ECONOMIC SECURITY

FOR AN

AGING CANADIAN POPULATION

by

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ABSTRACT

In the past eighteen months, major reforms have taken place in the design of Canada's social security systems. It has been announced that Old Age Security and the Guaranteed Income Supplement will be replaced in 2001 by the new Seniors Benefit. Significant reforms to the Canada Pension Plan (which are expected to be mirrored in the Quebec Pension Plan) were announced on February 14, 1997. Both pieces of legislation were presented to Canadians as means of ensuring the sustainability of Canada's social security system.

This thesis takes a critical look at these reforms. It concludes that these reforms have more to do with decreasing the benefits paid by social security and a move to a partial 'privatization' of Canada's retirement income security schemes, than with the achievement of long-run funding stability. The conclusion of the analysis is that these reforms make these systems less valuable, less progressive, and no more stable or sustainable than today's schemes. These conclusions are based in turn on the contention that social security is not a large private pension plan, but rather a macro-economic wealth transfer scheme.

Two particular reforms are studied in detail: the freezing of the Year's Basic Exemption (YBE), and pre-funding of the C/QPP. The thesis shows that both reforms make the C/QPP more like a private plan, but neither lead to long-term funding stability.

What is needed is a model that will result in total social security funding stability. The last chapter of the thesis creates such a model. Based on a flexible approach to the age of entitlement to retirement income, the model maps a path to funding stability for the total social security system, including education, unemployment, health care, and retirement income security. The public policy impacts of enacting such a model are also discussed.

DEDICATION

This thesis is dedicated to:

LeRoy George Brown, born August 20, 1915, and died July 22, 1996,

and

Alton Harding Langille, born June 8, 1918, and died May 2, 1997,

who did not live long enough to see this project completed.

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1. ECONOMIC SECURITY AND INSECURITY

1.1 Introduction

In March, 1996, the federal government announced the termination of the Old Age Security and the Guaranteed Income Supplement and their replacement by the new Seniors Benefit effective in the year 2001. Then in February, 1997, Finance Minister Paul Martin announced significant amendments to the Canada Pension Plan.

This thesis will look at these changes to the Canadian social security system. It will be the contention of the thesis that both pieces of legislation move the Canadian retirement income security systems more in the direction of a privatized system. It will be shown that the new Seniors Benefit will pay less in total benefits, and will, therefore, be of less total value to Canadian seniors than the present combination of Old Age Security and the Guaranteed Income Supplement. Similarly the reformed Canada/Quebec Pension Plans will pay lower benefits, make it harder for disabled workers to collect benefits, and re-shape the C/QPP to look and act much more like a private sector pension plan.

The government has made these changes under the guise of providing more security for Canada's social security systems. For example, the document describing the new Seniors Benefit is titled: *The Seniors Benefit: Securing the Future*. In that document, the government states that:

> ...it is proposing a new Seniors Benefit to take effect in 2001 as part of its commitment to Canadians to ensure they have a secure and sustainable pension system now and in the future (Canada, 1996b, 5).

Similarly, the document describing the reforms to the Canada Pension Plan is entitled: *Securing the Canada Pension Plan: Agreement on Proposed Changes to the CPP*. Again the government introduces the reforms by claiming:

> The changes will ensure that the CPP is affordable to future generations and can be sustained in the face of an aging population, increasing longevity, and the retirement of the baby boom generation (Canada, 1997, 6).

It is the contention of this thesis, however, that these reforms have more to do with cutting back benefits and a partial 'privatization' of Canada's retirement income security system. Under the new Seniors Benefit, fewer Canadians will receive benefits, especially married women. The reformed Canada/Quebec Pension Plans will look, act and feel more like private pension plans, and it will be shown that they will be less progressive in terms of wealth distribution, and will not be any more secure for future generations than today's C/QPP.

This thesis argues that social security should not be viewed as a large pension plan, but rather as a system of macro-economic wealth distribution. Given that it is not a large pension plan, the reforms to the Canadian retirement income security system will be seen as not enhancing sustainability, even as they decrease real wealth distribution. Further, it will be shown (Chapter 4) that competition for limited wealth transfer capabilities between retirement income security and health care is possible as the population ages and applies upward pressure on the 'cost' of both systems simultaneously.

What is needed, then, is a new model that will create a sustainable base of financing for the entire Canadian social security system, including health care. The last chapter of this thesis creates a model that will guarantee sustainability of a wealth transfer scheme (which is what social security really is) including health care, education, unemployment transfers, and retirement income. The adoption of such a model would lead to long-term stability in Canada's total social security system. The last chapter also discusses the public policy implications of the potential adoption of such a model.

Prior to an in-depth review of the above-mentioned reforms, the thesis presents several introductory chapters describing, in some detail, the context in which reform is taking place.

