, which can be

---

27. For a discussion of U.S. annuity prices and market imperfections, see Congressional Budget Office, *Social Security Privatization and the Annuities Market*, CBO Paper (February 1998).

28. David Blake, William Burrows, and J. Michael Orszag, "Stakeholder Annuities: Reducing the Costs of Pension Provision" (draft, The Pensions Institute, London, January 1998), p. 8.

29. Blake, "Pension Choices and Pension Policy in the United Kingdom," Table 10.B6.



difficult. Moreover, the best choice depends on each worker's characteristics such as how often he or she switches jobs or participates in the workforce.

Second, choosing to invest in a personal pension rather than SERPS is particularly advantageous for younger workers. The highest percentage of people with personal pension coverage is among full-time workers ages 25 to 34 (37 percent of males and 26 percent of females). Because younger workers enter and leave the workforce more often than older workers, their contributions to personal pension plans tend to be more erratic and smaller. Only half of those people with personal pensions in fiscal year 1992-1993 had positive wages in fiscal years 1990-1991, 1991-1992, and 1992-1993. In addition, only about 50 percent of participants in private pension plans made contributions beyond the government rebate to their accounts, raising some concerns about the adequacy of retirement savings.<sup>30</sup>

Third, people with low earnings do not find personal pensions attractive because those pensions charge proportionately higher amounts for workers with low and unstable contributions. As a result, the highest percentage of workers without an occupational or personal pension is among low-income workers: 65 percent of full-time workers earning more than the lower earnings limit of £64 but less than £100 a week had neither a personal pension plan nor an occupational pension plan.<sup>31</sup> The reduction of future SERPS benefits affects those workers the most; those workers could become a fiscal risk if their future retirement income must be supplemented by welfare benefits.

---

30. Disney, "Comment," pp. 131-132.

31. Blake and Orszag, "Towards a Universal Funded Second Pension," Tables 3.2 and 3.3.



## **CHAPTER IV**

---

### **PENSION FUNDS AND PUBLIC PENSIONS IN AUSTRALIA**

---

---

---

Australia, unlike most other developed nations, has never introduced an earnings-related pension system. Instead, the Australian government finances a means-tested pension with general revenues. Over time, an increasing number of Australian retirees have qualified for the government pension.

To increase private saving for retirement, the government in the early 1990s imposed a mandate on employers to contribute to private pension funds on their employees' behalf. That mandate now covers a large part of the Australian workforce. Nonetheless, some of those savings may not help to reduce the government pension payments because Australian workers may currently withdraw their pension savings in a lump sum. That provision creates a strong incentive to withdraw retirement funds as early as possible and rely on the government pension thereafter. See Box 3 for definitions of some of the terms used in Australia's pension system.

#### **THE PUBLIC PENSION SYSTEM**

---

The Australian government provides income support through an old-age public pension, called an age-pension, which was first introduced in 1909. The government finances the pension with general revenues. The age-pension is unrelated to a worker's previous earnings and pays a flat amount to everyone who qualifies on the basis of age, residency status, assets, and income. Currently, men must be 65 years old and women must be 61 years old before they are eligible for the age-pension. Women's eligibility age will rise to 65 by 2013.

The age-pension is means-tested, as shown in Table 8. In other words, the age-pension is reduced if assets or income exceed certain thresholds. In 1997, the assets test reduced the pension by about 7.7 cents per dollar of assets above A\$215,750 for singles and A\$268,500 for couples who did not own a home. Home equity is excluded from the assets test, but homeowners face smaller asset limits: A\$125,750 for singles and A\$178,500 for couples. The income test reduces the pension by 50 cents for every dollar that biweekly income exceeds A\$100 for singles and A\$176 for couples. That income test implicitly imposes a 50 percent marginal tax rate on earnings above the limits until the benefit is reduced to zero.

The full age-pension for an individual pays a flat amount equal to 25 percent of the weekly earnings of the average male worker. The government adjusts pensions twice a year. In September 1997, the government set a full pension at a biweekly

BOX 3.  
TERMS USED IN AUSTRALIA'S PENSION SYSTEM

**Age-Pension.** A government-financed pension for elderly Australians, which is subject to a means test.

**Superannuation Funds.** Private pension funds that are administered by a board of trustees. Superannuation funds are often set up for employees of a corporation or an industry.

**Award Superannuation.** A contribution to superannuation funds of 3 percent of wages to which employers agreed in 1985 within the framework of the Award System, a system of central wage bargaining.

**Superannuation Guarantee.** A mandatory contribution to the superannuation funds established by the Australian government in 1992. The mandatory contribution rate is slated to rise to 9 percent of wages by 2002.

**Insurance and Superannuation Commission.** A section of the Australian Prudential Regulation Authority with the responsibility of ensuring that superannuation funds act prudently and in the interest of their members.

**Retirement Savings Account (RSA).** A special retirement account substituting for the traditional trustee-managed superannuation fund. A retirement savings account can be offered by a financial institution. It must guarantee the principal of the investment and offers a retirement saving instrument to workers who face high costs of contributing to traditional superannuation funds.

rate of A\$347.80 (US\$207 at August 1998 exchange rates).<sup>1</sup> The age-pension for couples is about 160 percent of an individual pension. The pension provides a low level of income support, but health and public transportation subsidies supplement retirees' income. Other welfare spending for the elderly includes assistance for housing and some medical costs.

As the means tests were relaxed over time, the percentage of elderly receiving the age-pension grew from 30 percent, when it was first introduced, to 85 percent in the mid-1980s, when the government began to tighten eligibility rules.<sup>2</sup> Currently, 84 percent of the elderly receive the age-pension from the government: 55 percent

---

1. George P. Rothman, "Projections of Key Aggregates for Australia's Aged—Government Outlays, Financial Assets, and Incomes" (paper presented at the Sixth Colloquium of Superannuation Researchers, Melbourne, Australia, July 1998), p. 6 (available at <http://www.treasury.gov.au/rim/rimc24ab.asp>).

2. Malcolm Edey and John Simon, "Australia's Retirement Income System," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), pp. 63-89.

TABLE 8. MEANS-TESTING PROVISIONS FOR THE AUSTRALIAN AGE-PENSION IN 1997 (In Australian dollars)

	Eligible for Full Age-Pension If	
	Biweekly Income Is Below	Assets Are Below <sup>a</sup>
Single	100	215,750
Single and Homeowner	100	125,750
Couple	176	268,500
Couple and Homeowner	176	178,500

SOURCE: Congressional Budget Office using data from the Australian Department of Social Security.

a. Assets exclude the value of the home for homeowners.

of the elderly receive a full pension, and another 29 percent receive a reduced pension because of the means tests.<sup>3</sup>

### THE EXPANSION OF SUPERANNUATION

Traditionally, Australia had a system of voluntary private pensions provided through employers, called superannuation. In the early 1980s, however, the superannuation benefits covered less than 40 percent of workers. Moreover, workers with pensions tended to be those with higher-than-average earnings or public-sector employees.

The government expanded superannuation in two steps in the 1980s and early 1990s. The first expansion resulted from an agreement between employers and unions in 1985 and was called the Award Superannuation because it arose from the Award System, a system of central wage bargaining. The second expansion—called the Superannuation Guarantee—occurred in 1992, when the government mandated that employers provide superannuation to workers.

3. Statement of Paul O'Sullivan, Deputy Ambassador for Australia, before the Subcommittee on Social Security of the U.S. House Committee on Ways and Means, September 18, 1997 (available at [http://www.house.gov/ways\\_means/socsec/ss-10wit.htm](http://www.house.gov/ways_means/socsec/ss-10wit.htm)).

### Award Superannuation

The labor unions sought expanded superannuation coverage in the 1980s. During the central wage bargaining that took place in 1985 and 1986, the government supported the chief labor organization, the Australian Council of Trade Unions, in seeking a universal 3 percent employer contribution to a pension fund instead of a wage increase. Since June 1986, that contribution has been incorporated into employment contracts. By July 1991, 75 percent of employees were covered by employer-funded pension plans.<sup>4</sup>

Award Superannuation had some problems, however. First, some employers simply did not comply with the obligations it established. Second, some workers were not covered because their wages were not set by central wage bargaining. Third, employer contributions are not sufficient to finance adequate retirement income, and getting employers to contribute more would have been difficult to achieve through the wage-bargaining process.<sup>5</sup>

### The Superannuation Guarantee

In response to those problems, the government established the Superannuation Guarantee, a mandatory employer contribution to superannuation funds. The contribution, which was 3 percent of earnings in fiscal year 1992-1993, is slated to increase gradually, reaching 9 percent of earnings in 2002-2003 (see Table 9).<sup>6</sup> (In fiscal year 1998-1999, the rate is set at 7 percent.) Contributions are vested immediately and must be fully portable. Although the proposal originally envisioned a matching contribution from the government, that provision has been replaced with a tax rebate that will be fully effective in fiscal year 1999-2000.

Contributions to superannuation funds are subject to lower and upper limits on earnings. To simplify the administration of superannuation funds, employers do not have to make contributions for workers who earn less than A\$450 (US\$267) per month. In addition, in fiscal year 1996-1997, the Australian government allowed workers who earned between A\$450 and A\$900 to opt out of superannuation coverage and receive higher wages instead.<sup>7</sup> Moreover, the mandate does not apply to earnings above a maximum limit, which was A\$94,520 (US\$56,262) in 1997, about

---

4. Edey and Simon, "Australia's Retirement Income System," pp. 66-67.

5. Statement by Paul O'Sullivan, September 18, 1997.

6. In Australia, the government's fiscal year starts on July 1 of one year and ends on June 30 of the following year.

7. Commonwealth Treasury of Australia, *1997-98 Budget Paper No. 2: Budget Measures 1997-98* (Canberra: Australian Government Publishing Service 1997), pp. 191-192.

TABLE 9. MANDATORY SUPERANNUATION CONTRIBUTION RATES IN AUSTRALIA

Fiscal Year	As a Percentage of Income
1993-1994	5
1994-1995	5
1995-1996	6
1996-1997	6
1997-1998	6
1998-1999	7
1999-2000	7
2000-2001	8
2001-2002	8
2002-2003	9

SOURCE: Congressional Budget Office using data from Malcolm Edey and John Simon, "Australia's Retirement Income System," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), Table 2A.1.

twice the average wage. The maximum limit grows each year with average weekly earnings. Furthermore, the Superannuation Guarantee does not cover the self-employed.

As a result of the Superannuation Guarantee, superannuation coverage of the population has increased substantially since 1991. In November 1995, 81 percent of the workforce was covered. Among full-time workers, 86.5 percent were covered, and among part-time workers, 62 percent were covered.<sup>8</sup>

### Investment

Although contributions to superannuation funds are invested in a range of assets, most workers have a limited choice in how to invest their retirement savings. Instead, the employer generally selects the fund for the worker.

8. CBO calculations using data from the Australian Bureau of Statistics, *Superannuation Australia* (Canberra: Australian Government Publishing Service, 1996).

In the 1996-1997 budget, the Australian government presented a plan to expand the choices of superannuation funds starting in July 1998.<sup>9</sup> Under that plan, employers would have had to offer new employees a choice of at least five funds. Within two years of implementing the choice of five funds, employers would have had to offer the same choice to existing employees. The employer would have been responsible for supplying relevant information about the funds. To limit the cost of workers switching funds, the employer would have had no obligation to allow workers to change allocations more than once a year or to allow them to contribute to more than one fund at a time. Because of concerns about adequate preparation of employers and employees, however, the implementation of superannuation choice has been postponed, and the legislation is still pending.

