How to Privatize Social Security if you must: Lessons from Latin America

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Summary: In Latin America, eight countries have partially or fully privatized social security. With the encouragement of the World Bank, many other countries are going down the same path. In this paper, we explore the collective experience in Latin America. Contrary to many other researchers, we find problems in labor and capital markets can easily undo the benefits of privatization.

Introduction

In the richer countries, the main problem facing pay as you go social security system is mainly population aging. There is additional debate about the economic effects of a pay as you go system on the saving, investment and economic growth. The solution suggested by many is to privatize the systems. Unfortunately, the problems run deeper. In the poorer countries, there are other more serious problems. Two important problems arise out of underdeveloped capital markets and the presence of informal sector in the economy. A consequence of underdeveloped capital market is that the rates of return received by the affiliates of privatized system in underdeveloped countries is vastly different from the rates of return of the funds themselves. The presence of informal sector means that a large part of the labor market is never paying any payroll tax making the tax base smaller. Unhindered movement between the formal and the informal sectors imply that it is difficult formalize the informal sector.

Background

Social security has been a phenomenon of the twentieth century. The number of countries with old age, disability and death programs has increased steadily (see table 1).

Table 1 Number of Countries with Old Age Programs

Year	Number of Countries
1940	33
1949	44
1958	58
1969	97
1979	123
1989	135
1999	167

Source: Social Security Administration (1999)

The type of benefit varies across countries. Some offer flat benefits (18 countries). Some have contributory means tested systems (25 countries). A large majority of countries (134), have contributory earnings-related systems.

The Importance of Latin America

At the end of 1999, ten countries in the world have adopted some form of a social security program with mandatory private saving (Social Security Administration, 1999, p. xxxiv-xxxix). Eight of them are in Latin America (the other two are Hungary and Poland). Thus, the experience with this form of privatization of social security has been predominantly in the Latin American region. To put it differently, Latin America has experienced the process for more than fifty years. Forty percent of such experience is with Chile. Chile has a privatized pension system for the longest period among Latin American countries. What did they policy makers expect? Were they realized? Can we learn anything from this collective experience of these countries? Can they be applied to other countries that are aspiring to privatize? In this paper, we will explore these issues.

Why is there a problem with the pay as you go system?

The problem with any pay-as-you-go scheme is always the same: mismatch of benefits paid out to retired people compared with the revenue generated from the working population. However, this problem can arise in a number of different ways. (1) The government increases the benefits of the retired population by indexing benefits to inflation without indexing revenue in the same way. (2) The government relaxes eligibility (for example, by relaxing the age of retirement, by making the definition of disability or poor health broader etc.). (3) Directly or indirectly by reducing the revenue base. For example, let us consider a rise in tax rate. People go out of the formal sector (where they finance such a scheme through payroll taxes) into the informal sector. They avoid paying the tax. The revenue base is reduced. (4) The aging of the population. Aging is taking place mainly because of falling birth rates (and birth rates are predicted to continue to fall in the future). Table 2 illustrates how the proportion of older people will rise (in some cases, dramatically) in Latin American countries. For comparison, we have also included the United States in table 2.

Table 2: Percentage of population over 60 years 1990-2050

Year	1990	2030	2050
Argentina	13.1	19.3	25.9
Bolivia	5.4	10.0	17.6
Brazil	6.7	16.9	24.2
Chile	8.7	20.8	26.4
Colombia	6.0	18.0	25.5
Ecuador	5.5	13.7	22.4
Mexico	5.7	15.7	24.6
Paraguay	5.2	10.4	16.1

Peru	5.8	13.7	21.5
Uruguay	16.4	22.5	27.8
Venezuela	5.6	15.5	23.6
US	16.6	28.2	29.8

Source: World Bank (1994).

There are two striking features of table 2: (1) All the countries are converging to a similar population structure. (2) Not all countries have the same degree of the population-aging problem. For example, Argentina and Uruguay have population structures that are very similar to the United States today. Thus, the urgency of reform for the state-run pension scheme is greater for those countries. On the other hand, although Peru has a much younger population structure today, the population will age rapidly over the next 50 years. A similar thing is going to happen to all the other countries in Latin America.

Even though, strictly from the point of view of population structure, the potential problem seems to be far in the future. However, many Latin American countries will face the problem much earlier. The reason is that there are many inefficiencies in the system including a large informal sector which makes the problem more acute than ever before (Vittas, 1995).

Bolivia provides a classic example of how things can go wrong, even when the population structure is young. Bolivia had a defined benefit pay as you go scheme for many years. In 1997, the number contributing to the system was 300,000. The number of people drawing a pension from the system was 120,000. Thus, the dependency ratio of the system was 40%. However, if we look at the dependency ratio of the population, it was less than 6% (see, Table 1). The percentage of GDP covered by the system was less than 12% (von Gersdorff, 1997). Most affiliates were either government employees (65% of the total) and another large constituent was the schoolteachers (30%). In fact, the Bolivian economy is dominated by the informal sector.

Why are they looking at Chile?

The Chilean system has produced spectacular results in terms of rates of return on funds (see table 3). The system has also created deeper financial markets: markets for long term bonds have developed as a direct consequence of the system. The saving rate in Chile has also seen a spectacular rise over the same period, from 8.2 percent of GDP in 1982 to 23.3 percent in1996. Real GDP has also increased at the average annual rate of 7.8 percent over the period of 1980-1995 (for an illuminating discussion on the Chilean system, see Edwards, 1996).

