# VI

# Social Security Reform: Issues Requiring Further Discussion

## 6.1 Freezing the C/QPP Year's Basic Exemption

### *6.1.1 Introduction*

Prior to reform, the C/QPP Year's Basic Exemption (YBE) and the Year's Maximum Pensionable Earnings (YMPE) both grew with average wages (the YBE was set equal to 10% of the YMPE rounded down to the nearest $100). The government has announced that the YBE will be frozen at its current level of $3,500 for the foreseeable future.

While this reform seems small and is subtle, the philosophical importance of this change is discussed in detail in this chapter. It is shown that this change saves the system very little money but threatens the progressivity of the retirement income benefit within the Canada/Quebec Pension Plans (C/QPP).

### *6.1.2 How Freezing the YBE Makes the C/QPP More like a Private Pension Plan*

CPP contributions are paid on earnings up to the YMPE or $37,400 in 1999 (see Chapter 3). Contributions are not paid on the first $3,500 of earnings (the YBE), although pension benefits are accrued on this amount if earnings exceed $3,500. This is unlike private pensions in which contributions are paid on the full earnings on which benefit accruals are based. As will be seen, the YBE gives a benefit to lower-income workers, as they make smaller relative contributions per dollar of benefit earned than do higher-income workers. However, the YBE makes it very difficult to make a fair comparison between the "cost" of the C/QPP compared to a similar private pension plan. For example, after the 1997 amendments to the CPP, both the CPP and the QPP had official contributions rates of 6% split between the worker and the employer. However, because no one contributes on the first $3,500 of earnings, the highest real contribution rate paid by any worker is actually 5.4% (again split between the worker and the employer). Thus, because of the YBE, in any comparison between the "cost" of the C/QPP and a similar private pension plan, the apparent "cost" of the C/QPP is overstated by at least 11% (this percentage increases as one compares poorer workers).

Workers who earn less than the YBE in any year, while not having to contribute to the C/QPP, earn no pension credits in those years. For example, a worker who earns $3,400 in a year neither contributes to the C/QPP nor receives any benefit accrual for that year—it is a lost year as far as C/QPP benefit accrual is concerned. On the other hand, a worker earning $3,600 in 1997 made a 3% contribution on $100 and earned a benefit accrual based on earnings of $3,600. One might ask if this is equitable. Freezing the YBE will extend C/QPP coverage to lower-income workers (but also force them to contribute).

The YBE and the YMPE used to grow each year with average wages. To make the "cost" of the C/QPP more comparable to that of private pension plans, many submissions to the federal consultations suggested either reducing or eliminating the YBE. The decision was to

freeze the YBE at $3,500. The government states that this will preserve an element of subsidy to lower-income workers while ensuring that over time more part-time and part-year workers will be covered by the C/QPP and earn pension credits.

Freezing the YBE is expected to reduce the ultimate contribution rate by about 1.4 percentage points (private communication with the CPP Actuary) but does not materially affect the amount of dollar contributions (each worker is contributing at a lower rate on a broader salary base; the total dollar contributions are about the same). However, it has a larger impact on lower-income workers than on higher-income workers, which lessens the progressivity of the contribution formula. This will be discussed in more detail in the next section.

In conclusion, freezing the YBE will make the C/QPP more comparable to private pension plans, but this does not represent any savings of workers' contribution dollars. In the end, it may not be worth the erosion of progressivity that goes with it.

### 6.1.3 How Freezing the YBE Makes the C/QPP Less Progressive

As outlined in detail in Chapter 4, it is generally accepted that there is a positive correlation between income and life expectancy; that is, those with high incomes live longer.

The fact that income and life expectancy are positively correlated is important in the study of the social progressiveness of social security. If social security systems required contributions that were a flat percentage of earnings, and benefits were also a flat percentage of those earnings, then, given that higher-income workers live longer, the resulting system would be regressive in that the ratio of lifetime contributions to lifetime benefits would be higher for low-income workers than for high-income workers, or equivalently, the ratio of lifetime benefits to lifetime contributions would be lower for the lower-income workers. Clearly if social security contributions are a constant percentage of wages across a wide range of earnings, and high-income workers live longer, then the income distribution inherent in social security is perverse in that all participants in social security pay into the system at a level rate, but those with high incomes receive lifetime benefits that are worth relatively more. This argument of regressiveness has been presented by Friedman (1972), Aaron (1977), and Wolfson (1990). Thus, the question is, Do high-income workers do better than low-income workers?

In this chapter regressiveness is defined as a system in which low-income workers pay more per dollar of actual benefit than do high-income workers or in which low-income workers realize a lower effective rate of return than do high-income workers.

The results of the analysis of postretirement income and mortality were displayed in Figures 4.5 and 4.6. It was seen that those with higher incomes have lower mortality and thus increased life expectancies; that is, they receive benefits for a longer period and thus have benefits worth more than the benefits provided to lower-income workers. In particular, men with retirement benefits equal to 100% of a full benefit have life expectanties 15% longer than those receiving benefits equal to 0–25% of a full benefit. If contribution rates to the C/QPP were a level percentage of wages, then would the longer life expectancy of the higher-income worker make the CPP regressive?

There are three reasons why the answer is no. First, the C/QPP pay more than just retirement income benefits. In fact, only 64% of the dollars paid out of these plans goes to retirement income. The other one-third of cash flow is paid in benefits for disability (19%), survivors' benefits (14%), orphans' benefits (1%), and death benefits (1%) (OSFI 1995, p.8). These benefits dampen to a great extent any regressiveness in the pure retirement income benefits. This is true for two reasons. First, ancillary benefits are not purely wage related. For example, in 1999 a disabled contributor was able to receive a pension equal to $339.80 plus 75% of the contributor's retirement pension (calculated as if the contributor attained age 65 as of the date of disability) to a maximum of $903.55 a month. The flat-rate portion of the benefit formula means greater relative benefits to the worker with lower earnings. Second, because both death and disability are negatively correlated with income and socio-economic status (Moore and Rosenberg 1997, p. 135), low-income workers get more ancillary benefits than do high-income workers.