### Withdrawal

As a general rule, workers may not withdraw superannuation savings before retirement; their savings must be "preserved." The earliest age at which workers may withdraw funds—known as the preservation age—is currently 55, but it is scheduled to rise to age 60 by 2025. If a worker dies before retirement, superannuation savings become part of the deceased's estate. In addition, a worker may withdraw savings if the account balance is less than A\$200, if the worker permanently leaves Australia, or if the savings are needed on compassionate grounds, which usually implies that the funds are needed for treatment of a terminally ill worker.

Workers may withdraw superannuation savings in a lump sum or as an annuity. The Australian government imposes no restrictions on the amounts individuals may withdraw; therefore, workers who reach the preservation age (currently 55) may withdraw their entire superannuation balance. Despite tax incentives for annuities, a relatively small number of Australians choose to purchase them.<sup>10</sup> In addition, anecdotal evidence suggests that many Australians use their superannuation balances to pay off their mortgage and spend down their savings to qualify for the means-tested age-pension. People's interest in annuities may increase, however, as the superannuation system matures.

---

9. Commonwealth Treasury of Australia, *1997-98 Budget Paper No. 2*, pp. 189-191.

10. Julie Tinnion, "Provision for Retirement—Who Does What? Distribution of Superannuation Contributions, Lump Sum Payments and Capital Incomes of Tax Filers 1995-1996: New National Estimates" (paper presented at the Sixth Colloquium of Superannuation Researchers, Melbourne, Australia, July 1998), p. 34.



---

## TAX TREATMENT

---

Complex rules govern the taxation of superannuation savings. Contributions, superannuation earnings, and withdrawals are partially taxed and partially deductible. The rules seek to offer favorable tax treatment to superannuation savings but limit those tax advantages to certain income ranges and avoid abuses.<sup>11</sup>

### Contributions

Employers may deduct contributions to superannuation funds within age-specific limits. In fiscal year 1997-1998, employers can deduct contributions of A\$10,232 for workers under the age of 35, A\$28,420 for workers between the ages of 35 and 49, and A\$79,482 for workers age 50 and older.

Employees generally may not deduct contributions if their employer also contributes to their superannuation fund; however, workers can now receive a tax rebate for contributing to superannuation. As of July 1998, employees can receive a 7.5 percent tax credit for contributing to a superannuation fund up to a limit of A\$3,000. The tax credit is slated to rise to 15 percent of contributions to superannuation funds in 1999.

Both employer and employee contributions are subject to a 15 percent surcharge if the worker's income exceeds certain limits. That surcharge is phased in over a certain income range. In 1997-1998, the income range was A\$73,220 to A\$88,910.

### Earnings

The government taxes the income of the superannuation funds—including new contributions, investment income, and capital gains—at a 15 percent rate. The tax applies to new contributions regardless of their prior tax treatment; that is, even if the employer may not deduct the contribution, it is taxed when received by the fund. Superannuation funds may receive credits for dividend taxes paid by corporations, however.

---

11. For an overview of the tax treatment of superannuation, see Parliament of the Commonwealth of Australia, Senate Select Committee on Superannuation, "Super Taxing: An Information Paper on the Taxation of Superannuation and Related Matters" (1998), available at [http://www.apf.gov.au/senate/committee/super\\_ctte/supertaxing/index.htm/](http://www.apf.gov.au/senate/committee/super_ctte/supertaxing/index.htm/).

### Benefits

The taxation of benefits depends on how benefits are withdrawn and how much is withdrawn. Both annuities and lump-sum withdrawals are taxed at higher rates if they exceed certain limits, which are known as reasonable benefit limits. Those limits are indexed to average weekly earnings and vary according to how the benefits are withdrawn.

The government taxes annuity income at the personal income tax rate; however, annuitants receive a 15 percent tax rebate on the portion of the annuity stream that is valued at less than a certain threshold (A\$909,435 in 1997-1998). The portion of the annuity stream exceeding the threshold is taxed at the normal income tax rate. Workers qualify for the rebate as long as they withdraw at least 50 percent of savings in the fund as an annuity.

Lump-sum payouts may also be taxed, although workers may withdraw a certain amount tax-free. For example, in 1997-1998, retirees could withdraw up to A\$90,474 from their accounts tax-free. Withdrawals between A\$90,474 and A\$454,718 are taxed at a 15 percent rate, and withdrawals in excess of A\$454,718 are taxed at the worker's marginal income tax rate.

### THE SUPERANNUATION GUARANTEE, GOVERNMENT FINANCES, AND NATIONAL SAVING

---

Australians draw pension income from two sources: the government's age-pension and their own savings. By increasing private wealth, the Superannuation Guarantee could increase the privately funded portion of retirement income in Australia. Because the government pension is means-tested, increasing the amount of private retirement savings could be one way to reduce the government's future financial burden. People with enough assets qualify only for a reduced means-tested government pension or no pension at all. Effectively, pensions financed with private savings could partially or fully replace the public age-pension.

Increasing the privately funded portion of retirement income imposes an additional burden on current generations. Those generations pay for the retirement benefits of the current elderly population (through the tax system) but must save for their own retirement income, replacing part or all of the previous age-pension.

The extent of the substitution of private retirement savings for age-pensions and the resulting burden on current generations, however, will depend crucially on the number of people who spend down their assets before retirement. Under current rules, workers may withdraw their superannuation savings before the qualifying age for the means-tested age-pension. Thus, workers have an incentive to spend down

their assets before age 65, a situation referred to as a moral hazard. People who spent down their assets would be able to "double-dip" by receiving the payments from the means-tested age-pension after spending their superannuation savings. In an extreme case, workers could spend all their superannuation savings before age 65. In that case, the superannuation savings would not provide additional funding of retirement income, and the future pension costs to the government would not decline. A likely scenario is some intermediate case, in which workers draw down some of their assets before retirement, diminishing but not eliminating the salutary effect of superannuation savings on expenditures for age-pensions.

Some estimates suggest that the Australian pension system may provide significant savings compared with a system that does not have a means test and covers everyone (a so-called universal pension). According to those estimates, the cost of the age-pension and veterans' pensions will rise by 50 percent, measured as a share of gross domestic product, by fiscal year 2049-2050 under current law. By contrast, if Australia had a universal pension instead of a means-tested public pension system, the cost of pensions would rise by 73 percent during the same period.<sup>12</sup> Thus, the combination of asset accumulation in superannuation funds with a means-tested pension may substantially reduce the long-term budgetary pressures compared with a universal pension.

### National Saving

Although the Superannuation Guarantee did not affect the government's pension-related expenditures, it did reduce revenues by expanding tax-favored private saving. In the long run, the cost of tax concessions is expected to reach 1 percent of GDP. According to some estimates, however, the increase in private saving will more than offset the decline in government saving. Considering the effects on both private and government saving, some analysts estimate that the Superannuation Guarantee may have increased national saving by 0.2 percent to 0.3 percent of GDP between 1995 and 1998, a figure that could rise to more than 1.5 percent of GDP by 2015.<sup>13</sup> Those figures assume a 50 percent reduction in other private saving in response to one additional Australian dollar of saving in superannuation accounts.

---

12. Rothman, "Projections of Key Aggregates for Australia's Aged," p. 9.

13. Commonwealth of Australia, *Saving for Our Future* (Canberra: Australian Government Publishing Service, 1995).

---

## SUPERANNUATION FUNDS: STRUCTURE, OVERSIGHT, INVESTMENTS, AND COSTS

---

Superannuation funds are organized as trusts directed by trustees. Under the law, trustees must manage the property for the benefit of the fund members. Their investment choices or those of their hired investment managers must follow the prudent-man rule. According to the Superannuation Industry Supervision Act of 1993, trustees must "exercise . . . the same degree of care, skill, and diligence as an ordinary prudent person would exercise in dealing with property of another for whom the person felt morally bound to provide."<sup>14</sup>

Other than the requirement of prudence, investments by superannuation funds have few restrictions. Under current law, investments in the business of the sponsoring employer may not exceed 5 percent of assets. In addition, in its 1998-1999 budget, the Australian government introduced measures that would limit investment in businesses affiliated with the fund to 5 percent.<sup>15</sup>

### Industry Structure

Superannuation funds are of five types. The four main types of funds are corporate, industry, public, and retail. Corporate funds are sponsored by a single employer or a group of related employers. Industry funds cover workers in a specific industry and usually stem from negotiations between unions and employers. Public funds are sponsored by the government or publicly owned companies. Retail funds are publicly available superannuation funds with which an employer contracts to satisfy the superannuation obligation. In addition, workers and the self-employed may join a retail fund on a voluntary basis. The fifth type of fund is referred to as an excluded fund, each of which has fewer than five members. Although they account for almost all funds—98 percent of the 176,200 funds in March 1998—they covered only 5 percent of the workforce.

Superannuation funds are highly concentrated: the top 1 percent of the non-excluded funds cover approximately 90 percent of Australians who have a superannuation account.<sup>16</sup> As shown in Table 10, corporate funds and industry funds held about 19 percent and 7 percent, respectively, of superannuation assets in March 1998. Public-sector funds accounted for another 23 percent and retail funds for

---

14. Superannuation Industry (Supervision) Act of 1993, Section 53(2)(b).

15. Commonwealth Treasury of Australia, *1998-99 Budget Paper No. 2*, pp. 2-14.

16. Insurance and Superannuation Commission, *Market Stats* (available at [http://www.isc.gov.au/market\\_frame.html](http://www.isc.gov.au/market_frame.html)).

TABLE 10. ASSETS IN AUSTRALIAN SUPERANNUATION FUNDS IN MARCH 1998

Type of Fund	In Billions of Australian Dollars	As a Percentage of Total
Corporate	64.6	18.8
Industry	23.2	6.8
Public Sector	77.8	22.7
Retail	86.6	25.2
Excluded <sup>a</sup>	41.3	12.0
Other <sup>b</sup>	<u>49.7</u>	14.5
Total	343.2	100.0

SOURCE: Congressional Budget Office using data from the Insurance and Superannuation Commission, *ISC Bulletin* (March 1998).

- a. Funds with fewer than five members.  
 b. Annuity products, fund reserves, and unallocated profits of life insurance.

about 25 percent of superannuation assets. The remaining assets were held in excluded funds (12 percent) and other types of funds (14 percent).

### Oversight

The Insurance and Superannuation Commission oversees superannuation funds. Since July 1998, the commission has been part of the Australian Prudential Regulation Authority (APRA), which aims to ensure that trustees know their obligations to members and manage the funds in their care prudently and in the interest of members. The APRA is funded with levies on regulated industries and is accountable to the Commonwealth Parliament, for which it must produce an annual report. After July 1999, the Australian Taxation Office will oversee most excluded funds, and the APRA will continue to oversee other funds.<sup>17</sup>

The Australian Treasurer has the power, under the Superannuation Industry Supervision Act of 1993, to offer financial assistance to a fund that loses money because of fraud or theft. That assistance is financed with a levy on superannuation

17. Commonwealth Treasury of Australia, *1998-99 Budget Paper No. 2*, pp. 2-13.

TABLE 11. ALLOCATION OF ASSETS IN AUSTRALIAN SUPERANNUATION FUNDS IN MARCH 1998

Type of Asset	In Billions of Australian Dollars	As a Percentage of Total
Australian Assets		
Cash and deposits	21.6	6.3
Loans	14.8	4.3
Interest-bearing securities	83.1	24.2
Equities and mutual funds	130.4	38.0
Land and building	25.7	7.5
Other assets	13.4	3.9
Foreign Assets	<u>54.2</u>	15.8
Total	343.2	100.0

SOURCE: Congressional Budget Office using data from the Insurance and Superannuation Commission, *ISC Bulletin* (March 1998).

fund assets. Restitution is limited to 80 percent of the obligation of the funds to beneficiaries, however, and is discretionary and must be in the national interest.<sup>18</sup>

In 1996, the Australian government created a new savings instrument called a retirement savings account (RSA), which allows banks, credit unions, and life insurance companies to offer superannuation outside the traditional trustee structure. Like trustees of traditional superannuation funds, RSA providers are also subject to oversight. RSAs must guarantee the invested capital; that is, providers may not pass on negative returns to owners. RSAs are supposed to serve as a low-risk, low-cost product for workers with small superannuation accounts; they receive the same tax treatment as other superannuation accounts.