Table 3: Rates of return for pension funds in Chile

Year	Weighted Average	Range
1982	28.8	23.2 to 30.2
1983	21.2	18.5 to 24.7
1984	3.6	2.2 to 5.1
1985	13.4	13.0 to 14.3
1986	12.3	10.6 to 15.5
1987	5.4	4.8 to 8.5
1988	6.5	5.9 to 8.7
1989	6.9	4.0 to 9.5
1990	15.6	13.3 to 19.4
1991	29.7	25.8 to 34.3
1992	3.0	0.9 to 4.2
1993	16.2	14.6 to 16.9
1994	18.2	15.7 to 21.1
1995	-2.5	-4.6 to -1.8
1996	3.5	2.9 to 4.1
1997	8.1	7.4 to 8.8

Source: Banco Central de Chile, Boletín Mensual (various issues). Rates of return are weighted by the asset value in each pension fund.

Table 4: Performance of AFPs in Chile

Year	Real return for funds	Real return for affiliates
1982	28.8%	-3.2%
1983	21.3%	-1.3%
1984	3.5%	-5.9%
1985	13.4%	-2.3%
1986	12.3%	0.3%
1987	5.4%	0.5%
1988	6.4%	1.4%
1989	6.9%	2.1%
1990	15.5%	4.2%
1991	29.7%	7.9%
1992	3.1%	6.9%
1993	16.2%	8.0%
1994	18.4%	9.1%
1995	-2.5%	7.4%

Source: Shah (1997).

One common misconception about Chile is that the affiliates have been getting double digit rates of return for their funds. This is not true. For example, table 4 shows that for account holders, the cumulative rate of return has been negative for the first decade. The difference between what a fund gets and what the account holder gets is the "management fees" (see below for more on that issue).

Why Privatize?

There are four related reasons often cited (e.g., Queisser, 1999)) as to why Latin America is enthusiastic about privatizing pension. (1) The policy-makers have recognized that the current state-run systems will be bankrupt within the next decade. (2) Pioneering privatization plan in Chile has been very successful. The second reason has given the process of privatization a new sense of urgency in other neighboring countries. (3) Such systems seem to increase national saving. (4) Such systems help develop long term capital markets.

A Model for Discussing Alternatives

World Bank (1994) provides a very convenient model for discussing various alternatives. It breaks the social security system down in three basic elements: (1) a taxed financed, pay as you go first pillar, (2) a mandatory fully funded second pillar, (3) a voluntary (fully funded) third pillar. For ease of discussion, the nature of the model can be illustrated by the following table.

Table 5 Three Pillars Model of the World Bank

Pillars	*First Pillar*	*Second Pillar*	*Third Pillar*
Type	Mandatory	Mandatory	Voluntary
Admin.	Public	Public/Private	Private
Financing	Tax	Fully funded	Fully funded
Form	Means tested, flat	Personal, occupational saving	Personal, occupational saving
Objective	Redistribution/insurance	Savings/insurance	Savings/insurance
Outcome	Poverty reduction	Forced saving	Voluntary saving

Source: Adapted from the World Bank (1994)

Are publicly run pensions really dying?

If publicly run (largely pay as you go) pensions were dying, we would have seen a large move among developed countries to scrap them. We see no such move. Instead, we see marginal changes being made across countries in the developed world. For example, Italy and Spain are tightening eligibility; Japan is raising the age of eligibility and so on. A few countries like Australia and Switzerland have started a second pillar in addition to the first pillar. However, they are exceptions rather than the rule.

A Helicopter Tour of Privatization in Latin America

Chile (1981)

Chile has the oldest privately managed publicly mandated pension system in the world. It was introduced under the military regime of Augusto Pinochet in 1981. The new fully funded scheme completely replaced the existing pay as you go scheme funded by a 10% payroll tax. The new system marks a complete break from the old system. Although many Latin American countries have adopted parts of the Chilean system, they have not totally adopted the Chilean system (although Bolivia has "out-Chilead" Chile itself!).

Argentina (1994)

Argentina has historically had generous pension benefits. Pensions before reforms were set at 70 to 82 percent of the base wage depending on the age of retirement. The base wage was determined as the average three highest annual wages in the last ten years of employment. Although the pension was fully indexed in principle, rarely was it so in practice. A disability pension was readily granted. The old system was funded with a payroll tax of 11% by the employee and 16% by the employer.

The new scheme introduced in 1994 and revised in 1995 does not replace the old system: it supplements it. The new scheme stipulates that the employer will allow each worker to choose between the existing public scheme and the new private scheme, but only for the contribution. Thus, the new scheme is really a two-tier scheme: the first tier is the old publicly managed and pay as you go system. The second tier is publicly regulated by a privately managed component. Because it is mandatory, and the formal sector represents 78% of all economic activities, it will have a much larger impact than pension reforms in most other Latin American countries. By the end of 1995, more than half of all the workers has chosen the mixed system. By 1996, the proportion of workers choosing the mixed system was more than 70%.

Colombia (1994)

Colombia started out with the most fragmented pension scheme in Latin America. The old public scheme covered 30% of the labor force. There were two parts of the plan: the system for public enterprises (CAJANAL) and the institute of social security (ISS). CAJANAL is very generous, and the entitlement conditions are very liberal. Financing the old system was done by 11.5% payroll tax (rising to 13.5% in 1996) with the employer paying 75% and the employee 25%. In the early 1990s, several actuarial evaluations of the funds were made. Projected deficits of the system are very large relative to GDP.