Second, although this chapter focuses on the C/QPP, Canada's retirement income security system also pays benefits from Old Age Security (OAS), the Guaranteed Income Supplement (GIS), and Spouse's Allowance (SA). None of these benefits are paid to high-income Canadians. In fact, the benefit schedule is highly progressive, since for every dollar of personal income beyond the OAS, one's GIS and SA benefits are reduced by 50 cents. Add to that the fact that both OAS and C/QPP benefits are taxable income, while C/QPP contributions are not tax deductible but receive only a tax credit at the tax rate for average income earners (17%

federal), and the result is a highly progressive system in total. Finally, OAS, GIS, and SA are financed out of general tax revenues, which, to the extent that they are from income taxes, are considered progressive.

Third, even if one ignores the impact of OAS and GIS, the existence of the YBE creates a progressive element to the retirement income portion of the C/QPP on its own. Workers do not contribute on all of their pensionable earnings, since no worker contributes on the YBE ($3,500). Thus, if a worker earns $3,600, contributions are made on only $100, but benefit credits are assigned to $3,600 of earnings. Similarly, if a worker earns exactly half the YMPE, or $18,700 in 1999, contributions would be made on $15,200, while benefit credits would accrue on $18,700. Finally, for the worker who earns the YMPE ($37,400 in 1999), contributions would be made on $33,900, and benefits would accrue on the full $37,400. (This is also true for anyone earning more than the YMPE.)

However, assume that there is a full 15% advantage in the retirement income benefits paid by the C/QPP for anyone receiving a full benefit versus anyone receiving only a 25% benefit. Is the retirement income portion of the C/QPP thus regressive?

Given the YBE, the higher-income worker contributes on $33,900 of earnings (indexed to wages) while the lower-income worker contributes on $5,850 (indexed to wages). Ignoring differences in life expectancy for the moment, the 100%-YMPE worker gets a benefit credit four times that of the 25%-YMPE worker, but pays a contribution that is 33,900/5,850 (or 5.79) as large. Thus, there is a 45% advantage (1.4487) to the 25%-YMPE worker in the benefit/contribution formula. Because this 45% contribution formula advantage is greater than the 15% life expectancy advantage of the 100%-YMPE worker, one can argue that there is nothing regressive in the present C/QPP—that is, the C/QPP system as now structured (and with today's mortality by income class) is not regressive, even if we only consider the retirement income benefits.

Tables 6.1 and 6.2 show that the CPP remains progressive for everyone except for age 60 male retirees whose earnings averaged between 50% and 75% of the YMPE. For them, the benefit-to-contribution advantage (1.04) is exactly offset by the superior life expectancy of those at the 100% YMPE retirement benefit (1.04). Thus, one would conclude that, in total, the CPP is progressive, even if one considers only

**TABLE 6.1**
**CPP BENEFIT CONTRIBUTION VS. LIFE EXPECTANCY ADVANTAGE AT AGE 60**

| Wage Band | Benefit-to-Contribution Advantage versus 100% YMPE Earner (1999) | 1988–94, Average Age 60, Life Expectancy | | Relative Life Expectancy Advantage of 100% YMPE Earner | |
|---|---|---|---|---|---|
| | | Male | Female | Male | Female |
| 0–25% | 1.45 | 17.46 | 23.66 | 1.15 | 1.05 |
| 25–50% | 1.12 | 18.42 | 24.37 | 1.09 | 1.02 |
| 50–75% | 1.04 | 19.41 | 24.54 | 1.04 | 1.01 |
| 75–100% | 1.00 | 20.13 | 24.80 | 1.00 | 1.00 |

*Source:* Author's calculation from CPP data.

**TABLE 6.2**
**CPP BENEFIT CONTRIBUTION VS. LIFE EXPECTANCY ADVANTAGE AT AGE 65**

| Wage Band | Benefit-to-Contribution Advantage versus 100% YMPE Earner (1999) | 1988–94, Average Age 65, Life Expectancy | | Relative Life Expectancy Advantage of 100% YMPE Earner | |
|---|---|---|---|---|---|
| | | Male | Female | Male | Female |
| 0–25% | 1.45 | 14.12 | 19.56 | 1.13 | 1.04 |
| 25–50% | 1.12 | 15.00 | 20.09 | 1.07 | 1.01 |
| 50–75% | 1.04 | 15.65 | 20.17 | 1.02 | 1.01 |
| 75–100% | 1.00 | 16.01 | 20.35 | 1.00 | 1.00 |

*Source:* Author's calculation from CPP data.

before-tax retirement income benefits (which, it has been argued, is unfair).

Thus, the amendment to freeze the YBE at $3,500 could turn out to be extremely important. As earnings rise, but the YBE remains frozen at $3,500, the 15% contribution-rate advantage to the lower-income worker will decrease, and the C/QPP retirement income program, if analyzed in isolation, could switch from being a progressive system to one that is regressive as defined above.

### 6.1.4 Conclusion

It would seem that the subtle social subsidy within the C/QPP created by the YBE has a level of importance not appreciated by the public policy makers. Further monitoring of life expectancy differentials as the YBE decreases in dollar value seems worthy of time and effort given the discussion of this chapter. Retaining the progressivity of the C/QPP seems a worthy public policy goal.

## 6.2 Issues with Respect to the Financing of the C/QPP

### 6.2.1 Introduction

This section discusses the issues surrounding the plan to provide for more prefunding of the CPP as announced in February 1997. The section does not present a balanced discussion of the issues but, rather, presents a defense of pay-as-you-go (paygo) financing as the method that should be preferred. There are many authors now speaking in favor of a more fully funded system (see, for example, Robson 1995; Slater 1995; World Bank 1994; Kotlikoff, Smetters, and Walliser 1996; Ferrara and Tanner 1998) who appear to have the ear of the policy makers at this time.

