Private Alternatives To Social Security in Other Countries

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Executive Summary

Social security programs in most countries, including the United States, follow the model first adopted in Europe: they are financed by mandatory payroll taxes and provide benefits to current retirees. A financial crisis facing these pay-as-you-go systems is approaching rapidly as fertility rates decline and life expectancies increase worldwide.

A growing number of countries have taken steps to avoid the crisis by allowing workers and employers to choose private alternatives to their public retirement systems:

- At least 20 countries have introduced forced savings programs, requiring workers to save for their own retirement.
- A broad number of countries either have partially privatized their systems or have a private option.
- Some countries require employers to provide pensions on top of the traditional social security program.

This study contains case studies of particularly innovative alternatives to traditional social security.

- Singapore's Central Provident Fund (CPF) requires employees and employers to contribute jointly to individual accounts, which may be used not only for retirement and for hospital expenses but also for such purposes as financing college tuition or purchasing a home.
- Chile, the first nation in the Western Hemisphere to adopt a social security system, became the first nation in the world to dismantle its public system, replacing it with the equivalent of Individual Retirement Accounts and affording workers both greater freedom of choice and higher retirement income.
- Britain allows employers and workers to opt out of the earnings-related tier of public social security by setting up private plans that promise benefits at least as generous as the public system.

These privatized systems shift from a public pay-as-you-go-system to a fully funded system in which each generation provides for its own retirement. In the process, they avert the long-term financial crisis of traditional systems and encourage saving, which in turn generates additional economic growth.

Introduction

The United States Social Security system follows a model first adopted in Europe. It is financed by mandatory payroll taxes that fund government-paid benefits. The system operates on a pay-as-you-go basis, which means that the funds paid by workers and their employers are not saved and invested to finance the future benefits of those workers. Rather, most of the funds are paid out immediately to finance the benefits of current retirees. The benefits to be paid in the future to today's workers are to be financed out of the future taxes to be collected when today's workers are in retirement.

While most countries in the world today have similar social security systems, a large and growing number of countries have retirement systems that differ from this traditional model. Many countries now allow workers and employers to choose private alternatives to their public systems. Some rely completely or partly on the private sector with no public system. Others operate fully funded rather than pay-as-you-go systems. Under these fully funded models, each worker's payments are saved and invested for his or her own future benefits, rather than immediately paid out to retirees.

"For the United States and other countries with a traditional model of social security, financial crisis is imminent."

This study reviews alternative social security programs around the world. After an overview, it presents case studies of some of the most interesting examples.

For the United States and other countries with a traditional model of social security, financial crisis is imminent. The alternatives point to a way of avoiding this crisis. After describing the problems traditional systems face, the study examines the alternative solutions.

Systems With a Private Option[1]

The most striking example of privatization is the social security system of Chile. More than 90 percent of Chilean workers chose the private option soon after it was announced in 1981. Chile's reform has been such an overwhelming economic and political success that similar reforms have recently been adopted in Argentina and Peru, and other countries across Latin America are implementing or considering similar reforms.

Much less well-known is that the United Kingdom adopted a private sector option in 1978. Britain has a two-tier social security system. One tier pays a flat amount to everyone. The second pays an amount related to past earnings. Instead of participating in the earnings-related tier, British workers have the option of choosing an employer pension plan or making deposits to the British equivalent of an IRA, and almost three-fourths of workers have done so.

Singapore is one of 20 countries that have provident funds or forced savings plans. Since 1955, Singaporeans have been required to save for their own retirement. Employees and their employers make monthly deposits to the Central Provident Fund. These deposits finance a wide range of programs and options, including the purchase of a home.

Detailed case studies of the Chilean, British and Singaporean systems are provided below. Virtually unknown, however, are the large number of countries that have at least partially privatized systems or a private option.

- In Switzerland, Denmark and Finland, the government provides everyone with a basic flat amount in retirement benefits that are means-tested to some degree. But the additional benefits related to income, analogous to the earnings-related tier in Britain, are provided by mandatory employer pensions.
- In Japan and Mauritius, the government pays a flat retirement benefit to everyone, plus additional benefits related to earnings during working years. But workers with private employer pensions or occupational plans providing at least equivalent benefits are allowed out of the public earnings-related system.
- In Greece, workers with approved employer or occupational plans providing at least equivalent benefits are allowed out of the entire public system.
- In Pakistan, employers provide survivors and disability benefits through private life and disability insurance.
- In Trinidad and Tobago and the Seychelles, the government requires participation only in a basic plan paying a flat amount in benefits to everyone. Payment into the earnings-related tier is voluntary, and workers can choose to pay into a private plan instead.

In addition, some countries with provident fund systems allow workers with equivalent private-sector plans to opt out of the public system entirely. These include India, Sri Lanka, Nepal, Fiji and Gambia. Malaysia allows such a voluntary opt-out for teachers, soldiers, the self-employed and domestic workers.

"A large array of countries have partially privatized systems or a private option."

Another 11 countries have no public social security system at all, leaving retirement benefits entirely in the private sector. These include Malawi, Burma (Myanmar), Georgia, Sierra Leone, Armenia, Azerbaijan, Bangladesh, Botswana, Somalia, Uzbekistan and Zimbabwe. In addition, in Ethiopia the system applies only to government employees or employees of government enterprises or associations, leaving all other workers to provide for their retirement privately.

Finally, several countries allow some portion of their workers to voluntarily opt in or out of social security:

- South Korea allows voluntary coverage for small businesses with fewer than five workers and for the self-employed including farmers and fishermen.
- Liberia allows voluntary coverage for small firms of under five workers, the self-employed, workers employed in their own family enterprise, intermittent workers and domestic employees.
- Besides South Korea and Liberia, the self-employed are free to choose whether to be in or out of social security in Germany, Thailand, Ireland, Belize, Palau, Panama, Costa Rica, Trinidad and Tobago, São Tomé and Principe, Ghana, St. Christopher and Nevis, Morocco, Burkina Faso and Iran.
- In Romania, farmers are free to choose whether to be in or out of social security. In Rwanda, this applies to all nonsalaried employees.
- In Jamaica, the Bahamas, Portugal, Togo, Cameroon and Guatemala, anyone in the country who is not covered by the public system can voluntarily join it.
- In Saudi Arabia, social security is voluntary for anyone employed by a small business with fewer than 10 employees. In Taiwan, social security is voluntary for small businesses with fewer than five employees.
- In Bahrain, Niger, the Philippines, Cyprus, Zaire and Guyana, those who leave social security-covered employment can voluntarily choose to continue coverage.

The success of the full-blown private options is recognized in a recent and comprehensive World Bank study that thoroughly recounts the success of Chile and other private options and strongly recommends the adoption of similar reform by countries around the world.[2]

Provident Funds

"Provident funds force workers to save for their own retirement."

Provident funds are forced savings plans. In most cases, the government invests the contributions for each worker to support that worker's future benefits. The retirement benefits paid are then equal to those past contributions plus interest. These systems consequently operate on a fully funded rather than a pay-as-you-go basis. Although governments often exert control over such funds, managing boards typically are composed of representatives of management and labor; all funds are contributed by employees and their employers; and employees have a property right to their share of the fund.

A policy of mandatory provident fund participation is, in effect, a policy of forcing workers to save for their own retirement. Typically, governments insist that the funds pay a minimum rate of return, and upon reaching retirement workers usually receive their accumulation in the form of a lump sum payment. In some countries, workers have the option of taking an annuity in lieu of a lump sum amount and, in any event, workers can use their lump sum distributions to purchase private annuities.

At least 20 countries have such provident funds. The countries include Fiji, Malaysia, Gambia, Nepal, India, Nigeria, Indonesia, Papua New Guinea, Kenya, Singapore, Kiribati (Gilbert Island), the Solomon Islands, Sri Lanka, Swaziland, Tanzania, Uganda, Vanuatu, Western Samoa, Yemen and Zambia.

"Many funds allow withdrawals for purposes other than retirement."

Although the primary purpose of provident funds is to provide savings for retirement (or benefits to survivors in the case of an early death), many of these funds also allow withdrawals for other purposes for which people voluntarily save. For example:

- Almost all provident funds allow members to withdraw their share of the fund in the case of permanent disability.
- In Kenya, withdrawals are allowed in the case of hospitalization; in India, withdrawals are allowed in order to pay for medical expenses; and part of the fund is designated for hospital expenses in Singapore.
- In Nigeria, Tanzania and Uganda, partial withdrawals are allowed in the case of unemployment.
- Withdrawals are also allowed to finance the marriage of a child in India; to purchase a home in Singapore, Malaysia, Papua New Guinea, Fiji and Zambia; for other types of personal savings in Zambia; and for investments in the capital market in Singapore.

Finally, a number of provident funds combine forced savings with insurance for certain types of contingencies. In general, these arrangements provide members and their families with benefits unrelated to the member's individual contributions. Specifically:

- In India, Indonesia, Fiji, Kiribati, Nepal, Malaysia, Western Samoa, the Solomon Islands, Uganda and Zambia, provident funds make special death grants or funeral grants to the surviving family.
- Life insurance is automatically provided by provident funds in India.
- Maternity grants are provided in Zambia.
- Means-tested allowances are paid to the elderly and to widows in Fiji.

Mandatory Employer Pensions

Some countries require employers to provide pensions on top of a traditional social security system that provides standard benefit levels. In Mexico, where this requirement was recently adopted, the policy is seen as the beginning step toward privatization. Employers must pay 2 percent of wages to investment accounts for each worker, and workers can make additional voluntary contributions, as they can under the system in Chile. These funds belong to the workers and are converted over the years by private investment companies. In retirement, the worker receives whatever defined contribution benefits the accumulated investment sum can support. The worker can either purchase an annuity paying specified benefits for life or make lump sum withdrawals. Over time, Mexico intends to begin expanding this system as an alternative to the traditional public system, following the Chilean model more closely.

Other countries that mandate employer pensions as a supplement to traditional social security are France, Bolivia and the Ivory Coast. There seems to be no movement in these countries towards substituting the employer pensions for the traditional system, though the private benefits may help to keep the public system from growing larger.

Excluded Workers

"Several countries exclude a significant portion of workers from social security."

Several countries exclude a significant portion of their workers from coverage under their public social security program, leaving those workers to provide for their retirement through the private sector.