The new system started operating in April of 1994. It set the contribution rate at 13.5%, the same as the public system. It allowed the workers to choose between the old and the new. In the old system, the requirements for retirement are being tightened. The age of eligibility is also being raised to 62 for men and 57 for women.

Uruguay (1996)

Among the Latin American countries, Uruguay has one of the oldest and most extensive pay as you go social security systems. It is administered through the Social Security Bank (BPS) with special provision for the police and the military. With a very high life expectancy (76 for men and 81 for women) and low fertility rates since the second world war, Uruguay has a population structure very much like the United States (see Table 1). Thus, with a high degree of tax evasion along with high promised benefits of the public system, Uruguay's system has become economically very costly. Uruguay does not have a personal tax scheme. Thus, the existing system is being financed by a mandatory 13% payroll tax plus a value added tax.

The new system instituted in the beginning of 1996, brought in Chilean style privatization into the system. All workers under the age of 40 must contribute all of the 13% into the new system. For workers over 40, participation is optional. To encourage existing workers in the BPS system (for people over 40 for whom it is not mandatory to switch) to move to the privatized system, workers who switch will still be eligible for 75% of benefits they would have received had they stayed in the old system. Hence, it is quite attractive for older workers to switch. Obviously, this is not a free lunch. The additional cost has to be borne by somebody. At present, government bonds will absorb the cost. This bond, in turn, has to be paid for by future generations of taxpayers.

Peru (1993)

Peru's public pension system (IPSS) was a very inefficient publicly funded pay as you go scheme where a 9% payroll tax (with 6% from employer and 3% from employee) was used to finance the scheme. The retirement age was 55 for women and 60 for men. Coverage for the program was less than 30% of the labor force. Given that 58% of the labor force work in the informal sector, such a low participation rate is not surprising.

Two sets of reforms were implemented: one for the public system in 1995 and a new private scheme in 1993. The public system asked the employee to contribute 11% with no contribution from the employer. From 1993, workers were allowed to join the private system voluntarily. Thus, the Peruvian model is different from the Chilean system, as it is voluntary. So far, about 40% of workers have moved to the new system. In order to encourage existing workers to move to the privatized scheme, a "recognition bond" is being issued for crediting participation in the old system.

Mexico (1992/1997)

A fully funded privatized pension scheme in Mexico has taken shape in two distinct phases. In 1992, an attempt was made to augment the pension of the existing pay as you go system of the Social Security Institute of Mexico (IMSS) by adding a 2% of wages in Retirement Pension Scheme (SAR) account. In addition, SAR also included workers in the government sector who were not part of IMSS. Money in the SAR account could only be invested in certain types of government bonds. The government quickly recognized that the solution was partial and would not produce long-term viability for the IMSS. For example, for 12 million workers, there were 55 million accounts! Many people who changed jobs got new accounts. There was no procedure in place to have one account per person. Therefore, on July 1, 1997, they introduced a new completely privatized system of pension called Individual Retirement Savings Funds (AFOREs). Each worker would choose an AFORE to put their 6.5% of wages (and the government would contribute another 5.5% of the indexed minimum salary on behalf of each worker). Money managers of the AFOREs will then invest the money. At present, they can only invest in certain types of government bonds (and a small amount in private bonds). In the future, they will be allowed to invest in corporate bonds, stocks and commercial papers. In less than a year, more than 85% of the IMSS affiliates have chosen their own AFOREs. The treatment of those who were in the IMSS system before July 1, 1997 and those who joined the labor force on or after July 1, 1997 differ. The members of the old system will be offered a choice at retirement: either they can elect to choose their benefits from the old system (in which case all the money from the new system will be taxed away at 100% by the government), or they can choose an annuity from their accrued capital at retirement. The new entrants will not have a choice.

Bolivia (1997)

The old Bolivian pension system was introduced in 1959. Overall, coverage has been less than 12% of the economically active population. The coverage was concentrated on two main groups: government workers and teachers. The new system of pension in Bolivia has two elements: (1) a universal pension for all existing over 65 year olds (some 300,000 in 1997); (2) a 12.5% payroll tax to finance the retirement and disability (of the 12.5%. 2% goes towards disability insurance and survivors benefits and another 0.5% for administrative charges). The first part was engineered by selling state owned enterprises and using the proceeds to form a fund. The pension for 1997 amounted to US$250 per person. Although it is not a very large amount, it replaces 85% income of the extremely poor and 50% income of the poor (von Gersdorff (1997)). Both the universal pension and the new system of pension were brought under the same management to reduce the transaction charges that have plagued other Latin American systems. Two international bidders for managing pension funds were selected. The basis of selection was just one criterion: lowest charges for affiliates. Two companies will have monopoly over all of Bolivia except the four largest cities for the first five years. In addition, the funds would be allowed to invest in a global portfolio with very little restriction. In return, they have to guarantee a minimum rate of return.

El Salvador (1998)

In El Salvador, the newly privatized pension system was going to come into effect in mid-1997. However, the financial system went through a severe crisis because of fraud related bank failures. Therefore, introduction of the new system was delayed until April 1998. In terms of structure, the system of El Salvador is closest to the Chilean system. The new system is mandatory for all new entrants to the labor market as well as to all affiliates up to age 35. Male workers over 55 and female workers over 50 have to stay with the old system. The workers who switch to the new system will get recognition bond for their contribution to the old system. The recognition bond will be indexed to the consumer price index and carry a real rate of return of zero percent.

