Financing of Pension. When Privatization of Pension Is Not Like Privatization of Other Government Activities

6.1 Introduction

Pension privatization is unlike any other government privatization scheme. When a government privatizes some activity (say a national airline), it generates income from it. On the other hand, when a government privatizes a national pension scheme, instead of generating income, it produces an additional hole in the budget. The reason is simple. Almost all government-run pension schemes are pay-as-you-go. Therefore, there is a problem of paying the transition generation. In what follows, we will clarify some definitions. Then we will show why privatization by itself does not lead to higher rates of return. Finally, we will discuss privatization in Mexico in light of these general principles.

6.2 Definitions of Defined Benefit Versus Defined Contribution

A *defined benefit plan* specifies the amount of money that the retirees will have upon retirement in the form of a contingent annuity. It is usually specified as a proportion of earnings. Sometimes, the reference period for earnings is one year, but in most cases, it is set as the average earning of several years.

A *defined contribution plan* simply means that a worker keeps contributing to an account. The account accumulates, earning interest. Upon retirement, the worker gets whatever is in the account. In many cases, the worker is not allowed to withdraw a lump sum. Instead, the money has to be used to buy an annuity. In some cases, the workers are allowed to withdraw according to a ''programmed schedule''—a fixed amount every year over a fixed number of years.

6.2.1 How Do Defined Benefit and Defined Contribution Systems Compare?

First, the obvious: a defined contribution plan puts all the risk squarely on the worker. Workers bear the risk of the rate of return. Rates of return on funds are uncertain. The rate depends on macroeconomic shocks, investment strategies and many other factors. Buying an annuity is difficult. The price of an annuity depends on the prevailing interest rate. If, for example, the interest rate is high at the time of retirement, the worker could ensure a high rate of cash flow. Since the interest rate at a given time is completely beyond the control of a worker, he is left to the fate of macroeconomic conditions at the time of retirement. Real interest rates vary enormously over time—even in developed countries. By the same token, the volatility of the interest rate can also reduce the value of the money in the account at the time of retirement. It is not uncommon to have a negative rate of return on a fund in a given year. Thus, the worker retiring one year later is being penalized for no fault of his own. There is uncertainty about the length of life itself. This risk is also borne by the worker in a defined contribution system.

Second, there are more subtle effects of legislative changes (Diamond, 1998). Defined benefit schemes,

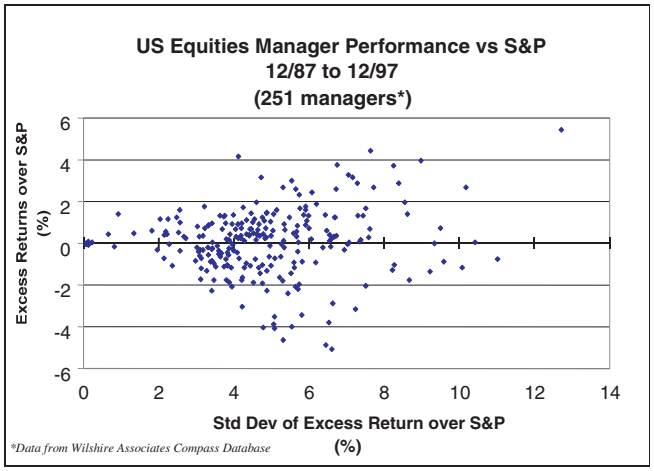
especially the schemes run by the government, typically require legislative changes if contribution rates or benefit rates are to change. For example, for many countries, benefits were not indexed to consumer price index. If, in those countries, there is a high rate of inflation, the values of benefits erode. This has been the case in Russia in recent years. Until 1970, it was also the case in the United States. The problem can be avoided by setting up legislation to automatically adjust for such changes. In many countries now, the benefits (and contributions) are automatically adjusted for inflation. In most countries, the age of eligibility is not automatically adjusted for changes in life expectancy (except in Sweden). Changes in the age of eligibility still require legislative changes. Defined benefit plans will gradually become less viable if the mortality rates (at higher ages) keep declining. Defined contribution plans do not suffer from this problem.

