VII

A Wealth-Transfer Model to Ensure Total Social Security Financing Stability

7.1 Introduction

Chapter 6 showed that social security is not a large private pension plan; rather, it is a macro-economic wealth-transfer scheme. With this in mind, Chapter 7 proposes a public policy initiative that could create the stable macro-economic framework in which the total social security system (including education, health care, and unemployment payments) would find long-run financing stability.

The key economic and demographic assumptions upon which Canada's various social security programs—Old-Age Security (OAS), Canada/Quebec Pension Plans (C/QPP), and the Guaranteed Income Supplement (GIS)—were originally designed (in the mid-1960s) no longer hold true:

> People were not at all conscious of it in those distant early days, but their confidence in social security rested on growth—of population, income and scope of the schemes— and with the threatened cessation of growth social insurance schemes will become much more expensive; the foreshadowing of this is part of what is responsible for the present demoralization. (Keyfitz 1984, p. 3)

Myers (1985, p. 3) summarizes the connection between an aging population and how it affects the funding of a pay-as-you-go social security system:

> If all other demographic elements are constant, higher fertility rates will have a favourable effect on social insurance systems providing old-age retirement benefits. As long as fertility is above the replacement rate (or the actual fertility plus the effect of net immigration achieves this result), there

will be a steadily growing covered work force to provide the contributions necessary to support the retired population. This type of chain-letter effect will show relatively low costs for the social insurance program, although eventually the chain must break (because population size cannot increase forever), and the cost of the program will become significantly higher. (Myers 1985, p. 3)

Section 2.2 noted how the age structure of the Canadian population will change in the next 40 years, from being a relatively "young" population to being a relatively "old" population. It was shown in Section 4.3.2 that health care costs will rise about 95% over the period from 1991 to 2041 (see Table 4.2). However, cited research states that this will be affordable within a growing economy, especially if public policy can focus on inefficiencies within the system.

At the same time, social security costs are projected to more than triple during the same period of time. Since the social security delivery system is already highly efficient, no savings can be expected because of a change in the delivery model. The question remains as to whether future generations will be willing to fund these rising costs. Most of the increased projected cost of retirement income security systems is caused by changes in demographic variables, as shown in Table 7.1, developed by the Quebec Pension Plan (QPP) valuation actuary.

This chapter first analyzes the demographic variables that could have an effect on the future costs of social security, and then discusses a wealth-transfer model that could be used to stabilize the financing of Canada's total social security system and that would also lower the ultimate cost of Canada's retirement income security programs.

TABLE 7.1
FACTORS RELATED TO THE INCREASE IN THE PAY-AS-YOU-GO QPP CONTRIBUTION RATE 1990–2040

Pay-as-You-Go Rate in 1990	6.0%
Rate Increase from 1990 to 2040:	
QPP Plan Maturity and Plan Improvements	+3.7%
Increased Life Expectancy	+1.3
Aging of the Population*	+7.7
Increase in Employment	−1.8
Productivity Gains	−3.2
Pay-as-You-Go Rate in 2040	13.7%

Source: Menard 1992, p. 267.
*Since the impact of changes in life expectancy is reflected separately, these changes result from changes in the fertility rate trends as explained in Chapters 2 and 4.

7.2 Demographic Variables That Could Affect the Financing of Social Security

7.2.1 Fertility

As noted previously, higher fertility rates have a favorable effect on social insurance systems. If the working population grows, individual contribution levels can be relatively low, but as the proportion of the population that is elderly increases, so too must contribution rates.

At present, the Canadian total fertility rate (defined in Chapter 2) has remained relatively level for some time and is now equal to 1.66 (Statistics Canada 1997, p. 39), whereas a fertility rate of 2.10 is required just to maintain the present population, assuming zero net migration. Although it would take a large rise in fertility rates to stabilize social security costs (Gee and McDaniel 1994, p. 226 suggest a fertility rate of 3.1 is needed), any rise in fertility rates helps to ease the financing problem. Can government policy increase the fertility rate?

In the 1980s the Province of Quebec passed legislation in an attempt to increase the number of births. Quebec had the lowest total fertility rate in Canada (1.38), the only jurisdiction with a lower rate being West Germany. Quebec pays families $500 cash for their first baby, $1,000 for their second, and $8,000 (paid over five years) each for the third and subsequent children. A new monthly allowance for children under six, ranging from $8 to $41, was added to provincial family allowance payments. Also, these payments were made nontaxable. Figure 7.1 indicates that the legislation had some short-term effects. However, fertility rates in Quebec still trail those of the rest of Canada (especially so for fifth children and beyond), and in the

FIGURE 7.1
TOTAL FERTILITY RATES, QUEBEC AND CANADA, 1923–93
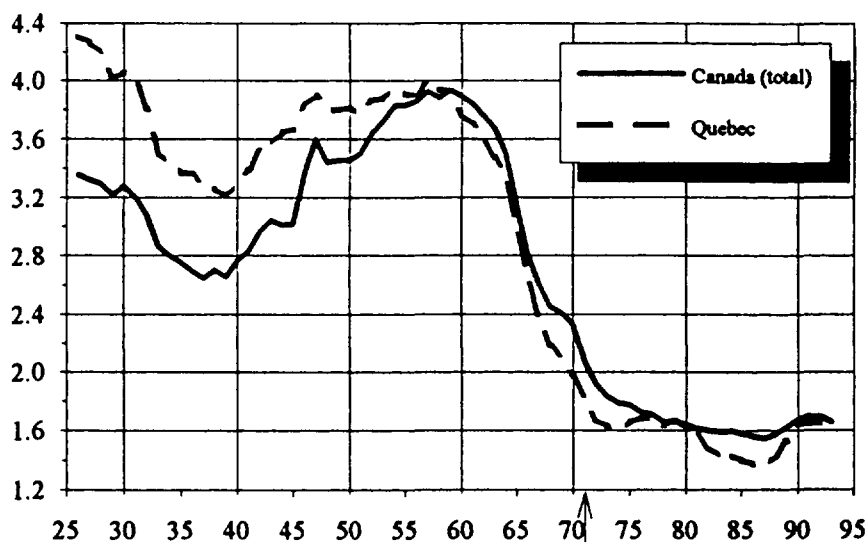
Source: Brown 1997, p. 204.

latest year of published rates (1996) Quebec slipped farther behind the rest of Canada.

Evidence from other countries suggests that similar incentives have had little effect (Hohn 1987, p. 461). For example, West Germany offered cash incentives for women to have children and extended mother's holidays and child-care facilities, but the fertility rate continued to slide. In fact, the countries that have the largest family allowances also have the lowest birth rates (Weitz 1979, p. 21).

Finally, raising fertility rates could create it own problems since it would result in increased youth dependents (McDaniel 1987, p. 334). In the short run, this would increase total government expenditures, as shown in Tables 4.2 and 4.3. Perhaps the last word on increasing fertility should be left to Keyfitz who stated, "Apparently before we see a rise in the birth rate, we will also have to foresee a retreat from women's liberation, the family strengthened and divorce become rare, and women once more subsiding into uncomplaining domesticity. I am not one to make such a forecast" (1984, p. 220).

7.2.2 Immigration

Increased net immigration has an effect on dependency ratios similar to that of increased fertility and may even be superior if workers enter after being educated and prepared for the workforce. However, the Economic Council of Canada study "One in Three" points out that increased immigration today is not desirable, since most of these immigrants would be the same age as the baby boom cohort, thus exacerbating the ratio problem. If one accepts the definition of the Canadian baby boom cohort as given in Chapter 2, that is, those born in the twenty-year period from 1947 to 1966, then the baby boom in 1999 is between ages 33 and 52, which mirror the ages of highest immigration. In fact, increased immigration is not desirable until the decade just prior to 2031:

> We noted earlier that the retirement income programs would reach just over 7 percent of GNP by 2031, assuming moderate population growth and maintenance of the present age of eligibility and income-replacement ratio. To reduce this share by only 1 percentage point would necessitate an additional 2.8 million workers in the labour force and no extra retirees by 2031. To accomplish this would require . . . an increase in net immigration in the decade prior to 2031 from 80,000 to 640,000, assuming, as is now the case, that only half of the immigrants would be of workforce age. (Economic Council of Canada 1979, p. 32)

Murphy (1996) has continued to study increased immigration as a partial solution to the demographic problems facing Canada's social security systems. His work, as displayed in Figure 7.2, indicates that even very high levels of immigration (275,000 in one case and 375,000 in the other) create almost no change in the proportion of the projected population aged 65 and over (certainly not when compared to possible changes in the total fertility rate). Murphy (1996, p. 4) concludes that without another baby boom the aging of Canada's population is all but inevitable. Similar conclusions are found in Fellegi (1988, p. 4.4), Henripin (1994, p. 80), Gee and McDaniel (1994, p. 224), and Denton, Feaver, and Spencer (1996, p. 14).