Contribution to the new system will start at a low 4.5% gradually increasing to 10% of salary in 2002. Workers will pay about one third of it and the employers will pay the rest (the exact division depends on the level of income of the worker). There are restrictions on types of investment the funds can make. Foreign investment is not allowed. There has to be at least 30% investment in the public housing fund (Fondo Social de Vivienda or FSV).

Different Models of Privatization

Many countries have run public pension schemes since the last century. The earliest example of a public pension scheme started in Germany in 1882. However, a fully funded but compulsory, publicly mandated pension scheme is a relatively rare phenomenon. The first such program was adopted in Singapore in 1955. After 35 years, a different approach was taken in Chile. There are similarities and differences in these blueprints. We lay out three possible models of publicly mandated schemes.

Singaporean Model: One Size Fits All

Singapore's Central Provident Fund is a government mandated government run pension fund. Each employee and his/her employer contribute 20% of wages into the fund. The fund is used to buy government bonds. The money is then invested (mainly) abroad. Retirement benefits can be taken as a lump sum with a small portion required for buying annuities. Unlike other government run systems (such as the US Social Security Scheme); it is an individual retirement system. The rate of return in each account depends on the bonds they are invested in. Most investment of the CPF is in foreign government bonds.

Chilean Model: Total Decentralization

The Chilean model is a publicly mandated compulsory plan like that of Singapore. However, unlike Singapore, the funds themselves are privately run (though closely regulated by the government). Each individual has a choice of many funds in which to invest. Each employee contributes 10% to the fund. The employer does not contribute at all. Withdrawal upon retirement could be a combination of lump sum and annuity.

Australian-Swiss Model: Middle Ground

This model is a publicly mandated compulsory pension scheme. The critical difference with the Chilean system is that enterprises not individuals choose funds. This has been credited to put a lid on the high transaction cost that has plagued the Chilean system. The main difference of this model with the Singaporean system is that money is not sitting in a central fund, but in private investment funds (Sinha and Sinha (1991)).

Special problems of developing countries

Developing countries face several problems that are less pervasive in the developed world. We will discuss them in turn.

Silent Majority

One problem that hardly anyone talks about is the special problem of women, especially in developing countries. The proportion of women tends to be larger for most age groups for many developed countries other than South Asia (India, Pakistan, Bangladesh) and China. We cannot ignore this cluster of countries as they account for nearly half of humanity!

Table 6 Number of women per 100 men in each age group

Region	20-39	40-59	60+
Northern Africa	99	102	110
Sub-Saharan Africa	109	105	104
China	94	90	110
India	90	94	95
Bangladesh	100	86	80
Pakistan	92	90	93
Iran	99	95	86
Indonesia	108	96	116
Other SE Asia	104	106	119
Other Asian LDCs	103	97	109

Brazil	102	109	119
Mexico	112	111	109
Other Latin	102	104	121
Total less developed	98	96	107
Russia	99	110	198
European Union	98	101	136
United States	102	99	131

United Nation Statistics Yearbook, 1999

The special problem that arises with women is that in the vast majority of the developing countries, most of the women are not paid to work. This can be clearly seen in the following table.

Table 7 Percentage of men and women in labor force

Percentage in labor force		
Region	Men	Women
Northern Africa	77	23
Sub-Saharan Africa	81	53
China	89	79
India	82	35
Bangladesh	90	57
Pakistan	87	13
Iran	82	10
Indonesia	85	51
Other South-East Asia	85	51
Turkey	79	28
Brazil	86	56
Mexico	87	41
Other Latin	82	49
European Union	77	56
United States	84	71

Source: International Labor Organization Yearbook 1999

Do these facts have real consequences? The answer is affirmative. Arenas de Mesa and Montecinos (1999) have conclusively shown that Chilean reform of pension system has increased income inequality among pensioners.

Informal markets

In most developing countries, the presence of informal labor market is pervasive. Why do market informalities exist? Informality is a way of avoiding regulation and taxes. In this paper, we will not touch upon regulatory issues. Instead, we will concentrate on taxes. Specifically, we will talk about payroll taxes. Informal labor markets saps the revenue out of the payroll tax. By definition, informality simply escapes the tax burden. Neither the employer nor the employee has to pay the payroll tax if labor is hired in the informal market. In some cases, both the employer and the employee would prefer not to pay this tax although at the end it might benefit the employee.

Bolivia provides a classic example of how informal sector can induce a crisis even when the population structure is young. Bolivia had a defined benefit pay as you go scheme for many years. In 1997, the number contributing to the system was 300,000. The number of people drawing a pension from the system was 120,000. Thus, the dependency ratio of the system was 40%. However, if we look at the dependency ratio of the population, it was less than 6% (see, Table 1). The percentage of GDP covered by the system was less than 12% (von Gersdorff (1997)). Most affiliates were either government employees (65% of the total) and another large constituent was the association of schoolteachers (30%). The Bolivian economy is dominated by the informal sector (see figure 1).

All Latin American countries have very large informal sectors. In 1990, 18% of GDP for Chile, 22% of Argentina, 35% of Colombia, 58% of Perú and 66% of Bolivia came from the informal sector (Loayza (1996)). In terms of employment, the informal sector is even bigger. Thus, with the Chilean model, the benefits really do not spread to the entire population. The system only benefits the formal sector. Some economists have argued that the informal sector is shrinking as a direct result of the privatization of the public pension scheme (Schmidt-Hebbel, 1997). This conclusion is without any foundation. From figure 1, we see no evidence of shrinking informal sector in any of the economies with reformed pension plans (even in Chile). If anything, the size of the informal sector is getting bigger in many of them.