Third, defined contribution plans can subtly alter the level of welfare within a family. In many countries, upon retirement, the worker (an overwhelmingly number of male workers) is required to buy an annuity. In most cases, the male workers buy single life annuity (which provides money as long as he lives) and not a joint life annuity (which provides money for the last surviving partner). Thus, there is a large drop in income for widows. Defined benefit plans typically provide substantially more benefits for the widows.

Fourth, there is a big difference in ''management fees'' for privately provided defined contribution plans versus government provided defined benefit plans. For the United States, the difference can be five- to tenfold (see, Diamond, 1998, for details). Thus, even for the same country, there is huge difference in the net rate of return for the contributor (net of management fees). An obvious counter-argument is that the private funds claim that they provide superior rates of return, and, therefore, the difference in fees is justified. The evidence does not always support this position. Consider the ten-year rates of return of equity funds in the United States during 1987 and 1997. Figure 6.1 shows that fund managers are performing hardly better than a possible passive investment strategy of putting money in a fund that maintains a portfolio close to a Standard and Poor 500 stock portfolio. Presumably, the management fees for such funds would be very low.

This is an issue with serious consequences. In many countries (for example in Chile and Mexico), the accumulated fund is 20% less than what it would have been without any management fees (more details in Sinha, Martinez and Barrios-Muñoz, 1999). Thus, the effects can be very great. This is more serious for countries with privatized pension systems for the following reason. The fund managers (especially in Mexico) have very little latitude for choosing funds because of the restrictions imposed by the regulatory body. Thus, there is great doubt as to whether the fund managers are actually able to do anything more than simple bookkeeping. If this is so, is there any justification for such high management fees?

FIGURE 6.1
EQUITY MANAGERS' PERFORMANCE OVER A BENCHMARK FUND



Source: This graph is taken from Muralidhar and van der Wouden (1998)

One claim frequently made by proponents of a defined contribution plan is that a defined contribution plan makes the link between contributions and benefits tighter. Therefore, it is better to have a defined contribution plan (James, 1998). Labor market problems due to social security arise on two fronts: (1) making retirement decisions and (2) the labor supply of younger workers who pay the tax that finances social security.

Availability of social security affects retirement decisions. Probably the availability of retirement income permits some individuals to retire who would not have saved enough otherwise. Diamond and Gruber (1997) note that income availability and not tax distortion is the main driver of retirement in the US for most 62-year-olds. It does not depend on income levels; that is, higher income does not induce more work.

Usually, the defense for a defined contribution plan is made through three separate sets of arguments: (a) macroeconomic arguments (such as the defined contribution plan leads to higher saving); (b) microecon-

omic arguments (such as the defined contribution plan leads to higher rates of return); and (c) political economy arguments (such as the defined contribution plan leads to more choices for the workers).

Muralidhar and van der Wouden (1998) point out that most of the comparisons between defined benefit and defined contribution plans are never made on equal footing. For example, the famous comparison between private and public funds of the World Bank (1994) never considered the risk. A proper comparison should include the following: (1) identical predefined target replacement rates; (2) funded with identical contributions between defined benefit and defined contribution plans; (3) centralized governance with privately managed investments; (4) the possibility of passive and active investment options relative to market benchmarks.

They claim, ''a superior defined benefit model, called a contributory defined benefit, could be developed to improve macroeconomic welfare in these countries. In a mandatory setting, it is easy to adapt the advantageous features of a defined contribution (or Provident Fund) plan into a defined benefit at a national level, but not possible to do the reverse.''

6.3 Funded Versus Unfunded Pension Comparison

A funded pension scheme means that the amount of money accumulated can be paid out to retirees even if there is no additional revenue (at least for some time). A fully funded scheme means that if the tax for funding retirement is stopped at a given time, the workers will be able to receive an actuarially fair value of their contribution. Funding and privatization should not be confused. It is perfectly possible to have a fully funded *publicly managed* centralized scheme.