The reason for this is that the total immigrant population is not young, as indicated in Figure 7.3. The average age is about 45, and the entry age is around age 27 (Murphy 1996, p. 5). This is in contrast to a newborn (reflected in an increase in the total fertility rate) who enters the population at age zero. Given that the younger members of the baby boom are only now turning age 33, one can see why the Economic Council of Canada stated that increased immigration at this time is not a solution to our financing concerns.

There are two other factors that should be considered. First, while historically many immigrants came to Canada from Europe, Europe is experiencing its own very low birth rates and should not be expected to be a source of our future workers. Instead, Canada must anticipate that the majority of new immigrants will be "visible minorities," which may necessitate special social service programs to enhance social integration. Gee (1995, p. 18) suggests that the social costs associated with dealing with large numbers of immigrants per year from very diverse countries of origin mean that immigration is not a cost-reducing alternative.

Second, our present immigration criteria set very high standards for potential immigrants. This means that, for many developing nations, countries like Canada take many of their best individuals, which results in a retardation of their own rates of economic improvement.
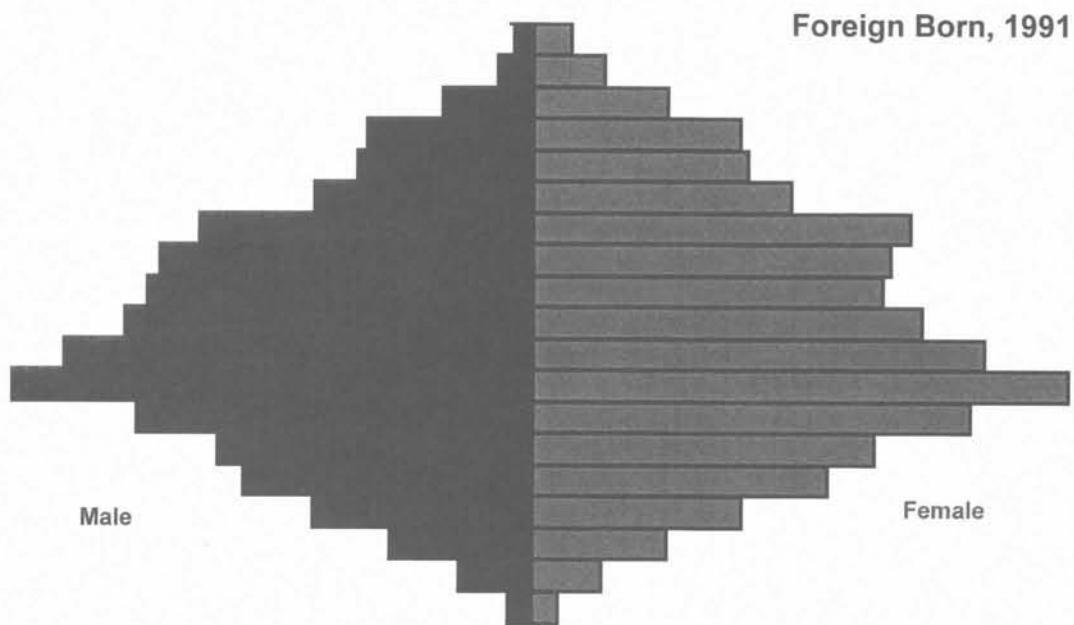
7.2.3 Mortality

Any population projections that provide sensitivity analysis, such as Statistics Canada Population Projections (1994d) or the Canada Pension Plan Actuarial Report (OSFI 1995), indicate that the mortality variable has a relatively small impact on the future population age structure. Further, to assist the future cost rates for social

FIGURE 7.2
IMPACT OF IMMIGRATION ON THE PROPORTION OF POPULATION
AGED 65 AND OVER
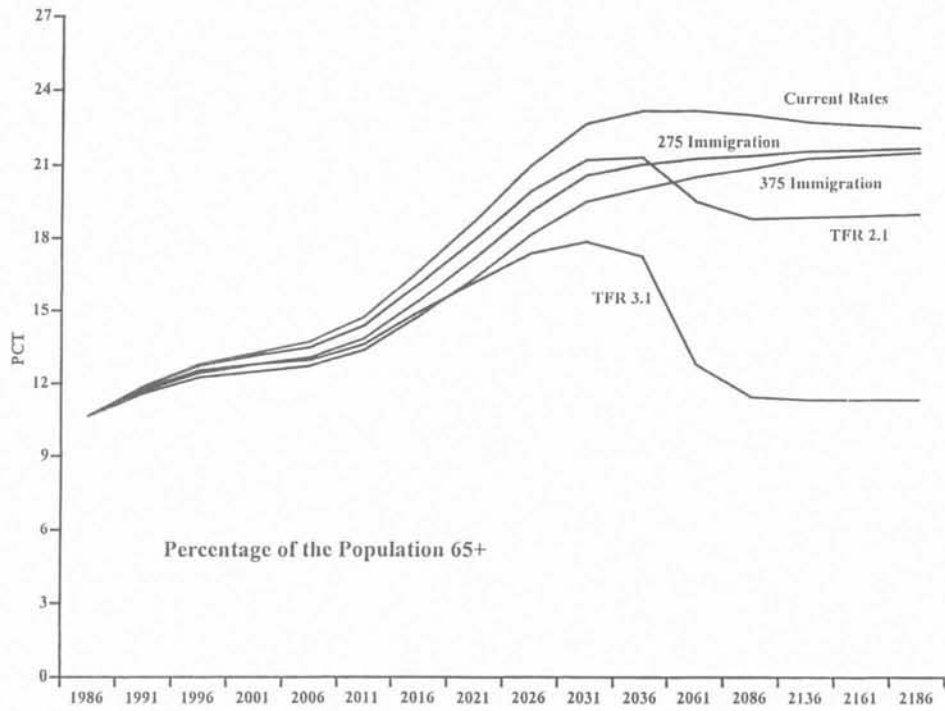
Source: Murphy 1996, p. 5.

FIGURE 7.3
AGE STRUCTURE OF THE TOTAL IMMIGRANT POPULATION

Source: Murphy 1996, p. 5.

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security in Canada, public policy would have to support an increase in mortality among the elderly. Obviously this is not a political or moral possibility. Thus, there is little to discuss around the mortality variable as a potential solution to any perceived cost issues.

7.3 A Wealth-Transfer Model for Total Social Security Financing Stability

The labor force participation rates of males aged 55–64 have been falling. In June 1994, 60.9% of men aged 55–64 years of age remained in the labor force as compared to 86.5% in 1953. For men aged 65 years of age and over, the labor force participation rate was 11.2% in 1994 versus 34.8% in 1953. For females aged 55–64, the labor force participation rate has remained relatively level for the past decade (38.9% in June 1994), while the participation rates at all other ages have risen (McDonald 1996, p. x). This drop in work activity for the age group 55–64 (real for men and relative for women) has been accelerated by government and employer programs that encourage older workers to retire early (for example, flexible retirement age under the C/QPP). These programs were adopted largely because of the relatively high levels of unemployment in the young labor force in the hope that if an older worker retires, it may create an opening for a younger unemployed worker. However, the baby boom is now largely in the labor force. Following it comes the baby bust cohort. In the future there may be pressure toward keeping older workers in the labor force for longer periods of time, since they may be needed as workers because of a decline in the supply of labor (Statistics Canada 1996c, p. 39).