Capital markets

One of the supposed roles of privatization of pension is to develop capital markets. The argument goes that privatization of pension will facilitate capital market development in a number of ways: (1) Development of the stock market for domestic capital. (2) Development of bond markets. (3) Development of hedging instruments. (4) Development of long term instruments such as inflation indexed long bonds and contingent annuities.

On the face of it, they are all plausible. However, the way privatized pension is actually structured in most cases, these developments are dubious. Stock market for domestic capital can develop only when the domestic pension funds are allowed to invest in them. With the exception of Chile and Bolivia, all other markets have severe restrictions on investment regimes of the pension funds. Therefore, the purported link is absent in most cases. Bond market development is also plausible. Again, the restrictions put on the pension fund investments precludes most *private* bonds. For example, on paper investment of pension funds in Mexico allows for domestic bond investment up to 30% of the portfolio. However, the restrictions put on them makes the actual investment less than 5% of the portfolio. Restrictions on the use of hedging instruments also severely curtail their development. There is some evidence that indexed bonds and contingent annuity markets are developing in Chile. However, the costs of using those instruments are not coming down any time soon. In other markets, these developments are still far into the future. Hence, at present, it is too early to judge them.

High commissions

Table 6 Administrative Costs of Public Systems as a Percentage of Expenditure

Latin America		OECD	
Argentina	2.3	Australia	1.22
Bolivia	21.39	Canada	2.8
Chile	8	France	4.18
Colombia	81.8	Germany	2.86
El Salvador	33.4	Italy	2.2
Mexico	23.55	Japan	1.79
Peru	130.98	Spain	2.81
Uruguay	6.51	Switzerland	3.04
		United Kingdom	3.1
		United States	3.28

Source: Mitchell (1996)

Table 6 above provides estimates of the cost of running the system of public pension plans (that is, a pay as you go system) in different countries during the 1980s. It contrasts the systems in the developed countries against the countries of Latin America undertaking the reforms. The exact figures are not very important here. We simply note that the cost in Latin America was five to a hundred times higher! In this sense, whatever we might argue against the high cost of running the new system of individual accounts, it is still likely to be less expensive than the earlier publicly run regime in Latin America.

Table 7 Comparison of Charges on Pension Funds in Latin America

Country	A	B	C	D	E	F
Argentina	7.5	3.45	0.91	2.54	33.87	2.66
Bolivia	10	3	2	1	10.00	0.53
Chile	10	2.94	0.64	2.3	23.00	2.08
Colombia	10	3.49	1.87	1.62	16.20	1.63
El Salvador	4.5	3.5	1.15	1.98	44.00	
Mexico	6.5	4.42	2.5	1.92	29.54	1.37
Peru	8	3.72	1.38	2.34	29.25	2.35
Uruguay	7.5	2.62	0.57	2.05	27.33	2.06

Sources: Queisser (1998, Tables 2.1 and 4.4) and Valdes-Prieto (1999a, Cuadro 1)

Notes: A = contribution as a percentage of wages

B = total charges (including commissions and insurance premium) in percentage of wages

C = insurance premium in percentage of wages

D = commission (B minus C)

E = commission as a percentage of contribution (D divided by A in percent)

F = commission reported in Valdes-Prieto (1999a, Cuadro 1)

Note: El Salvador figures are my own calculations. It should be noted that contribution is set to increase to 10% of wages.

Management fees across the countries in Latin American privatized pensions systems are provided in table 7. The actual commission (excluding the insurance premiums) is reported in column D (as reported as a percentage of wages). In column E, the same figures are expressed as a percentage contribution. It shows that commissions are extremely high compared with most public systems.

There seems to be lots of confusion about how commissions are reported by different researchers. Thus, in the same table, column F reports commissions quoted in Valdes-Prieto. These figures do not correspond to the figures in column D. Given that D and F are measuring the same thing, they should *exactly* be the same. Thus, even among researchers, there is much confusion about how commissions should be measured.

Reporting of Charges

In all of Latin America, companies charge management fees in three different ways: (1) Charge on contribution, (2) charge on balance, and (3) charge on rate of return.

Charges on contribution apply to contributions made by the individuals. For example, in Mexico, most of the AFOREs charge on the contribution.

Thus, if a person earns 1,000 pesos a month in Mexico, the actual contribution will be 6.5% of 1,000 pesos or 65 pesos. Hence, the charges in some cases will be a straight percentage of 65 pesos. Out of the 17 AFOREs started in 1997, 15 charge on the flow of wages. In fact, eight of them charge only on the wages and nothing else. How much do they actually charge? The charges are always expressed as a percentage of wages. Thus, a company that charges 1.5% would charge 15 pesos (1.5% of 1000 pesos). If we express the charges as a percentage of contribution, it will amount to 23% (15 pesos out of 65 peso contributed).

In a survey, we found that most people were unaware of how much they actually have to pay in Mexico (see Sinha and Benedict, 1999). This is a very important issue. For example, if we compare the final balance in the account, it will be 23% less with the management fees than without it.

Some researchers have argued that given the contributions go in tax-free (that is, when a person contributes 65 pesos, it goes into the system as pre-tax contribution), charges are merely substituting taxes. This view muddles the issue. The government uses taxes whereas charges (or management fees) go into private hands.

Regardless of the performance of the fund, charges apply. What incentives do these companies have to provide the affiliates with high rates of return? The only recourse for the affiliates is to change funds.