- Jordan excludes employees of companies with fewer than five workers, agricultural workers, fisherman, seamen, the self-employed, family members working in family businesses and domestics.
- Saudi Arabia excludes businesses of fewer than 10 workers, agricultural workers, seamen, family workers and domestics.
- Pakistan excludes firms of under 10 workers, high-income earners, the self-employed and family workers.
- Sudan excludes businesses of under 10 workers, the self-employed, family workers, home workers (e.g., gardeners) and domestics.
- In Colombia, Venezuela and Iran, the social security system doesn't cover all regions of the country.
- In addition to the 16 countries that allow voluntary coverage for the self-employed, at least 24 other countries exclude them altogether from coverage.

- Besides Jordan and Saudi Arabia, El Salvador, Honduras, Iraq, Panama and Bahrain exclude some or all of their agricultural workers.
- Besides Jordan, Saudi Arabia, Pakistan and Sudan, small businesses are excluded from coverage in Thailand, Iraq, Pakistan and Bahrain.
- Family members working in family enterprises are excluded from coverage in Syria, the Dominican Republic, Ecuador, Ethiopia, Micronesia, Guyana, Jamaica, Ireland, Panama, the Philippines and Belize, in addition to Jordan, Saudi Arabia, Pakistan and Sudan, mentioned above.

"Only 61 percent of Latin American workers are participating in public social security programs."

Excluding the self-employed, small businesses, family workers and agricultural workers from social security can leave a large proportion of the population relying on the private sector outside the public social security system. Moreover, a substantial portion of the population in many of these countries operates in the informal sector of the economy, evading taxes, regulations and participation in programs like social security.

Indeed, according to the official estimates of Latin American governments, only about 61 percent of all Latin American workers are participating in public social security programs.[3] If Brazil is excluded, that figure drops to 43 percent. And this is probably an overestimate, because most Latin American governments underestimate the size of their informal, or underground, economies.

Welfare Means-Testing

Some countries have dropped the pretense of social insurance altogether. Their governments focus on providing assistance to those in need and leave everyone else to provide for retirement and insurance through the private sector.

The clearest examples of this approach are Australia and South Africa. In these countries, there is no payroll tax on workers and employers for social insurance. Instead, the government finances means-tested benefits for low-income retirees out of general revenues. All other retirement and insurance benefits are provided through the private sector.

This is very close to the system in Chile, where a means-tested minimum benefit provides a floor of income for all retirees. It also follows the model advanced as most desirable by the World Bank, with the government providing for those in need and the private sector performing everything else. These countries have in effect already privatized their systems, with the government performing only the redistributive role that would remain in the public sector under any privatization proposal.

Hong Kong has a similar system. The government finances all benefits out of general revenues with no payroll tax. The benefits are means-tested, except for a modest flat monthly amount paid to everyone starting at age 70 (the means-tested benefits start at 65).

In New Zealand, too, all benefits are financed out of general revenues with no payroll tax. But here a moderate, flat benefit is paid to everyone at retirement without a means test. All disability and survivors benefits are means-tested, however. The private sector then provides all retirement and insurance benefits above these amounts.

"In Australia and some other countries, government assists those in need and leaves retirement and insurance to the private sector."

Other countries combine general revenue financing and means testing with a traditional social security system. In Canada, the government finances a universal pension benefit entirely out of general revenues. That universal pension pays a mostly means-tested flat amount, with about one-third of the total going to all retirees regardless of means. Employers and employees pay payroll taxes for an additional earnings-related pension benefit.

Ireland has the same basic system except that employers pay part of the universal pension benefit through payroll taxes. In Italy and in Trinidad and Tobago, the government finances an entirely means-tested benefit out of general revenues, while employers and employees finance earnings-related pension benefits.

Other countries that include some general revenue financing and means testing include Belgium, the Bahamas, Norway, Kazakstan and Kyrgyzstan.

Case Study: Forced Savings Through a Provident Fund in Singapore[4]

Unlike countries that finance their social security systems on a pay-as-you-go basis, Singapore requires people to save for their own retirement. The institution through which the saving takes place is the Central Provident Fund (CPF).

In 1955, Singapore introduced a compulsory savings program that currently covers about two-thirds of the total labor force in the country.[5] While the accounts belong to the individual, monthly deposits are paid both by employees and their employers. Currently, the required contribution rate is 40 percent of wages, up to a salary ceiling of S$6,000 per month.[6] All compulsory savings, both at the time of deposit and at the time of withdrawal, are tax-exempt.

In the early years, the CPF invested its funds entirely in government securities, and withdrawals were essentially limited to lump-sum retirement benefits or survivors benefits. Over the years, the program has become more flexible, giving workers more control over the investment of their funds and expanding the withdrawal options. Today, the funds finance a wide range of programs and options. The CPF permits people to purchase homes, invest in financial instruments and nonresidential property, pay for health care, purchase various types of insurance, finance a college education and save for retirement. [See Table I.]

"Singapore has the highest rate of home ownership and the highest savings rate in the world."

Impact of the CPF. Singapore has demonstrated a pragmatic commitment to economic growth. Its program of forced savings has ensured a steady source of capital for investment and undoubtedly is responsible for the country's high economic growth rate. In addition, the CPF has facilitated widespread home ownership, with about 85 percent of the population living in homes they own — *the highest rate of home ownership in the world.*

Singapore's CPF currently has about 2.4 million participants with accounts totaling $57 billion, or 72 percent of GDP, at the end of 1994. The high rates of contribution, along with rising wages, have meant that the CPF system has been an important contributor to the fact that Singapore has *the highest savings rate in the world.* [See Table II.]

- Depending on how CPF saving is defined, it equals between 16.3 percent and 30.4 percent of gross national saving.
- Gross national saving, in turn, equals about 48 percent of GDP.

Rate of Contributions. When the provident fund system was introduced in 1955, the required rates of contribution were 5.0 percent of payroll for both employees and employers, up to a maximum of S$50 per month. Over time, those rates were steadily increased until they reached a total of 50 percent of salary (25 percent each for the employee and the employer) up to S$30,000 of annual salary in 1984. Today, the rate of contribution for both employers and employees is 20 percent. Thus residents of Singapore are forced to save 40 percent of their incomes.[7]

Types of CPF Accounts. Members maintain three accounts with the Central Provident Fund Board — Ordinary, Medisave and Special accounts. Among these three, the total contribution of 40 percent of income is divided as follows:

- 30 percentage points go to the Ordinary account, which can be used for housing, approved investments, certain types of insurance, loans for college expenses and topping-up parents' retirement accounts.[8]
- 6 percentage points go to the Medisave account for hospitalization expenses.[9]
- 4 percentage points go to the Special account for old age and contingencies.

TABLE I

Components of the Singapore CPF System

Purpose	Program	Year Introduced
Home ownership[1]	Approved Housing Scheme	1968
	Approved Residential Property Scheme	1981
Investment[2]	Singapore Bus Services (1978) Ltd Share Scheme	1978
	Approved Investment Scheme	1986[a]
	Approved Nonresidential Properties Scheme (ANRPS)	1986
	Share-Ownership Top-Up Scheme (SOTUS)	1993
Insurance[3]	Home Protection Insurance Scheme	1982
	Dependents' Protection Insurance Scheme	1989
	Medishield Scheme	1990
Others[4]	Company Welfarism through Employers' Contribution (COWEC) Scheme[b]	1984
	Medisave Scheme	1984[c]
	Minimum Sum Scheme	1987
	Top-Up of the Minimum Sum Scheme	1987
	Financing of Tertiary Education in Singapore	1989
	Edusave Scheme	1992
	CPF Top-Up Scheme	1995

[a] From October 1, 1993, divided into the Basic and Enhanced investment schemes.

[b] Present status of the scheme is unclear.

[c] From 1993, self-employed persons must contribute to the Medisave scheme.

[1] CPF funds can be used to purchase government-built housing (usually an apartment) or, for those who can afford it, private residential property.

[2] These programs permit people to use a portion of their CPF funds to invest in more lucrative ventures than the CPF, such as stocks, gold or commercial real estate.

[3] There are a range of insurance options that reimburse for catastrophic loss by paying off a mortgage should the worker become disabled or die, paying life insurance to dependents and paying medical expenses.

[4] The government has installed a number of schemes that provide for social expenses that would be covered by welfare in other countries such as health care, retirement income and education.

TABLE II

The CPF System: Financial Statistics

(Money amounts in S$ millions)

Excess of Contributions Over Withdrawals (During Period)	2659.8	2772.6	1874.5	2633.5	935.5	149.3	974.6	2444.0	3170.7	3436.5	3609.9	(522.2)	3987.0
Members' Contributions	3901.1	449.0	5385.2	5993.4	4777.8	4446.8	4985.1	6107.5	7174.2	8101.4	9208.2	10427.0	11279.0
Withdrawals:	1241.3	1718.4	3510.7	3359.9	3824.3	4297.5	4010.5	3663.5	4003.5	4664.9	5418.3	10949.2	7292.0
(Percent of total)													
Approved Housing Schemes[a]	64.2	65.3	76.7	76.4	69.2	61.6	69.2	65.9	56.4	64.3	66.7	32.1	48.0
Under Section 15[b]	33.1	33.8	21.2	20.9	22.9	17.4	19.6	22.9	25.5	20.5	18.7	10.8	18.7
Medical Schemes[c]	na	na	0.5	1.3	2.7	3.3	4.2	4.9	5.9	5.7	5.1	2.7	3.8
Others[d]	2.7	0.9	1.6	1.5	5.1	17.7	7.0	6.3	12.1	9.4	9.5	54.4[e]	30.0
Implicit interest rate paid to members[f]	5.4	5.5	5.7	5.7	5.3	3.8	2.9	3.0	3.5	4.3	3.6	2.5	2.5
Inflation Rate:													
Consumer Price Index	3.9	1.2	2.6	0.5	(1.4)	0.5	1.5	2.4	3.4	3.4	2.3	2.4	3.1
GDP Deflator	4.2	3.9	0.7	(1.2)	(2.5)	0.8	5.5	5.2	5.9	3.5	2.1	2.4	3.6
Real Interest Rate[g]	1.2	1.6	5.0	6.9	7.8	3.0	(2.6)	(2.2)	(2.4)	(0.8)	1.5	0.1	(0.6)
Members' Balances (End of Period)	15655.5	19504.7	22670.4	26834.1	29341.4	30607.8	32529.3	36051.6	40646.4	46049.0	51526.9	52334.3	57649.0
Members Balances (As % of GDP)	46.4	53.4	57.3	68.9	74.0	70.6	67.5	68.5	70.9	75.4	79.6	73.5	72.0
Members (thousands)	1725.3	1778.9	1852.5	1891.7	1933.8	1988.5	2063.4	2126.9	2195.2	2255.7	2322.8	2456.4	2521.8
Contributors (thousands)	927.5	917.9	943.0	889.6	912.0	935.3	963.8	988.6	1021.7	1052.4	1074.0	1107.1	1138.9
Contributors/Labor Force (15 years & over)	74.0	70.9	72.3	69.1	70.2	70.4	69.9	69.4	65.4	67.7	66.3	67.7	67.3
Contributors/Members	53.4	51.6	50.9	47.0	47.2	47.0	46.7	46.5	46.5	46.7	46.2	45.1	45.2