A classic example of such a fund is the Central Provident Fund (CPF) of Singapore. It is fully funded; every contributor gets what is accumulated in his account at retirement. It is centralized; there is only one fund—the CPF. It is mandatory to contribute: workers (and employers) do not get the option of not contributing to the system. Nevertheless, it is not privatized. The entire mechanism of what happens with the fund is in the domain of the Singapore Government Investment Corporation (SGIC). SGIC is not accountable to the affiliates. It does not have to tell affiliates anything about profits it makes or losses it suffers. The government does not make the portfolio decisions of SGIC public. It simply pays a certain interest rate to the affiliates.

6.3.1 Is the Unfunded System Viable in the Long Run?

We need to identify the factors that cause an unfunded system to become nonviable. First, the unfunded system cannot possibly pay the same rate of return for all generations. Thus, with unrealistic expectations, later generations can view lower rates of return as a failure. Second, we cannot expect the system to stay viable if benefits are indexed to inflation whereas taxes are not. Third, an unfunded system critically depends on demographic variables. A fall in mortality rate or a fall in fertility rate can easily put the system out of fiscal equilibrium. Fourth, if there is a change in the labor force participation rate of the elderly (or some other relevant behavioral change), a viable system can rapidly become nonviable.

6.4 Analysis of Publicly Mandated Privately Administered Pension Systems

To understand the thrust of privatization, it is useful to recall the features of publicly provided pension systems around the world. A few countries in the world have adopted a privately managed pension system. The world is dominated by publicly provided and publicly managed pension systems.

According to Diamond (1977), there are six underlying elements of publicly provided pension systems. (1) It provides forced saving or income that cannot be spent prior to retirement. (2) It provides three insurance features: against earnings losses, against disability and against high longevity. (3) It redistributes income from high to low lifetime earners. (4) It is essentially a pay-as-you-go system. (5) It is controlled and administered by the government. (6) It is a defined benefit plan.

So what exactly does privatization mean? In an extreme privatization plan, all six elements have to be dismantled (Friedman, 1999). Most researchers advocating privatization do not advocate such an extreme position. For example, privatization (according to Mitchell and Zeldes, 1996) has two key elements. (1) There is a two-pillar system. The first pillar consists of a minimum pension for retirees who contribute to the system over a full lifetime of work (which may

or may not be means-tested). The second pillar is a defined contribution plan financed by payroll taxes held in financial institutions. (2) Compensation for the current pay-as-you-go system participants is in the form of recognition bonds.

The pay-as-you-go system provides household insurance against: (1) shocks to earning, (2) length of life and (3) inflation (in some cases). There is a close link between insurance and redistribution. Insurance provides a transfer of income based on unpredictable outcomes (e.g., death). Redistribution provides a transfer based on predictable outcomes (e.g., low income).

The problem with the pay-as-you-go system is that it introduces political risk into the system. Any policy-induced change can dramatically change the benefit structure. For example, in Mexico, the pay-as-you-go system was tied to the minimum wage (i.e., benefits were paid out as multiples of minimum wage). However, the minimum wage used for calculating pension benefits was not indexed (until recently). Thus, with inflation, the real value of minimum wage eroded. So did the real value of pension benefits.

Privatization has political costs too. Consider the example of Mexican privatization. In Mexico, the government has not clearly stated how it will finance the promise made to the generation that has contributed under the pay-as-you-go and is entitled to benefits. It has financed it by issuing government bonds and forcing the AFOREs to buy those government bonds. This has serious economic consequences (see below).

The contingent annuity market may not exist in a privatized system. The problem arises from the natural adverse selection problem. If there is a difference in information about lifetime risk between the buyers and the sellers of annuities, the sellers might only attract the individuals with long life expectancy. The pay-as-you-go system implicitly solves the problem by making it mandatory. In a privatized system, we can solve this problem by making annuity purchase mandatory. In most countries in the world where we observe privatized pension plans, annuity purchases are not mandatory.