To summarize, however, they argue that fuller funding of social security will do at least two important things. First, by taking advantage of today's very high real interest rates, fuller-funded plans will cost less than paygo plans. Second, it is hoped that the process of fuller funding will provide new investment dollars for the economy that can be used to create faster economic growth.

The purpose of this section is to pose a large number of important questions that should be answered by policy makers about larger prefunding of the C/QPP. The meaning of the words "paygo" and "funded" in this discussion need to be carefully understood. Neither word is to be taken to its absolute meaning. For example, paygo funding is not meant to imply no contingency fund at all. In fact, this chapter is written assuming that any system that carries only a small contingency (for example, two years' of benefit expenditures) is a paygo system. Similarly, funded does not mean absolutely fully funded. Any scheme that would create investable funds measurably larger than a small contingency reserve will be included in the category of "prefunded" schemes. In that regard, the C/QPP carry a side fund of about two years' worth of benefits. Thus, this chapter refers to the current C/QPP as being paygo. Recent government amendments to the plan will raise the contribution rate by 73% by 2003, to 9.9%, and create a side fund worth five years of benefit expenditures. Thus, the amended C/QPP will not be referred to as being paygo.

One important aside is the issue of stability of contributions, which is often raised as a public policy goal of any financing scheme for social security (certainly it was given as one of the prime motivating factors for recent amendments to the C/QPP). As is discussed in the next section, the contribution rates for a fully funded scheme are a function of the real rates of return earned by the funds. Thus, a truly *fully* funded scheme will not create stable contribution rates. Rates will rise and fall inversely to real interest rates. However, contribution rates would fluctuate more than interest rates since each year's contribution must cover both the value of the benefits earned for the year as well as the actuarial experienced gain or loss on the benefits for all past years.

A pure paygo system will have contribution rates that will rise and fall with the ratio of retirees to workers and the rate of increase of national incomes. Thus, a pure paygo system also cannot have stable contribution rates. Both systems would require immediate attention if any variable evolved other than the modeled expectations. However, *either* a paygo system with a small contingency fund or a partially funded system that can use its reserves to soften the immediate need for contribution rate changes can result in achieving level and stable contribution rates for long periods of time.

### 6.2.2 Why the Interest in Prefunding the C/QPP?

Many Western industralized nations are presently considering some form of prefunding of their social security systems. This is certainly true in both Canada and the United States. Several proposals have been put forth that would make changes to social security that range from

relatively small (for example, have a small proportion of surplus assets invested in the private sector) to very dramatic (for example, the total replacement of the present social security system with individual savings accounts such as in Chile).

All of the supporters of these various proposals claim that today's younger workers and tomorrow's working generation will be better off with a changed social security system. But after one-half century of relative stability in the philosophical underpinnings of social security, why the apparent sudden interest in change?

One of the driving forces for reform is the impending dramatic shift in the demographics underlying social security. These forces have been widely analyzed and are well understood. First, life expectancy has improved substantially and is continuing to improve, as was seen in Table 2.1.

More important, however, are the impending demographic dependency shifts as the baby boom moves out of the labor force to be replaced by the baby bust cohort, as was seen in Figure 2.2. Those in favor of prefunding of social security argue that the resultant large asset pools can be invested and aid, to some extent, in overcoming the impact on paygo contribution rates of these demographic shifts. Through enhanced economic growth, it is said, faster wealth creation will make larger wealth transfers possible (Robson 1995; Slater 1995; World Bank 1994; Kotlikoff, Smetters, and Walliser 1996; Ferrara and Tanner 1998). For example, assume that the total of retirement income security and health care for the aged today costs 12.5% of all wages from all workers. That means that a worker who is paid for a 40-hour week has to work five hours to finance the benefits for an elderly retiree. Assume that over the next 35 years the ratio of elderly to workers doubles. With no change in worker productivity, each worker would have to contribute 25% of wages, or work ten hours per week, to finance the benefits for the elderly retiree. However, if every worker could become twice as productive (which would require only 2% per annum improvement for the 35 years), then each worker could produce enough goods and services to meet the needs of the dependent elderly in the same five hours as it takes today.

In terms of the direct funding of social security in Canada, the ability of enhanced worker productivity to solve the financing problems as projected is more limited. In Canada the accrual of benefits is linked to a wage base that is indexed to average wages. Thus, any productivity improvements that are reflected in national wages prior to retirement immediately create larger social security benefits at retirement. After retirement, government-sponsored retirement income benefits are indexed to cost of living as measured by the Consumer Price Index. Thus, it is only after retirement that increased worker productivity creates a discount rate in terms of the cost of social security. To achieve the full cost benefit of gains in productivity, price-indexed preretirement formulae would be necessary.

If prefunding social security results in faster wealth creation, then why wasn't social security established on a fully funded basis from the beginning? It can be shown (for example, by Treuil 1981) that, if social security is financed on a paygo basis, then the implicit "rate of return" of such a financing arrangement is the rate of increase of employment earnings (subject to social security contributions). This, in turn, is normally highly correlated with the total growth rate of the labor force (including part-time work) and the per-worker rate of productivity increase. A fully funded social security scheme, on the other hand, has a rate of return equivalent to the real rate of interest (real rates because social security benefits are indexed to inflation).