Notes: na = not available

a = Housing schemes include public housing and residential properties schemes.

b = Section 15 of the CPF allows withdrawals on any of the following grounds: (i) member having reached the age of 55 years; (ii) leaving Singapore and West Malaysia; (iii) physical incapacity; (iv) unsound mind; (v) death; (vi) Malaysian citizen (leaving Singapore).

c = Medical schemes include Medisave and Medishield.

d = Includes various investment schemes, financing of tertiary education in Singapore, minimum sum scheme and others.

e = Sharp increase in the share of this category in 1993 was due to withdrawals for purchases of divested shares of Singapore Telecom.

f = Calculated as interest credited to members' balances (during period)/members' balances (end period)

g = Calculated as the difference between the implicit rate of interest and the GDP deflator.

Sources: Calculated from Republic of Singapore *Yearbook of Statistics*, various years, in Mukul G. Asher, "Compulsory Savings in Singapore: An Alternative to the Welfare State," National Center for Policy Analysis, NCPA Policy Report No. 198, August 1995.

"The Singapore health care system relies in large part on individual self-insurance through Medisave accounts."

Medisave Accounts. Beginning in 1984, the government of Singapore extended its program of forced savings to require that a certain portion of CPF contributions be put into a Medisave account to fund hospitalization both during a person's working life and during retirement.[10] These accounts permit Singapore citizens to self-insure for medical expenditures that would, for most Americans, be paid by third-party insurance.

Currently, 6 percent to 8 percent (based on age) of an employee's salary is placed in a Medisave account, with a monthly maximum contribution of S$360, until the balance reaches S$17,000.[11] Once that total is reached and maintained, additional contributions are automatically placed in an individual's Ordinary account. At age 55, a minimum balance of S$11,000 must be left in the account to pay medical bills during the years of retirement. Any excess may be withdrawn. Contributions above that figure are automatically transferred to the Ordinary account.

The Singapore health care system relies in large part on individual self-insurance rather than third-party insurance, and its hospital system accommodates people with different spending preferences. Thirteen of the country's 23 hospitals are run by the Ministry of Health. The other hospitals are private. Hospitals run by the government offer four levels of rooms, or "wards," which receive different levels of government subsidies.[12]

Over the years, as Medisave accounts have grown, so has the desire for the higher-class accommodations. According to one study, patients opting for the top level of accommodations grew from 2 percent in 1982 to 8 percent in 1992, while the number choosing a private hospital, where patients receive better accommodations, grew from 16 percent to 24 percent during the same time period.[13]

The Medishield Option.[14] While most Singapore citizens can use their Medisave funds to cover smaller health care expenditures, most accounts are not large enough to cover an expensive, catastrophic illness. In an effort to cover this shortfall, the government created the Medishield program in 1990 to provide catastrophic insurance.[15] Medishield is neither need-based nor income-based. Eighty-eight percent of those eligible have opted for it. Annual premiums vary with age, and it is available to members up to age 70.

Singapore's health care system is a notable success. While the United States has been spending about 14 percent of its GDP on health care, Singapore spent only about 3.1 percent in 1992, yet its basic health statistics (average life expectancy, infant mortality rate, etc.) are equivalent to those of other developed countries in Asia. Moreover, Singapore achieved its health status with the lowest relative GDP investment of 58 developing economies.[16]

Nevertheless, Singaporeans have greater access to high-technology services than do individuals in Canada and many European countries — and at reasonable cost.[17] Moreover, hospital utilization compares to that of American health maintenance organizations, which aggressively limit hospital stays.[18] In Singapore, however, the length of hospital stay is a physician-patient decision, not a bureaucrat's or manager's decision.

Home Ownership. Members are allowed to withdraw CPF savings for the down payment (usually 20 percent) and monthly mortgage payments for the purchase of approved housing.[19] They must repay to their CPF accounts the amount they withdraw — with interest — if they sell the property before reaching age 55.[20] This program has been enormously successful. About 85 percent of Singaporeans own their own homes, the highest rate of home ownership in the world.

Insurance Options. Three types of insurance programs are a part of the CPF system: mortgage payment insurance;[21] term insurance against death or permanent incapacity before age 55; and Medishield, the catastrophic insurance discussed above. Mortgage payment insurance is required for members purchasing public housing from CPF funds. Although life and disability insurance are optional, about 80 percent of the eligible members have opted for them.

College Expenses. Members may borrow from their Ordinary account to pay expenses for attending or sending a family member to college in Singapore. The amount has to be repaid, however.

"At age 55, CPF members can withdraw from their accounts all money above S$40,000."

Retirement Income. When a CPF member reaches age 55, he is permitted to withdraw from his account all money above S$40,000, which the government requires be left in the account. Two-thirds of CPF members reaching age 55 have accounts exceeding the minimum sum, and most withdraw all but the minimum and apply their money to other, more lucrative investments.

At least S$4,000 of the S$40,000 minimum must be in cash, and the remaining amount may be a member's pledged property.[22] However, if a member sells this property, he must ensure that the CPF board gets the required minimum amount in cash. A member may dispose of the minimum sum in one of three ways:

(1) *Obtain a fixed-term annuity from the CPF board.* The board will pay a fixed monthly amount to the member beginning at age 60 and continuing until the account is exhausted.

(2) *Obtain an annuity from a private insurance company.* The member can purchase a fixed-term annuity or any annuity that pays until death from CPF-approved companies.

(3) *Place the funds in banks as fixed deposits.* Under this option the bank has instructions from the CPF to release only a certain amount on a regular basis, similar to the first option.

Because the first option provides such a low rate of return on investment, most people choose one of the others.

"Individuals can use their funds for a large number of permitted investments."

Investment Options. Prior to 1978, individuals had no control over the investment of the funds accumulating in their accounts. Beginning that year, the government allowed individuals to transfer funds from their Ordinary account to a special account in which investment decisions are made by the account holder. The range of permitted investments was gradually expanded, and employees now can use funds in their special accounts to purchase stocks on the Singapore stock exchange, bonds, gold or gold certificates, shares of mutual funds and other investments.

Since January 1, 1995, members have been allowed to buy foreign stocks and bonds. Initially, they could invest only in foreign securities listed locally or on the stock markets of Hong Kong, Malaysia, South Korea, Thailand and Taiwan. Now, they may invest in regional markets through approved CPF managers. Approved CPF unit trusts will be permitted to invest in these markets beginning in 1997. Beginning in 1999, investments in the stock markets of the United States and other Western countries, purchased through approved fund managers or unit trusts, will be permitted.

An Evaluation

Singapore policymakers have shown considerable ingenuity in adapting the CPF system to serve not only social security but also other ends. This use of different accounts for different targeted purposes encourages members to spend money on some goods and services such as housing and health care rather than on others. In effect, Singapore has targeted certain "merit goods" — goods that are often provided by government in other countries — and devised a system that ensures that most people will be able to purchase them.

The most obvious defect in the Singapore system is that it relies on heavy government control of the accounts, although its investment policies have been liberalized significantly in recent years. Nevertheless, Singapore's CPF provides U.S. policymakers with a good example of how much can be accomplished when a social security system relies on individual work and responsibility rather than government benefits for retirement.

Singapore also has developed one of the world's most innovative ways of paying for health care — a vast system of individual self-insurance. Although it has provided a few safety net features for the very poor, the government of Singapore expects each individual to pay his or her own way and forces people to save for needs met by governments in most other countries.

Case Study: Privatization Through IRA Accounts in Chile[23]

Chile was the first nation in the Western Hemisphere to adopt a social security system, establishing its program in 1924. Chile also is the first nation in the world to dismantle a public social security system through sweeping privatization. To the extent that the Chilean system involves forced saving for retirement and adverse contingencies, it has much in common with the provident fund systems of Singapore and other former British colonies. Yet because Chile allows competition among private companies that manage the individual savings accounts and because workers are free to choose among portfolio managers, the Chilean system in many ways resembles a U.S.-type IRA system.[24]

The Old Social Security System

"Chile, the first Western Hemisphere nation to adopt a social security system, was the first in the world to privatize."

The old Chilean social security program was patterned after the traditional social insurance programs of Europe. The system paid retirement, survivors and disability benefits and was financed by a payroll tax that eventually climbed to well over 20 percent of wages. The employer usually paid more than half of this tax, and employees paid the remainder. At times, the system accumulated some reserve funds, which were invested, but it was far from fully funded. Instead, it tended to operate on a pay-as-you-go basis. In the years prior to its dismantling, revenues were routinely insufficient to pay promised benefits. In 1980, general tax revenues financed 28 percent of the system's benefits, and the annual social security deficit was projected to grow sharply in future years.

The old system actually consisted of many separate social security systems: one for manual workers, one for salaried employees, one for government workers and about 50 additional programs for workers in different occupations and different locations. One unfortunate consequence of this diversity was that the groups with the greatest political influence had the most favorable programs. For example:

- Some workers paid lower payroll taxes than other workers for similar benefits.
- Some salaried workers received retirement benefits equal to 100 percent of average wages for their last five years of employment, while manual workers received only 75 percent.
- Some workers were allowed to collect benefits after only 35 years of employment, while the general system for manual workers had a retirement age of 65.
- Under the general system for salaried workers, pensions in payment were indexed for at least two years, whereas the general system for manual workers had no automatic inflation-indexing.