What would happen if the massive baby boom cohort attempted to retire at the ages that are now accepted as the norm? As the baby boom attempts to liquidate its assets (of whatever form) to buy consumable goods and services, the value of these assets would fall. Further, if all baby boomers tried to stop working and become passive consumers at the ages now accepted as the norm, demand for goods and services would remain almost level, while supply produced by the smaller baby bust generation would fall. This would result in price inflation. Thus, through asset depreciation and cost inflation for goods and services, the new economy would achieve a new equilibrium with the baby boomers being far worse off than they now expect (especially given that they must provide for higher life expectancies than

today). As was explained in detail in Chapter 6, a nation cannot prefund its retirement needs. Social security is not a large private pension plan; it is a wealth-transfer scheme. If the population wants to consume goods and services in 2030, those goods and services must be produced in (or just prior to) 2030.

What will be the actual result of all of these conflicting forces? Should the baby boomers be told to expect a rapid depreciation of their assets and hyper-inflation for their desired goods and services? No, this will not be the outcome. The reason for this is that the economy is a dynamic system, and baby boomers will react to these economic indicators, so that any static projections that assume nonresponse will prove to be wrong.

It would seem, rather, that the baby boomers will not be able to retire at the ages now accepted as normal. Instead, it is likely that they will have to stay in the workforce longer and retire later than today. This will be true both because of the economic forces just explained and because their employers will be presenting them with later-retirement incentives as employers face the labor shortages that will arise if the baby bust generation is the only source of production (increased capital investment and increased worker productivity can ease this need, as was explained in Chapter 6 and as will be discussed later). Also, the late baby boomers (those born between 1956 and 1966) are not accumulating wealth as rapidly as their parents did (see Levy 1987, pp. 79–80) and cannot afford today's early retirement ages. In total, without any public pronouncements, the baby boomers are likely to experience new ages of retirement that will allow for a constant wealth transfer from a stable workforce to all dependent Canadians. It is this wealth-transfer stability that is, by definition, social security financing stability.

Given these projections, what is the correct public policy for the government to adopt with respect to Canada's retirement income security systems? If later retirement, or longer labor force participation, is expected, and if wealth-transfer stability is a worthy public policy goal, then it would be wise for government to provide Canadians with incentives to keep the consumption-production ratio at a constant equilibrium. In fact, the government, as a tax-collecting and wealth-dispensing agent, faces the same dependency ratio issues as does the general economy.

The Canadian government collects wealth from workers and transfers that wealth to young Canadians for health care and education, to adult Canadians for temporary unemployment, and to elderly Canadians in the form of retirement income security and health care. The ratio of producers (taxpayers) to nonproducing

consumers (youth and aged dependents) is going to change rapidly, especially after 2015. However, the decline in live births in the 1970s also results in a decline in the transfer of wealth required to provide education and health care to the young (versus the 1960s at least). Thus, while the number of elderly is increasing, the number of young is decreasing, as indicated in Figure 7.4. The Youth Dependency Ratio is the number in the population aged 0–19 divided by the population aged 20–64. Similarly the Aged Dependency Ratio is the number aged 65 and over to those aged 20–64.

Transfers of wealth to educate and provide health care to the young are not equal to the transfer of wealth required for health care and retirement income security for the elderly, however. Analysis (Foot 1982, p. 137) has shown that government expenditures on the elderly are about 2.5 times those for the young (per capita). Therefore, any analysis that attempts to derive a formula for a constant wealth transfer must include the lower demands for wealth by the youth sector and also include the differing transfer factors for the young versus the elderly.

Such an analysis, using Canadian data, can be found in Brown and Bilodeau (1997). The authors developed a statistic called the wealth-transfer index (WTI) defined as

$$WTI = \frac{(1.866 \times Y) + (1 \times U) + (4.636 \times A)}{LF}$$

where
Y = Youth, 0–19
U = Unemployed persons
A = Aged, 65 and over
LF = projected employed labor force.

The weights of 1.866, 1, and 4.636 were derived by McDonald and Carty (1980, pp. 16–17) for the Task Force on Retirement Income Policy (1979) and depict relative wealth-transfer weights for the young, the unemployed, and the elderly. The weights do not have any meaning by themselves—they are only weights relative to a weight of "1" for adults. These weights are based on payments for health care, education, unemployment transfers, and retirement income security made by any government (federal, provincial, or municipal). While this does not represent the totality of dependencies, it does capture the key macro-indicators.

The work of McDonald and Carty (1980) was a background paper to a federal commission into pension reform. It is unfortunate that no more recent analysis similar to the work by McDonald and Carty exists. Clearly, the weights by age would have changed, leading to a different WTI. This is just one symptom of the

FIGURE 7.4
YOUTH AND AGED DEPENDENCY RATIOS
1950–2025
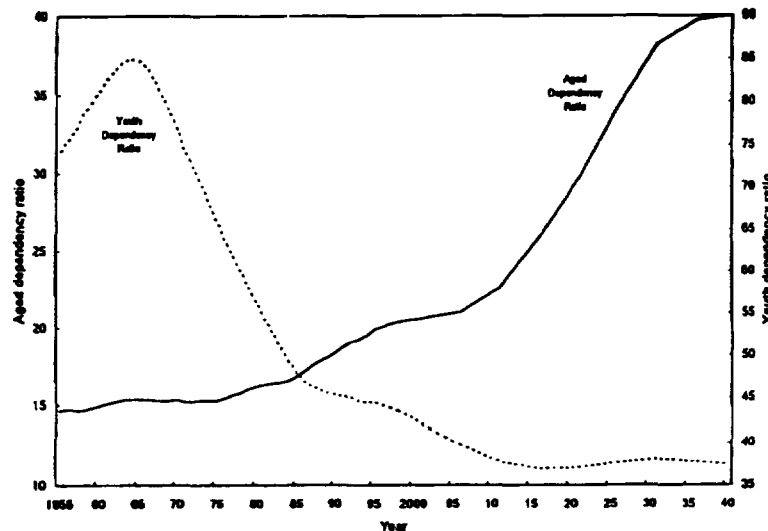
Source: Author's calculation using statistics from Brown and Bilodeau 1997.

fact that in this latest round of pension reform, the reforms have been piecemeal and no attempt has been made to look at the impact on the total pension system. Such a full public policy debate is still needed.

Statistics Canada population projections were used for the model's projected input variables. The labor force was projected forward for ten years based on recent trends of both female and male labor force participation, but age-sex-specific participation rates were held constant after 2006.

The WTI statistic is a single statistical indicator of the supply of (denominator) and demand for (numerator) wealth. As shown in Figure 7.5, the WTI actually trends slightly downward from now until 2006. After 2006 it increases rapidly as the population ages, and, in particular, as the baby boom generation retires and the labor force turns to the baby bust generation for wealth creation. For example, compared to a WTI of 2.503 in 2006, its expected value is 3.746 in 2041, or 50% higher.

Brown and Bilodeau (1997) determined an increase in the age of entitlement for aged benefits, versus age 65 today, that would keep the WTI stable, in fact, constant. This shift in the age of entitlement can be determined by finding time (T) such that

$$WTI = \frac{(1.866 \times Y) + (1 \times U) + (4.636 \times A_{65+T})}{(LF_{65+T})}$$

The resulting necessary shifts in the age of entitlement are illustrated in Figure 7.6

Thus, for example, if society can only accept a WTI constant at 2.5, the normal age of entitlement (relative to 65 today) would have to shift upward from 65 in 2006, to 71.6 in 2041. This would correspond to keeping the WTI at its 2006 level, an all-time low (at least for the years measured). But the WTI has been as high as 3.0 as recently as 1975. Thus, shifts in age-of-entitlement for WTIs varying from 2.5 to 3.0 are shown. That, in essence, would have to be the first public policy decision: how much wealth transfer will workers support? If the new equilibrium is based on a WTI of 3.0, then no shift in the normal age of entitlement is needed until 2019, and the normal entitlement age (again relative to 65 today) would be 68.6 in 2041. Required ages of entitlement for each WTI are listed in Table 7.2.