According to the Canadian Institute of Actuaries (1996c, p. 3), in the 1960s demographic and economic variables, projected into the long-term future, favored paygo financing on the basis of cost. Specifically, in the 1960s in Canada (when the C/QPP were introduced on a quasi-paygo basis) reasonable actuarial assumptions would have been as follows:

| | |
|---|---|
| Senior dependency ratio | 0.33 |
| Annual increase in real wages | 2.0% |
| Real rates of return | 2.0%. |

These underlying assumptions would have led to the following projected costs for Canadian social security as a percentage of payroll for paygo versus fully funded arrangements.

| Financing Arrangement | Projected Cost as a Percentage of Payroll |
|---|---|
| Paygo (mature plan) | 11.0% |
| Fully funded | 16.5. |

But times have changed. The future isn't what it used to be. Fertility rates fell; real economic growth dropped from 5% per annum to 2%; real wage growth dropped from 3% per annum to 0%; real interest rates increased from 1% to 6% per annum (Hamilton 1995; Canada 1996a, p. 23). Today's long-term assumptions in Canada would be closer to the following (ibid.):

| | |
|---|---|
| Senior dependency ratio | 0.40 |
| Annual increase in real wages | 1.0% |
| Real rates of return | 4.0%. |

These factors lead to the following projected costs:

| Financing Arrangement | Projected Cost as a Percentage of Payroll |
|---|---|
| Paygo (mature plan) | 14.5% |
| Fully funded | 7.2. |

Hence, there is pressure to consider a shift to greater funding of social security. Just as paygo financing makes sense for cost containment when real interest rates are lower than the growth rate of real wages (as in the 1950s and 1960s), so a conversion to more funding seems to make sense when real interest rates are higher than real wage growth prospects (as in the 1990s).

But is a prefunded scheme more secure? Can productivity rates be increased by prefunding social security? Are prefunded plans demographically immune? How long will factors favoring prefunding last? Would switching back and forth between financing arrangements be accepted as good public policy? These are the questions that should be answered by public policy makers as Canada moves to greater prefunding of the C/QPP. The rest of this section explores many of these issues.

### 6.2.3 Is a Funded Pension Demographically Immune?

One of the problems with any discussion of the optimal financing arrangement for social security is confusion between what is true on a micro-economic basis and what is true on a macro-economic basis. This is sometimes referred to as the *Fallacy of Composition,* whereby it is assumed that what is true for an individual will necessarily be true in aggregate (see Barr 1993 and Krugman 1996). For example, if I stand at a concert, I can see better, but if everyone stands, then no one has an improved view.

Clearly, for an individual to save for retirement, consumption must be foregone during one's working lifetime, with money set aside in savings. These funds are then used to buy goods and services postretirement. Thus, it would seem logical for a nation to provide for its citizens' postretirement needs by designing a prefunded social security scheme that accumulates large account balances that can be used to fund postretirement consumption.

Francisco Bayo, Deputy Chief Actuary of the U.S. social security system (OASDI) says this turns out not to be true:

> For Social Security, you cannot accumulate assets, that is, claims from somebody else's production. If we have a large amount of money in the Social Security trust funds, we have a claim on ourselves, which does not have much meaning. The truth is, whatever is going to be consumed—be it a product that you can get a physical hold of, or services that are very difficult to hold—those products cannot be stockpiled. They have to be provided at the time of consumption. No matter what kind of financing we are going to have in our Social Security program, you will find that the benefits that will be obtained by the beneficiary in the year 2050 will have to be produced by the workers in the year 2050, or just a few years earlier. (1988, p. 178)

Nicholas Barr says it even more strongly:

> The widely held (but false) view that funded schemes are inherently "safer" than PAYGO is an example of the fallacy of composition. For *individuals* the economic function of a pension scheme is to transfer consumption over time. But (ruling out the case where current output is stored in holes in people's gardens) this is not possible for society as a whole; the consumption of pensioners as a group is produced by the next generation of workers. From an *aggregate* viewpoint, the economic function of pension schemes is to divide total production between workers and pensioners, *i.e.* to reduce the consumption of workers so that sufficient output remains for pensioners. Once this point is understood it becomes clear why PAYGO and funded schemes, which are both simply ways of dividing output between workers and pensioners, should not fare very differently in the face of demographic change. (1993, p. 220)

Thus, a review of the literature indicates strongly that prefunded social security systems do not overcome the impact of the impending demographic shifts. In fact, Schieber and Shoven (1994) argue that private pension plans are not demographically immune either. The pension income of any decade must come out of the national income of that decade. However, there may still be other reasons to consider a prefunded schemes as economically advantageous.

### 6.2.4 Is Prefunded Social Security More Secure?

Barr (1993, p. 223) points out that declines in the working-aged population can be offset by increased productivity among the remaining workers or by increased labor force participation rates (for example, among women), so long as output is maintained. It is also, in principle, possible to maintain the consumption of both workers and pensioners with goods produced abroad, provided the country has sufficient overseas assets to do so:

The crucial variable is output. A decline in the labour force causes problems for any pension scheme only if it causes a fall in output; the problem is solved to the extent that this can be prevented. The choice between PAYGO and funding in the face of demographic change is therefore relevant only to the extent that funding (as is sometimes argued) systematically causes output to be higher.

Thus, the real security behind any pension plan is a healthy economy. Wealth cannot be transferred until it is created. And the more wealth that is created, the easier it is to transfer some to the retired elderly.

For prefunding to have any consequence on the security of social security, three requirements must be satisfied (all three), namely:

- Prefunding must increase gross national savings
- Those increased savings must be invested in a manner that increases worker productivity
- The prefunding must be the best way to achieve the first two requirements. If there is an alternative public policy that can increase savings and worker productivity either more efficiently or with less risk, then (by definition) it should be the preferred route.

Given these three criteria, how does the literature grade the prefunding of social security as the preferred proposal?

Does the prefunding of social security increase gross national savings (versus, for example, increased hoarding or increased surplus on the current account of the balance of payments)? There is an abundance of literature on this topic (for example, see Ricardo 1817; Daly 1981; Aaron 1982; Barr 1993; Burbidge 1987; Atkinson 1995), but no clear conclusion. This turns out to be a very difficult question if one allows for behavioral response (or Ricardian equivalence). For example, one would think that the creation of a paygo social security system, which creates no assets but does provide real retirement income benefits, would necessarily decrease gross national savings.

However, the literature finds that this intuitive impact can easily be offset by two behavioral responses (as was the case in the United States with the introduction of social security or OASDI). First, if the provision of social security results in earlier retirements for workers than would otherwise be possible, those workers will then save as much as before the provision of paygo social security to achieve full economic independence even with earlier retirement (that is, they still have to save as much privately because they are now providing for a longer period in retirement).