The special benefits and tax breaks almost always favored politically stronger, higher-income workers. Low- and middle-income workers usually had to pay higher taxes to finance these special benefits.

Widespread evasion of the payroll taxes added to the system's problems. Workers who knew they would not qualify for more than the minimum benefit (unrelated to contributions) often would collude with their employers to underreport wages so both could pay less in payroll taxes. Workers who expected more than the minimum benefit also would collude with their employers to underreport earnings prior to their last five years of work, because earnings in earlier years were not counted in calculating benefits.

The social security funds that accumulated were poorly managed. Administrators of the funds were subject to political influence in making investment decisions, and they sometimes invested funds in projects managed by friends or business associates. As a result, the funds often earned a low rate of return and capital was not allocated to its most productive uses. Such practices made the Chilean economy less efficient and slowed its rate of economic growth.

"Many Chilean retirees saw the real value of their benefits decimated by inflation under the old system."

Finally, since pensions in payment were either not indexed for inflation or had only limited indexing, many retirees saw the real value of their benefits decimated during the 1970s, when annual inflation rates under the Allende regime exceeded 1,000 percent.

The New Social Security System

In 1981, the government of Chile adopted sweeping reforms to address the problems. The reforms created a new system relying on private, fully funded retirement investment programs rather than a public social security system. Under the reform, workers who had participated in the old system were given the option of switching to the private system prior to 1986. All new entrants into the labor market are required to participate in the private system.

Retirement Pensions. Under the new system, each worker who opted for private coverage is required to make a monthly tax-deductible contribution equal to 10 percent of wages to an individual pension savings account. The worker can voluntarily make additional tax-deductible contributions of up to 10 percent of wages. These funds are invested, and the investment income accumulates tax free.

The government has authorized 21 private investment companies, known as Adminstradoras de Fondas de Pensiones (AFPs), to administer and invest the individual account funds. The companies were specially created for this purpose and are not allowed to engage in other business or financial activities.[25] Several American investment firms are now involved in owning and operating AFPs. New York-based Bankers Trust has a 42 percent ownership share of the largest AFP, Provida, which holds 25 percent of the private system's assets. Aetna Life and Casualty of Hartford owns 51 percent of the second-largest AFP, Santa Maria.

"Workers in Chile are required to place their accounts with one of 21 investment companies, although they can switch their accounts as often as once a month."

Workers are required to place their account with one of the 21 investment companies, although they can switch their accounts among the companies on short notice. The companies can invest in government and corporate bonds, mortgages, stocks, bank certificates of deposit and other financial instruments, but they are required to hold a diversified portfolio with limited risk.[26] At the end of 1990, the AFPs had invested 44.1 percent of their funds in government bonds, 17.4 percent in bank time deposits, 16.1 percent in mortgage bonds, 11.3 percent in common stocks and 11.1 percent in corporate bonds. Until now, investment in foreign stocks has been prohibited, but reforms expected to be adopted soon will allow some foreign investment. Each company is required to provide a minimum rate of return on pension account funds, set as an average of the percentage of the average return earned by all 21 companies. The government guarantees this minimum return, which in effect means that the government is the insurer of last resort.

At retirement, workers can use the funds accumulated in their accounts to finance their retirement benefits in one of three ways:

- They can use all of their funds to buy an annuity from an insurance company that pays a specified annual income for life plus survivors benefits for their dependents, backed by a government guarantee.
- They can keep their account with the investment company and make periodic withdrawals, leaving the remaining funds in their estate to be passed on to their children or other heirs.[27]
- If they have more than enough funds in their accounts to pay normal expected benefits, they can withdraw the excess as they choose.

The amount of retirement benefits an individual will receive depends on the rate of return earned by the private account investments. But the reform was designed with the expectation that workers contributing the required amounts into the new system over their entire working lives would, with normal investment returns, receive retirement benefits equal to 70 percent of their final salary, plus survivors benefits. These survivors benefits are to equal 50 percent of the worker's retirement benefits for a surviving spouse or dependent parent, and an additional 15 percent for each dependent child. This is a high benefit level, since 70 percent of final salary generally is considered sufficient by itself to enable retirees to maintain the same standard of living they enjoyed during their working years. By contrast, the U.S. Social Security system pays about 42 percent of previous income for average income workers. Some estimate that retirement benefits under the new system are 70 percent higher than under the old system.

The general retirement age under the private system is 65 for men and 60 for women. Workers may retire earlier if they have accumulated sufficient assets to pay at least 50 percent of their average earnings over the previous 10 years and 100 percent of the minimum wage. Workers also may choose to retire later, with their funds continuing to accumulate and ultimately paying commensurably higher benefits.

The government guarantees a minimum pension benefit to all workers under the new system, supplementing the worker's private benefits to the extent necessary to achieve the minimum. The amount of this minimum benefit is 85 percent of the minimum wage, increased to 90 percent for retirees age 70 and over. Chile's minimum wage is about half of its average wage. Consequently, the minimum pension benefit guarantee under the new system is equal to about 40 percent of average wages, which is about what the U.S. Social Security system pays to average income workers.

"The government guarantees a minimum pension benefit to all workers."

Survivors and Disability Insurance. Workers under the new system also are required to contribute additional funds for the purchase of private life and disability insurance. These funds go to the worker's AFP and are used to purchase coverage from private insurance companies. The additional contributions for this purpose vary among the AFPs, but average 1.5 percent of wages.

The private insurance policies replace the benefits paid by the old system for disability or death occurring during the worker's preretirement years. The disability policy, along with funds accumulated in the worker's retirement account, pays a monthly benefit for the rest of the worker's life equal to 70 percent of average earned wages during the 12 months prior to disability. The life insurance policy, along with the worker's retirement funds, pays the same benefit (as a percentage of income) to a surviving spouse, dependent parents and dependent children as is paid to the survivors of retirees (described above). The disability benefits under the new system amount to at least twice as much as under the old system, and the new system's survivors benefits are at least 50 percent more. In addition, the government guarantees the same minimum benefit for disability as for retirement, and it guarantees minimum survivors benefits as well.

Total Contributions. Counting administrative fees for the AFPs that reportedly are as low as 1 percent of wages on the average, required payments under the new system total about 13.0 percent. This represents a reduction of about 40 percent from the total taxes paid into the old system. [See Table III.]

Inflation Indexing. All benefits under the new system are indexed for inflation. The contracts for retirement annuities are written to leave the insurer responsible for maintaining the real value of promised benefits each year. Similarly, the contracts for disability and life insurance protection require the insurer to maintain promised benefits in real terms. The government-guaranteed minimum benefit also is indexed for inflation. This inflation protection is possible because the private capital market regularly pays a rate of return in excess of the rate of inflation. Indeed, the many investments are made in real terms, with the borrower obligated to pay back the real value of the loan plus a fixed amount of real interest.

The new system is entirely denominated in terms of a separate currency (la Unidad de Fomento or UF), whose value is adjusted for inflation each month by the government so that each unit of the currency maintains a constant value in real terms. All benefit amounts, individual investment account totals and investment returns under the new system are expressed in this currency so that real values adjusted for inflation can be easily determined.

Making the Transition

"Employers were required to pay workers an 18 percent wage increase at the time the new system was adopted."

Under the new system, employers no longer pay payroll taxes. But they were required to pay all workers an 18 percent wage increase at the time the reform was adopted.[28] For workers under the new system, this meant a net increase of about 10 percent in take-home pay, after they made the required contributions for retirement and survivors and disability insurance. Since employers no longer pay payroll taxes, workers continuing under the old system now bear the full burden of the payroll tax for that system. With the mandated 18 percent wage increase, workers remaining in the public system were left with about the same take-home pay as before the reform.

As stated before, workers who were participating in the old system at the time of the reform could opt to remain in the public system or switch to the new private system. For those who made the switch, the government issued special nontransferable bonds — called recognition bonds — to compensate them for their past contributions to the old government system. The bonds represented a sum roughly equal to the proportion of benefits already earned under the old system by past contributions. The sum is indexed to increase with inflation and earns interest until the worker retires. At that time, the accumulated sum is added to the funds in the worker's individual retirement account and is used to finance the worker's retirement benefits. Workers who switched to the private system also are eligible for the government-guaranteed minimum benefit. Between these minimum benefits and the recognition bonds, *all workers who switched to the private system are assured of receiving benefits at least as high as promised under the old system, and probably higher*.

The government finances the recognition bonds, minimum benefits and benefits currently being paid under the old system out of general revenues. The reform also abolished an additional payroll tax of more than 10 percent, which financed unemployment insurance, workmen's compensation and

"*All workers who switched to the private system were assured benefits at least as high as under the old system, and probably higher.*"

TABLE III

Comparison of Old Social Security System and New Private System in Chile

Taxes and Contributions:

Old Social Security System (Retirement, Survivors & Disability Benefits)	22% or more
New Private System	
Retirement Benefits	10%
Disability and Life Insurance	1.5%
Administrative Fees	1-2%
Total	12.5% - 13.5%

Note: Workers paid less than half of payroll tax under the old system, but they received an 18 percent wage increase under the new system, resulting in a net reduction in taxes or contributions of about 10 percent of wages for those who chose the new system.

Benefits:

Retirement benefits are at least 50 to 70 percent higher under the new system.

Disability benefits are at least twice as high under the new system.

Survivors benefits are at least 50 percent more under the new system.

family assistance benefits. These benefits are now paid out of general revenues, and a value-added tax was adopted to help finance them.

Benefits of Privatization

The reform has been highly popular and highly successful. More than 90 percent of the workers in the old state-run social security system have now opted for the new private system. Workers who did not do so were mainly those close to retirement without enough working years left to qualify for minimum benefits under the new system.

Moving to a Fully Funded System. The new system completely avoids the chronic long-term financing problems of the old system because benefits are based strictly on the accumulated savings of the worker. Consequently, general revenue contributions to cover chronic deficits and payroll tax increases to close long-term financial gaps will no longer be needed.

Freedom of Choice for Employees. The new system increases workers' freedom of choice and gives them control over their own resources. Specifically:

- Workers are free to choose which investment company will handle their funds, so they can pick the institution that offers the investment strategy they prefer.
- The private retirement investment accounts are completely portable, following the worker from job to job, so the system does not restrain choice in employment.
- Workers can contribute additional funds to their accounts, up to double the required 10 percent of wage income. With the additional contributions, workers can retire early or receive higher benefits at the normal retirement age.
- Workers can delay their retirement without penalty, increasing the benefits they will receive at a later retirement age.
- At retirement, workers can purchase an annuity that provides a fixed monthly income, or they can make periodic withdrawals from their accounts and leave the remainder for their heirs.