Charges on balance apply to the money in the account as a whole. Charges on balance can be a deceptively small number where, in reality, they amount to a large sum. For example, suppose charges are 1% on the balance. Let us suppose a wage growth rate of 0%, a (real) interest rate of 4% and a working life of 40 years. This one- percent is equivalent to a 20% charge on contribution!

The intuition behind the comparison is the following. Suppose a fund with charges on the balance has a 4% rate of return (before the charge). This is approximately equivalent to a 3% real rate of return (after charge) assuming one percent charge on the balance. Thus, the accumulated balance after 40 years with and without charges would be approximately equivalent to comparing two funds that pay 3% and 4% respectively. The magic of compounding generates the 20% difference in outcome after 40 years.

Diamond (1999) reports some generic calculations on charges. He finds these calculations so important that he reproduces the entire set of calculated values for both of these papers. He comes to the following striking conclusion (in the context of the United States). "Thus, privately-organized accounts are likely to deliver accumulations at retirement that are at least 10-15 percent lower than could be delivered by government-organized accounts, and quite possibly even lower" (Diamond, 1999, p.23).

Mexican Example

To make the AFOREs comparable, we have to make a host of assumptions about many things. For example, we have to assume some wage rate (and wage growth rate), inflation rates, and number of years of work. Then, we have to run simulations to make them comparable. Thus, for a layperson it is very difficult to compare different AFOREs.

Charges on rate of return can apply to the nominal rate of return or to the real rate of return. In Mexico, for example, Inbursa charges as follows. If the real rate of return is zero or negative, the fund does not charge anything. If the real rate of return is positive, Inbursa charges a management fee of 33% on the real rate of return. Thus, charges are extremely nonlinear expressed as charges on balance or charges on contribution.

Policy Lessons

Role of the World Bank

There is little doubt that the World Bank (along with the International Monetary Fund, and Inter-American Development Bank) had an enormous impact on the restructuring and setting up of multipillar systems around the world. In particular, it had a big impact on pension reform policy in Latin America. The result can be seen in the proportion of countries that have reformed their pension systems in different regions in the world. For example, Schwarz and Demirgüç-Kunt (1999) provides a map of the world indicating different regions where major and minor reforms in the existing social security were undertaken. The Latin American region shows the biggest rate of change towards privatization (along with Eastern European countries).

Why was the World Bank involved in restructuring the pension systems? According to Holzmann (1999), there were several reasons: (1) With the World Bank involvement in restructuring the government loan rescheduling, it began to help set policies that are consistent with feasible repayment of loans. Repayment of loans directly affects the government budget. So does the pay as you go social security scheme. Therefore, it was essential to get the government budgets in these countries in order. (2) Collapse of the Soviet Union left a big vacuum in an entire range of countries in Eastern Europe. The World Bank stepped in to help these governments to rebuild their activities. In most Eastern European countries, the old system of pension payment collapsed. The World Bank involvement came naturally as a part of general restructuring.

Robert J. Myers, the past Chief Actuary of the Social Security Administration of the United States (in the Record of the Society of Actuaries, 1997) argues that there is coercion on the part of the World Bank. He believes that the coercion to change from a pay as you go to a fully funded system is going to be counterproductive. "I predict that in five to ten years, many of these countries that are being coerced by the World Bank are going to be in one horrible mess. I don't think that the World Bank is planning it that way, but I just think it's going to work out that way."

This view was strongly opposed by Dimitri Vittas of the World Bank (in the Record of the Society of Actuaries, 1997). He declared, "In the World Bank, we're not in the business of coercing anyone. We don't have that much power. People exaggerate and even see us as providers of finance. I made the point that we are a marginal lender; we're not the main lender in any of these countries, even the poor countries. We are not in the business of coercing any person. If we were, there would have been far more uniformity in the programs, and there isn't."

Fully Funded System as an Alternative

When a pay as you go system has a low coverage in an economy, abuse of the system leads to a far greater dependency ratio than would be warranted by the population structure. For example, in 1992, there were 12 contributors per retiree in the pay as you go pension scheme in Colombia. Nevertheless, the benefit per retiree was 1.23 times the minimum wage (Valdes-Prieto, 1998). In a fully funded, defined contribution private scheme, individual account holders will not allow such leakage from the system (James, 1997a, b). However, there is a danger that the formal sector would shrink as a result of the rising costs of labor due to an additional payroll tax. This problem exists in both a pay as you go system as well as a fully funded system. Researchers claim that the informal sector shrinks if a fully funded scheme is introduced (Schmidt-Hebbel, 1997).

Timing of Reform

The problem of the pay as you go system that arises from the population aging is almost entirely predictable. Therefore, it is better to reform the system early enough to avoid future problems arising from population aging. Unfortunately, any solution to a problem that will arise decades later is generally not politically saleable. This problem is clearly illustrated in the case of the United States. It is well known that the present Social Security will run into problems twenty years later. No political party is willing to take measures to fix the problem that will prove unpopular with the voters now. In Uruguay, the problem arising from the change of the structure of the population was not addressed early enough although it was recognized early. On the other hand, in other countries such as Peru or Mexico, it did not come to that (partly because the problem was already acute due to high system dependence).

Consistency Requirement

Pension reform requires changes in policy, not just in pension policy, but also in other types of government policies such as fiscal policy. It must also be tied to liberalization of other sectors of the economy. In particular, pension reform cannot happen without a privatized financial sector.

Funding Transition

Funding the transition generation is tricky. The transition generation means the generation that has no corresponding future generation to finance its benefit in a pay as you go system. The future generations are paying for themselves. Thus, the transition generation has to be funded from somewhere when they retire. Essentially, one of two things has to be done: (1) reduce the benefits of the transition generation, or (2) make the future generation(s) pay for the transition generation.