Can we make the privatized system provide an indexed annuity so that the retirees are protected against inflation? This is a more serious problem. The answer paradoxically depends on the government creation of an inflation-indexed bond market. Even in the highly developed capital market of the United States, the problem remains the same (Technical Panel Reports, 1995).

A pay-as-you-go system redistributes income from workers with a high lifetime income to workers with a low lifetime income. The method is simple. All workers pay the same fraction of income into the system. But the workers with low income get a larger proportion of income replaced by the system. This process is more apparent than real. The simple reason is there is a high correlation between income and longevity. Low-income individuals may get a larger fraction of income replaced by the system annually. On a lifetime basis, they may still end up with lower benefits because of lower longevity. A privatized system, even if it has a minimum pension component, is less likely to be as redistributive as a pay-as-you-go system.

6.5 Confusion about Terminology

There is much confusion about the term ''privatized.'' Geanakoplos et al. (1998b) provide a useful set of definitions on which to hang different aspects of the debate.

> Privatization: Replacing a mostly unfunded defined benefit scheme with a defined contribution system of individual accounts held in the name of individual workers.
> Prefunding: Raising contributions and/or cutting benefits so as to lower the sum of (explicit and implicit) debt associated with a pay-as-you-go system.
> Diversification: Investing funds into a broad range of assets (including private company bonds and equities).

To this list, we should also add another pair of terms used in this context: defined benefit and defined contribution (defined earlier in section 6.2, see also Orszag and Stiglitz, 1999).

6.6 Some Real-Life Examples

It is important to recognize that it is perfectly possible to have any combination of these four elements in a pension system. For example, the Central Provident Fund in Singapore is an example of a pre-funded, defined contribution, privatized and yet a government-administered system.

The privatized Mexican system is one where workers are given a private account where (almost) all the money is invested in government bonds. This is an example of privatization without diversification.

Privatization is possible without prefunding. In Latvia, payroll taxes are collected by the government and

paid out to the retirees immediately. At the same time, the workers are credited with ''notional accounts'' with paper returns on contributions (see Fox and Palmer, 1999).

The Chilean system is an example of all four elements: it is a privatized, prefunded, diversified, defined contribution system. This does not imply that there is no regulation on any of these four dimensions in Chile. There are severe restrictions on diversification. There are restrictions on how much money each worker can put in his/her account every month. Additional restrictions are also imposed on the rates of return of funds.

6.7 What Are the Benefits of Privatization?

Geanakoplos et al. (1998a, 1998b) examine the claim that a privatized, diversified pension system could deliver higher returns (for the U.S.) without any additional prefunding. They show, however, that if all past promises were honored, the privatized pension system would not deliver higher rates of return.

6.7.1 Why Privatization Is *Not* the Key

Consider the model depicted in table 6.1. Each generation lives for two periods (young and old). The initial generation (G1) is old at time t1. They receive \$1 per head by taxing generation G2 at time t1. Similarly, G2 receives \$1 by taxing G3 in t2. G3, in turn, gets \$1 in t3 by taxing G4. This process continues indefinitely.

Let us now consider two systems: pay-as-you-go and a switch to privatized system. We will consider the outcomes in turn.

Pay-as-you-go: It is easy to see that each generation (except the generation G1) pays \$1 in one period and gets \$1 in the following period. For example generation G2 pays \$1 in t1 and gets \$1 in t2. Therefore, the rate of return is zero.