Brown and Bilodeau (1997) perform a more detailed analysis of certain models for the age of entitlement using a WTI of 2.5. This could be considered a worst-case scenario for two reasons. First, as seen in Figure

FIGURE 7.5
WEALTH-TRANSFER INDEX,
CANADA, 1975–2041
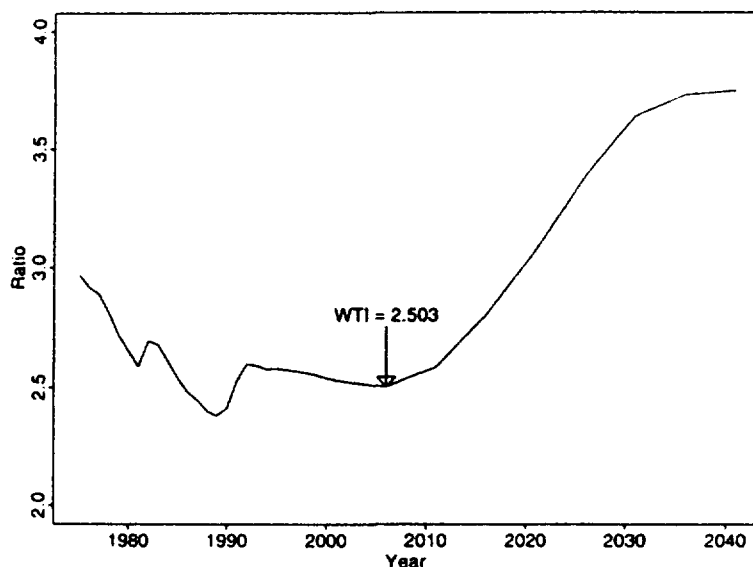
Source: Brown and Bilodeau 1997, p. 10.

FIGURE 7.6
ENTITLEMENT AGES FOR CERTAIN CONSTANT
WEALTH-TRANSFER INDICES (K)
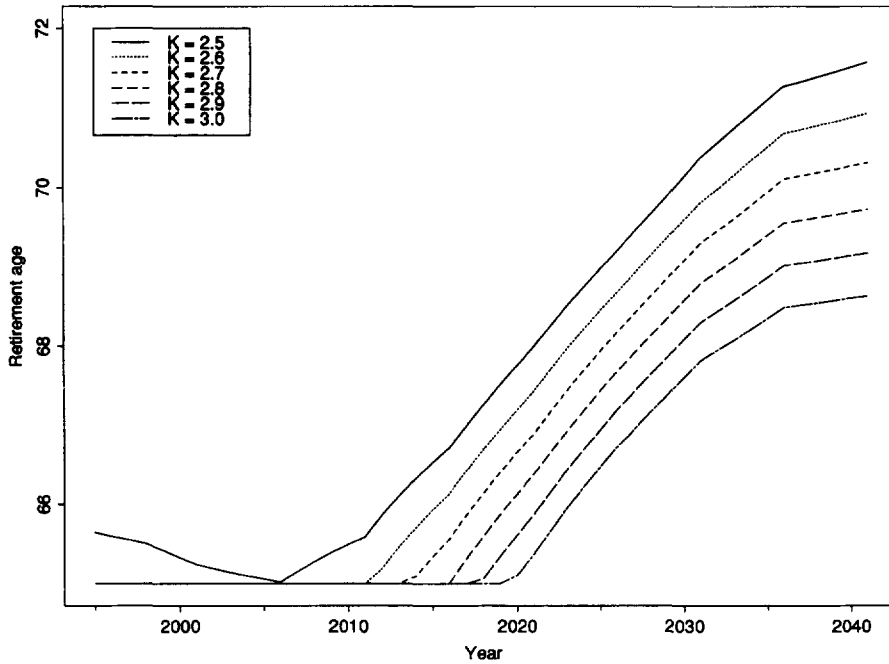
Source: Brown and Bilodeau 1997, p. 11.

7.6, a WTI of 2.5 represents the absolute minimum value of the index over the period of study. Second, the WTI assumes no productivity growth per worker; that is, the index's denominator is the number of active members of the labor force, not reflecting any increased ability to produce goods and services.

To understand the significance of this lack of productivity factor, consider the shift in required wealth trans-

TABLE 7.2
REQUIRED AGE OF
ENTITLEMENT IN 2041
FOR A GIVEN WEALTH-
TRANSFER INDEX

K	Age of Entitlement
2.5	71.55
2.6	70.91
2.7	70.29
2.8	69.70
2.9	69.15
3.0	68.61

Source: Brown and Bilodeau 1997, p. 10.

fer indicated in Figure 7.5. The WTI moves from 2.503 in 2006 to 3.746 in 2041, a 50% increase in 35 years. This is equivalent to an average growth rate of 1.2% per annum. If workers could become more productive by 1.2% per annum over the same 35 years, then no shift in the age of entitlement is required whatsoever. If workers became 0.6% more productive per annum, then the age shifts indicated could be cut in half. To repeat, then, the age shifts modeled in Figure 7.6 should be considered a worst-case scenario.

The key to achieving a less onerous shift in the age of entitlement is economic growth. Were Canada to return to the rates of growth of the 1950s and 1960s, then no shift in the age of entitlement would be required at all. However, real wages have not risen for the last 15 years (Canadian Institute of Actuaries 1995b, p. 13). Thus, were one to base one's modeling assumptions on the recent past, the worst-case scenario would be the best-guess scenario.

To finalize the analysis of the worst-case scenario, Brown and Bilodeau (1997) present a series of possible shifts in the age of entitlement that would retain the WTI at its 2006 level of 2.503. Clearly, it is desirable to obtain a regular and logical increase in the age of enti-

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tlement, such as an integer number of months per year. To have noninteger shifts, or differing shifts from one year to the next, would create justifiable skepticism in the minds of the public.

Figure 7.7 presents three projected entitlement age shifts that will maintain a stable WTI. The dotted line increases the retirement age by two months per year starting in 2001. This model would have an entitlement age of 66 in 2006, 67 in 2012, and so on. Two other models start the retirement age shift in 2006. The "slower" model would have the entitlement age rise by two months per year starting in 2006, while the "faster" model has the entitlement age rising by three months per year. All three models indicate that this process will probably not need to continue beyond 2035.

These modeled projections assume that as the entitlement age increases, the elderly are modeled as remaining in the labor force with the same participation rates as those now T years younger. For example, if T is 3, then the model gives the future 68-year-old worker a labor force participation rate of today's 65-year-old. The model projections also assume that the

future 68-year-old will have the health profile of today's 65-year-old.

This latter assumption can be defended. Wilkins and Adams (1983) and Wilkins, Chen, and Ng (1994) show that, in general, improvement in the healthy life expectancy of Canadians has occurred with the improvement in pure actuarial life expectancy. Other papers disagree that as life expectancy improves, disability-free life expectancy also improves. Manton and Corder (1996, p. 9) find that the prevalence of chronic disability in the United States over the period 1982–89 declined significantly, but that while the proportion of disabled elderly is down, the absolute number of disabled is up because of the growing size of the elderly population. In Canada, Wilkins, Chen, and Ng (1994), using survey data, found little change in the prevalence of disability between ages 54 and 75, the ages of concern in discussing the wealth transfer model. Prevalence of disability beyond age 75 was up, but the authors speculate in their concluding remarks that part of the observed increase in the prevalence of disability may have been due to differences in perception and reporting rather than in the