Reduction of benefits of the transition generation can take many different forms. For example, in Chile, the government ran big budget surpluses to "pay for" the transition generation. A budget surplus means lowering of benefits of the current generation (not necessarily in the form of lower pension benefits but perhaps in the form of reduced expenditure on public goods). The essential color of the proposition is the same: reduced benefits. Reduction in benefits may take other forms. For example, in Mexico, in the 1980s, the benefits were reduced in real terms through high inflation (although inflation was not engineered for that purpose).

Increasing the burden of future generations can take many forms as well. For example, one simple device is to issue "recognition bonds" for the transition generation in recognition for its past contribution. The recognition bonds entitle the holders to some benefits at some future dates. Given that the government has no resources of its own, the only way the benefits can be financed is through taxes. In other words, recognition bonds are not "net wealth" to the society. The government needs to raise taxes to pay for them on some future generations. It can be spread out over several generations - thus, lowering the level of burden for future generations to some extent.

The experience from Latin America shows that many of these devices can be applied successfully even in democratic political systems. Although these measures of financing were considered possible theoretically, it was not clear whether they could be used practically until they were implemented in Latin America.

Pension Reform in a Democracy

When the first pension reform took place in Chile, it was executed under a military regime. Therefore, whatever were the merits of the reform there, it was not clear whether Chilean type reform could be executed in democratic countries. It has been shown in Argentina and Uruguay that at least a partial shift to a funded scheme is possible in a vigorously democratic system. In many other countries in Latin America, the political systems under which changes took place were run by systems dominated by one political party. Thus, even for developed countries in the OECD, it might be possible to execute pension reform in the style of Argentina. In another context, the experience in Argentina might be relevant for the OECD: the population structure of Argentina is very similar to the developed countries.

Special People, Special Cases

Among self-employed people, the coverage of most of the privatized schemes has been patchy. Again, it probably does not matter for professionals such as doctors and lawyers, who are likely to have their own means for retirement. However, for low-income self-employed people such as street vendors, or taxi drivers there will not be enough provision for retirement (The Economist, 1998a). In the countries in Latin America, the largest concentration of self-employed persons is in the form of domestic servants, street vendors and the like (especially in the urban areas). Thus, in some countries, more than half the workers are completely excluded from any form of formal retirement system. Even in developed countries, the (voluntary) participation of the self-employed is at best patchy. Therefore, it is unlikely that the self-employed will ever have substantial coverage. A similar problem arises for women.

Fiscal Consequences

With a few exceptions (such as Chile in 1981), most Latin American countries have been running budget deficits for a number of years. During transition, either explicitly (like issuing recognition bonds) or implicitly, the people in transition have to be funded from general revenue. Some governments have pledged proceeds from government assets to finance such transition, others have made vague promises that they will be financed by issuing bonds without explicitly saying who will eventually pay for the bonds (such as Mexico). External factors can easily derail government budgets and thereby generate uncertainty about transitional financing of pension plans (Ayala, 1997). For example, the "Tequila Effect" in Mexico in 1994 affected the rest of Latin America although they were not responsible for it. In 1998, the oil price fell dramatically putting pressure on the government budgets of Mexico and Venezuela as the governments in these countries rely on oil revenue as an important source of revenue. Therefore, external factors can easily squeeze the life out of the pension reform process.

Low-Income People

Small account holders are always vulnerable to the problem of ending up with not enough in their personal retirement account. The largest such group in the population are typically women. Women (in most countries) do not spend sufficient time in career jobs to qualify for enough (meaning below minimum wages in most cases) pension income. Charges on retirement accounts normally have two components: one fixed (independent of the amount of money in the account) and the other variable (proportional to the contribution or balance in the account). For small account holders, the bite from the fixed charges dissipates the balance.

This is nothing new. With compulsory systems, the problem looms large, as workers do not have an option of opting out of the system. In the case of Australia, it has been well documented in Benedict and Sinha (1994).

Even in Chile's highly successful program, there is big heterogeneity. At the end of 1995, over 35% of the affiliates in Chile have less than US$500 in their accounts. Even more surprisingly, more than 50% of the affiliates have less than US$1230 in their accounts (Shah, 1997). Some of these account holders are undoubtedly new entrants in the market, but they cannot make up for 50% of the affiliates.

More generally, any defined contribution system without a safety net does not serve every worker. In a defined contribution world, the workers bear all the risk individually. Thus, people with low levels of income suffer in such a system (Heller, 1998).

Given that women tend to have lower lifetime income than men, this problem is severe for women.

Sequences and Consequences

Sequencing social security reform is an important aspect of the process. Financial markets, banks, insurance companies all play a role in developing social security reform processes. Without regulatory reform in the financial markets (bond market and stock market), the money generated in the pension reform does not flow into productive investment (Morande, 1996). Vittas (1995) argued eloquently on this issue: "One of the most difficult issues facing any type of reform is how to sequence particular reform measures. Clearly, the answer must differ from country to country and must take into account of a local circumstance, not least of which is the political feasibility of particular measures. Economists and specialist advisers often pay lip service to such country specific factors and then proceed to propose an optimal path of reform that disregards the constraints of local factors." (p. 11)

Management Fees

We investigated the cases of Latin American countries that have reformed their pension systems. With the exception of Bolivia, all the other countries have "management fees" in the region of 15% to 20% of the annual contribution. In some of these countries, these fees are obscured by the fact that the governments allows the funds to lump their management fees with death and disability insurance.