### Investments

The Superannuation Guarantee has led to a substantial increase in superannuation assets. Total assets rose from A\$40 billion, or about 17 percent of GDP, in 1985 to A\$343.2 billion in March 1998, or more than 60 percent of GDP in 1997 (the latest

18. Documentation provided in association with the statement of the Honorable Peter Costello, M.P., Treasurer of the Commonwealth of Australia, before the Australian House of Representatives, September 2, 1997.

available data). According to projections by the Treasury of Australia, superannuation assets are expected to exceed 100 percent of GDP in 2015.<sup>19</sup>

Superannuation funds are invested in a broad portfolio of assets and have earned a solid, but not spectacular, rate of return. As shown in Table 11, about 38 percent of assets are invested in Australian equities or mutual funds, and 24 percent are invested in fixed-interest securities. About 16 percent are invested abroad. During the 10 years ending in July 1996, superannuation funds earned a 5.5 percent rate of return after inflation but before administrative costs and management fees were subtracted. That rate is substantially lower than the 8 percent real return that U.S. employer-sponsored pension plans earned through the 1980s.<sup>20</sup>

### Administrative Costs and Investment Management Fees

Administrative charges of corporate, industry, and public superannuation funds vary widely by type and size of fund. According to a survey conducted by the Association of Superannuation Funds of Australia, the average annual cost of a superannuation fund was about A\$229 per member in 1996-1997, which is equivalent to US\$136 at August 1998 exchange rates. A simple averaging of costs, however, gives equal weight to smaller funds with higher costs. Some plans reported annual costs as low as A\$21 (US\$12) per member; others incurred annual costs of A\$1,040 (US\$619) per member. Plans with more than 100,000 members charge an average annual cost of A\$46 (US\$28) per member; plans with fewer than 1,000 members charge an average annual cost of A\$347 (US\$207) per member. Weighing costs by fund size leads to an average annual cost of A\$140 (US\$83) per member for the Australian system.<sup>21</sup>

Administrative costs of retail funds were in the midrange of the costs for corporate funds and public funds. Retail funds incurred annual administrative costs of A\$168 (US\$100) per member in 1995-1996. Administrative costs of excluded superannuation funds were much higher than costs for corporate, industry, and public funds because excluded funds have fewer than five members. Some estimates put the average annual cost of excluded funds at A\$1,200 (US\$715) per member. A

---

19. Rothman, "Projections of Key Aggregates for Australia's Aged," p. 24.

20. Estelle James, "Public Pension Plans in International Perspective: Problems, Reforms, and Research Issues," in Salvador Valdés-Prieto, ed., *The Economics of Pensions: Principles, Policies and International Experience* (New York: Cambridge University Press, 1997), pp. 350-370.

21. Ross Clare, "The Costs of Running Australia's Retirement Income System" (draft, Association of Superannuation Funds of Australia, August 1998), p. 11.

levy on superannuation funds that finances oversight of the system, audit fees, and tax return fees account for most of those costs.<sup>22</sup>

In addition to administrative fees, superannuation funds incur investment management costs, which depend on both the amount of assets and the type of fund. Corporate, industry, and public funds generally have fairly small investment costs. Their costs range from 0.52 percent of assets for funds with assets of less than A\$100 million to 0.28 percent for funds with assets of more than A\$500 million. By contrast, investment costs for retail funds are much higher, typically between 1.75 percent and 2 percent of assets.<sup>23</sup>

### Annuities and Periodic Withdrawals

The market for traditional life annuities is small in Australia: only 2 percent of retirees received income from annuities in 1992-1993. According to the Australian Retirement Income Stream Association, traditional annuity providers administered assets of A\$3.8 billion in March 1998, but most of those products were annuities for a fixed period of time. Only 16 percent of annuities sold in 1997 were those lasting for the life of the annuitant.<sup>24</sup> Accordingly, the information on the costs of life annuities is limited.

In recent years, the market for periodic withdrawals has developed rapidly. Periodic withdrawals use up assets over time according to remaining life expectancy and therefore do not protect against the risk of outliving resources. Periodic withdrawals, however, add costs for workers. Those costs may be for a commission when a product is purchased, management fees for assets, administrative fees, income payment fees, or other charges. The total amount of those costs is difficult to assess, but one estimate puts them at 3 percent or more of the asset value per year.<sup>25</sup> People who outlive their resources after they choose a periodic withdrawal of their retirement savings are eligible for the means-tested age-pension. Thus, the Australian government ultimately insures people against outliving their resources.

---

22. Ibid., p. 12.

23. Ibid., Table 6.

24. Association of Superannuation Funds of Australia, *Private Pensions in Australia* (Canberra: Association of Superannuation Funds of Australia, August 1998).

25. Clare, "The Costs of Running Australia's Retirement Income System," p. 16.



---

## SYSTEM PERFORMANCE

---

The Australian government successfully built on existing institutions to expand private retirement saving. Because the government required employers to contribute to occupation-based superannuation funds, the funds have become a channel for retirement saving. Moreover, the government's existing age-pension has traditionally been a means-tested pension, not related to a worker's previous earnings. The government could therefore reduce future outlays for pensions simply by mandating additional retirement savings of current workers.

The Superannuation Guarantee has rapidly built up assets in superannuation funds. Total assets are expected to exceed GDP by 2015. However, the extent to which the additional saving in superannuation funds displaced other private savings is not known.

Nonetheless, the Australian pension system faces several challenges. Future governments will benefit only if early withdrawals and consumption of superannuation funds are fairly small. Australia, unlike the other countries discussed in this paper, does not restrict lump-sum withdrawals from retirement savings. That enables workers to game the system by withdrawing their superannuation savings as early as possible and relying on the government's age-pension later on. The government's decision to raise the preservation age—the earliest age at which a worker may access superannuation assets—from 55 to 60 during the next two decades is a first step in protecting retirement savings from such behavior. Future policymakers might decide to place additional restrictions on withdrawals to keep the cost of the means-tested pension manageable.

The traditional structure of superannuation funds has some shortcomings. Employers generally select superannuation funds, and employees have little or no influence on investment policies. To the extent that workers of the same employer differ in age and risk preferences, a "one-size-fits-all" investment fund may be overly restrictive. In addition, some analysts view the investment policies of superannuation funds as generally too conservative, resulting in lower rates of return than in more risky investment portfolios. Moreover, the administrative and investment management costs of the many small superannuation funds are relatively high, which implies that Australia could reduce costs by exploiting more of the economies of scale arising from large employer-sponsored funds with limited choices. Finally, the taxation of superannuation is very complex, resulting in a system of tax incentives and tax penalties that may be difficult for workers to understand. The Australian government has tried to address some of those challenges with its recent proposals to allow each worker to choose from at least five superannuation funds in the future. The government has also suggested undertaking a major tax reform.



## CHAPTER V

### THE PRIVATIZATION OF PENSIONS IN MEXICO

---

---

---

---

Mexico reformed its pension system in 1997 (after a failed attempt in 1992) with several policy changes. Those policy changes included privatizing state-run enterprises, liberalizing trade connected with membership in the North American Free Trade Agreement, deregulating financial services, and reforming the tax system.<sup>1</sup> One of the goals of reforming the pension system was to strengthen domestic savings and reduce reliance on capital imports.

Like the Chilean reform, the Mexican pension reform replaced a pension system financed on a pay-as-you-go basis with a system of private retirement accounts. The Mexican system differs from the Chilean model, however, in several respects. First, all workers must participate in the new system. Second, instead of receiving a compensatory bond, workers who contributed to the old system may choose at retirement whether to receive benefits according to the old law. Third, Mexican pension companies will eventually be permitted to offer several investment portfolios, although currently they may offer only one fund. Finally, the Mexican system mandates that workers own two accounts: the first with a private pension company and the second with a publicly run housing fund. The housing fund returns have been low in the past, reducing workers' retirement income. See Box 4 for definitions of some of the terms used in Mexico's pension system.

#### THE PENSION SYSTEM BEFORE 1992

---

The Mexican government created the Mexican Social Security Institute in 1944 to manage old-age, disability, and life insurance and other social insurance programs. The institute's pension program was originally envisioned as a partially funded defined benefit system financed by contributions from workers, employers, and the government. From the beginning, however, the fund's reserves financed other social spending, mostly on health care, making the system strictly pay as you go. The system also required employers to contribute to the National Workers' Housing Fund Institute.

---

1. Carlos Sales-Sarrapy, Fernando Solís-Soberón, and Alejandro Villagómez-Amezcuá, "Pension System Reform: The Mexican Case," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), pp. 135-172.

### Old-Age Benefits

Benefits paid by the Social Security Institute were subject to a minimum contribution period and a minimum age. To qualify for the old-age pension, workers had to contribute to the insurance program for a minimum of 500 weeks and reach age 65. Unemployed workers could receive a reduced old-age pension as early as age 60. To be eligible for disability or survivor insurance, a worker had to contribute for at least 150 weeks.

#### BOX 4.

##### TERMS USED IN MEXICO'S PENSION SYSTEM

**Administradora de Fondos de Ahorro para el Retiro (AFORE).** A private investment firm with the sole purpose of administering workers' pension accounts. The government envisions that under an AFORE, several mutual funds will be offered to workers in the future. Business practices and market access of AFOREs are regulated by CONSAR.

**Comision Nacional de Sistemas de Ahorro para el Retiro (CONSAR).** The National Commission for the Retirement Saving System, which was established to oversee sales practices of retirement funds and ensure that retirement funds comply with regulations.

**Instituto del Fondo Nacional de la Vivienda de los Trabajadores (INFONAVIT).** The National Workers' Housing Fund Institute to which employers must contribute on behalf of their workers. The fund lends money at concessional interest rates to workers for building a home.

**Instituto Mexicano de Seguridad Social (IMSS).** The Mexican Social Security Institute, which administers social security and welfare programs. Among those are old-age insurance and disability insurance.

**Invalidez, Vejez, Cesantia en Edad Avanzada, y Muerte (IVCM).** The old-age, disability, and life insurance that was in place until 1997 and was administered by the Mexican Social Security Institute.

**Seguro de Invalidez y Vida (IV).** The disability and life insurance program implemented in 1997. The insurance is financed with contributions by workers, employers, and the government and pays a lump sum into pension accounts to finance disability pensions.

**Seguro de Retiro, Cesantia en Edad Avanzada, y Vejez (RCV).** The old-age insurance program implemented in 1997. Retirement income is financed with assets accumulated in personal retirement accounts. Workers, employers, and the government contribute to the accounts.

**Sociedades de Inversion Especializadas en Fondo para el Retiro (SIEFORE).** Mutual funds that invest retirement savings of Mexican workers. The funds must operate as part of an AFORE. Portfolio composition is regulated.

The pensions equaled 35 percent of average earnings during the last 250 weeks of contribution. In addition, pensions rose by 1.25 percent of earnings for each year that contributions exceeded 500 weeks and increased further if a retiree had a spouse or dependent children. Survivor pensions paid 90 percent of the retired worker's pension. The system provided a minimum pension to qualifying workers that equaled the minimum wage.