TABLE 6.1
PAY-AS-YOU-GO SCHEME

Generation	G1	G2	G3	G4
Time t1	+\$1	−\$1		
Time t2		+\$1	−\$1	
Time t3			+\$1	−\$1
Time t4				+\$1

Privatized scheme: Let us assume that the investors are only allowed to invest in bonds under a privatized individual account system. Let us suppose that the system starts at t2. Suppose the rate of return on the bond is 5%. It might seem that the individuals in generation G3 would now get \$1.05 in period t3 rather than \$1 in the pay-as-you-go regime. Note that the \$1 that is owed to G2 has to be paid from somewhere. Suppose that the government pays G2 by selling bonds in t2. The only way the government can sell the bonds is to offer a market interest rate of 5%. In other words, the government owes \$1.05 in t3. If the government simply wants to keep the principal of the loan at \$1, it has to pay for the interest payment in t3. If this five cents (\$0.05 = \$1.05 − \$1.00) is to be paid for by taxes, it is likely to tax the younger generation. Thus, the net gain of G3 would be \$1.05 (from bond holding) minus \$0.05 (from tax payment). Thus, once the interest cost (through taxes) is included, G3 does not gain anything from the new privatized system.

Once the government has borrowed that \$1, private accounts do not generate any additional national savings. The \$1 extra in private accounts is exactly offset by \$1 extra borrowed by the government. With no added savings at the national level, there would be no additional capital formation and therefore no increased wealth for future generations. In future years, nobody in the society will have more income than they would under a pay-as-you-go system.

The result can be worse for the retired old. If the taxes are paid (at least in part) by the old, they will be worse off. Instead, if the benefits are cut, the retired generation will be worse off as well.

There is one way of making *future generations* better off by privatization. Suppose young people direct their \$1 contribution to privatized individual accounts. The \$1 hole is now ''financed'' in two parts. The government cuts the benefits of the current old generation by \$0.50 and imposes an additional tax of \$0.50 to the current young generation. This means no new borrowing is necessary to finance anything else in the future. Future generations will be able to enjoy the 5% without offsetting taxes.

Of course, there is no free lunch. The above process will make the current old generation worse off. They will see their benefits dwindle by \$0.50. In addition, even though the current young people will get a 5% rate of return on their investment, they will also pay an additional tax of \$0.50.

The essential nature of this argument does not change if we have other forms of financing schemes. For example, if all generations hold diversified port-

folios (with bonds and stocks), it does not alter the conclusion. The main insight is that higher rates of return for stocks also have higher risk.

In summary, privatization of accounts by itself does not have any effect on the economy as a whole. Benefits from privatization only come from raising taxes or cutting benefits (or both), which might then be used to raise national saving.

This way changing the focus of the problem has led some researchers to radically different policy prescriptions. Cutler (1999, pp. 127–128) says:

> Rather than focussing so heavily on whether we should have private accounts or not, the better question to ask is whether we should have a tax increase or cut in government spending that can be used to increase national saving. . . . [T]here is no reason why this additional saving need be done through social security. One could just as easily raise non-social security taxes and cut non-social security spending and build up the same surplus.

6.8 Privatization Versus Full Funding

There seems to be a lot of confusion among researchers with the terminology used. Some seem to use the term privatization synonymously with full funding. Full funding means each worker's money is invested individually. Contributions by one generation are not linked to benefits of another. It is perfectly possible to have a fully funded scheme that is not privatized. Singapore is an example of a publicly managed fully funded system.

Is privatization of pension schemes different from privatization of other government activities? According to Espinosa and Russell (1999), the answer is affirmative. Here we follow their argument.

There are two types of pay-as-you-go systems. One is a simple tax transfer scheme. In this scheme, a government agency is charged with the responsibility of collecting taxes from workers and making transfer payments to the retirees. In the United States, the Social Security Administration is an example of such an agency.

Another pay-as-you-go system is where the government uses contributions (taxes) from workers to buy government bonds. The government budget agency then uses the proceeds of the bond sale to pay off bonds it issued earlier. These bond-financed repayments constitute the social security benefits of current retirees: the social security system bought the maturing bonds using past contributions. The returns on the currently issued bonds will constitute the social security benefits of future retirees.