Second, the literature tells us that one must factor in the desire of people to create bequests to the next generation before being able to know the impact of paygo social security on gross national savings; that is, when younger workers provide their parents with retirement income security through paygo social security, their parents, in turn, work hard to provide an inheritance for their children. Equivalently, there may be the removal of a negative bequest through the advent of social security in that workers no longer need to directly support their parents in retirement. The game may therefore be a zero net sum (see Barro 1974; Poterba 1994).

Of importance here is the replacement rate provided by the social security system. In Canada a worker consistently earning the average industrial wage will realize a replacement ratio of about 40% from the total social security system (including OAS and GIS). Lower-income workers realize higher replacement ratios, and higher-income workers lower ratios. However, the social security system does not, in and of itself, provide full retirement income security—far from it. Thus, other forms of savings are essential. The arguments above about behavioral response may not be as applicable to systems that do provide full retirement income security (for example, some European systems).

In Chile, when the social security system was financed on a paygo basis in 1980, the gross national savings rate was 21.0%. In 1981 Chile introduced a mandatory individual retirement savings scheme requiring 10% contributions from all workers (and nothing from the employer). The Chilean gross national savings rate dipped substantially in the early 1980s and stood at 18.8% in 1991 (Uthoff 1993). In a recent paper, Holtzmann finds empirical evidence of both increased national savings and enhanced worker productivity in Chile after the 1981 social security reforms. However, Holzmann concludes that "the direct impact of the reform on private saving was low, or perhaps even negative" (1997, p. 16). According to Holzmann, the increase in national savings and the increase in worker productivity were because of higher growth rates in the economy.

Even if gross national savings are increased, has the history of such schemes shown that these savings are invested in a manner that increases worker productivity? Again, the literature is inconclusive. For every plan that seems to create a healthier economy, there are examples where funds are used for purely political purposes, to reward political friends, to prop up failing industries, or even in straight fraud on the part of the political masters. According to Rosa, the experiences of Sweden and Japan (from whom one might expect above average results in this matter) "offer powerful evidence that this option may only invite squandering capital funds in

wasteful, low-yield investments [which] should give pause to anyone proposing similar accumulations elsewhere" (1982, p. 212).

Finally, even if the answers to our first two criteria were positive, is the raising of social security contribution rates to create investable funds the preferred policy option? Aaron (1982), after lengthy empirical analysis of U.S. savings rates (personal, plus business, plus government, less depreciation) and labor force participation rates from 1930 to the late 1980s, says no:

> If our objective is to increase the rate of capital accumulation, we should ask which instruments are best for achieving that end. Prominent on the list would be direct assaults on the federal deficit, incentives to business investment, and the withdrawal of incentives that promote inefficient investments. . . . I conclude also that if we wish to increase capital formation, the proper objective is the total saving rate, and that raising social security payroll taxes or cutting social security benefits is a poor device for achieving that objective unless we favor them on other grounds. (Aaron 1982, pp. 51–52)

J. D. Brown (1972) provides another reason for not using social security to create investable funds as the preferred public policy alternative. He argues that social security should not become an instrument of fiscal policy. If the plan is prefunded to any great extent, then contribution rates or benefits might be moved up or down for the impact that would have on the general economy (for example, to dampen inflation). Social security should not be manipulated for such general fiscal motives, according to Brown.

This "fiscal policy" effect was seen in the Singapore National Provident Fund in the early 1980s. When substantial wage awards were made, these were "mopped up" by concomitant increases in the rate of contribution to the Provident Fund (Deutsch and Zowall 1988, pp. 72–81).

## 6.2.5 *Policy Alternatives*

A wide variety of proposals for the privatization of social security exist. The following discussion looks at several of these proposals in their broadest aspect (that is, not with any particular proposal in mind) and attempts to outline their advantages and disadvantages.

"Privatization," as discussed below, includes both a shift from paygo social security to more prefunding, with assets invested in the private sector (such as is happening in Canada), and a more radical change, in which a paygo system is replaced by a defined contribution individual account system such as in Chile.

### *Keep the C/QPP as Defined Benefit Plans, but Invest Assets Privately*

Keeping the C/QPP as defined benefit plans has a number of advantages, including low administrative costs. Also, by continuing the defined benefit nature of the programs, all participants share in the risks inherent in saving for retirement, including inflation, mortality, selection of investments, and the risk of variable rates of interest at the time when accumulated assets are used to buy a retirement annuity or other retirement income vehicle. Further, it is relatively easy to include important ancillary benefits in a defined benefit plan, such as disability income and survivor income benefits, without having to take regard for the risk profile of any individual participant.

However, the establishment of a higher level of prefunding and the creation of significant investable funds, as proposed in Canada, have many associated problems. First, if the assets are invested totally in government bonds, then one must ask if anything has been gained over a purely paygo system. Workers are both social security contributors and taxpayers, and it is doubtful that they care what the destination of their paycheck deductions is, only what the total is. In this regard, as the social security system builds up prefunded assets and buys government bonds, governments can use these funds to finance their expenditures while either not raising taxes or actually lowering them. Thus, when social security assets are being accumulated, workers experience higher social security contributions than would be necessary under pure paygo financing, but lower general tax rates. The total, however, has not changed as to size or timing.

Similarly, when the baby boomers start to retire, they will demand the return of their government bond IOU. While social security contribution rates will not have to rise when the demographic shift takes place, taxes will have to be raised to pay off the redeemed bonds (unless the government is completely debt free and running an operating surplus). Again, the total burden on the worker is exactly the same both as to size and timing as it would have been on a purely paygo financing basis.

As an aside, the impact on an individual worker may not be quite the same, however. This is because of the difference in effect between a progressive tax regime versus a flat (some would say regressive) payroll tax for social security. Thus, in the lifetime of a worker in the baby boom generation, the impact of fuller funding would be an increased regressive social security payroll tax but decreased progressive income taxation during the working years, and an increased progressive income tax during retirement.