"The new system increases workers' freedom of choice and gives them control over their own resources."

The Performance of Private Funds. In contrast to the public bureaucracies that administered funds under the old system, the new retirement account funds are administered by private companies subject to intense competition. Workers have the legal right to shift account funds from one company to another. They also have access to instant information regarding their funds and receive regular quarterly reports.

The investment companies are strictly regulated to avoid political influence or personal favoritism in making investment decisions — a common practice under the old system. Furthermore, unbiased investment decisions are in each company's self-interest. To remain competitive, each investment company must make investment decisions based on economic considerations alone. As a result, the new system tends to produce high returns on investments and to allocate funds to Chile's most productive uses, as indicated by the private capital market. The more efficient allocation of capital in turn means higher productivity, output, income and economic growth.

The investment returns on funds in the private retirement accounts have been quite high. The latest available data show that the funds have earned an average *real* rate of return of 13 percent since the new system was adopted. This performance has greatly exceeded expectations and would result in substantially higher-than-projected benefits, even if returns should fall substantially in future years. As a result of the heavy participation in the new system and the high returns earned on retirement investments, the retirement funds have grown quite rapidly:

- By the end of 1990, the total assets of the AFPs equaled about 25 percent of the total assets of the entire banking system.
- By the end of 1992, AFP assets were equal to about 40 percent of Chile's entire GDP.
- The savings rate in Chile is reportedly more than 25 percent, which the government attributes primarily to the social security reform.

Higher Benefits, Lower Payment. Through this performance of the private funds, workers in Chile will receive far higher benefits than under the old system, while paying far less. As indicated above:

- Retirement benefits under the new system are estimated to be at least 70 percent higher than under the old system.
- Disability benefits under the new system are at least twice as high.
- The new system's survivors benefits are at least 50 percent higher.
- Yet payments into the new system are about 40 percent less than taxes under the old system.

"Retirement benefits are estimated to be at least 70 percent higher, yet payments into the system are about 40 percent less."

Indeed, due to the private retirement accounts, in less than 10 years the average Chilean worker will have more assets than the average American worker. Already, while the average Chilean earned only about $5,400 in 1994, these workers on average had accumulated roughly $21,000 in assets in their private retirement accounts. In the U.S., while median family income was $36,812 in 1992, median household wealth was only around the same level.[29]

Equity and Fairness. Former Labor Minister Jose Pinera, the principal architect of the new system, argues that the lack of a direct link between payments and contributions under the old system is what caused it to deteriorate into a morass of special and arbitrary privileges. Benefits under the new system are based entirely on past contributions and returns (apart from minimum benefits), so there is no real opportunity for special interest groups to demand special benefits. The direct link between contributions and benefits under the new system should eliminate the widespread tax evasion that prevailed under the old system. If workers contribute less than is required, they will receive less in benefits. Since employers no longer pay payroll taxes, they no longer have an incentive to underreport wages.

Effects on Employment. The new system also is helping to increase employment and job opportunities in Chile. Increased savings and capital investment from the new system encourage the creation of new jobs and higher real wages. The sharp reduction in payroll taxes under the reform also supports job growth. The payroll tax discourages employers from hiring and discourages workers from working. The reduction in this tax should lead to further creation of new jobs and increased employment.

Pinera suggests that the private contributions are perceived less as a tax and more as personal savings that enhance the workers' personal wealth and are part of their employment compensation. To the extent this is so, the depressing effect of the old system's heavy payroll tax burden has been reduced even further, and the new system will result in still more jobs and increased employment.

Political Change

"Workers are developing substantial direct ownership in Chile's private business sector."

Under the new system, workers are developing substantial direct ownership in the nation's private business sector through investments in their private retirement accounts. This means more widespread ownership of private companies, which is appealing to many in its own right. The new ownership also tends to change public opinion toward private enterprise. Workers are now more willing to support public policies that create and maintain free markets and enhance the long-term growth and prosperity of Chilean enterprises.

Trade Union Reforms. Pinera argues that the change in public opinion resulting from social security reform helped to make fundamental trade union reforms possible. With more of a direct personal stake in private enterprises, workers became much less supportive of militant union demands that threatened to damage those enterprises and began to favor efforts to increase cooperation with management and enhance the ultimate success of firms. The 10 percent take-home pay increase for workers under the new private retirement system also helped ease the transition to the new trade union system.

Other Privatization. Social security reform also helped to make possible other Chilean privatization policies. The Chilean government had owned numerous inefficient, heavily subsidized enterprises that it sought to sell to the private sector. The new funds pouring into the private investment accounts have expanded the capital markets and their ability to absorb shares in these state enterprises as they were sold to the public. Indeed, were it not for social security privatization, privatization of the rest of the economy might well have failed.

An Evaluation

Over the long run, social security reform in Chile will shift the provision of fundamental retirement and insurance protection for workers from bureaucratic, monopolistic, public sector programs to competitive free markets. The reform creates a new system based on individual economic liberty, freedom of choice and workers' control over their own resources. The new system does retain substantial continued government involvement through supervision, regulation, guarantees and the payment of minimum benefits. But the reform probably involves the single most massive dismantling of public sector social insurance in modern history.

Eduardo Aquilera, a top union leader in Chile and an original opponent of the reform, now evaluates the new system this way:[30]

> I have always believed in the saying 'the money where my eyes can see it' ["la plata donde mis ojos te vean"] and in the AFP system my money goes to my individual account and is mine, and the government cannot use it as they see fit. After 14 years, I am now enthusiastic about [the reform]. I have U.S. $100,000 in my pension account [on an annual income of U.S. $18,000] and that is the best guarantee of my future pension. The bottom line is that the private system has been an enormous advancement for the Chilean workers.

"The Chilean reform probably involves the single most massive dismantling of public sector social insurance in modern history."

Similarly, Robert Myers, Chief Actuary of the U.S. Social Security Administration from 1947 to 1970 and an opponent of a private option for social security in the United States, evaluated the new private system in Chile this way:[31]

"In summary, the new system — both as to its design and as to its performance — is excellent."

Case Study: Contracting Out of Social Security in the United Kingdom[32]

British social security is a two-tier system. The first tier promises a basic benefit (or minimum income) that is unrelated to preretirement income. The second promises an earnings-related benefit that is directly proportional to preretirement earnings. Since 1978, Britain has allowed employers to contract their employees out of the earnings-related tier of British social security by providing workers with a private pension plan that promises benefits at least as generous as the benefits promised by second-tier social security. Starting in 1988, workers have been allowed to individually opt out of the earnings-related tier by making minimum contributions to the British equivalent of IRA accounts.[33]

The Government System

For those who fully participate in the government system, the features are as follows:

The Basic Benefit. All workers in the United Kingdom with sufficient work history to qualify receive a flat-rate pension that is equal to about 18 percent of national average earnings. Since all retirees receive the same benefit:

- For those with below-average incomes, this benefit replaces more than 18 percent of preretirement earnings.
- If a worker's preretirement income is exactly 18 percent of the national average, then the basic benefit replaces exactly 100 percent of preretirement income.
- For those with above average income, the basic benefit amounts to less than 18 percent of preretirement earnings.

If the worker has a dependent spouse without a qualifying work history, the basic benefit is increased by 60 percent, providing about 29 percent of preretirement income.

Earnings-Related Benefit. The second tier of benefits is called the State Earnings-Related Pension Scheme or SERPS. For those retiring in 2001 and after, this benefit will equal 20 percent of earnings between the lower earnings limit (about 18 percent of the national average wage) and an upper earnings limit equal to about 135 percent of the national average wage. Thus the benefit is proportionally higher for those with higher earnings.

"In addition to a basic flat-rate pension for all workers, Britain has a second, earnings-related tier of benefits."

Counting both the basic and SERPS benefits, the average income earner would retire with benefits equal to about 38 percent of preretirement income. If the worker had a dependent, nonworking spouse, the total benefit would be equal to about 49 percent of preretirement earnings. This is about 10 percent less than the benefits paid to the average wage earner under the U.S. Social Security system.

Financing. The above benefits are financed by a payroll tax on employees and employers. The employee share is 2 percent of wages up to the lower earnings limit and 10 percent on wages between the lower and upper earnings limits. The employer's share of the tax is 4.6 percent to 10.4 percent of wages, depending on the employee's wage bracket.

Retirement Age. The retirement age under the system is currently 65 for males and 60 for females, although the female retirement age is scheduled to be increased to 65 by 2020.

Private Sector Option: Employer Contracting Out

Britain has allowed contracting out of social security intermittently since 1960. For 15 years, contracting out had had a history similar to that of steel industry privatization. When either party assumed power, it reversed the policy of the previous government. However, in 1975, the Conservatives and

Labourites reached a political compromise, and in 1978 Britain launched the most comprehensive contracting-out program in its history, with the endorsement of both parties.

"Employers may contract their employees out of the second tier by providing private pensions with certain minimum benefits."

Pension Benefits for Workers Who Are Contracted Out. Employers may contract their employees out of SERPS by providing them with private pensions with certain minimum benefits. In general, employees must receive a private, earnings-related pension at least as high as the pension they would have received had they fully participated in social security. Although employers are financially obligated to meet these commitments, they may transfer the obligation back to the government with the payment of certain penalties. As a result, the government remains insurer of last resort for the minimum guaranteed private pension for contracted-out employees.[34]

Payroll Tax Incentives to Contract Out. Employees who are contracted out give up the right to draw an earnings-related pension from the state. In return, they and their employers receive compensatory payroll tax reductions. In general, the tax reduction is calculated so that employees will, on the average, gain financially from being contracted out. Currently, the tax reduction is equal to 4.8 percentage points of income between the lower and upper earnings limits. As Table IV shows, this tax reduction was 7.0 percentage points in 1978, falling to 6.25 percentage points in 1983 and to 4.80 percentage points today.

The Success of Contracting Out. The system of contracting out has been popular and successful among workers who were already members of employer-provided pension plans at the time the system was started. For example:

- About 50 percent of British employees are covered by an employer pension plan.
- About 90 percent of workers covered by employer pension plans currently are contracted out of SERPS.
- Thus almost half (about 45 percent) of all British workers are contracted out of SERPS.