### Financing of Old-Age Benefits

Old-age and other insurance benefits were financed with a contribution of 8.5 percent of wages up to a maximum amount of 10 times the minimum wage. Employers, employees, and the government all made contributions. Employers paid 5.95 percent of taxable wages, employees paid 2.125 percent, and the government paid 0.425 percent into the Social Security Institute's fund.

### Coverage

For several reasons, only about 32 percent of the working population was covered by the pension system in 1995. First, workers employed in the informal sector of the economy neither contributed to the fund nor qualified for benefits. Such workers are not on the official payroll records or are self-employed and evade the tax system. In 1995, the informal sector employed about 40 percent of the workforce. Second, self-employed workers in the formal sector, government workers, and employees of the government-owned oil company PEMEX also were not required to contribute to the fund. Those workers accounted for another 27 percent of the workforce.<sup>2</sup>

### The Housing Fund

The Mexican government operates a National Workers' Housing Fund Institute to offer loans to people for building or purchasing a new home, particularly people who cannot obtain loans from banks. Employer contributions of 5 percent of taxable wages finance the housing fund. Under the old system, a worker received the contributions made on his or her behalf without any interest at retirement. Thus, the housing fund effectively received interest-free loans from workers, which enabled it to offer loans at more favorable rates than commercial banks.

---

2. CBO calculations using data from Gloria Grandolini and Luis Cerda, "The 1997 Mexican Pension Reform: Genesis and Design Features" (draft, World Bank, Washington, D.C., March 1998), Table 1.

---

## THE 1992 REFORM

---

In the early 1990s, a reform of Mexican social security became necessary for several reasons: increasing financial pressure, inadequate pensions, and the large number of people evading payroll taxes. The increasing financial pressures were partly caused by the aging of Mexico's population. In 1960, Mexico had four pensioners per 100 contributors, but by 1994 that ratio had increased to 12.5 per 100 contributors. Nonetheless, compared with many other—particularly industrialized—nations, the Mexican population is still relatively young, with only 6.4 percent of the population older than 65. Inadequate pension coverage arose partially because pensions other than the minimum pension were not indexed to inflation. As a result, inflation drove all pensions down toward the level of the minimum pension.

In response to the financial pressures on the system, the government introduced a supplementary mandatory savings system in 1992. Under that system, employers had to pay 2 percent of wages into special savings accounts at commercial banks. The banks bundled the funds and transferred them to the Mexican Central Bank, which invested the funds and guaranteed a minimum rate of return of 2 percent. The 1992 reform also restructured the housing fund. An employer's contribution to a worker's housing fund account remained at 5 percent, but benefits paid from the account were now based on accumulated balances, including interest, rather than accumulated contributions.

Poor administration led to the eventual failure of the 1992 reform. Many contributions could not be attributed to individual account holders. Moreover, banks hesitated to establish savings accounts, particularly for low-income workers. Those problems stemmed from the inconsistent supervision of accounts held by commercial banks and the lack of a regulatory framework in the beginning. The system's regulatory agency—the National Commission for the Retirement Saving System (Comision Nacional de Sistemas de Ahorro para el Retiro, or CONSAR)—was not established until two years after the new system began operations. Moreover, an unclear division of responsibilities among commercial banks, the Central Bank, the Social Security Institute, and the housing fund, as well as the lack of financial incentives for commercial banks to open small accounts, led to problems with collecting and reconciling contributions and with administering the accounts.<sup>3</sup>

---

3. Grandolini and Cerda, "The 1997 Mexican Pension Reform," p. 10.

---

## THE 1997 REFORM

---

In December 1995, the Mexican Congress established a new funded pension system based on individual retirement accounts that entirely replaced the previous system. That reform divided the insurance system into old-age insurance, disability and life insurance, and insurance for medical expenses of pensioners. The reform provisions became fully effective in September 1997.

### Contributions

All workers must contribute to the new system whether they contributed to the old system or not. In the new system, workers, employers, and the government contribute 6.5 percent of wages to personal retirement accounts, 4 percent of wages to disability and life insurance as well as pensioners' health insurance, and 5 percent of wages to the housing fund. The reform raised the maximum taxable amount from 10 times the minimum wage to 25 times the minimum wage. All mandatory contributions are tax-deductible.

As under the previous system, employers, employees, and the government all contribute to the pension system (see Table 12). The division of the payroll tax reflects the historical development. Employers contribute 12.95 percent of wages,

---

TABLE 12. CURRENT CONTRIBUTION RATES TO MEXICO'S PENSION SYSTEM  
(As a percentage of covered wages)

---

Source of Contribution	Old-Age Insurance	Housing Fund	Disability and Life Insurance	Total
Employee	1.125	0	1.000	2.125
Employer	5.150	5.000	2.800	12.950
Government	0.225	0	0.200	0.425
Social Quota <sup>a</sup>	2.000	0	0	2.000
Total Contribution Rate	8.500	5.000	4.000	17.500

---

SOURCE: Congressional Budget Office using data from Carlos Sales-Sarrapy, Fernando Solis-Soberon, and Alejandro Villagomez-Amezcuca, "Pension System Reform: The Mexican Case," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), Tables 4.1 and 4.2.

a. The social quota is a government contribution of 1 peso per day, currently about 2 percent of wages for the average worker.

---

workers contribute 2.125 percent of wages, and the government contributes 0.425 percent of wages. In the new system, the government contributes an additional fixed social quota of 1 peso per day, or 5.5 percent of the minimum wage, to retirement accounts. That quota is indexed to inflation. Since 5.5 percent of the minimum wage equals about 2 percent of average wages, the total contribution for an average worker under the new system is 17.5 percent.

### Investment of Old-Age Accounts

Under the new system, workers may choose a private investment firm (Administradora de Fondos de Ahorro para el Retiro, or AFORE) to administer the contributions designated for their old-age insurance. Workers may transfer their accounts to another firm once a year. They may also transfer their accounts if the firm changes its commissions or investment policies.

In the future, each AFORE will offer one or more mutual funds, although currently each firm may offer only a single fund. Workers will not be allowed, however, to combine funds from different AFOREs.

The Social Security Institute collects payroll contributions and deposits them in an account at the Mexican Central Bank before they are transferred to investment firms. Under the supervision of the oversight commission, CONSAR, the total contributions received are reconciled with payroll records and identification numbers and then transferred to the individual workers' accounts at the investment firms and the housing fund. Retirement savings for workers who have not chosen an investment firm are deposited in a central account for up to four years before they are assigned to a firm. Almost all covered workers in Mexico have chosen an investment firm, however.

### The Housing Fund

The 5 percent employer contribution to the housing fund is also treated like a funded pension account. Returns on savings, however, depend on the housing fund's operating surplus, which is the difference between interest payments collected by the housing fund minus operating expenses and a reserve. Because the fund relies on repayments of housing loans to a predominantly low-income, fairly high-risk clientele and does not operate in a competitive environment, its investment performance is uncertain.



### Withdrawals

A worker may receive retirement benefits at age 65 after 1,250 weeks of contributions and disability and life insurance benefits after 250 weeks of contributions. If a worker reaches retirement age but has not contributed for the required number of weeks, that worker may withdraw the total balance as a lump sum. Without the required number of contributions, however, the worker is not eligible for the guaranteed minimum pension (see the following discussion). A worker may retire before age 65 if his or her account balance is high enough to purchase an annuity that is at least 30 percent higher than the minimum pension.

Upon retirement, workers must use their accumulated balances to purchase an annuity from an insurance company, or they may make gradual withdrawals from their account. Gradual withdrawals are regulated, and the withdrawal schedule is based on the life expectancy of the retiree. If a worker's account balance is insufficient to finance an annuity exceeding the guaranteed minimum pension, he or she must choose the gradual-withdrawal options. Withdrawals are not taxed up to a limit of nine times the minimum wage.

Workers who contributed to the system before the 1997 reform may choose between the old system's retirement benefits and the benefits they could receive based on their accumulated balances in individual accounts. Benefits under the old system include an old-age pension based on a percentage of a worker's average nominal wage over the last five years, accumulated contributions to the housing fund until 1997, and the discontinued retirement account initiated with the 1992 reform. Workers who choose to receive benefits under the old system forfeit the right to the pension accounts and the housing fund accumulated since the 1997 reform.

A worker may withdraw some funds from an individual retirement account before retirement. After 45 days of unemployment, a worker may withdraw up to 10 percent of the accumulated balance in the retirement account if the worker has contributed for at least five years and has withdrawn no other funds in the previous five years. In addition, a worker with three years of contributions may withdraw an amount equal to a monthly wage from the retirement account when he or she marries.

### Guaranteed Minimum Pension

If a worker's savings are not sufficient to provide a pension equal to the guaranteed minimum pension, the Social Security Institute makes up the difference between the minimum pension and the amount a retiree may gradually withdraw. The guaranteed minimum pension is set equal to Mexico City's minimum wage (about 40 percent of the average wage). It is indexed to the price level and will therefore decline

relative to average wages over time. To qualify for the minimum pension, a worker also has to contribute to the system for 1,250 weeks.

### THE FISCAL COSTS OF THE REFORM

The Mexican reform has had three fiscal consequences. First, the government must continue its payments to workers who retired before September 1, 1997, without the revenue generated by the pay-as-you-go system. Those retirement benefits will be financed with existing reserves in the old-age insurance system and with general government revenue. Second, the government must pay for two types of guarantees: benefits to workers choosing to receive benefits under the old system and a guaranteed minimum pension under the new system. Both of those guarantees will also be financed with general revenue. Third, the government must finance the social quota of 1 peso per day for each covered worker and its contribution of 0.425 percent of wages.<sup>4</sup>

The Mexican Ministry of Finance has developed a model to estimate the pension reform's costs. It estimates that the annual costs will add up to nearly 1 percent of gross domestic product during the next 20 years. The government considers those estimates to be conservative because they assume only an average real rate of return of 3.5 percent for the private accounts, which is much lower than the real interest rate in Mexico in the 1980s.

Only two categories of the costs would, however, typically be viewed as the transition costs of moving to a funded system. The first is the cost of pensions paid to workers who retired before 1997. The second is the cost of allowing workers to choose benefits under the old system when they retire. Both costs arise from obligations of the old pension system.

Providing pension benefits to current retirees is most costly at first, with costs of about 0.4 percent of GDP in 1997; however, that cost declines fairly quickly. As time goes on, the pension to workers who were previously covered by the old system becomes more costly. Excluding the balances of the housing fund, the Mexican Ministry of Finance estimates that letting people choose between the old and new systems could cost 0.8 percent of GDP in 2025. (Once all workers who now contribute have retired, that cost should disappear.) That estimate depends greatly on the rates of return that workers will realize in their new private retirement accounts. Because of the social quota and the guaranteed minimum pension, the government also faces a permanent fiscal cost from the reform. The estimates in Table 13 suggest that those costs together could reach 0.4 percent of GDP in 2025.

---

4. Grandolini and Cerda, "The 1997 Mexican Pension Reform," p. 20.

TABLE 13. ESTIMATES OF THE FISCAL COSTS OF MEXICO'S PENSION REFORM  
(As a percentage of gross domestic product)

	1997	2015	2025
<b>Transition Costs</b>			
Pensions paid to workers retiring before 1997	0.39	0.09	0.03
Pensions paid to workers who choose the old system			
Excluding the housing fund	0.21	0.70	0.80
Including the housing fund	0.05	0.38	0.53
<b>Permanent Costs</b>			
Social quota and other government contributions	0.33	0.25	0.20
Guaranteed minimum pension to new workers	0	0	0.16
<b>Total Costs</b>			
Excluding the housing fund	0.93	1.04	1.19
Including the housing fund	0.77	0.72	0.92

SOURCE: Congressional Budget Office using data from Gloria Grandolini and Luis Cerda, "The 1997 Mexican Pension Reform: Genesis and Design Features" (draft, World Bank, Washington, D.C., March 1998), Table 10.