FIGURE 7.7
WEALTH-TRANSFER INDEX UNDER THREE
AGE-OF-ENTITLEMENT MODELS
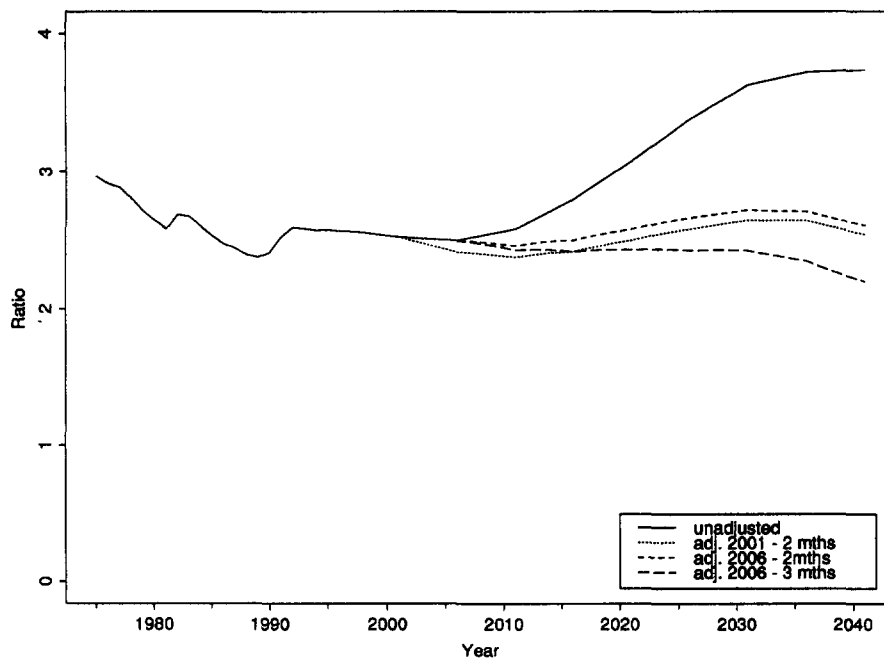
Source: Brown and Bilodeau 1997.

underlying "true" prevalence of such problems. Thus, the evidence from the literature does not allow for a clear conclusion, and it will be essential to monitor the impact of any shift in the age-of-entitlement on disability income claims.

Having allowed for these caveats, it is true that the most significant increase in health care costs occurs after age 69 (see Barer 1995, as quoted in Chapter 4, and Moore and Rosenberg 1997, p. 156) and that the impact on total wealth transfer from retirement income security is much greater than the impact of health care delivery, as seen in Chapter 4. As Denton and Spencer (1995, p. 178) show, between 1991 and 2041, health care costs are expected to rise 95% while social security costs will be more than three times their 1991 level in 2041, solely because of population aging. Thus, in total, the assumptions of the model appear defendable.

While these are presented as plans for government action, these are also models of what will happen—in fact, what must happen in the next 35 years—to retain a stable economy. Further, these models provide policy makers with ages of entitlement that result in financing stability for the total social security system. However, this is not meant to model any worker's intended age of retirement. Today, the normal retirement age for the C/QPP and OAS/GIS is age 65, but few workers actually retire at that age (see McDonald 1996). Similarly, workers could retire whenever they had accumulated the financial resources to do so under the Brown-Bilodeau model. However, government-sponsored wealth transfers would shift according to the modeled projections.

If longer labor force attachment is required to achieve wealth-transfer stability, then it would seem to be good public policy for the government to indicate this to Canadians, and at the earliest possible date. As McDonald and Wanner state,

Part-time work, especially among those over 65 years of age, may hold the key to what is required to retain the older worker in the labour force in the immediate future. If this is the case, governments, out of necessity, will have to rethink pension policies so that they encourage continued full-time and part-time work rather than serving as incentives for early retirement. (1992, p. 188)

One way to do this would be to announce an intended rise in the age of entitlement for social security retirement benefits to follow one of the graphs of Figure 7.7.

This shift also has a positive public policy impact in that it decreases the cost of OAS/GIS to the general taxpayer and lowers the ultimate contribution rate to the C/QPP. In fact, for the pre-reform C/QPP, previously

projected ultimate contribution rates of close to 14.4% (OSFI 1995) could be expected to top out at around 11.9% according to recent calculations by the Canadian Institute of Actuaries (1993). These savings result solely from a shift in the normal age of entitlement (now 65). Another advantage to this approach is the demarginalization of older persons that could be avoided (McDonald and Chen 1994, p. 25) on the assumption that they will be needed in the work force (discussed in more detail later).

Is a rise in the normal age-of-entitlement saleable? The answer may well be yes. The cause of the wealth-transfer dilemma is the aging population. But the cause of population aging is twofold: first, shifting demographics as the baby bust follows the baby boom, and second, enhanced life expectancy. As life expectancy has continued to improve, each retirement cohort has been the recipient of ever larger wealth transfers from social security (given a constant normal entitlement age).

The Canadian data support this contention. The C/QPP were introduced in 1966 with a normal retirement age of 65. Had the criterion for the normal age at retirement for C/QPP been established as the 1966 life expectancy at age 65, then the equivalent ages of entitlement are as shown in Table 7.3. This table shows that, by 2041, a normal entitlement age of 73.7 would equate to a 1966 normal retirement age of 65. Remember that none of the Brown-Bilodeau projections result in an ultimate age of entitlement as high as 73.7 (in fact, the highest is 71.6). Thus, a shift in the age of entitlement less than the equivalent improvement in life expectancy since the inception of the C/QPP would result in a stable wealth-transfer index. Further, as explained earlier, the Brown-Bilodeau model is a worst-case scenario. If workers can become more productive over the next half century, then the ages of entitlement indicated by the WTI models can be reduced because of this increased productivity. Again,

TABLE 7.3
EQUIVALENT AGE OF ENTITLEMENT
(CANADA)

Year	Men	Women	Average
1966	65.00	65.00	65.00
1981	66.49	67.84	67.17
1991	68.13	69.09	68.61
2001	69.22	69.93	69.57
2011	70.33	70.79	70.56
2021	71.46	71.69	71.57
2031	72.62	72.60	72.61
2041	73.81	73.55	73.68

Source: Brown and Bilodeau 1997, p. 15.

the ages indicated in the model should be considered upper bounds for the age of entitlement. This should be an acceptable alternative for Canadians.

The philosophy of tying the age of entitlement to improving life expectancy opens one other interesting public policy alternative. It was shown in Tables 6.1 and 6.2 that postretirement life expectancy is correlated with the level of C/QPP retirement benefit received. Thus, there exists the option of moving the age of entitlement at differing rates for differing benefit levels (that is, more for the higher-benefit recipients and less for the lower-income recipients). This would also enhance the progressivity of the C/QPP, as explained in Chapter 6.

While this alternative can be modeled actuarially, it presents some aspects that might prove difficult politically. For example, one should expect nonacceptance of a system whereby there were large discontinuities in the age of entitlement over small ranges of benefits (that is, a measurable difference for a worker receiving a benefit equal to 49% of a full benefit versus 51% of a full benefit). This would not be an easy matter.

Even ignoring any connection between income level and the legislated shift in the age of entitlement, it is critical that the government adopt an age-of-entitlement formula that allows for two essentials. First, it must provide advance warning to workers that a shift in the age of entitlement is approaching. For example, were the first shift to occur in 2006 (as some of the formulae indicate), then an announcement should be made no later than 2001 to allow for a full five-year period for adjustment. It is not just the need to inform workers of the change in their benefit schedule, but all defined benefit private pension plans that are integrated with the C/QPP will have to be amended (see Section 7.5.1 for more details). This is a costly administrative process, and such costs must be minimized. Thus, any change in the age-of-entitlement formula should be made only when long-term projections show that it is justified.

Second, there should be a smooth shift in the age of entitlement over the years. Someone retiring in 2010 should not have a significantly different age of entitlement than someone retiring in 2011. If the government intends to factor rates of productivity improvement into the age-of-entitlement formula, as suggested, then it will be essential to reflect these changes at the earliest possible moment. However, this is not remarkably different than today's C/QPP modeling, in which the actuaries provide government with 25-year projection models on a triannual reporting basis. Thus, every three years the government could announce its best estimate for the next 25 years, and the actual adopted formula for the

next five or ten years (announced at least five years in advance). Later in this chapter, the sensitivity of the WTI model is presented. Luckily, it is a robust model and is not overly sensitive to changes in input variables.