Private Sector Option: Individual Contracting Out

Since 1988, all British workers have been allowed to individually opt out of SERPS by setting up personal pension accounts. Those who exercise the personal pension account option forgo their SERPS benefits. But they receive the same payroll tax rebate as those contracted-out workers, which is contributed to their individual accounts. The funds are invested tax free over the years and are used to finance private benefits replacing SERPS in retirement.

Personal Pension Accounts. The government's tax rebate deposited to the individual's personal pension account is the minimum contribution that must be made. Individuals may make additional tax-deductible contributions. For example, employees under age 51 may contribute an additional 17.5 percent of their total income, while employees age 61 or older may contribute as much as 27.5 percent of their income.

Management of Personal Pension Accounts. As with IRA accounts in the United States, Britain allows only qualified institutions to accept and manage deposits made to personal pension accounts. At present, at least 1,700 mutual funds and investment funds can accept deposits. Unlike the U.S. system, the British system places restrictions on the riskiness of investments. For example, qualified funds may not invest more than 15 percent of their assets in commodities, futures or options.[35]

"Individuals can also contract out of the second tier by setting up personal pension accounts."

Drawing Retirement Benefits. Individuals who make only the minimum contribution to their personal pension accounts are required to withdraw their retirement benefits according to strict rules. Among the requirements:[36]

- At the retirement age, individuals must purchase a compulsory annuity to provide an annual income for the remainder of their lives.
- The annuity must provide for a 50 percent continuing payment to a surviving spouse.
- The annuity must be increased each year by the increase in the consumer price index or by 3.0 percent — whichever is lower.

TABLE IV

Payroll Tax Rates Under British Social Security (SERPS)*

Full Payroll Tax Rates That Apply

	1978-1983	1983-1988	1988-1993	1993-1998
Old Social Security System	18.5%	20.95%	19.45%	20.4%
Employees Contracted Out	11.5%	14.70%	13.65%	15.6%
Tax Rebate for Contracting Out	7.0%	6.25%	5.80%	4.80%

* All rates apply to income between a lower earnings limit and an upper earnings limit. Rates shown are for middle- and upper-income employees. Lower-income employees face lower payroll taxes, but the differential for contracting out is the same for all income levels between the two earnings limits.

Individuals who make more than the minimum contribution to their personal pension accounts have discretion over how they withdraw the excess funds and the investment income earned by these funds.

Housing Purchases. Subject to certain limitations, employees may use part of their personal pension accounts as collateral for the purchase of a home. Under the arrangement, home buyers take out an interest-only mortgage during their working years. When they retire, they may use part of their personal pension account to repay the principal.

"Private pension benefits are indexed for inflation by contract and protected against a sudden downturn in portfolio value immediately prior to retirement."

Built-In Protection. Two objections are sometimes leveled against defined-contribution pensions. Some argue that a sudden downturn in the value of an investment portfolio immediately prior to retirement (such as the October 19, 1987 plunge of the U.S. stock market) could greatly diminish the value of the retiree's pension annuity. Put another way, although contributions and benefit payments occur over long periods, short-term changes in portfolio values can substantially alter the relationship between the contributions and the benefits. However, in Britain and in most countries with provident fund systems, investment funds base their distributions on the *average* return earned over an extended period rather than on day-to-day market fluctuations.[37]

Others argue that the private sector cannot offer inflation-indexed benefits. But in Britain, as in Chile, the private pension benefits are indexed for inflation by contract. This is feasible because private investments regularly earn real returns well in excess of inflation. Moreover, in Britain the government now issues inflation-indexed securities. As a result, investors can purchase securities that promise a government-guaranteed real rate of return, with automatic adjustments for inflation.[38]

Success of the Personal Pension Accounts. Since this option provides the same reduction in benefits and taxes to everyone, regardless of age, its primary appeal is to younger workers. That is because the younger workers have more years to accumulate the tax rebate and investment returns to replace the reduced benefits. Yet since 1988 about 25 percent of the employed workforce has opted out of SERPS by choosing the personal pension account option.

Other Private Sector Options

In recent years, Britain has created additional options for employer plans and for individuals.

Defined-Contribution Employer Plans. Under this recent option, employers may contract out their workers into a defined-contribution pension plan that does not promise to pay specified benefits. Rather, the tax rebate for exercising the option is contributed to the plan, and the plan will pay the benefits that can be supported by such contributions and investment returns over the years. As long as the annual contributions are sufficient, market investment returns will provide benefits through this alternative that are as good as or better than those of the public SERPS plan. Only about 1.5 percent of British workers are in these newer plans.

Expanded Choice for Individuals. Workers now have the right to opt out of any employer-provided pension into their own personal security account or to opt back into SERPS if they prefer. Each worker, not his or her employer, has the freedom to choose among the alternatives.

An Evaluation

"More than 70 percent of British workers have chosen to opt out of the public system."

In some ways, Britain provides a more interesting case study than Singapore or Chile. Britain has proved that an advanced industrial democracy can create private pension alternatives to pay-as-you-go social security and, in doing so, has set an example other developed countries can emulate.

Through all of the private options, more than 70 percent of British workers have now opted out of the public SERPS program, which is about half of the nation's social security system. Many of the remainder are workers who do not have employer-provided pensions and are too old to exercise the personal pension account option. Like Chileans, Britons have shown a massive preference for the private sector over the public system.

Case Study: New Privatization Efforts in Other Latin American Countries[39]

The successful reforms adopted in Chile in 1981 are being copied by other Latin America nations. The British reforms also have been influential. Three countries with privatization efforts well under way are Peru, Argentina and Colombia.

Peru

Peru's reforms closely resemble Chile's. They were adopted in 1991, one decade later. At that time, Peruvian social security faced many of the same problems the Chilean system did before its reforms.

Workers exercising the private option now contribute 10 percent of wages to their investment accounts to finance retirement benefits. These funds are invested tax free through an AFP of the worker's choice. Workers may contribute an additional 10 percent of wages to their accounts. All contributions are tax deductible, and the investment returns are tax-free. The retirement age is 65 for men and 60 for women, but earlier or later retirement is allowed on the same terms as in Chile.

Workers contribute an additional 3 percent to 4 percent to the private system to finance private life and disability insurance to cover the survivors and disability benefits provided by the old system. Those who choose the private option receive a 5 percent pay increase from their employers, who are relieved of payroll taxes under the reforms.

"Peru, Argentina and Colombia have privatization efforts under way."

Those already in the workforce who choose the private option are given recognition bonds for their past contributions into the old system. As in Chile, the bonds accumulate with interest until retirement, when they can be cashed in over time to help finance retirement benefits.

Also as in Chile, the government continues to finance minimum benefits for those whose assets are inadequate. And the AFPs guarantee a minimum investment return.

Peru's new system has not been in effect long enough to report results. But it holds great promise of replicating Chile's success.

Argentina

In 1993, Argentina adopted legislation to restructure its social security system to resemble those of Chile and Peru. The new Argentinean system includes a basic minimum benefit paid to all regular workers, regardless of need, as in the British system described above. These benefits are financed by dedicated portions of the country's value-added taxes, income taxes and payroll taxes.

In addition, the new system includes an entirely private earnings-related component applying to workers under 45, with no option to stay in a public system for these benefits. Under this component, workers pay 10 percent of wages up to a maximum of US$36,000 in wage income per year into individual investment accounts, to be managed by AFP institutions. The government actually collects the payments itself and then distributes the funds to the chosen AFPs. At least 20 organizations have applied to be AFPs, and each must guarantee a minimum return on its investments. Regulations limit AFP investments to no more than 50 percent in stocks, 50 percent in corporate bonds and 30 percent in mortgages, among other restrictions.

While still too young to report definitive results, this new system should produce an overwhelming economic success, similar to Chile's.

Colombia

The government in Colombia has proposed legislation to effectively privatize its social security system. Under the proposal, a network of private pension fund management companies would be created and then overseen by the National Banking Superintendent. Employers would contribute 10 percent of wages to each worker's account, with another 3.5 percent from the employee. This would be sufficient to finance better retirement, disability and survivors benefits than the old social security system provided.

Solving the International Crisis of Social Security

Worldwide, countries following a traditional social security model face a financial crisis that stems from the system's pay-as-you-go structure.

As indicated above, under pay-as-you-go financing, the funds paid by workers and their employers today are not saved and invested to finance the future benefits of those workers. Rather, these funds are mostly paid out immediately to finance the benefits of current retirees. The benefits to be paid in the future to today's workers in retirement must be funded by collecting taxes from future workers.

"Pay-as-you-go financing leaves a system vulnerable to adverse demographic and economic developments."

This pay-as-you-go financing leaves the system vulnerable to adverse demographic and economic developments. One of the most important is a decline in fertility, in the average number of lifetime births per woman. As fertility declines, there are fewer workers to pay promised social security benefits, leading to financial crisis.

Another critical factor is life expectancy. As people live longer, retirement benefit obligations race ahead of payroll taxes paid by current workers in the pay-as-you-go system, again leading to financial crisis.

Both of these developments have been arising for some time, particularly in the Western developed countries. As Table V shows, fertility rates around the world have declined sharply since the early 1950s and are expected to decline further by 2020-2025.

- In the United States, fertility has declined from 3.45 in the early 1950s to 1.92 in the late 1980s, a decline of almost half.
- Over that same time period, fertility in France declined from 2.73 to 1.82, in Italy from 2.32 to 1.33, in Germany from 2.16 to 1.44 and in Spain from 2.57 to 1.46.
- Elsewhere around the world over that period, fertility declined in Japan from 2.75 to 1.68, in South Korea from 5.18 to 1.73, in Australia from 3.18 to 1.86, in Mexico from 6.75 to 3.60 and in Brazil from 6.15 to 3.20.

"The fertility rate in developed countries needs to be about 2.1 to maintain a stable population — and only Ireland is at that level or projected to be there."

In order to maintain a stable population, the fertility rate needs to be about 2.1 in developed countries. Fertility rates below that level lead to population declines. But of 20 Western developed countries shown in Table V, only one, Ireland, is now at or above 2.1. All countries except Ireland are projected to remain below 2.1 through 2020. In a pay-as-you-go social security system, a declining population means there will be too few workers to finance benefits for the elderly, without increases in payroll tax rates.