The upshot of the management fee is that the final benefits at retirement are 15% to 20% lower than what it would have been in the absence of the fee. Even the supporters of reform acknowledge that the fee is very high (James, 1995). In defense of high fees, some supporters point out that in the case of mutual funds in developed countries, the management fees can be of the same order of magnitude. This argument is invalid. For the affiliates of mutual funds, there is a choice. They may or may not join a mutual fund. For countries with a compulsory second pillar (that includes all the countries in question), there is no choice. Affiliates do not have an option of opting out of the system.

Most funds in most of Latin American charge the fee "up front". That is, fees have to be paid when contributions are made. This creates an additional incentive problem. Fund managers would have less incentive to manage the fund well if they get their commissions right at the start. In other words, it reduces the incentive for fund managers to maximize the rate of return of the fund. There is no incentive for them to do so when the fees are fixed and have no relation with the performance of the fund.

Others have put a different spin to the management fees. For example, Valdés-Prieto (1998) argues that the high management fees are an outcome of regulatory distortions of the commissions!

Unfortunately, the problem of management fees does not stop at the point of contribution alone. At the point of retirement, the affiliate has to choose between a programmed withdrawal and an annuity. In many countries, only a certain amount can be taken out in the form of a programmed withdrawal. Buying an annuity is the only other option. The management fees for annuities can be large. In Chile, the average fee is 5% (Queisser, 1999, p. 27). Thus, a person buying an annuity immediately loses 5% of the value of the deposit in the form of management fees. This is not a phenomenon of a developing country like Chile. For example, Murthi et al. (1999, p. 44) report fees in the order of 5% to 10%.

Monopoly Anyone?

One solution suggested by the Bolivian example is to grant a monopoly. This would presumably reduce the management fees. There is little doubt that in Bolivia monopoly has reduced charges substantially (see table 7). However, Sinha (2000) documents that the presence of monopoly has affected the service provided by monopolist. As any economist will tell us that we should expect it in a monopolistic market.

Conclusions

Some researchers have concluded that privatization of pension systems in the developed countries bring no benefits at all (see, for example, Brown, 1997). Others have supported privatization wholeheartedly (see, for example, Kotlikoff, 1996). Thus, we have no hope of a consensus about privatization in developing countries. With more severe labor and capital market problems, the case for privatization weakens even further for the developing world.

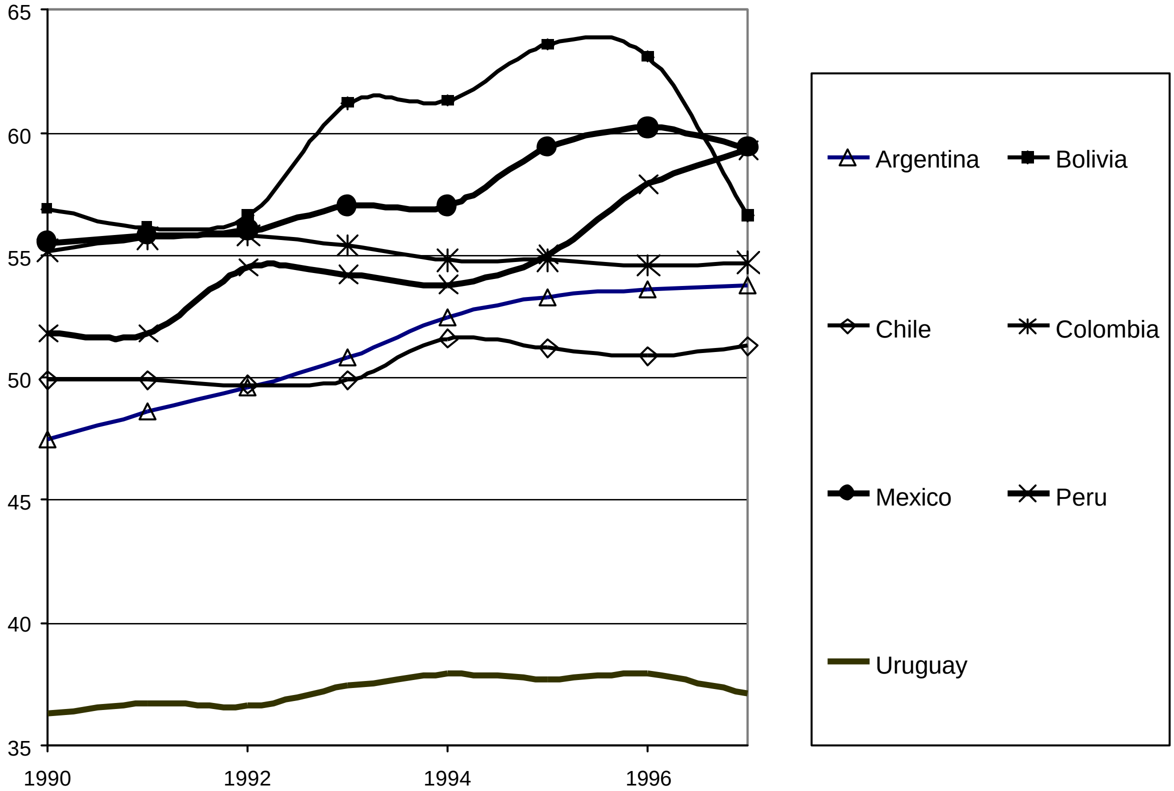

Figure 1 Size of Informal Sector in Latin America

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