The government budget agency will pay these returns by issuing new bonds to the social security agency, the agency will buy them using the contributions of future workers, and so on. We will call the scheme a bond transfer program. Under this scheme, if the social security agency wishes to pay benefits that are larger than the bond returns, it will have to ask the government budget agency for funds it can use to make supplemental transfers to retirees.

The budget agency will obtain these funds by selling more new bonds, each year, than it needs to obtain the funds necessary to pay off its maturing bonds. On the other hand, suppose the social security agency plans on paying benefits that are smaller than the bond returns. Then it can ask the government to levy taxes on retired people that are equal to the difference between the bond returns and the desired benefits. The budget agency can use this tax revenue to reduce the quantity of new bonds it needs to issue to finance current social security benefits.

In economic terms, there is no fundamental difference between a tax transfer pay-as-you-go social security scheme and a bond transfer pay-as-you-go social security scheme. In a bond transfer scheme, the bond issue posits an illusion of asset-creation. But, the sole purpose of the bonds is to engineer a transfer payment to the retirees. In a practical sense, benefits of the current retirees come from the contributions of current workers.

To understand the equivalence, it is important to remember that a government bond is simply a promise by the government to make a payment in the future. A government promise to make a payment, to pay off a bond, is not fundamentally different from a government promise to make a payment for social security benefits.

If the government requires you to buy bonds and promises you future payments to retire the bonds, then it is not doing anything essentially different from requiring you to pay taxes and promising you a future transfer payment.

In many countries, a transition from tax transfer to bond transfer has been made. This process, by itself, does not mean a full funding. While a switch of this type may have some economic benefits, these benefits are likely to be considerably smaller than the benefits produced by a genuine switch to a fully funded social security system.

How do we distinguish the pay-as-you-go system from fully funded systems when both are bond-based?

One source of confusion in distinguishing pay-as-you-go systems from fully funded systems is the fact that it is possible, under either system, for social security contributions to be used to purchase financial assets including government bonds. Under a bond transfer scheme, contributions are used to purchase financial assets, but these assets are government bonds. Under a fully funded system, social security contributions are always used to purchase assets, some of which may also be government bonds.

When both types of systems purchase government bonds, an important distinction between them involves the question of why the government bonds are being issued—for what purpose the proceeds of the bond sales are being used.

Under a pay-as-you-go system, when bonds are purchased with current social security contributions, the sale proceeds are used to refinance bonds that were originally issued to pay social security benefits. The existence of the social security system provides the only reason the government needs to issue the new bonds, and it provided the only reason the government needed to issue the old bonds.

In contrast, under a fully funded system, the government bonds that the social security system purchases were issued for some other purpose. For example, the bonds could have been issued to finance a current government project, or to refinance bonds that were originally issued to finance a past project. The government does not use the proceeds of these bond sales to refinance bonds that were issued to pay social security benefits, and the bonds would have been issued even in the absence of a social security system.

The distinction is important. The key feature that distinguishes a pay-as-you-go from a fully funded system is the sources of the current retired people's benefits; part of the current workers' income vs. the return on the current retirees' own assets.

6.9 Defined Benefit and Defined Contribution

Another important feature that distinguishes some social security systems from others is the nature of the relationship between a worker's current social security contributions and the worker's future social security benefits. Under a defined contribution system, a worker's social security contributions are used to purchase assets and the size of the worker's social security benefits depends on the rate of return on those assets. If the rate of return on the assets turns out to be high then the worker will receive relatively large retirement benefits, and vice versa. Under a defined benefits system, a worker's contributions may be used to purchase assets or to finance direct transfers to retirees. In either case, however, the worker's retirement benefits do not depend on the returns on any assets. Instead, they are determined by a fixed formula that involves factors like how many years the worker worked, how large her/his wage or salary was, how early she/he chose to retire, etc.