The Mexican pension reform was implemented in 1997, so it is not yet clear to what extent it has raised national saving. First of all, the degree to which the transition costs will be financed with government debt cannot be determined. Second, no figures are available yet for estimating the effect of pension reform on private saving.

## REGULATION OF PENSION FUNDS AND COSTS

The new pension system gives a central regulatory role to the National Commission for the Retirement Saving System. CONSAR can set and enforce rules and standards for all aspects of the system. It may issue regulations, conduct examinations, impose fines and sanctions, and recommend criminal prosecutions. In addition, CONSAR must approve appointments of the members of the board of directors, the general director, and the compliance officer of each investment firm. If CONSAR discovers any irregularities in any firm's operations under its supervision, it can revoke the firm's authorization.

### Requirements for Investment Firms

Each investment firm (AFORE) must maintain a minimum paid-in capital of US\$350,000 and a special reserve equal to about US\$350,000 or 1 percent of total assets of the mutual funds under management, whichever is greater. Each AFORE must invest both the capital and the reserve in the mutual funds it owns.

Both Mexican and foreign financial institutions may set up investment firms. Such firms, however, may have foreign majority ownership only if they are set up by an institution located in the United States, Canada, Colombia, Costa Rica, or Venezuela. Institutions in other countries may only hold minority ownership of a Mexican investment firm. In addition, during the start-up of the new pension system, the government restricted the maximum market share of each approved AFORE to 17 percent.

CONSAR oversees sales practices and arbitration. All mutual funds must distribute prospectuses—reviewed and approved by CONSAR—that fairly describe their portfolio and investment policies. Moreover, each AFORE must establish a unit specifically to respond to questions and claims from workers and employers. Claims that an AFORE does not settle are passed on to a system of conciliation and arbitration controlled by CONSAR.

### Investment Restrictions

Similar to oversight bodies in other countries, CONSAR limits investments in particular assets and entities that are closely linked to a certain mutual fund. Instruments issued or guaranteed by a single issuer may make up no more than 10 percent of assets, and investment in any one issue is limited to 10 percent of the total issue. Moreover, no more than 15 percent of assets may be invested in instruments issued by entities belonging to the same financial, commercial, or industrial group. Investment in instruments issued by institutions directly affiliated with the mutual fund are limited to 5 percent of assets.

CONSAR currently permits each AFORE to offer only a single fund. That fund must have 50 percent of its investments in inflation-indexed instruments. In addition, no more than 35 percent of the fund's assets may be invested in private debt, and no more than 10 percent may be invested in bank debt. Government debt may make up as much as 100 percent of the fund.

According to the government's plan, each investment firm may offer a variety of different funds in the future. CONSAR is expected to relax the investment restrictions and allow firms to offer more than one fund once the system operates to CONSAR's satisfaction. The only restriction will be that each firm must offer at

least one fund with a portfolio of securities indexed to the consumer price index. That restriction guarantees that each investment firm offers at least one safe asset. (The Mexican system does not require a minimum rate of return.)

### Commissions and Fees

Each investment firm may set management fees according to a percentage of contributions, a percentage of assets under management, or some combination of the two. Moreover, fees may depend on the length of time a particular worker has kept his or her account with the same AFORE.

Like the Chilean investment firms, many Mexican firms charge up-front fees as a percentage of contributions. Those charges are similar to fees in Chile, averaging 20 percent of contributions, or 1.7 percent of wages, for the average worker. Table 14 shows the fee structure that has developed in the first year of the new pension system. Other companies base fees on assets, although only a single company bases

TABLE 14. FEES CHARGED BY AFOREs IN MEXICO

AFORE	As a Percentage of Wages	As a Percentage of Assets	As a Percentage of Real Return
Atlantico	1.40	0	20.00
Banamex	1.70 <sup>a</sup>	0	0
Bancomer	1.70 <sup>a</sup>	0	0
Bancrecer	0	4.75 <sup>a</sup>	0
Banorte	1.00	1.50 <sup>a</sup>	0
Bital	1.68 <sup>a</sup>	0	0
Capitaliza	1.60	0	0
Confia	0.90 <sup>a</sup>	1.00	0
Garante	1.68	0	0
Genesis	1.65	0	0
Imbursa	0	0	33.00
Previnter	1.55	0	0
Profuturo	1.70	0.50	0
Santander	1.70	1.00	0
Siglo XXI	1.50	0	0
Tepeyac	1.17	1.00	0
Zurich	0.95	1.25 <sup>a</sup>	0

SOURCE: Congressional Budget Office using data from Gloria Grandolini and Luis Cerda, "The 1997 Mexican Pension Reform: Genesis and Design Features" (draft, World Bank, Washington, D.C., March 1998), Table 7.

NOTE: AFORE = Administradora de Fondos de Ahorro para el Retiro (investment firm).

a. Charge declines over time if the participant remains in that AFORE.

fees entirely on assets. (That company's fee of 4.75 percent of assets is about four times the cost of an average managed mutual fund in the United States.) Another, smaller group of firms charges fees based on returns.

Overall, the fee structure of charges reduces the transparency of the costs incurred by workers. To find the most cost-effective fund, workers would have to perform a fairly complicated calculation involving assumptions about the length of the investment horizon, the discounts received for long-term affiliation with an investment firm, and the portfolio's future rate of return.<sup>5</sup>

## SYSTEM PERFORMANCE

---

Mexico succeeded in moving almost all workers covered by the previous pay-as-you-go pension system to the new funded pension system. By the end of December 1997, more than 95 percent of workers who had previously contributed to the Social Security Institute had made contributions under the new system. That figure is not surprising because Mexican workers in the formal sector had no choice about switching: they had to join the new system.

The reform addressed people's lack of confidence in public pension schemes. Many people had viewed contributions to the original schemes as a pure tax because of the political risks involved in a pay-as-you-go defined benefit pension plan.

The reformed Mexican system still faces a number of risks and problems, however. First, a large portion of retirement savings is invested in the housing fund. Since the fund is under government control and has a social agenda, a substantial portion of a worker's retirement fund is invested in a portfolio that most likely generates lower returns than funds in capital markets. In past years, the housing fund had negative rates of return, which reduces retirees' total retirement savings. That outcome increases the government's potential cost because it could lead workers to choose benefits under the old system or allow them to qualify for the guaranteed minimum pension.

A second concern is the behavior of people working in the informal sector of the economy. Although almost all workers in the formal sector who were previously covered now contribute to the new system, the pension system covers only about a third of the total workforce because government workers, the self-employed, and workers in the informal sector do not have to join. If the change in the pension system attracts people in those groups to join the formal sector, expen-

---

5. For such calculations, see Tapen Sinha, Felipe Martínez, and Constanza Barrios-Muñoz, "Performance of Publicly Mandated Private Pension Funds in Mexico: Simulations with Transactions Costs" (draft, Instituto Tecnológico Autónomo de México City, April 1998).

ditures for the social quota, the government's matching contribution, and the guaranteed minimum pension may rise more than currently anticipated.

Finally, the future costs to the government depend greatly on the rate of return of the overall pension system. Because workers may choose benefits calculated under the old system, low returns and high costs of private pension accounts may greatly affect the government budget. In Chile, the size of the compensatory payment for workers who opt out is assessed right away, but in Mexico, workers at retirement may choose benefits under the old system in return for forfeiting rights to their pension accounts. To be sure, the Mexican government's costs are only the difference between the old benefit and the account balance returned to the government. If returns are low, however, many workers may choose the benefit under the old system, leaving fairly small account balances to the government. Moreover, because of the implicit government guarantee resulting from the choice between old and new benefits at retirement, workers' investment choices may be less prudent than they would be otherwise. Workers may always choose the pension under the old system and may thus be willing to gamble with their personal retirement accounts when CONSAR permits more risky pension fund portfolios in the future.





## **CHAPTER VI**

---

### **THE PENSION SYSTEM IN ARGENTINA**

---

---

---

Argentina instituted an anti-inflationary restructuring program in the 1990s. Since 1991, the Argentine peso has been pegged to the U.S. dollar at a rate of one-to-one, and that parity has been successfully defended ever since, dramatically reducing Argentina's levels of inflation. The pegged currency, however, magnified the impact of shocks from abroad during the Mexican currency crisis. Despite the growth rates of 8 percent in gross domestic product in the mid-1990s, unemployment and fiscal spending continued to be problem areas. One threat to fiscal balance was the increased spending for public pension programs. In 1993, the government responded to that threat by reforming those programs.

The Argentine pension reform replaced the pay-as-you-go system with a two-tiered system. The first tier provides benefits from a pension that is not related to the retiree's earnings. The second tier provides benefits from either an earnings-related pension or an individual account. The earnings-related pension is financed on a pay-as-you-go basis; the individual account is fully funded and self-financed. Current and new workers may decide whether to stay in the pay-as-you-go system or join the individual account system. Workers who participated in the old system also receive a compensatory pension that depends on the number of years they contributed to the old system. The government regulates individual accounts using rules similar to those in the Chilean system. Box 5 defines some of the terms used in Argentina's pension system.

### **THE HISTORY OF ARGENTINA'S PUBLIC PENSION SYSTEM**

---

Argentina's pension system has a long history. The first pension funds were created around the turn of the century. Those funds were mostly related to occupation, and they were originally fully funded. Their benefit rules differed by occupation. With an increasing flow of money into those funds, however, pension fund managers granted benefit increases that greatly exceeded the actuarial value of contributions. Over time, the pension funds became increasingly financed on a pay-as-you-go basis.<sup>1</sup>

---

1. Rafael Rofman and Hugo Bertin, "Lessons from Pension Reform: The Argentine Case," in Klaus Schmidt-Hebbel, ed., *Pension Systems: From Crisis to Reform* (Washington, D.C.: World Bank, forthcoming).

BOX 5.  
TERMS USED IN ARGENTINA'S PENSION SYSTEM

**Administración Nacional de la Seguridad Social.** The Argentine Social Security Administration, which administers the pension system under new and old law and funnels contributions into private accounts for workers who choose the personal account system.

**Administradora de Fondos de Jubilaciones y Pensiones (AFJP).** A public or private firm whose only purpose is investing workers' contributions to personal retirement accounts. AFJPs operate under strict regulatory oversight and must meet regulatory requirements to start business.

**Average Mandatory Provisional Contribution (AMPO).** The basis for calculating Argentine pension benefits. It is established twice annually by dividing employees' total contributions by the total number of contributors.

**Integrated System of Retirement and Pensions.** A two-tiered integrated system of retirement and pension introduced in 1993. It pays a basic pension and an earnings-related pension.

In 1967, the parliament passed two laws consolidating existing pension funds into a pay-as-you-go system under government control. The system had two parts: the first covered all workers and the second covered the self-employed. Both parts had unified payroll tax schedules but differed in benefit rules and pension ages. That system remained in place until 1993.

Payroll taxes and other earmarked taxes funded the pay-as-you-go system. In 1993, the final year of the system implemented in 1967, the payroll tax rate was 26 percent. Additional revenues came from the value-added tax, income tax, personal tax on wealth, and revenues received from the sale of public enterprises.<sup>2</sup>

In the early 1980s, the system was increasingly strained, as benefit growth began to surpass revenue growth. The government responded to the emerging financial imbalances by diverting more tax revenues to the system and cutting back on benefits by reducing the adjustment for inflation. However, the latter practice—a powerful way to reduce pension costs in a high-inflation environment—was questioned on constitutional grounds and resulted in a series of lawsuits. Eventually, the government had to settle its debt with pensioners for a total of US\$12.5 billion in two rounds of debt consolidation in 1991 and 1993.