An upward shift in the age of entitlement is a public policy initiative that is being explored in many countries around the world, as seen in Table 7.4. In Sweden proposals before parliament would index retirement benefits of each retiring cohort based on its life expectancy at age 61. For example, if life expectancy improved, the value of the retirement benefits would fall commensurately. Thus, the cost of retirement income security benefits would be "immune" to changes in life expectancy (Sweden 1994, Scherman 1995).

Many of the amendments in Table 7.4 are as significant as those proposed by the WTI model (especially if productivity gains can be used to soften the age shifts presented). Also, the amendments of Table 7.4 have been legislated even as the labor force participation rates for workers beyond age 60 in these countries have continued to drop, similar to Canadian experience, as seen in Table 7.5.

In 1994 the average retirement age for women in Canada was 58.5 years compared with 61.4 years for men (Statistics Canada 1996c, p. 5). The decrease in the average age at retirement (defined by Latulippe 1996 as cessation of economic activity) and increased life expectancy has meant that the expected number of years in retirement has increased by 5.6 years for men and 6.4 years for women between 1950 and 1990 (Latulippe 1996, pp. 22, 24).

Will the public policy initiative of raising the age of entitlement for social security have any impact on when workers leave the labor force? McDonald (1997, p. 105) suggests that it will. Evidence from the United States supports that contention. Burkhauser states that

the "normal" retirement age in the United States, that is, the age that the typical worker leaves a career job, can be and has been greatly affected by the incentive structure of employer and Social Security pension plans. Today the retirement decision is primarily driven by economic factors, not health factors. Hence, if the political will to change this incentive structure materializes, the labor force participation rates of older workers will also change. (1996, p. 1)

In fact, in the United States labor force participation rates for those aged 60–70 are no longer falling but have bottomed out (ibid., p. 6). In Canada, McDonald and Chen state, "At the policy level, the potency of an adequate pension cannot be overlooked. If reducing early

TABLE 7.4
WORLDWIDE CHANGES TO RETIREMENT AGE AND OTHER CONDITIONS FOR FULL PENSION

Country	Entitlement Age	Measures
Australia	Male 65	No change
	Female 60	Increasing to 65 over 20 years
France	60	Increase from 37.5 to 40 years of coverage for full pension
Germany	65	Abolishment by 2001 of provision allowing people with specified number of years of coverage to retire on full pension before normal retirement age
Italy	Male 61	Increase to 65 by 2002
	Female 56	Increase to 60 by 2002
		Increase from 15 to 20 years for pension entitlement
Japan	Male 60	Discussion of increase to 65
	Female 57	moving to age 60 by 2000 increase from 25 to 40 years of coverage for full pension
United Kingdom	Male 65	No change
	Female 60	Increase to 65 by 2020
United States	65	Increase to 67 for persons reaching that age after 2026

Source: Canadian Institute of Actuaries 1995a, p. 4.

retirement is the goal, the public pension plans should be made less attractive, should be delayed, or should have some type of built-in disincentive" (1994, p. 130).

What effect would the elimination of mandatory retirement have on the labor force participation of older workers? McDonald and Chen (1994, p. 131) say there would be little or no effect (as seen with the abolishment

of mandatory retirement in Manitoba and Quebec, where there has been no significant effects on labor force participation rates since the legislation). This is mainly because the extent of mandatory retirement in Canada is small.

Should the C/QPP early retirement age (now age 60) shift upward with the entitlement age, or should special

TABLE 7.5
AVERAGE RETIREMENT AGE IN SELECTED INDUSTRIALIZED COUNTRIES 1950–90

Country	1950	1960	1970	1980	1990	1990 – 50
Canada	67.3	66.7	65.0	63.4	62.3	–5.1
France	66.6	64.0	63.1	61.3	59.4	–7.2
Italy	68.0	64.1	62.0	60.9	60.3	–7.8
Germany	65.2	64.4	64.5	61.3	60.6	–4.5
Australia	66.2	66.5	64.9	62.4	61.9	–4.3
United Kingdom	68.6	66.9	65.9	64.4	62.9	–5.7
United States	67.9	67.1	65.3	63.9	63.9	–4.0
Sweden	67.7	66.4	65.3	64.5	64.2	–3.4
Japan	67.0	68.3	69.5	68.6	67.6	+0.6
Male Average*	68.5	67.1	65.5	63.4	62.2	–6.3
Female Average**	66.0	65.2	63.5	61.0	60.0	–6.0

Source: Latulippe 1996, pp. 10, 14.
* The average ages are taken over 24 OECD countries, not just those listed.
** While the table provides male data, female trends are similar, except that all ages are lower.

provision be made for vulnerable workers who cannot work? Burkhauser favors shifting the early retirement age with the normal entitlement age (note that in the United States, the earliest age of entitlement for OASDI is age 62):

> the typical early Social Security beneficiary in 1993 and 1994 was about as healthy and wealthy as the typical postponer. Most men who took Social Security benefits at age 62 were healthy (80 percent report having no health problems that limit the type or amount of work they can perform); nearly two in three were receiving an employer pension to go along with Social Security; and the net assets of the median male early beneficiary were just over $160,000 more than the net assets of the median male postponer. The story for women who took benefits at age 62 is the same. . . . Less than 10 percent of male early Social Security beneficiaries were in poor health and also had Social Security as their only source of pension income, and this vulnerable group made up less than 3 percent of the population of 62-year-old men in our sample. (Burkhauser 1996, pp. 9–10)

Burkhauser concludes, "in a world of difficult choices about the use of tax dollars, it is no longer sensible policy for the Social Security system to encourage the vast majority of healthy employed workers to leave their jobs at age 62" (ibid., p. 11).

Canadian data (McDonald 1996, p. 75) indicate that early retirement is more common for the economically and socially advantaged, while the converse is true for late retirement. Many who retire early are capable of further contributions to the production of goods and services (see also Myles and Street 1995, p. 351). For men, the most important factors in deciding to retire early are having a job-related pension, personal income (such as investments), early retirement incentives, and home ownership (McDonald 1996, p. 75). For women, the leading reasons for retiring are to care give (which is usually unanticipated), spouse's desire to retire, a large household size, and education level (the higher, the more likely is early retirement). It is notable that there is virtually no overlap in the reasons for early retirement between the sexes. McDonald says that the data show the importance of marriage to the retirement of women: "Women are economically dependent on their husbands' income in the timing of their retirement, mainly because their own incomes are not sufficient" (McDonald 1996, p. xx).

Will older workers be able to adapt to the new high-tech workplace? Marshall (1996) found no difference between the ability of old and young workers to adapt to new technologies. Both groups viewed adoption of new technology in a positive light, although older workers may feel more apprehensive about the impact technologies might have on them.

Foot and Gibson (1994, p. 108) report that, depending upon the age group, from 60% to 85% of older individuals remain stable or improve on specific abilities. The incidence of significant decrement is quite limited until age 60 and affected less than one-third of the participants until age 74. This is reinforced by McDonald and Chen (1994, p. 312), who note that the connection between age and individual productivity is very weak and can be changed with the work environment.

Despite all of these optimistic data from the literature, some workers will not be able to stay active longer. This will inevitably raise the cost of other forms of government benefits such as C/QPP disability income benefits or provincial social welfare. If the only result of seeking a higher age of entitlement to retirement income security is a commensurate rise in other government-sponsored benefits, then nothing has been gained in terms of total wealth transfer. What is needed are more workers actively in the labor force producing goods and services. These public policy issues are discussed more fully in Section 7.5.3.

It must be remembered that the philosophy behind the rise in the age of entitlement consistent with the WTI does not require that all workers stay at their full-time jobs until some advanced age, such as 68 or 69. Rather, it requires only that workers remain productive in any capacity for longer than they do today.