This problem with identifying a defined benefit scheme with a pay-as-you-go scheme has been noted by other researchers. For example, Orszag et al. (1999, p. 3) noted:

> It is important to recognize the distinction between defined benefit and defined contribution plans on the one hand, and pay-as-you-go and funded systems on the other. In most popular discussions, public defined benefit plans are assumed to be pay-as-you-go and defined contribution plans are assumed to be funded. But a defined benefit plan could be funded or pay-as-you-go; similarly, a defined contribution plan could be pay-as-you-go or funded.

At present, the United States has a defined benefits system. Up until recently, Mexico had a defined benefits system before its recent social security reform. Its new system features a bond-financed scheme that is not quite a defined contribution plan.

From the point of view of workers, the attraction of a defined benefits system is that it reduces the amount of uncertainty about the value of their future benefits. On the other hand, a defined benefits system produces considerable uncertainty for the government. If the promised benefits are larger, at any date, than the source of financing for the benefits (which could include taxes or asset returns), then the government has to obtain supplementary financing by borrowing or by increasing taxes.

In the United States, Mexico, and many other countries, demographic changes are producing a rapid increase in the fraction of the population that consists of retired workers. Consequently, the value of the social security contributions from young workers is growing more slowly than the value of the defined benefits due to retirees. This situation has produced serious financial stresses. It is a big part of the reason why many countries have switched or are considering switching to defined contribution systems.

It is important to mention here that under some circumstances, both a pay-as-you-go and a fully funded system can be implemented via a defined contribution or benefits scheme. Is defined contribution a better option than defined benefit? From the point of view of the labor market, the answer is: ''not necessarily'' (see Sinha, 2000, Chapter 4).

6.10 Fully Funded Centralized Pension Scheme: Singapore

The first ever fully funded government mandated (and government run) pension scheme was introduced in Singapore in 1955. Before it was adopted, the first tentative step for the fund was taken with the McFadzean Committee Report of the Colonial Government in 1951. The Committee made a distinction between a pension scheme (in modern jargon that implied the first pillar) and a provident fund (meaning an individualized account scheme). The Committee carefully deliberated to conclude: ''Provident fund scheme would not be a charge on the State, whereas a pension scheme would have an urgent call on the public revenues when there were competing equally important social needs like housing and medical services to be met.''

Two additional Commissions followed in the next four years. They both urged the government to include programs of ''public assistance'' in the fold of contributed pension plans. They differed from the recommendation of the McFadzean Committee in the following way. They both recommended that the contribution as a proportion of wages should vary with wage level. A high-income individual should contribute a higher proportion of wages, and lower income individuals should contribute a lower proportion. Even though the Central Provident Fund was up and running in 1955, there was tremendous pressure on the government to use the existing funds for ''public assistance.'' At the time, there was a 5% contribution by the employers and another 5% by the employees. This proportion did not rise until 1968.

In 1959, Singapore became independent (from Malaysia). The new government drew up the State of Singapore Development Plan for 1961–1964. In this document, the government clearly rejected the earlier plan. It categorically stated, ''Ambitious plans for immediate improvement of social services have to be eschewed. Such a plan can only be implemented by diverting much of the available capital resource from other even more pressing needs. The most pressing need is to increase employment and consequently national income to match population growth.'' Thus, this document laid the foundation for the Central Provident Fund as a fully funded system. This document moved Singapore away from the direction of a pay-as-you-go system.

It is interesting to note that the initial emphasis of Singapore was increased employment. Employment was seen to be the engine for growth of income. In the privatized schemes of Latin American countries, employment was not emphasized at all. The whole thrust was instead put on growth in saving.

There were two clear directions of the Central Provident Fund. First, the contribution rates were always kept the same for all income levels. Second, the rates kept going up over time. By 1974, the combined (employer and employee in equal proportions) contribution rate rose to 30% of wages. By 1984, the combined rate was a staggering 50% of wages.

One other aspect of the Central Provident Fund sets it apart from their Latin American counterpart. In 1968, a new law was passed on the use of the balance in the Central Provident Fund for housing. It became possible to withdraw the entire balance to buy government-approved apartments. The boom in the housing price that followed clearly showed that contributions to the Central Provident Funds were exceeding what people would have otherwise saved by a long margin (see Sinha and Sinha, 1998).