---

2. Joaquín Cottani and Gustavo Demarco, "The Shift to a Funded Social Security System: The Case of Argentina," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), pp. 177-206.

Analysts cite several reasons for the severe crisis of the Argentine pension system. First, pension benefits were often extremely generous because the system allowed certain groups to retire early or after contributing for only a few years. Second, many people evaded the payroll tax, a practice that was reinforced by the weak link between taxes and benefits as well as by fairly lax enforcement of tax rules. Third, between 1950 and 1990, the ratio of the number of elderly people to the number of working-age people rose from 0.06 to 0.15, increasing the number of pensioners per potential contributor.<sup>3</sup>

### THE 1993 REFORM

In response to the problems plaguing the pension system, in October 1993 the Argentine parliament established a new pension system, the Integrated System of Retirement and Pensions. The new system offers two tiers: a basic pension and a choice between a public pay-as-you-go pension and a personal retirement accounts program. Workers who choose the pay-as-you-go pension may switch to the private accounts system at any time, but they may not return to the pay-as-you-go system once they have chosen private accounts. Workers who do not choose between the alternatives are put into the personal accounts system by default.

Like the previous system, the new system covers workers and the self-employed. A few groups are exempt: employees of the armed forces and of state and local governments and certain professionals with independent retirement systems. Nonetheless, some municipalities and state governments participate in the new system.

#### Contributions

Whether they choose the pay-as-you-go pension system or the personal accounts system, employees must contribute 11 percent of their wages. Employers must also contribute a percentage of wages. Between 1993 and 1996, employers contributed 16 percent of wages. Since 1996, employers have contributed an average of 12 percent. (That percentage differs by region.) The self-employed must contribute the combined employer and employee rate.

All contributions are paid on gross wages up to a ceiling of 60 times the average mandatory provisional contribution (AMPO). An AMPO is established twice annually by dividing employees' total contributions by the total number of contributors. In 1997, the AMPO equaled 80 pesos per month (or US\$80), implying a

---

3. Rofman and Bertín, "Lessons from Pension Reform."

ceiling of US\$57,600. Contributions are tax-deductible, and pensions are taxed as ordinary income.

After the tax collection agency collects all payroll taxes, it transfers the employee contribution of workers who have chosen the private accounts system to an approved private pension investment firm (Administradora de Fondos de Jubilaciones y Pensiones, or AFJP) of each worker's choice. The collection agency then transfers all remaining payroll tax revenues to the Argentine Social Security Administration, which also receives additional tax revenues from earmarked taxes.

### Tier 1: The Basic Pension

All workers with 30 years of contributions who reach age 64 (for men) or 59 (for women) are eligible for a basic pension, equal to 2.5 times the AMPO, or 200 pesos per month, in 1997.<sup>4</sup> The benefit is thus about 28 percent of the average covered wage and rises by an additional 1 percent for each year of contributions beyond 30 years. The Social Security Administration administers and finances the basic pension with payroll taxes and other revenues.

### Tier 2 Options

Under Tier 2, workers can choose between two options.

**Pay-As-You-Go-Option.** Workers who choose the pay-as-you-go system receive a Tier 2 benefit that is based on their average salary during the 10 years before retirement. Workers receive 0.85 percent of that average salary for each year they have contributed to the new pension system. The maximum benefit equaled the AMPO, or 80 pesos per month, in 1997.

For workers who stay in the pay-as-you-go system, the Social Security Administration also covers disability and survivor benefits. Disability pensions are set at 70 percent of the average monthly salary during the five years before the disability, regardless of career earnings and contributions. Workers with irregular contribution records over the past 12 months receive a lower percentage of their average monthly salary—50 percent. Survivorship pensions are set at equivalent levels.

**Personal Retirement Accounts Option.** Workers who opt out of the pay-as-you-go system receive benefits from personal retirement accounts, known as the "capitalization regime." Workers may contribute to only one fund at a time, but they may

---

4. The retirement age will rise to 65 for men and 60 for women in 2001.

switch funds twice a year. The individual accounts are funded with the employees' 11 percent payroll contribution and any additional voluntary contributions.

Retirees may withdraw accumulated account balances in several ways. They may purchase an annuity from an insurance company or receive programmed periodic payments until their account is exhausted. Workers may also withdraw as a lump sum any amount in excess of that necessary to finance a pension equal to 70 percent of their average monthly salary during the five years before retirement. A worker may retire early if the balance from an individual account is sufficient to pay for a pension equal to 50 percent of the average salary in the last five years of employment.

Private investment firms (AFJPs) chosen by the worker are also responsible for disability and survivor benefits. AFJPs must make up the difference between the accumulated account balance and the disability and survivor benefit specified by law for the pay-as-you-go regime under Tier 2.

### The Compensatory Pension

All workers who contributed to the previous pension system and qualify for the basic pension are eligible for a compensatory pension. The compensatory pension pays 1.5 percent of a worker's average monthly salary before retirement for each year of participation in the old system. The Social Security Administration administers the pensions, which are financed by payroll taxes and general revenues.

## THE FISCAL COSTS OF THE REFORM

The Argentine government must continue to provide benefits to workers who have retired under the old pay-as-you-go system. Meanwhile, payroll taxes are being diverted to personal retirement accounts. The government must also find some way to recognize contributions to the old system made by workers now participating in the new system. Argentina has chosen to recognize those contributions with the compensatory pension. Some analysts estimate that it will take 75 years or more to pay off the transitional obligations.<sup>5</sup>

The Argentine pension system must also finance the basic pension and the benefits for people who do not opt out of the pay-as-you-go system. The cost for the basic pension is permanent; the cost for the pay-as-you-go pension, however,

---

5. Olivia S. Mitchell and Flávio Ataliba Barreto, *After Chile, What? Second-Round Social Security Reforms in Latin America*, Working Paper No. 6316 (Cambridge, Mass.: National Bureau of Economic Research, December 1997), p. 12.

TABLE 15. PROJECTED DEFICIT OF ARGENTINA'S PENSION SYSTEM  
(In millions of 1995 pesos)

Year	Revenues	Expenditures	Deficit	Cumulative Deficit
1995	10,489	14,239	3,750	3,750
2000	11,586	14,865	3,279	21,434
2005	12,546	14,661	2,115	34,486
2010	13,463	14,334	871	41,326
2015	14,126	13,879	-247	42,256
2020	14,490	13,373	-1,117	38,308

SOURCE: Congressional Budget Office using data from Joaquin Cottani and Gustavo Demarco, "The Shift to a Funded Social Security System: The Case of Argentina," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), Table 5.12.

depends entirely on workers' choices and is difficult to predict. Analysts believe that the personal retirement accounts system is more attractive to young workers than the pay-as-you-go system, so the government will eventually face only negligible costs for the pay-as-you-go pension.<sup>6</sup> During the first few years of the operation of the personal retirement accounts system, more than 90 percent of new workers chose that system. Because those workers may not switch back to the pay-as-you-go system, those figures suggest that in the long run, government obligations from the pay-as-you-go system will be small.

The overall public pension system is expected to run a deficit for the intermediate future (see Table 15). The payroll tax and other earmarked taxes are not expected to be sufficient to finance the basic, compensatory, and public pensions for workers who stay in the pay-as-you-go system for several years. According to those estimates, the system's expenditures will exceed revenues until about 2015.

The Argentine government has not specified a particular way to finance the deficit. One way would be to increase public indebtedness temporarily. In that case, the pension system would accumulate more debt until about 2015. Other measures for financing the transition include additional taxes, stricter enforcement of tax payments to reduce evasion, and a reduction in public pension benefits.

The effect of the Argentine pension reform on national saving cannot be easily estimated. It appears that the Argentine government finances at least a portion of the transition with additional debt, lowering public saving. The response of private saving to pension reform is not known, however.

6. See Cottani and Demarco, "The Shift to a Funded Social Security System," p. 201.

---

## REGULATION OF PENSION FUNDS AND COSTS

---

The retirement accounts are managed by public or private firms (AFJPs) solely created for investing workers' contributions in individual retirement accounts and administering payments to retirees. Each AFJP may manage only one pension fund. In addition, the Banco de la Nacion Argentina must offer a fund so that at least one fund is backed by public resources. Other state and local government agencies hold shares in various AFJPs.

### Requirements for AFJPs

AFJPs are subject to strict disclosure requirements. They must give account of their investment operations daily and send monthly reports to the supervisory authority detailing their performance and overall financial situation. Moreover, the firms must report regularly to account holders regarding their contributions and the AFJPs' commissions, fees, and performance.

The retirement accounts must remain the property of the investing workers and are legally separated from the capital of an AFJP. That separation insulates the accounts from a firm's financial position and protects workers' investments if an AFJP goes bankrupt.

AFJPs must hold a minimum reserve of 2 percent of the assets held in personal retirement accounts. The reserve cannot be less than 3 million pesos (US\$3 million). Firms must also invest minimum reserves in the same assets as the pension fund's investments; reserves are subject to the same restrictions as the pension fund.

### Oversight

The Superintendency of the AFJPs, which is under the authority of the Ministry of Labor and Social Security, oversees the investment firms. The Superintendency may authorize AFJPs and impose legal sanctions or liquidate an AFJP if necessary.

The Superintendency controls operations and contracts issued by AFJPs. For example, it ensures that contributions are credited to workers' accounts and that benefits are being paid. It also ensures that AFJPs comply with the law and controls sales practices.

TABLE 16. LIMITS ON SHARES OF ASSETS IN CERTAIN INVESTMENT INSTRUMENTS FOR ARGENTINA'S PENSION FUNDS

Investment Instrument	Limit (Percent)
<b>Government Securities</b>	
Securities issued by the national government	50
Securities issued by provincial and local governments	15
<b>Private Firms</b>	
Long-term securities issued by domestic private corporations	28
Short-term securities issued by domestic private corporations	14
Domestic corporate shares	35
Shares of recently privatized public enterprises	35
<b>Banks and Mutual Funds</b>	
Certificates of deposit in local banks	28
Domestic mutual investment funds	14
<b>Foreign</b>	
Corporate securities	10
Government securities	7

SOURCE: Congressional Budget Office using data from Joaquín Cottani and Gustavo Demarco, "The Shift to a Funded Social Security System: The Case of Argentina," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), Table 5.6.

### Regulation of Investment and Returns

AFJPs may invest pension funds in a variety of financial instruments, but AFJPs face limits on investments in specific assets. Moreover, foreign investment is currently limited to corporate or government securities. Table 16 shows a detailed account of those investment limits.

Most AFJPs invest fairly conservatively. In March 1997, 48 percent of AFJP assets were invested in government bonds, another 11 percent in other public and corporate bonds, and an additional 17 percent in certificates of deposit and cash. Only 20 percent were invested in equities, and a mere 0.5 percent were invested in foreign securities.<sup>7</sup>

AFJPs also face restrictions on their rates of return. If a fund's returns exceed the average return by 30 percent or 2 percentage points, whichever is greater, the

7. Dimitri Vittas, *Private Pension Funds in Argentina's New Integrated Pension System*, Policy Research Working Paper No. 1820 (Washington, D.C.: World Bank, August 1997), Table 8.



excess return must be placed in a special fluctuation fund and invested in the same instruments as the pension fund. If a fund's returns are less than the average return by 70 percent or 2 percentage points, whichever is lower, the AFJP must provide the minimum return by using the special fluctuation fund, the minimum reserves required by law, or the AFJP's own capital. If an AFJP cannot pay the minimum rate of return from its reserves, the AFJP is dissolved, its accounts are transferred to another AFJP, and the government pays the minimum rate of return.