Thus, except for the important psychological impact that by each generation paying for their social security "in full" they gain a higher moral level of claim on prospective benefits, the prefunding of social security with all assets being government bonds seems rather pointless. In reality, the financing is still paygo. The total cost of social security to the workers has not changed in any way. In fact, it may work against the creation of a healthier, more productive economy if these funds are merely used by the government to finance deficits based on consumption-targeted spending (for example, welfare payments). The only real debate here is whether payroll taxes (which is what social security contributions are) have a different impact on labor force productivity than other forms of taxation. This matter is discussed in detail later in the chapter.

## *What if the Decision Is to Invest in Private-Sector Assets?*

First, one would have to check to see if the macroeconomic balance sheet has changed at all; that is, if social security stops buying government bonds and buys corporate debt and equities, but the private sector commensurately decreases its purchase of corporate debt and equities and substitutes government bonds, then nothing has changed in total.

If the result is not a zero-sum game, then presumably governments will have to find new funding means for their debt. One would expect the government would have to raise their bond interest rates to make this happen. Ultimately, these higher interest charges fall back onto the workers in the form of higher taxes.

Even if that zero-sum game is not the outcome, it has already been established that the ability of a prefunded system to create more savings is highly debatable, as is the ability of such savings, if realized, to create higher productivity. However, one would tend to have a higher expectation of productivity gains were assets invested in the private sector, rather than in government bonds if the economy is undercapitalized (that is, the private sector can use the extra funds on projects that will have high paybacks). That is an essential part of the public policy process—the determination of the extent to which the economy is undercapitalized. In that regard, given the overheated stock market of today, with its very high price-to-earnings ratios, it is difficult to argue that the present Canadian economy is undercapitalized.

This "increased saving" could have a perverse effect if it inhibits consumer spending. By saving, society could create the "paradox of thrift" whereby business does not spend on plant and equipment when consumption declines, even with enhanced savings. This is exactly what happened in the Great Depression.

Who will decide how these assets are to be invested? Will they be used for political purposes, propping up failing industries, or will they end up producing higher levels of wealth creation? Should the investment of these assets be restricted to the domestic market? If so, will that not mean that the social security funds (and the government) will have an undue level of control over domestic capital markets and society?

Under the amendments to the C/QPP, the Canadian government is establishing a panel of experts who will work at arm's length from government to invest the funds that will now accrue. What if the investment is done passively, to achieve an index rate of return? Can the capital markets remain efficient if the majority of investment funds are passively invested? Such funds follow the market rather than leading it. Private capitalism works because management is forced by stockholders to excel. How do passive funds achieve this?

Are there enough high-quality assets available to invest wisely the several hundreds of billions of dollars that will become available? This is a particularly interesting point. The funds of a prefunded social security scheme will build up rapidly now as the baby boom prefunds its benefits. However, the same baby boomers will also be saving in their own pension plans and individual accounts for the remainder of their retirement needs. In fact, there are many who claim that today's hot stock market is the result of the influx of these new funds (without any privatization of social security). Thus, it could be argued that the social security system will be buying when asset values are high.

Then, when the baby boom retires, it will force the liquidation of the social security funds to a great extent, again at the same time as the baby boomers are liquidating their other retirement plan assets. As stated by Schieber and Shoven, "This could depress asset prices, particularly since the demographic structure of the United States does not differ that greatly from Japan and Europe, which also will have large elderly populations at that time" (1994, p. 25).

Thus, it can be logically argued that a prefunded system is doomed by being in the position of buying high and selling low. In fact, this logical argument would conclude that the assumptions upon which the arguments for prefunding social security are based are internally contradictory. The move to prefunding is grounded on the assumption that real rates of return will continue to exceed the growth rate in real wages. If that weren't true,

then paygo financing would be preferred. However, how can these current high real rates be expected to continue if hundreds of billions of new gross national savings and investable funds are created?

As an important aside, if the baby boomers attempt to retire over a very short time horizon (they were born over a 20-year period), the combination of the drop in asset values intended to fund their retirement if all offered for sale at the same time, and the rise in the price of goods and services as the economy turns to the baby bust generation for production of these goods and services, means that realized real retirement income will be lower than expected; that is, there will be free market incentives for later retirement regardless of what is done within the social security programs (see Goss 1988, p. 304).

Would it not be preferable to invest offshore? There are at least three reasons for this. First, as previously stated, the domestic capital market is not large enough for the prudent investment of such large funds. Second, diversification of risk in any portfolio is generally advised. Third, by investing in countries that do not share the aging populations of Canada or the United States (that excludes all of Europe, Japan, Australia, and New Zealand), or countries where workers do not retire at some fixed or early age (presumably developing nations), it might be possible to dampen the impact of the impending retirement of the baby boom generation in North America. This might be referred to as demographic portfolio diversification. Interestingly, this might also decrease or eliminate the need for government-sponsored foreign aid. However, this is not without some significant investment risk and political difficulties. One could expect heated debate if it were suggested that social security should build up large investable funds, only to have them invested offshore.

There are other problems associated with a prefunded social security, however, even if invested widely in the private sector. First, prefunded schemes are exposed to the risk of unforeseen inflation (that is, inflation that decreases real rates of return) because of the length of time between contribution and payment of retirement income. In this regard, inflation nearly destroyed several funded schemes in Europe earlier in this century (for example, France and Germany; see Linton 1935, p. 365). This may be one of the reasons that these schemes now are funded on close-to-paygo financing. Prefunded provident funds that exist in many developing countries are also experiencing problems with the effects of inflation.

Second, with the creation of these large investment funds, there will be strong and continuous pressure to expand social security benefits in an era in which such expansion would be misguided public policy. The history of the C/QPP provides strong evidence for this. Because of low early contribution rates and a healthy contingency fund, politicians steadily increased the benefits of the C/QPP during their first 25 years. Based on recent actuarial projections, of the 14.2% ultimate contribution rate required to fund the pre-reform C/QPP, 2.4 percentage points come from the expansion of benefits just mentioned (Canada 1996a, p. 46). This was also a reason often used to continue basic paygo financing for OASDI during its early years (see Derthick 1979, chapter 11).