In summary, the system in Singapore was the first fully funded government run system that managed to stay fully funded as well as run by the government. This position stands in stark contrast with the United States. In the United States in 1937, only $6 million were paid out (mainly to beneficiaries of death and disability) whereas $511 million went into the Social Security account. The large buildup of a ''reserve fund'' was attacked by politicians of every political hue (Berkowitz, 1997). It is ironic that the most stinging attack of the reserve fund came from Republicans—the very political party that wants to privatize Social Security in the United States today.

6.11 Full Funding Issues for Mexico

There are a number of ways to engage in genuine reform, that is, to go from a given modality of a pay-as-you-go to a fully funded system. Choosing the way to reform is not trivial. Each alternative genuine social security scheme may imply different costs for a dif-

ferent generation of workers, and, thus, their implementation can be subjected to the forces of political discourse. The simplest way to carry out a genuine reform would be to pay the benefits due the initial old by taxing the initial young. This would place an unbearable burden on the initial workers.

An alternative would be to issue debt to pay off the initial old and then retire the debt, through time, by taxing the current and future workers for a number of years. Thus, the actions the government could take at the beginning of the transition process—that is, the only actions we can observe now—could be the same in either case: it must issue bonds to obtain funds needed to pay the social security payments due to current and near-future retirees. It follows that one cannot answer the first question very easily.

The actions that will distinguish a transition to a fully funded system from a transition to a pay-as-you-go system will occur in the future, not today. If the government switches to a fully funded system, then over the next few generations it must collect enough revenue, via new taxes, to retire the aforementioned bonds. If it is switching to a pay-as-you-go system, however, then it may not have to change its total social security tax collections because it will roll the bonds over indefinitely without retiring any of them.

6.11.1 How Can We Know Today whether the Government Will Retire the Bonds in the Future?

Take the example of Mexican reform. Although the government has announced that it plans to switch to a fully funded social security system, it has not announced any plans to increase future taxes and it has not announced any schedule for retiring the bonds. Even if the government did make such announcements, it is far from clear that they would be credible. Future Mexican governments would be free to ignore them, either by explicitly reversing the decision to retire the debt or by postponing the beginning of the debt-retirement process. Future governments would have plenty of incentive to do this. Beginning the bond retirement process would require increasing taxes, a move likely to be opposed by the voting public who most likely would prefer lower taxes to higher ones.

Viewed in this light, there are good reasons to suspect that the aspect of Mexico's social security reform program that involves switching to a fully funded social security system may be politically rather than economically motivated. On the one hand, the government may wish to get the credit for initiating a switch to a fully funded system (a system which most economists say would be better for Mexico in the long run). On the other hand, the government does not want to take any concrete steps to begin the transition to such a system, since steps of this sort would be politically costly in the short run. Instead, it takes steps to switch from a tax-transfer pay-as-you-go system to a bond-based pay-as-you-go system.

Although a switch of this sort has few significant economic effects, it creates the appearance of reform in two different ways. First, since switching to a bond-based system could (but does not necessarily) represent the very first step in a transition to a fully funded system, this switch allows the government to claim that it has begun the transition process. Second, the switch to a bond-based system allows the government to privatize a number of aspects of the administration of the social security system. This step might have some benefits in its own right, and many people are likely to misinterpret that as representing reform that is more effectual.

6.12 Conclusions

Defined benefit plans and defined contribution plans are often confused with pay-as-you-go and fully funded plans. Some researchers (especially with right-leaning political views) tend to favor privatized plans. The presumption is that a privately managed fund is also fully funded. This is incorrect. Mexico is a prime example of where a presumably privatized plan is not really one (yet). The other presumption is that the privatized pension is more efficient and therefore less costly. In the following chapter we shall see that this presumption is also false.