The pension funds' gross returns have been favorable. The average real rate of return (before commissions and fees) was 10 percent in 1995 and 15 percent in 1995 and 1996 combined. Those high returns on fixed-income securities largely reflect the high interest rates in Argentina following the Mexican currency crisis.

### Costs

AFJPs may charge flat and variable fees per contribution, entry fees, and fees for programmed withdrawals but not exit fees or asset management fees. In June 1996, average fees for operating costs and insurance premiums for disability and survivor insurance were 3.5 percent of wages. The variable fee ranged from 2.3 percent to 3.5 percent of wages, with fixed monthly fees varying from 0 to 5 pesos.<sup>8</sup> Fees for operating costs alone, which encompass administrative and marketing costs, averaged 2.6 percent of wages in 1996.<sup>9</sup>

## SYSTEM PERFORMANCE

The Argentine reform has succeeded in replacing a financially strained pay-as-you-go system with a partially funded pension system. By giving workers a choice between pay-as-you-go benefits and a funded plan, the new system has also reduced possible resistance from workers who did not want to join a defined contribution plan.

The funded personal retirement accounts system has been attractive to many workers: more than two-thirds of workers who contribute to the pension system had chosen the private accounts system by mid-1996. The personal accounts system is particularly popular among workers ages 20 to 40, who have a longer time to accumulate significant amounts in their retirement accounts. In addition, more than

---

8. Ibid., p. 25.

9. Cottani and Demarco, "The Shift to a Funded Social Security System," p. 198.

90 percent of workers who join the workforce choose the personal accounts system, guaranteeing that the pay-as-you-go system will shrink dramatically over time.

Some features of the Argentine system have caused concern, however.<sup>10</sup> First, the flat benefit provided by the basic pension is fairly generous and thus fairly expensive. In contrast to guaranteed minimum pensions in the Chilean and Mexican systems, the Argentine benefit does not depend on the performance of retirement accounts. The government promises the basic pension to all qualifying retirees regardless of their other retirement income; therefore, that pension is more than a minimum pension guarantee. As a result, despite the reform, financial pressures on the Argentine pension system may continue in the future.

Second, the Argentine system continues to suffer from low compliance rates because many people work in the informal sector of the workforce. The pension system encourages evasion because the link between basic pension benefits and taxes is weak, and only a small part of payroll taxes finances the retirement benefits of the personal accounts system. Thus, because—even after the reform—people view a large portion of the payroll tax as a pure tax, the reform may not have succeeded in enticing workers to join the formal workforce.

---

10. Anita M. Schwarz, "Comment," in Martin S. Feldstein, ed., *Privatizing Social Security* (Chicago: University of Chicago Press, 1998), pp. 207-211.

## **CHAPTER VII**

---

### **LESSONS FROM OTHER COUNTRIES**

---

---

---

Chile, the United Kingdom, Australia, Mexico, and Argentina have all moved toward privatizing or partially privatizing their pension systems. Future retirees in those countries will receive a portion of their retirement income from resources that they have set aside during their working lives. In Chile, Mexico, and Argentina, those funds are accumulated in personal accounts administered by special pension funds under strict regulatory control. In the United Kingdom, workers can opt out of the government's pension plan and set up personal retirement accounts with a private firm, and in Australia, employers are responsible for setting up retirement accounts for their employees.

Experiences with social security privatization in the five countries provide several important lessons for the United States. First, some countries' reforms have left existing structures in place. Using an existing institution can apparently reduce disruption to the system caused by the reform.

Second, it matters how countries acknowledge and finance accrued pension benefits. Countries with large liabilities, countries that operate parallel pension systems, and countries that heavily rely on deficit financing of the transition are more likely than other countries to face heavier burdens, smaller increases in national saving, and larger risks to their fiscal spending.

Third, pension reform can raise national saving if the creation of private accounts is accompanied by reduced government liabilities. Determining exactly how much national saving was affected in the five countries is difficult, however, because future liabilities from remaining public programs and minimum pension guarantees are uncertain. Nonetheless, estimates suggest that the increase in private saving following the pension reforms in Chile, the United Kingdom, and Australia more than offset any change in government saving in those countries. (The Mexican and Argentine reforms are more recent, so reliable figures are not available.)

Fourth, all countries considered in this paper implemented a minimum benefit guarantee. The cost of offering that guarantee depends largely on its generosity compared with average wage income. Moreover, some countries offer a universal pension; others offer a minimum pension that is conditional on retirement assets. The latter is likely to cost less than the former. Larger guarantees imply greater unfunded future liabilities and higher financial risks for the government.

Fifth, the regulation of pension funds is important. Countries with less regulation tend to offer a larger variety of portfolios to pensioners; meanwhile, their pension industry could be more prone to fraud with large losses for investors. Clearly, countries with less developed capital markets tend to choose a more restrictive environment for their pension funds than countries with more developed capital markets.

Finally, personal retirement accounts tend to cost more than a universal pension program such as Social Security. The Latin American countries studied had costs ranging from 2.5 percent to 3 percent of wages. In Australia, some funds achieved significant savings by bundling contributions from many employees and centralizing investments. But those savings come at the expense of restricting workers' choice among different investments. The following discussion details the six aspects of privatization that have relevance for the Social Security debate in the United States.

## HISTORICAL ENVIRONMENT

Each country studied responded to a specific situation confronting its pension system. Consequently, each country's reform reflects its historical environment before the system was changed. The reforms in Chile, Argentina, and Mexico were more radical than those in the United Kingdom or Australia because the first three countries' systems faced much more pressing financial problems than the other countries' systems. Chile, Argentina, and Mexico almost completely redesigned their systems, whereas the United Kingdom and Australia relied to a much greater extent on the structure of their existing systems.

Chile's reform was the most drastic of all. Under the new system, workers are solely responsible for contributions to their retirement accounts. Moreover, contributions go directly into pension funds, with no government intermediary. Finally, the government provides a minimum pension in Chile and finances the pension with general revenues.

In Argentina and Mexico, the new pension systems retained some elements of their predecessors. In Argentina, the Social Security Administration continues to administer the basic, compensatory, and pay-as-you-go pensions. Moreover, the division of payroll taxes between employers and employees follows the historical pattern. Similarly, Mexico's Social Security Institute administers the minimum pension and the benefits under the old system. Mexico also retained the traditional requirement of investing in the housing fund, as well as the division of contributions among workers, employers, and the government.

The United Kingdom and Australia, which had the least pressing financial problems, relied most on traditional structures. In the United Kingdom, personal pension funds are an additional way to opt out of the government's earnings-related pension. That allowed individuals to do what workers with occupational pension plans could already do. In Australia, the traditional employment-based superannuation system became the backbone of the reform: the government increased retirement saving by imposing the mandate on employers to contribute a certain percentage of wages to superannuation funds.

Clearly, the United Kingdom and Australia wanted to minimize disruption to their functioning pension systems and hesitated to abolish them. By adding to their systems rather than radically changing them, both countries minimized the disruption. In the United Kingdom's case, however, adding to the existing structure led to complicated provisions that make it difficult for workers to choose the most appropriate pension plan. It was less important for Chile, Argentina, and Mexico to avoid disruptions because their pension systems had reached a financial crisis.

## TRANSITION COSTS

---

Moving from a pension system financed on a pay-as-you-go basis toward a system that prefunds retirement income generally involves two types of costs: ongoing payments for retirees and compensation for workers who contributed to the old system.

Regarding those costs, the countries considered in this paper differ in four important aspects: the size of implicit pension liabilities, the way in which accrued benefits are recognized, the extent to which workers may choose among different systems, and the way the governments finance a shortfall in revenues.

### Implicit Pension Liabilities

In a pay-as-you-go pension system, a government faces implicit pension liabilities: the benefits that the government implicitly promises current workers in return for contributing to the system. Because the government uses the contributions of current workers to finance the benefits of current retirees in a pay-as-you-go system, its liabilities are not backed by any assets.

In moving to a funded system, the government must force workers to set aside funds for their own retirement. In all countries except Australia, pension fund contributions were diverted from the public pension system into personal retirement accounts. As a result, the government has less revenue and must either raise other

taxes, increase its indebtedness above otherwise prevailing levels, or scale back its implicit present and future promises.

The size of the implicit pension liabilities can differ considerably. Of the countries studied, Australia had the smallest of those liabilities. Because the government's age-pension was always an income-support program for the aged poor, the pension never became an entitlement. Therefore, the Australian government did not have to design a way to compensate workers for previous contributions to the system. Moreover, the age-pension is a modest means-tested pension and is therefore less costly to provide than a typical pay-as-you-go pension. Continuing to pay for current retirees and those who will not accumulate enough assets is therefore less costly in Australia than in the other four countries. However, Australian retirees may withdraw their retirement savings in a lump sum, so the extent to which the pay-as-you-go system will be replaced is unclear and will depend on the choices that future workers make. Currently, the vast majority of retirees reportedly qualify for the means-tested pension because workers can spend down their savings before retirement by purchasing a new home—an action that receives special treatment under the asset test.

The other four countries faced considerable implicit pension liabilities before their reforms. Chile's workers had accrued a large amount of pension rights, exceeding 100 percent of gross domestic product. In Mexico and Argentina, the transition liability has been estimated at 70 percent to 80 percent of GDP. In the United Kingdom, the implicit liability arose largely from the basic state pension, with its flat universal benefit, because the earnings-related pension system was not introduced until 1975. As a result of demographic shifts, however, both the basic state pension and the earnings-related pension system posed considerable future liabilities for the government.

### Recognition of Accrued Benefits

In the case of Australia, the government had no reason to recognize any accrued pension rights. By continuing the means-tested support program, the government ensured that the retirees who did not accumulate sufficient amounts in their accounts could still receive the same benefit as before.

The Chilean government issues recognition bonds to workers who contributed to the old system but decided to join the new system. Chile has also lowered the value of the bonds by increasing the retirement age, implicitly reducing the accrued pension benefits. The government does not deposit the bonds into a worker's account, however, until he or she retires. The advantage of recognition bonds is that they improve the government's ability to assess its future financing needs. Estimating the number of workers retiring in the future and the size of their bonds is fairly

straightforward. In addition, workers receive a clear statement of the payments they can expect to receive when they retire. Moreover, recognition bonds allow a clear break between the old and new systems. One of the disadvantages of such bonds is that their ultimate cost to the government depends on assumptions underlying the calculation of bonds; therefore, the true liabilities could be either higher or lower than the cost of the bonds. Another drawback is that the public may not trust the government to value the bonds honestly.

The Mexican government acknowledges previous contributions by allowing workers to choose, at retirement, between benefits under the previous system and those under the new system. That situation could entice workers to forfeit some of their previously accrued pension rights, reducing the government's transition costs. The only way workers can do better in the new system than under the previous system is by accumulating enough resources in their account. But under that scenario, workers do not receive any benefit for contributing to the old system. If workers choose the benefit under the old system, they must forfeit their funds accumulated under the new system. Therefore, in contrast to Chilean workers, Mexican workers in the transition cannot receive a compensation for accrued benefits from contributions to the old system as well as benefits under the new system. The disadvantage of Mexico's arrangement is that it may encourage workers to gamble with their retirement accounts because the government implicitly guarantees that no worker can end up with lower retirement income than under the previous system.