In that regard, age 65 as a dividing line between full-time employment and full-time retirement has not existed for some time and is not the norm in Canada today. As Schellenberg has stated,

> the age of retirement is becoming increasingly diversified. Rather than being clustered at or around age 65 as it was in the early 1970s, there is now an age span of 15 years or more during which people are retiring: from the early to mid-50s to the mid-to-late 60s. The age of retirement is becoming more diversified. . . . The final implication is that the retirement transition itself is becoming an increasingly grey area. With workers leaving the labour force in their 50s, some of them are returning frequently to paid employment after their initial retirement so that the retirement transition itself is less clear. (1996, pp. 13–14; see also Statistics Canada, 1996c)

Schellenberg (1996, p. 9), notes that 27% of male retirees and 38% of female retirees left the labor force before the age of 60. In total, 60% of men and 70% of women retired before age 65 in 1991. At the other end of

the age spectrum, 10% of men and women leave the labor force after age 65. In fact, Statistics Canada (1996c, p. 5) estimates that only 10% of men retire at age 65 (versus 19% in 1989). Recent studies show that in the late 1980s, almost one-third of retired people had returned to the labor force (more than double the proportion of the 1970s) and that this increase is closely linked to the drop in retirement age. The majority of these (59%) took part-time employment. This phenomenon is also present in the United States and appears to be growing (ibid., p. 25).

Financial reasons, although present, are not the only factors involved in the decision to return to the labor force. In the 1994 survey, Statistics Canada (1996c, p. 26) found that of those retirees who reported returning to the work force, 25% cited financial reasons, 20% reported a desire to occupy their free time, 20% cited personal preference, and 35% gave other reasons (for example, too young to retire).

In terms of the number of workers who are unable to continue to work because of poor health, Statistics Canada (1996c, p. 17) reports that in 1994 one in four retirees reported retiring for health reasons. Firbank (1994, p. 13) suggests that self-reported health may not be a good indicator of actual health status, particularly because poor health is a more socially acceptable reason for retirement than is the preference for leisure, and health disabilities are a prerequisite for enrollment in some government transfer programs. He states that when objective measures of health status are used, the results are much less convincing. Regardless, this is a matter that cannot be ignored and, as stated earlier, must be monitored closely.

Overall, Statistics Canada concludes:

labour market conditions might favour greater participation by the elderly. For instance, the creation of part-time jobs provides the elderly with more opportunities for paid work. Furthermore, long-term demographic trends indicate there may be a shortage of younger labour, and thus, an increase in demand for older employees. (1996c, p. 39; see also Marshall 1995, 64)

All of these factors lend importance to a new retirement model that admits to and adjusts for the reality of a phased-in retirement. One such proposal has been presented recently by the Province of Quebec (LeMay 1997). The Quebec proposals allow for phased and early retirement without any amendments to the QPP.

The legislation is intended to allow workers aged 55 and over who accept reduced work hours to receive an annual benefit from their pension plan (or their life income fund, if any) until they reach age 65. In cases in which private plans have set an earlier retirement age, this measure could even be extended to workers aged 50. This benefit would offset the reduction in employment earnings, and workers would be allowed to contribute to the QPP on their full imputed salary to ensure that QPP retirement benefits would not be decreased.

Phased retirement would be voluntary and subject to an agreement between the employer and the worker concerning the worker's reduced work hours. The Province of Quebec estimates that 39,000 workers aged 55 or over could take advantage of this plan. This does not cost the government or the private plan sponsor anything (although there are some minor tax implications to the government that depend on how many workers take up this offer). Rather, the worker is depleting his or her post-65 benefits, to some extent, in return for phased-in or early retirement.

Because there is no impact to the QPP in these proposals, the age of entitlement shifts within the WTI model could still apply without modification. That is, under the Quebec proposals, the intent of the WTI model and phased retirement could live amicably side-by-side.

Thus, despite the fact that the recent reforms to the C/QPP did not include a shift in the age of entitlement, one should not conclude that this is a dead public policy issue. In fact, it is the opinion of the author that one part of the ultimate financing model for the C/QPP and OAS and GIS will include later eligibility for retirement income benefits.

7.4 Model Sensitivity Analysis

A number of tests were run to see how sensitive the WTI model is to changes in the input parameters. The first test was to determine the sensitivity of the model to health care costs. Runs were done on the assumption that health care costs would be either 10% higher or 10% lower than those originally assumed. These are rather extreme variations, as they would result in total health care costs that vary from 9% of GNP to 11% of GNP. As discussed in Chapter 4, health care costs could go down if more efficient servicing is achieved. On the other hand, health care costs could go up if doctors continue to increase their services to the elderly at the rate of the past decade. Health care costs may also rise because the next generation of elderly will be more highly educated than today's elderly, and there is a positive correlation between the use of health care and level of education (Marshall 1987, p. 420).

Using the worst-case scenario of a WTI of 2.5, increasing health care costs by 10% resulted in an ultimate required age of entitlement of 73.2 in 2041 (versus 71.55 in the original model). If health care costs can be lowered by 10%, then the 2041 age of entitlement becomes 69.6. The total variance, corresponding to a range of change of 20% in health care costs, is 3.6 years. This is a significant difference. However, a 10% change in health care costs is also significant. A smaller shift in health care costs results in a proportional change in the variance of the ultimate age of entitlement. For example, assuming a plus or minus shift in health care costs of 5% results in an age of entitlement range for 2041 of 70.6 to 72.4. Clearly, it will be important to monitor the evolution of health care costs and modify the age of entitlement appropriately.

Tests to determine the sensitivity of the model to the cost of retirement income security were not performed. This is because these benefits are clearly defined a priori and, outside of disability income benefits, are not subject to user and/or provider action. Also, it was assumed that the per person benefits within government-sponsored retirement income security are more capable of control by the government than are health care costs. For example, when C/QPP disability income claims rose sharply in the early 1990s, the government announced changes to the disability income benefit eligibility requirements (see Chapter 4).

Next, the model was tested for its sensitivity to the unemployment variable. Future unemployment rates were allowed to rise and fall by one percentage point above and below what had been modeled (which is an 11% variance). Using the worst-case scenario of a WTI of 2.5, increasing the unemployment rate by one percentage point resulted in a required age of entitlement of 71.77 in 2041 (versus 71.55 in the original model). If unemployment rates were to be one percentage point lower than those modeled, then the 2041 age of entitlement becomes 71.34. Thus, the model is very robust for the unemployment variable.

Tests were also done for changes in immigration. Per annum immigration was allowed to move up and down by as much as 50,000 per year, with less impact on the ultimate age of entitlement than for the changes described above in the health care or unemployment variables. This is not surprising given Figures 7.2 and 7.3 and the analysis presented in Section 7.2.2.

In total, the age of entitlement that is provided through the WTI model is sensitive to large shifts in health care costs, but not particularly sensitive to other input variables.

7.5 Public Policy Issues

7.5.1 Issues for Private Pension Plans

One must also be aware of the potential impact such a shift in the age of entitlement for government-sponsored retirement income security might be expected to have on private pension plans. Such a shift could prove costly to defined benefit pension plans that are integrated with the C/QPP. Statistics Canada (1996b) indicates that 17.8% of all registered pension plan members in Canada are in nonintegrated plans, while 82.2% are in integrated plans. Where benefits are based on earnings, 12.1% of plan members are in nonintegrated plans, whereas 87.9% are in integrated plans. Integration means a full offset of benefits paid by the C/QPP.

If the age of entitlement for the C/QPP is raised, then the benefit defined for age 65 will be reduced (the C/QPP reduce early retirement benefits by 0.5% per month or 6% per year of early retirement). Thus, a defined benefit plan that is integrated with the C/QPP will become more expensive to the extent that the C/QPP benefits become smaller.

This assumes that private plans continue to use age 65 as their normal retirement age. However, if the government is raising the normal retirement age for the C/QPP in order to encourage workers to stay active beyond today's expected retirement ages, and, as anticipated above, private employers are also trying to keep workers active longer, then one might also expect the private sector to shift the normal retirement age for their plans upward. This would actually lower the cost of private plan benefits, at least until improved life expectancy overcomes the effect of the shift in the retirement age. If integrated private plans do not shift their normal retirement age, then workers would not feel any impact from the shift in the age of eligibility for their C/QPP benefits, and any incentive to stay active longer would be lost. To be consistent, companies should seek creative ways to retain, and not jettison, older workers.