Finally, the creation of funds to invest requires that social security contribution rates must be set higher, in the short run, than those required under pure paygo financing. Is this optimal public policy? There are several reasons why the answer might be no.

First, there is evidence that social security contributions, whose impact is the same as payroll taxes, could hurt job creation:

> These [social security contribution rate] increases have had and will continue to have a negative impact on the labour force. . . . [Between 1986 and] 1993, the rise in contributions by employers and employees had reduced employment and the participation rate by nearly 26,000 jobs and 0.12 percentage points respectively. By the year 2016, the increase in C/QPP contributions will have reduced the participation rate by approximately 0.5 percentage points. (Italianno 1995, p. 15)

This effect is especially pronounced if social security taxes are levied on only part of the worker's income as in Canada, where C/QPP contributions cease at the YMPE. Raising social security contribution rates would have the effect of providing an incentive to pay for overtime instead of hiring new staff. Would it not be preferable to assist job creation now, even if it means higher potential contributions when the baby boom retires, but also when there could easily be labor shortages?

Second, social security contributions are a part of total government taxation. There must be a maximum rate of taxation beyond which actual cash tax receipts decline. Prior to that point, resistance to increased taxation will be evident in the proportion of the economy that evades taxation (that is, the underground or cash economy). The level of noncompliance in the Chilean system may be partly explained by this taxation-limit phenomenon. So long as there exists government debt, is it optimal government policy to increase social security contributions to create huge social security funds, or to increase some other form of tax and decrease the deficit and the debt?

Third, there may be better ways to increase national savings rates and productivity than to prefund social security. Any government action that increases saving for retirement could be substituted for prefunded social security if the goal is to increase savings and productivity. Clearly, the increased (mandatory) contribution rates needed to prefund social security will decrease the total dollars that can be saved for retirement in any other vehicle and lessen the amount invested in private alternatives. It is surprising, therefore, not to hear more opposition to the prefunding of social security from private-sector retirement professionals.

Mandating employer-sponsored private pensions, or even creating stronger incentives (or weaker disincentives) to private pensions and individual savings accounts (for example, Registered Retirement Savings Plans), could have the same effect on savings and productivity. In fact, it might be preferable, as it does not bring with it the possibility of undue government influence and does not create any pressure for increasing social security benefits. Would it not be better to concentrate on the economic goals directly as opposed to the attempt to achieve them as a by-product of social security financing?

In this regard, it seems very strange that in Canada the government is moving to a more prefunded social security scheme while at the same time it is putting more limits on the ability of employers and workers to save through private pension schemes and individual accounts (see Chapter 3). As long as there is an alternative to prefunded social security that can have the same probability of enhancing savings and productivity, then, for the reasons just discussed, it should be the preferred public policy.

Earlier in this chapter, it was noted that the prefunding of social security might create a higher moral claim for the generation that paid for the full cost of its benefits. This argument is stronger if the assets so created are invested in the private sector, as opposed to buying government bonds, since workers would become owners of capital and could demand a fair rate of return on this capital after they retire. While this is a strong argument, it still depends entirely on this capital being new and additional, and the capital being used to enhance worker productivity. Again, the basic truths have not changed.

## *Change the C/QPP to Defined Contribution Plans*

Another possibility that some have proposed (for example, the Reform Party of Canada) is to turn the present defined benefit C/QPP into defined contribution schemes in which participants decide how their individual funds are invested. This is an analogy to the Chilean social security reforms, which will be discussed more fully later. Several countries have reformed their pension systems along the same lines as Chile did in 1981: Peru (1993), Argentina (1994), Colombia (1994), and Mexico (1997). Bolivia and Ecuador are considering it.

Certainly it is possible to retain many of the obvious advantages of today's C/QPP within a defined contribution scheme. All workers can be covered, vesting can be immediate, and portability is a given. However, there are also several disadvantages to such a shift.

First, all of the risks of a defined contribution plan, including the investment risk, inflation risk, and mortality risk, would fall on the shoulders of the individual worker, instead of being shared across the entire population and across generations. As a result, one would expect any resulting assets to be invested in less risky instruments than if the plan were left as a defined benefit plan but with the assets invested in the private sector. This, in turn, would be expected to result in lower long-term rates of return. This is extremely important since, for example, 1% of extra return over the lifetime of a worker would result in a pension that is about 24% larger (see Adams 1967). Even if one is only concerned about the cost of purchasing an annuity at the time of retirement, 2% of extra return translates into a retirement annuity that is about 17% larger for a fixed purchase price (Coward 1991, p. 66).

Second, the ancillary benefits of the present social security system, including disability and survivor benefits, would be lost or would have to be replaced by a parallel system of some kind. In Chile extra contributions are required for these benefits that are purchased from private insurers.

Third, administrative expenses for such a scheme should be expected to be much higher than under today's C/QPP. The Chilean experience is that with advertising costs and sales commission, expenses have run from 12% to 15% of cash flow versus the 1.3% expense ratio for the C/QPP (or 0.8% for OASDI in the United States). In Chile the results have actually been regressive. Because many of the sales and administrative expenses are per account and not per dollar of cash flow, smaller accounts have paid higher expense ratios than larger accounts.

Fourth, there may not be enough high-quality assets to match the investable funds now available. In times of poor investment returns, the government may be blamed and may be asked to provide minimum guarantees (which lead to economic distortions and possible worker selection against the system).

Fifth, there would be no wealth distribution in such a scheme. A worker who is poor throughout his or her working lifetime is guaranteed poverty in retirement. Similarly, the higher-income worker is guaranteed a wealthy retirement, aided by the tax advantages provided to the scheme.

Sixth, without special legislation, women would retire with lower retirement income than males of identical work and contribution records, because of higher female life expectancy. In Canada, women would also lose the child-rearing dropout provisions of the C/QPP.