The Argentine government pays a special compensatory pension to transition workers, which has the advantage of workers' knowing right away what pension to expect in addition to their private accounts. The government also reduced the size of accrued benefits by increasing the retirement age. The ultimate cost to the government largely depends on how the compensatory pension rights compare with the pensions those workers would have received under the old system. Compared with the recognition bonds issued in Chile, the compensatory pension has two advantages for the government. First, if a worker dies before retirement, the Argentine government does not have to pay the compensatory pension, whereas the Chilean government would still have to pay the recognition bond to the worker's estate. Second, the Argentine government can spread out its compensatory payments over the length of a worker's retirement, whereas the Chilean government must pay the full amount of the bond at retirement. Paying a compensatory pension has the disadvantage of requiring the old system's administration to remain in place to calculate and pay the benefits.

The United Kingdom acknowledges accrued pension rights in the earnings-related system by simply putting zeros in the benefit formula for the years in which a worker opts out of the government-run system. The benefits and future costs will therefore depend on the number of years a worker has participated in the earnings-related system. In addition, the U.K. government reduced the transition costs by

changing the benefit formula and indexing the earnings-related benefits to inflation rather than to earnings growth. Earnings-related benefits are therefore expected to grow at a lower rate than before the reform.

### Choice Between Systems

The five countries differ in the extent to which participation in the new pension system is voluntary or mandatory. In Australia, superannuation coverage is mandatory. Employers must contribute to superannuation funds on their workers' behalf, and workers may not spend those savings until they reach a certain age.

Chilean workers may join the new pension system if they participated in the old system. Workers just joining the labor force must participate in the new system. As a result, eventually all workers will be covered by the new system. The old system continues to accrue new liabilities, however, because some workers stay in it. Whether that outcome adds to the government's financial burden depends on how the cost of the additional liabilities compares with the cost of the recognition bonds that those workers would otherwise receive.

In Argentina, both current workers and workers just joining the labor force may choose between the funded and the pay-as-you-go system. That arrangement has the clear disadvantage that the transition to a funded system may never be completed because some workers will always join the pay-as-you-go system and accrue benefits. Nonetheless, the pay-as-you-go benefit in Argentina appears to be sufficiently unattractive to prevent that from happening.

In Mexico, all workers must join the new system. Older workers may choose between receiving benefits under the old system and keeping their private accounts when they retire. Because all new workers must join the new system, however, regular pensions will eventually be paid from funded personal retirement accounts.

Workers in the United Kingdom may choose between the private pension and the government earnings-related pension. They may even switch between the two systems every year. As a result, both systems will continue to exist. Some workers may find it attractive to switch back and forth, accumulating benefits in the private system in some years and in the government system in others. The recent changes in the rebate of contributions for workers who opt out of the government system are an attempt to reduce the incentive to switching back and forth between systems. Nonetheless, because private pensions do not benefit everyone, that freedom of choice implies that a certain portion of workers will continue to rely on the earnings-related pension, and pensions will not become completely funded.



### Financing the Revenue Shortfall

Except for Australia, all countries faced a revenue shortfall from diverting previous contributions to private pension accounts. In Chile, that shortfall was partly financed by fiscal tightening through a reformed tax system, including a new consumption tax, prereform cuts in spending, and the sale of some government enterprises. The United Kingdom increased the payroll tax that finances its National Insurance Fund, and Argentina and Mexico partially financed the transition with debt.

### NATIONAL SAVING

The implicit pension liabilities, the way in which governments recognize accrued benefits, and the choice between systems determine how pension reform affects the government's budget. A government's decision on how to finance a widening gap between revenues and expenditures, in turn, determines the changes in the deficit and thus changes in public saving. Higher government deficits can partially or totally offset any positive saving effect of funds accumulated in personal retirement accounts. Thus, fiscal discipline plays a crucial role in a pension reform's impact on national saving.

Because of limited information on what the governments and workers would have done had the pension systems not been reformed, estimating the reforms' exact impact on national saving is difficult. In Chile and the United Kingdom, the fiscal tightening associated with pension reform indicates that the government offset little if any of the additional private saving in personal retirement accounts. As a result, Chile's national saving rate may have increased by 2 percent to 3 percent of GDP. In Australia, estimates indicate that under certain behavioral assumptions, the reform might increase national saving by about 1.5 percent of GDP in the long run. The saving effect of reforms in Mexico and Argentina cannot yet be ascertained; however, the gains to national saving are probably less in Mexico and Argentina than in Chile.

### MINIMUM BENEFIT GUARANTEES

One important determinant of long-term fiscal burdens is the distribution of risk between retirees and the government in a privatized system. If the government assumes much of the financial market risk by offering minimum benefit guarantees, it may continue to face sizable liabilities even though it introduced retirement ac-

counts for workers.<sup>1</sup> Because governments generally finance guarantees on a pay-as-you-go basis, the guarantees constitute an ongoing unfunded liability.

Minimum pension guarantees come in two forms: a universal pension independent of need, like those in Argentina and the United Kingdom, and a pension for workers with insufficient resources, like pensions in Australia, Chile, and Mexico. A universal pension can be more costly than the latter type of pension because it is paid to every worker with sufficient years of coverage. Pensions based on need, however, can also be costly if they entice workers to save and work less and if they are generous compared with the average wage.

The long-term costs of Argentina's and the United Kingdom's universal pension differ considerably. The United Kingdom not only curtailed the benefits paid by the earnings-related pension but also changed the indexation of the basic state pension. As a result, the basic state pension will decline from 15 percent of average wages for male workers today to about 9 percent in 2030. Moreover, only workers with 40 or more years of coverage receive a full pension. By contrast, the Argentine basic pension is indexed to the change in wages and currently pays almost 28 percent of the average wage.

Both the Mexican and Chilean systems guarantee a pension to workers whose retirement accounts are too small to finance a benefit exceeding the minimum pension. By setting the minimum benefit equal to the minimum wage, or at about 40 percent of average earnings, however, the Mexican system is more generous and thus potentially more costly than the Chilean system. The Chilean minimum pension has fluctuated between 60 percent and 90 percent of the Chilean minimum wage, equaling about 25 percent of average earnings.

Australia's minimum benefit guarantee differs from Chile's and Mexico's by imposing a means test on all assets and income. The Chilean and Mexican systems implicitly perform an asset test on pension accounts. Moreover, of the five countries, Australia is the only one that allows unlimited lump-sum withdrawals while offering a government pension, inviting workers to game the system. That behavior may hinder the reduction of the government's burden in the future.

---

1. Kent Smetters, "Privatizing Versus Prefunding Social Security in a Stochastic Economy," Technical Paper No. 1998-2 (August 1998), available from CBO's Macroeconomic Analysis Division.

---

## REGULATION OF PENSION FUNDS

---

The five countries discussed in this paper use basically two types of pension fund regulation. The United Kingdom and Australia have left investment choices largely unregulated, relying simply on the prudent-man rule. By contrast, Argentina, Chile, and Mexico have imposed fairly strict regulatory requirements on their pension industry. The strictness of the regulation seems to be related to the maturity of the respective countries' capital markets.

Of the countries studied, the United Kingdom is the country with the least regulatory interference. Workers are free to choose their pension fund from a large variety of investment firms, banks, and other pension providers. The firms' managers must give their customers reliable advice and diversify investments, but no specific limits are placed on certain investment instruments. Because the U.K. system allows workers to opt out, it was originally prone to overzealous sales practices. Moreover, the lack of a uniform fee structure causes a potentially confusing variety of pension fund fees and commissions. U.K. investments are much more broadly diversified than those held by Latin American pension funds, however, leading to a broader supply of funds with differing risk and return properties.

Australian regulators also interfere little in investment choices, only restricting investment of funds in the company of the sponsoring employer. Because most workers cannot choose their investment fund, however, Australia has not had a problem with high-pressure sales practices as has the United Kingdom. Moreover, with the growing importance of the superannuation sector, the government has increased its supervisory efforts to prevent unwise investment practices and fraud. Because investment funds cannot compete for individual workers, however, the funds' portfolios may not coincide with a worker's risk preferences. In fact, some consider the Australian investment practices too conservative.

Chile and Argentina heavily regulate their pension funds. In both countries, funds face minimum return requirements, investment limits, and strict oversight by a supervisory authority. In addition, each fund may offer only a single portfolio. As a result, investment firms tend to have similar portfolios, basing competition more on services offered than on portfolio choices and investment performance. Moreover, firms may charge commissions and fees only on new contributions—not on assets. On the one hand, such a regulation improves the transparency of the fee structure and reduces costs for low-income workers with less steady employment and inactive accounts; on the other hand, it substantially reduces the net investment returns of new contributions and forces active contributors to subsidize the accounts of non-contributing account holders.

Mexico also heavily restricts pension funds: they must meet stringent requirements and are controlled by a supervisory commission. According to the current

plan, however, Mexico's system will eventually allow workers more choices than the Argentine or Chilean system. In Mexico, each pension fund will offer a variety of investment portfolios, allowing workers to allocate their accounts among several mutual funds. Moreover, the Mexican system permits a variety of commissions and fees, including a charge on assets.

### COSTS OF PENSION ACCOUNTS AND ANNUITIES

The cost of administering a system of personal retirement accounts is the subject of much discussion. Although the countries studied in this paper have differing regulatory environments and methods by which to transfer money to personal retirement accounts, a clear range of costs emerges from the countries' experiences.

In Chile and Argentina, where the structure of the pension fund industry is broadly similar, expenses for fees and commissions generally vary between 2.5 percent and 3 percent of wages, excluding the fees for disability and survivor insurance. Those costs translate to about US\$50 per contributing worker each year, which is similar to the costs of U.S. employer-sponsored pension plans. Nonetheless, the administrative costs of the U.S. Social Security system (excluding disability insurance) are currently less than \$14 per contributing worker. Because economies of scale are large in providing pensions, such a comparison must be made cautiously, however. The old pay-as-you-go systems in Chile and Argentina also had much higher costs than the U.S. Social Security system. Because Chile and Argentina do not permit asset-based fees, all fees and commissions are levied on initial contributions, resulting in a declining cost measured as a share of pension fund assets as more funds accumulate. In fact, Chile's costs are now about 1 percent of accumulated pension assets, which is similar to the average cost of managed mutual funds in the United States.

Mexico's cost structure resembles that of Chile and Argentina. Mexico's fairly young system has not yet settled into a final structure. However, Mexico's pension funds that only charge front-loaded fees have costs similar to their Argentine and Chilean counterparts.

In the United Kingdom, the government does not regulate the fee structure of pension plans. Given the variety of plans and portfolios, clearly assessing the overall cost of fees and commissions is difficult. U.K. funds may cost about 1.5 percent of assets per year, according to one estimate. Another estimate puts the average cost at a fee of 9 percent of contributions, combined with asset-based charges of 0.6 percent. The United Kingdom's costs are also high because people may opt out of the government's plan, and many of those who do so make infrequent contributions to their pension accounts.

In Australia, different pension funds have different cost structures because the superannuation funds are not unified but consist of industry, corporate, and retail funds. Funds with a large number of stable contributors have low costs, sometimes less than \$15 per account holder. Those funds can make use of the economies of scale. Small funds and retail funds (which are similar to mutual funds in the United States) tend to be costly, sometimes extremely so, with annual fees exceeding \$100 per account holder.

The costs of annuities are difficult to evaluate. In Chile, annuities are reportedly fairly expensive but nonetheless a popular choice, especially among retirees with account balances sufficient for them to retire early. The extent to which Chilean annuity companies separate the market into risk classes is unclear. The U.K. annuities market suffers from imperfections like those in the U.S. market: people with above-average life expectancy are more likely to purchase annuities than people with below-average life expectancy. The same seems true for Australia, although no data are available. Argentina's and Mexico's annuities markets are largely undeveloped.