7.5.2 Issues for Other Government Support Systems

As has been stated repeatedly throughout this book, parts of the social security system cannot be studied independently without the possibility of drawing false conclusions. Each part of the system is dependent and interconnected with all the other parts. Thus, were the age-of-entitlement for retirement income security to be

raised, one would expect there to be an impact on several other segments of the social security system.

For example, to the extent that raising the age of entitlement to retirement income also lowers the ultimate contribution rate for the C/QPP and the tax rate needed to fund either OAS and GIS or the Seniors Benefit, this should be expected to benefit the economy. In particular, it was shown in Chapter 6 that payroll taxes such as the C/QPP required contributions can lead to higher rates of unemployment. Thus, lowering the ultimate contribution rate should help the level of future unemployment.

On the other hand, one would expect that there will be some workers who will not be able to adapt to the new higher age of entitlement. They will become recipients of some other government support system. This might be realized as an increase in the disability claims and benefits under the C/QPP (although the reforms analyzed in Chapter 5 will make that harder), or it might result in an increase in provincial welfare benefits. Regardless, for those who cannot accommodate the higher age of eligibility, costs will be shifted to some other part of the system. To the extent that only a shift of costs occurs, nothing has been gained as the total wealth transfer required is the same. What is needed is to keep workers active. Specific proposals in that regard are contained in the next section of the chapter.

Finally, this book has outlined in some detail the new retirement "paradigm" whereby work and retirement are not separated by a sharp demarcation. Rather, retirement has become a phased occurrence in which workers often "retire" from one job only to return to the workforce in some other capacity. It was proposed that retirement systems in the next century should accommodate a more flexible approach to retirement and encourage phased-in retirement. The model for phased-in retirement proposed by the Province of Quebec presents possible alternatives for public policy and is a system in which the WTI model would work as outlined in this chapter.

7.5.3 Other Public Policy Issues

One of the key assumptions of the WTI model is that older workers will be able to find work. It is the contention of this book that the private sector will want to retain older workers because of the decline of the labor force as it becomes dependent on the baby bust generation for new workers. However, it is essential that the government foster an environment that will facilitate the labor force participation of such older workers.

David (1993) found that there are six obstacles to employment of older workers:
1. Labor force transformation: both technological change and the movement from declining manufacturing industries to the service sector
2. Government policies: a lack of retraining programs and incentives
3. Business policy and practices: business preference for young workers rather than retraining older workers
4. Recent court rulings: continuation of mandatory retirement
5. Incentives to retirement: the incentives have been for early retirement
6. Working conditions: the effects of aging can be exacerbated by working conditions (42% of blue-collar workers retire early, as compared to only 11% of managers, professionals, and technicians).

The literature is virtually unanimous in listing the need for human resource retraining and reeducation programs as an essential element in keeping the older worker employed (see, for example, Gibson, Zerbe, and Franken 1992 or Foot and Gibson 1994). The National Advisory Council on Aging notes not only that government programs for labor force re-entry must be developed and expanded, but also that there must be a shift in attitude among all of government, business, labor unions, and the workers themselves:

> For older workers who are laid off, the challenge will be to take effective measures to help them to adjust to industrial restructuring and re-enter the labour force. . . . The attitudes of government, employers, unions, and workers themselves must change so that they recognize that workers of all ages are equally valuable members of the labour force and that their contribution is vital to the development of Canada's economy. (National Advisory Council on Aging 1992, p. 5)

As the tone of the quote implies, much of the change required is a change in attitude. As one example, a survey of business (Gibson, Zerbe, and Franken 1992) found that one obstacle to retraining of older workers was the perception that their workplace life expectancy (that is, prior to retirement) was too short to justify the cost of retraining. However, labor force data indicate that, because of the higher mobility of younger workers and the loyalty of older workers, the workplace life expectancy of the older worker can be as high or higher than for the younger worker. Despite this, Canada spends only $1.4 billion a year on adult retraining,

which is one-half of the amount spent per worker in the United States and only one-quarter of what is spent per capita in Germany (Foot and Gibson 1994, p. 108).

The National Advisory Council on Aging makes a series of specific recommendations including the following:

- Business should set aside a minimum of 1% of payroll for retraining
- Tax laws should be amended to allow severance benefits to be received tax-free if used for approved retraining
- The federal, provincial, and municipal governments should harmonize their social assistance programs and bring about the reforms necessary to make it financially advantageous for the employable unemployed to re-enter the labor force (for example, do not claw back social assistance at a rate that creates a disincentive to work).

Clearly, the stability of financing of wealth transfer presented in the WTI model cannot occur unless older workers find a way to remain valuable members of the Canadian labor force. That is essential and will require government initiatives.

7.6 Conclusion

Many Canadians do not believe that they will receive their promised C/QPP benefits. In a September 1993 Angus-Reid poll, one-half of Canadians said they thought the CPP would provide them with significantly reduced benefits by the time they retired, 31% felt that the CPP would no longer exist, and only 17% thought it would deliver the same benefits as it does now. Interestingly, nine in ten of those who think that the plan will cease to exist altogether would "deplore its loss." Among those aged 25 to 44 (the baby boom generation), 46% believe that the plan will be much reduced in scope by the time they retire, and 44% believe it will be entirely extinct (Human Resources Development 1993, pp. 1–2).

In a more recent Angus-Reid poll (commissioned by Southam News in February 1997, just after Paul Martin announced amendments to the C/QPP), 70% of those polled said the public plans were good and should be fixed, with just under 30% saying they should be phased out and replaced with incentives for individuals to save for their own retirement.

The amendments to the C/QPP outlined in Chapters 5 and 6 were meant to stabilize the plans and to make Canadians feel more secure about their future. Retaining

the C/QPP should be considered a high public priority. They have many desirable features including virtually universal coverage of the labor force, immediate vesting and full portability, full indexation, ancillary benefits, special provisions that benefit parents—mostly women—who take time away from paid work while their children are young, a predictable replacement ratio at retirement (unlike Registered Retired Savings Plans [RRSPs] or defined contribution plans), and low administrative costs.

This book has demonstrated the importance of the C/QPP to the elderly in Canada, especially those living in or close to poverty, mostly women, and that the cost of many other retirement income security systems is lowered measurably by the existence of the C/QPP (including integrated private pension plans). For example, it has been estimated that in 1993, the cost of GIS benefits was reduced by $3.05 billion because of the receipt of C/QPP benefits (Dickinson 1994, p. 27). Provinces and territories would be hard-pressed to avoid billions of dollars in welfare payments to low-income seniors and disabled workers if the C/QPP did not exist.

Table 3.3 showed that only 44.0% of male workers and 40.6% of female workers are covered by private pension plans and that coverage is decreasing. Thus, expecting the private sector to provide retirement income security appears insecure in the extreme. Also, any decrease in benefits within the C/QPP will have to be met by private pension plans if they have integrated benefits, and 87.9% of workers whose benefits are earnings related are in integrated plans.

The success of the C/QPP to date has been magnificent, one of the primary reasons for the decline in poverty among the elderly as outlined in Chapter 2. The plans have done this at an administrative cost (1.3% of cash flow) that is only a fraction of that experienced in private pensions and RRSPs (Chapter 6 made other comparisons to private alternatives).

This book has shown that recent reforms to the Canadian social security systems will lower costs by lowering benefits. They will also make the C/QPP more like private pension plans. However, these reforms will not guarantee long-term funding stability, which was their stated goal. Such stability can be achieved, however, by using the WTI model as presented in this chapter.

The Canadian social security system as it now exists is worth saving. It is hoped that the amendments recently made to the system will be modified given the discussion within this book so as to secure the future of Canada's social security system. However, it is regrettable that a

full public policy discussion of the entire retirement income security system was not part of the reforms. The reforms were piecemeal and assume independence of the different tiers of support, which is clearly not the case. What is needed is a full public policy discussion, as took place in the early 1980s, and updated research such as that presented in the McDonald and Carty (1980) paper.

It is the hope of the author that this might still happen. The benefits would be worth the effort.