Table VI shows that life expectancy also is increasing around the world and is expected to continue to do so.

- In the United States and United Kingdom, life expectancy has increased by about six years from the early 1950s to the late 1980s.
- Over the same period, life expectancy has increased by about 10 years in France, Italy and Greece, 13 years in Spain, eight years in Switzerland and seven years in Germany.
- Elsewhere over that period, life expectancy has climbed 14 years in Japan, 22 years in South Korea, 19 years in India, 18 years in Mexico and six years in Australia.

If anything, the projected continued increases until 2020-2025 are understated. Given breakthroughs in genetics, biotechnology and other medical fields, the increase in life expectancy could well accelerate in coming decades, swamping pay-as-you-go social security systems around the world.

The impact of these two trends is shown in Table VII, which indicates the percent of population over 65.

- In the U.S., this percentage has increased from 5.3 percent in 1960 to 12.6 percent in 1990 and is projected at 16.3 percent in 2020.
- In Italy, elderly residents have increased from 9.3 percent of the population in 1960 to 14.1 percent in 1990, with projected growth to 20.9 percent in 2020.
- In Japan, the percentage of elderly has climbed from 8.9 percent in 1960 to 11.7 percent in 1990, and is projected to grow to 24.2 percent in 2020.

Such a rapidly aging population portends grave difficulties for social security, because it means that many are taking out and few are paying in.

These demographic trends exacerbate a second major problem of pay-as-you-go social security. As such a system matures, it inherently becomes a bad deal for workers, with the benefits representing a below-market return in comparison to the taxes paid into the system over the working years.

When a pay-as-you-go system begins, it offers a good deal to the first generation of retirees. That is because they pay taxes for only a few years before retirement and can receive full benefits because workers' current taxes are not saved for their future benefits.

"Fertility rates around the world have declined sharply since the early 1950s and are expected to decline further."

TABLE V

Total Fertility Rates

(per woman)

	1950-1955	1985-1990	2020-2025
North America			
United States	3.45	1.92	1.80
Canada	3.70	1.70	1.80
Mexico	6.75	3.60	2.03
South America			
Argentina	3.15	2.96	2.24
Brazil	6.15	3.20	2.00
Chile	5.10	2.73	2.25
Venezuela	6.46	3.45	2.12
Europe			
Austria	2.09	1.45	1.70
Belgium	2.34	1.56	1.70
Denmark	2.53	1.54	1.70
Finland	2.97	1.66	1.80
France	2.73	1.82	1.85
Germany	2.16	1.44	1.70
Greece	2.29	1.53	1.90
Hungary	2.73	1.82	1.80
Ireland	3.37	2.28	2.10
Italy	2.32	1.33	1.70
Luxembourg	1.97	1.47	1.70
Netherlands	3.05	1.56	1.70
Norway	2.60	1.80	1.80
Poland	3.62	2.15	2.00
Portugal	3.05	1.60	1.90
Spain	2.57	1.46	1.90
Sweden	2.21	1.91	1.80
Switzerland	2.28	1.55	1.70
Turkey	6.85	3.79	2.10
United Kingdom	2.18	1.81	1.80
Asia			
China	6.24	2.38	1.85
Hong Kong	4.43	1.36	1.70
India	5.97	4.20	2.10
Indonesia	5.49	3.48	2.10
Japan	2.75	1.68	1.85
South Korea	5.18	1.73	1.85
Singapore	6.41	1.69	1.85
Other			
Australia	3.18	1.86	1.90
New Zealand	3.54	2.04	1.90
South Africa	6.51	4.38	2.38
USSR (former)	2.82	2.43	2.10
World	5.00	3.43	2.36

Source: *World Population Prospects*, 1992 edition, UN publication.

"*Worldwide, life expectancy is increasing and is expected to continue doing so.*"

TABLE VI

Life Expectancy at Birth

(years)

	1950-1955	1985-1990	2020-2025
North America			
United States	69.0	74.9	79.7
Canada	69.1	76.8	80.7
Mexico	50.8	68.8	75.3
South America			
Argentina	62.5	70.6	74.1
Brazil	51.0	64.9	72.1
Chile	53.7	71.5	74.6
Venezuela	55.2	69.6	73.7
Europe			
Austria	65.7	74.9	79.5
Belgium	67.5	75.1	79.6
Denmark	71.0	74.7	79.3
Finland	66.3	74.6	79.4
France	66.5	76.0	80.2
Germany	67.5	74.8	79.5
Greece	63.9	76.7	80.5
Hungary	63.9	69.5	75.5
Ireland	66.9	74.4	79.2
Italy	66.0	76.3	80.3
Luxembourg	65.9	74.5	79.2
Netherlands	72.1	76.8	80.5
Norway	72.7	76.4	80.3
Poland	61.3	71.7	76.3
Portugal	59.3	73.8	78.7
Spain	63.9	77.0	80.5
Sweden	71.8	77.3	80.8
Switzerland	69.2	77.4	80.8
Turkey	43.6	65.3	74.7
United Kingdom	69.2	75.0	79.7
Asia			
China	40.8	69.4	76.8
Hong Kong	61.0	77.0	80.5
India	38.7	57.9	71.5
Indonesia	37.5	60.2	72.6
Japan	63.9	78.3	81.3
South Korea	47.5	69.4	76.7
Singapore	60.4	73.5	78.8
Other			
Australia	69.9	76.1	80.1
New Zealand	69.6	74.5	79.4
South Africa	45.0	60.4	72.7
USSR (former)	64.1	69.1	75.5
World	46.4	63.3	72.5

Source: *World Population Prospects*, 1992 edition, UN publication.

"A rapidly aging population means many are taking out and few are paying in under a pay-as-you-go system."

TABLE VII

Percent of Population Age 65+

	1960	1990	2020
North America			
United States	5.3	12.6	16.3
Canada	7.5	11.5	16.7
Mexico	4.1	3.7	7.2
South America			
Argentina	5.5	9.1	11.0
Brazil	2.7	4.7	8.9
Chile	4.7	6.0	9.6
Venezuela	2.4	3.7	7.6
Europe			
Austria	12.0	15.1	18.8
Belgium	11.5	14.9	19.7
Denmark	10.6	15.6	20.5
Finland	7.2	13.3	20.7
France	11.6	14.0	19.5
Germany	11.5	14.6	19.1
Greece	8.3	13.8	21.0
Hungary	9.0	13.2	16.8
Ireland	11.2	11.4	16.2
Italy	9.3	14.1	20.9
Luxembourg	10.8	13.4	18.5
Netherlands	9.0	12.7	18.1
Norway	11.1	16.3	17.9
Poland	5.8	10.0	14.4
Portugal	8.0	13.1	17.4
Spain	8.2	13.4	18.4
Sweden	12.0	17.8	20.2
Switzerland	10.1	15.0	20.2
Turkey	3.5	4.3	7.4
United Kingdom	11.7	15.7	18.2
Asia			
China	4.8	5.7	11.1
Hong Kong	2.8	8.8	18.0
India	3.4	4.5	7.4
Indonesia	3.3	3.9	7.8
Japan	8.9	11.7	24.2
South Korea	3.3	4.8	11.9
Singapore	2.1	5.7	15.4
Other			
Australia	8.5	11.2	15.2
New Zealand	8.6	10.8	14.6
South Africa	3.9	3.9	6.0
USSR (former)	6.7	9.3	12.5
World	5.3	6.2	8.8

Source: *World Population Prospects*, 1992 edition, UN publication.

"As a pay-as-you-go system matures, it becomes a bad deal for workers."

But over time, the return paid by the pay-as-you-go system falls as people retire who have paid full taxes for more of their working years. Eventually, the system reaches a mature stage when people retire having paid full taxes into the system for their entire lives. At that time, even under the best circumstances, the system pays a below-market return, since the funds paid in as taxes are not invested in assets and do not earn market returns. As a result, the system can only pay a positive return to the extent that payroll taxes grow faster than benefit obligations. This can occur only when the growth in real wages is high and the ratio of workers to retirees is also high.

But, over the long run, real wages can be expected to grow at 2 percent at most. Over the last 25 years in the United States, real wages have grown at around 0.5 percent. Moreover, relative population growth can be expected to hold to no more than 2 percent over the long run. By contrast, the capital market investment returns that would be earned by a fully funded invested system are much higher. The full real rate of return to capital before tax (which measures the full productive output of capital investments) is 10 percent or more.[40]

This means that in the mature stage of a pay-as-you-go system, workers receive much lower returns than if they had been allowed to invest in a private fully funded system like that of Chile and similar countries.[41]

This problem is worsened by declining fertility and rising longevity, which reduce relative population growth for workers vs. retirees. The result is that reduced returns in the pay-as-you-go system, discussed above, make those returns even worse when compared to capital investment returns. One study of the United States indicates that middle-income couples are now losing about $1 million in real terms over their lifetimes because of the low social security returns compared to capital market returns.[42]

The countries whose nontraditional social security systems are discussed in this study show the way to solve these problems. The privatized systems of Chile and other countries shift from a public pay-as-you-go system to a private fully funded system. In the process, they end and even reverse the accumulations of unfunded liabilities. They avert the long-term financial crisis of pay-as-you-go systems by shifting to fully funded systems. And they allow workers to receive higher returns and better benefits.

Countries around the world should look to these nontraditional social security systems as models for reform.

Notes

[1] This section is based on Office of Research and Statistics, Social Security Administration, U.S. Department of Health and Human Services, *Social Security Programs Throughout World 1993*, Research Report #63, SSA Publication No. 13-119 05, Washington, DC, May 1994.

[2] World Bank Policy Research Report, *Averting the Old-Age Crisis: Policies to Protect the Old And Promote Growth* (New York: Oxford University Press, 1994).

[3] Carmelo Mesa-Lago, "Comparative Study of the Development of Social Security in Latin America," *International Social Security Review*, February 1986, Table III, p. 137.

[4] Much of this section is based on Mukul G. Asher, "Compulsory Savings in Singapore: An Alternative to the Welfare State," National Center for Policy Analysis, NCPA Policy Report No. 198, August 1995.

[5] This represents a decline from about three-fourths of the labor force in the 1980s. Those not covered include foreign and part-time workers. The self-employed have only recently been included.