Seventh, the transition generation may have to pay twice: first to fund the new defined contribution scheme and second to pay for the accrued actuarial liability of the previous system (that is, the benefits promised by the previous system or about $600 billion in Canada). In this regard, it must be remembered that it will be 30 to 40 years before the new defined contribution scheme can pay out anything close to full benefits. In the meantime, the government is responsible for the previous accrued liability runoff. These accrued liabilities are now explicitly part of the national debt. If this debt is financed with something like the recognition bonds being used in Chile, then the first generation under the new scheme would have to pay for both their own new scheme and the debt of the recognition bonds for the previous accrued liability.

It is not immediately clear what the economic impact of this might be. Under a paygo social security system, there is an implicit government debt equal to the unfunded accrued actuarial liability of the system. By shifting to a defined contribution system and issuing recognition bonds equal in value to the accrued benefits of qualified workers, the government has simply made this debt explicit. The recognition bonds do not have to be paid off by the first generation of workers any more than any one generation of workers should be expected to pay off the national debt. However, to the extent that it is actuarially financed in this manner, the transition generation will face double taxation and will be poorer to that extent. (The next generation will be equivalently wealthier by not having this debt.)

Eighth, if the Chilean experience is any indication, there will probably be a need for some government guarantee of a minimum benefit under the new system (which, unless designed skillfully, can be open to abuse and antiselection).

Finally, one might ask if there is political justification for a free government forcing individual saving when there is no wealth distribution component. As long as there is some income redistribution, then there is a general welfare argument that can be used to defend such systems, but what happens when there is no wealth distribution?

### 6.2.6 The Chilean Model

The new Chilean social security system was decreed in 1981. Rather than a government-run paygo scheme(s), as had previously existed in Chile, the new system requires that employees contribute 10% of income to one of 15 investment fund agencies (called AFPs). There is also a 3.5% (approximately) contribution to cover disability income benefits and survivor benefits (provided by private insurance companies). Employers do not contribute, nor do members of the military or the self-employed. At the time that these 13.5% contributions were mandated, workers were granted an 18% pay increase (employers incurred this increase but saw their large social security contributions disappear).

Eighty-six percent of eligible workers were affiliated with the new system, but only 55% of the labor force are contributing members. This represents a high level of noncompliance, apparently mostly from poor workers who will receive the minimum benefit regardless. The government is responsible for all accrued liabilities of the old paygo system and has issued recognition bonds equal in value to the accrued social security benefits for all previous participants who qualify (workers who had only a very short work history under the old social security system were not given any recognition of their accrued benefits). The government also limits the extent to which the rate of return provided by one pension fund may fall below that of the average AFP rate of return, and, after annuitization, guarantees annuity payments if the insurance company fails (100% of the minimum pension is guaranteed, plus 75% of the rest of the benefit up to a specified limit). Finally, the government guarantees a minimum benefit under the new system for those who have at least 20 years of coverage under both the old and new plans. The costs of these guarantees will be financed through general tax revenues, which is equivalent to paygo financing.

If the new AFP system can earn an average 7% real rate of return over the lifetime of the average worker, then the new system should provide benefits as large as the old paygo system (assuming only a small change in life expectancy). While the plan did earn such rates in its early years, it has not recently. In general, these would be considered very high rates of return for a mature economy.

Under the new plan about 40% of total assets are invested in government bonds, which means that to that extent the new plan is still paygo. As noted earlier, in 1980, under the old paygo financing system, gross national savings in Chile were 21.0% of Gross Domestic Product (GDP). After the introduction of the new mandatory individual savings scheme, savings rates dipped in the 1980s and stood at 18.8% of GDP in 1991 (Uthoff 1993).

Obviously, the system includes only wage and salaried employees (for example, not homemakers), and retirement benefits are a direct function of lifetime earnings; that is, there is no redistribution of wealth in the system except for the guaranteed minimum benefit. All risks (for example, the investment risk, inflation, mortality) are transferred to the individual worker, except for the minimum guarantees listed above.

This generation of workers will, in effect, be paying twice, once to fund their own retirement through the new system (through contributions), and once to pay off the recognition bonds for the accrued liabilities of the old paygo system (through general taxation).

AFP expense ratios for sales commissions, advertising, and general administration are high. Myers (1992) reports that they are 15% of the contributions (higher for lower wage earners and lower for higher contributors, since part of the fee is flat rate, which makes them regressive). Some estimates now put total sales costs as high as 26% of contributions (Orgill 1996), as sales people, trying to maximize their commissions, encourage members to switch funds often. This is such a concern that Chile is considering placing restrictions on the ability to switch (such restrictions already exist in Argentina). These Chilean expense ratios compare to ratios of 1.3% for the C/QPP.

Almost all (99.8%) of the assets are invested in the Chilean economy. This appeared to be sound policy in the early years of the system as rates of return averaged 13%. However, in 1995 the AFPs experienced net losses as the Santiago Bourse performed badly (Orgill 1996). There is now general discussion about diversifying the investment funds outside of Chile. So the Chilean system of mandatory individual savings accounts has been "studied and touted as a model from Britain to Uzbekistan, [but] Chile's free-market pension system is suddenly facing a host of challenges: falling returns, soaring costs, and an over-dependence on local economic savings" (Orgill 1996).

### 6.2.7 Conclusion

This chapter has explored at some length the issues surrounding the advantages and disadvantages of the prefunding of the C/QPP. It has been argued that any public policy that purports to enhance C/QPP security must satisfy (all) three criteria:

- It must increase gross national savings
- Those savings must be used in a manner that increases worker productivity
- A better method of achieving the first two stated goals cannot exist.

This chapter has reviewed a variety of proposed alternatives to the financing of social security under these three criteria and has found many unanswered questions and unsatisfied concerns. It is the opinion of the author that the move away from (close-to) paygo financing of the C/QPP cannot be defended as preferred public policy.