[6] All amounts in Singapore dollars are preceded by "S." The current rate of exchange is about $1.40 Singapore to $1.00 U.S. The average annual salary is S$25,032, excluding the employer's 20 percent contribution to the CPF.

[7] Throughout this section, we make the normal economic assumption that any payroll taxes or fringe benefits paid by employers are amounts that otherwise would have been paid to employees in the form of wages.

[8] When parents have a low CPF balance as a result of having earned low wages or having purchased a home with money from their account, their children may top up the parents' account by transferring money into it. Such contributions are tax-advantaged, but a primary reason for helping their parents is that adult children are legally required to do so.

[9] For members ages 45 and above, the amount going into the Medisave account is increased from 6 percent to 8 percent to offset higher expected health care costs, and the amount going to the Ordinary account is reduced to 28 percentage points to offset the Medisave increase.

[10] While the government generally has limited the use of Medisave funds to hospital care, it has been expanding its list of approved expenditures. For example, it now permits members to use Medisave funds for psychiatric care, renal dialysis and chemotherapy. However, members are still prohibited from using Medisave funds for outpatient care, physician fees, outpatient renal dialysis or long-term care. If money runs short, family members can pool their Medisave balances to pay a hospital bill, and some government hospitals allow patients to settle their bills from future Medisave deposits.

[11] There is no way of determining what the average Medisave balance is, but it probably runs between S$3,000 and S$4,000.

[12] For example, Class A wards are the nicest rooms, with private or semiprivate accommodations, and are meant to compete with the private sector. Patients must pay 100 percent of the cost of these rooms. Class B1 wards receive a 20 percent government subsidy, with the patient paying the balance, and accommodate four people to a room. Class B2 wards have six patients per room and no air-conditioning, but patients pay only 35 percent of the cost. Class C wards have 10 to 20 people in the room and are the least expensive, receiving an 80 percent subsidy from the government.

[13] William C. Hsiao, "Medical Savings Accounts: Lessons From Singapore," *Health Affairs,* Summer 1995, pp. 262-63.

[14] Some employers also purchase private insurance for their employees. However, they are permitted to deduct no more than 2 percent of payroll for health insurance. Employer-provided policies are the least expensive high-deductible policies, covering only basic care.

[15] The existence of Medishield does not solve the financial problem of those who have an inadequate Medisave balance, but it is an improvement over Medisave alone, since people now have a way to pay catastrophic costs.

[16] Thomas A. Massaro and Yu-Ning Wong, "Positive Experience With Medical Savings Accounts in Singapore," *Health Affairs*, Summer 1995, pp. 267-71.

[17] Ibid.

[18] Ibid.

[19] These are housing units built by public sector statutory boards. The land, however, is owned by the government.

[20] The rule also applies to purchase of private residential housing and nonresidential properties.

21 This is similar to a credit life policy in the United States. It pays off an outstanding note should the borrower become incapacitated or die.

22 While the annuities provide regular financial income to the retiree, there is some concern on the part of the government that the minimum is too low. As a result, this amount will be incrementally increased to S$80,000 by July 2003, of which at least S$40,000 must be in cash. The increase in the cash amount is to help ensure that retirees will have an adequate income after retirement.

23 This section is based on Sergio Baeza, ed., *Analysis de la Prevision en Chile* (Santiago, Chile: Centre de Estudios Publicos, 1986); Jose Pinera, "Chilean Trade Union and Social Security Reform and Its Effect on Employment," (unpublished manuscript, 1985); Peter J. Ferrara, "The Privatization of Social Security in Chile," *Journal of Economic Growth,* Vol. 3, No. 3, Spring 1989; Jose Pinera, "Chileans Unravel Social Security Tangle," *Wall Street Journal,* January 3, 1986, p. 11; Robert J. Myers, "Privatization of Chile's Social Security Program," *Benefits Quarterly,* Vol. 1, No. 3, Third Quarter 1985, pp. 26-35; Robert J. Myers, "Chile's Social Security Reform, After Ten Years," *Benefits Quarterly,* Third Quarter 1992, pp. 41-55; Marco Santamaria, "Privatizing Social Security: The Chilean Case," *Columbia Journal of World Business* (Spring 1992), pp. 38-51; Karl Borden, "Dismantling the Pyramid: The Why and How of Privatizing Social Security," SSP No. 1, Cato Institute, Washington, DC, August 14, 1995.

24 The acronym IRA is not common in Chile and is used here for the convenience of U.S. readers.

25 There is no legal limit on the number of investment companies that can be formed and authorized. New ones may enter the system in future years. Workers can join together and form authorized investment companies on their own or through their unions, and two authorized investment companies have been formed by worker groups.

26 For example, no more than 30 percent of an AFP's portfolio may consist of common stocks and no more than 7 percent may be invested in the stock of any one company. Corporate bonds may account for no more than 50 percent of an AFP's assets.

27 Such withdrawals are subject to limits based on the life expectancy of retirees and their surviving dependents, so the funds cannot be completely depleted before their death.

28 This was done to ensure that the reduction in social security taxes paid by employers was immediately passed on to workers in the form of higher wages. Although normal market forces would have accomplished this result in time, the Chilean government wanted to build political support for its program quickly.

29 Robert Genetski, "The Coming Revolution in Social Security," Robert Genetski & Associates, Inc., October 5, 1994, p. 1.

30 Personal communication to Peter J. Ferrara.

31 Myers, "Chile's Social Security Reform, After Ten Years," p. 45.

32 This section is based on John C. Goodman, *Social Security in the United Kingdom: Contracting Out of the System* (Washington, DC: American Enterprise Institute, 1981); John C. Goodman, "Private Alternatives to Social Security: The Experience of Other Countries," *Cato Journal*, Vol. 3, No. 2, Fall 1983, pp. 563-73, reprinted in Peter J. Ferrara, ed., *Social Security: Prospects for Real Reform* (Washington, DC: Cato Institute, 1985), pp. 103-12; Janet Walford, *Personal Pensions* (London: Financial Times Business Information, 1987); and Christopher Dayken, "Occupational Pension Provision in the United Kingdom," Pension Research Council, Working Paper Series 94-10, The Wharton School of the University of Pennsylvania, August 1994.

33 As in Chile, the term IRA is not common in Britain and is used here for the convenience of U.S. readers.

34 During their careers, employees may work for several employers who are contracted out and several employers who participate in the government's system. As a result, retirees may receive part of their earnings-related pension income from the government and separate pensions from each of the contracted-out employers for whom they worked.

35 See the discussion in Walford, *Personal Pensions,* pp. 14-19.

36 Ibid., pp. 33-39.

37 See E. Victor Morgan, *Choice in Pensions: The Political Economy of Saving for Retirement* (London: The Institute of Economic Affairs, 1984), p. 43.

38 Ibid., p. 37. The real rate of return on inflation-indexed securities has been averaging 3.5 percent to 4 percent. See Report of the Government Actuary, *Occupational Pension Schemes* (London: Her Majesty's Stationery Office, 1987), p. 5.

39 This section is based on William G. Poortvliet and Thomas P. Laine, "A Global Trend: Privatization and Reform of Social Security Pension Plans," *Benefits Quarterly*, Third Quarter 1995, pp. 63-83; Karl Borden, "Dismantling the Pyramid: The Why

and How of Privatizing Social Security," Cato Institute, SSP No. 1, August 4, 1995; William McGeevrey, "Social Security in Latin America: Issues and Options for the World Bank," World Bank Discussion Paper No. 110, 1990; and World Bank Policy Research Report, *Averting the Old-Age Crisis.*

40 See Martin Feldstein, "National Saving in the United States," Harvard Institute of Economic Research, Discussion Paper No. 506, October 1976; "Toward a Reform of Social Security," *Public Interest*, Summer 1975, pp. 75-95; and "The Optimal Financing of Social Security," Harvard Institute of Economic Research, Discussion Paper No. 388, November 1974. Also, see J. A. Stockfish, "Measuring the Social Rate of Return on Private Investment," in Robert L. Lind, ed., *Discounting for Time and Risk in Energy Policy* (Washington, DC: Resources for the Future, 1982); D.M. Holland and S. Myers, "Trends in Corporate Profitability and Capital Costs," in R. Lindsay, ed., *The Nation's Capital Needs* (New York: Committee for Economic Development, 1979), pp. 103-89; J. A. Gorman, "Nonfinancial Corporations; New Measures of Output and Input," *Survey of Current Business*, March 1974; and J. A. Stockfish, "The Planning-Programming-Budgeting Systems: Progress and Potential," Hearings before the Subcommittee on Economy in Government, Joint Economic Committee (Washington, DC: U.S. Government Printing Office, September 1967), pp. 133-43.

41 Peter J. Ferrara, *Social Security Rates of Return for Today's Young Workers* (Washington, DC: National Chamber Foundation, 1986).

42 Ferrara, *Social Security Rates of Return for Today's Young Workers*, updated to constant 1995 dollars.

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About the NCPA

The National Center for Policy Analysis is a nonprofit, nonpartisan research institute, funded exclusively by private contributions. The NCPA developed the concept of Medical Savings Accounts, the health care reform that has wide bipartisan support in Congress and in a growing number of states. Many credit NCPA studies of the Medicare surtax as the main factor leading to the 1989 repeal of the Medicare Catastrophic Coverage Act.

NCPA forecasts show that repeal of the Social Security earnings test would cause no loss of federal revenue, that a capital gains tax cut would increase federal revenue and that the federal government gets virtually all the money back from the current child care tax credit. Its forecasts are an alternative to the forecasts of the Congressional Budget Office and the Joint Committee on Taxation and are frequently used by Republicans and Democrats in Congress. The NCPA also has produced a first-of-its-kind, pro-free enterprise health care task force report, written by 40 representatives of think tanks and research institutes, and a first-of-its-kind, pro-free enterprise environmental task force report, written by 76 representatives of think tanks and research institutes.

The NCPA is the source of numerous discoveries that have been reported in the national news. According to NCPA reports:

- Blacks and other minorities are severely disadvantaged under Social Security, Medicare and other age-based entitlement programs;
- Special taxes on the elderly have destroyed the value of tax-deferred savings (IRAs, employee pensions, etc.) for a large portion of young workers; and
- Man-made food additives, pesticides and airborne pollutants are much less of a health risk than carcinogens that exist naturally in our environment.

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