Chapter 2 explores why these reforms are happening at this time given shifting demographics and the political priority of fiscal conservatism. It provides further context for the announced reforms by presenting data on the present income and expenditure profiles of the elderly in Canada.

Chapters 3 provides an outline of the existing Canadian retirement income security system in total: existing government-sponsored systems; employer-sponsored schemes; and tax-favoured systems available for individual savings. The reader will also gain an appreciation of the inter-connectedness of the various schemes. For example, any change to Old Age Security or the Canada/Quebec Pension Plans will immediately have an impact on employer-sponsored pension plans and individual RRSPs. The potential for 'behavioural response' to reforms is an important aspect of the critique of the legislation.

Chapter 4 reviews the impact that population aging is expected to have on social security, including government-sponsored retirement income security and health care. Because cost pressures on health care will occur coincidental to the rising costs of retirement income security, the chapter explores the potential competition for scarce government resources between these two important dimensions of economic security.

Chapter 5 reviews the amendments that the government has announced to the government-sponsored retirement income security schemes. This includes the new Seniors Benefit and the amendments to the Canada/Quebec Pension Plans (C/QPP). Some of the public policy issues related to these announced changes, because of their importance, are explored in detail in Chapter 6. In particular, Chapter 6 analyzes the impact that freezing the C/QPP Year's Basic Exemption

(YBE) will have on participants in the C/QPP. This is one very important way in which the C/QPP are being reformed to become more like private pension plans. However, this reform threatens the progressivity of the present C/QPP. Chapter 6 also discusses reforms that call for larger pre-funding of the C/QPP, to be achieved by raising the C/QPP contribution rate more rapidly than would be required under a pure pay-as-you-go financing system. This, in turn, will create a fund of around $110 billion to be invested in the private sector. Again, this will make the C/QPP more like private pension plans. But, will the C/QPP be more secure? Chapter 6 discusses these matters in detail. Finally, this chapter also explains that social security is not, and should not be viewed, as a large pension plan, but rather as a macro-economic wealth transfer scheme. To achieve social security stability requires a means of achieving macro-economic wealth transfer stability.

Finally, Chapter 7 looks at ways of achieving financing stability for Canada's total social security system (including not only retirement income security but also health care, education and employment insurance). The chapter starts by exploring some demographic variables (i.e., fertility rates, immigration rates, and mortality rates) that might have an impact on future funding requirements. It then describes a Wealth Transfer Model that could be used to create long-term funding stability for Canada's total social security system. The chapter, and thesis, closes with a presentation of some of the potential public policy issues associated with the Wealth Transfer Model.

The goal is to achieve financing stability for Canada's social security systems which will, in turn, provide Canadians with economic security. The remainder of this introductory chapter looks at what economic security and economic insecurity are, how they arise, and how economic security can be achieved in Canada today.

1.2 What is Economic Security?

Rejda (1994, 2) defines economic security as:

> ...a state of mind or sense of well-being by which an individual is relatively certain that he or she can satisfy basic needs and wants, both present and future.

Since this definition of economic security is used in the discussions that follow, several aspects of this definition are now highlighted.

The definition is dependent upon the individual: what provides economic security to one individual may not to another. A person who is wealthy may have different criteria for economic security than someone who is poor. Someone who grew up during the depression may require less material wealth for a sense of well-being than someone from the post World War II era. Hence, one's personal perception is an important part of economic security. In other words, economic security is relative. The requirements for economic security will vary from time-to-time, place-to-place, culture-to-culture and person-to-person. According to Rejda (1994), for any individual, there are two key criteria for economic security. First, one must be assured of some basic level of support to satisfy the needs and wants common to all. Second, one hopes that one's standard of living will not be changed drastically by the normal events of life. Hence a legitimate goal of a modern social security system is to provide a certain replacement ratio of previous income so as to create this aspect of economic security. In this regard, it must be pointed out that one need not be poor to feel economically insecure.

Ways to attain economic security can change with time and the environment. In an agricultural society, one's basic needs and wants could be satisfied by being part of a family unit with young members willing to provide support in one's old age. In such a society, economic security is assured as each

active generation 'contracts' to support the two adjacent dependent generations. Security could be achieved within the family unit, with minimal societal involvement. This model for the provision of economic security still exists in many developing nations.

In a modern industrial or post-industrial society, the key to economic security is income maintenance. This income must be continuous. If it is temporary, or if it can be significantly reduced, economic security will not be achieved. In that regard, it is real income and purchasing power that matter. Thus, one must be protected from the effects of inflation to feel economically secure. To know that one's future needs and wants will be satisfied requires a knowledge that the real value (purchasing power) of one's income will be maintained.

The 1982 *Green Paper on Pensions* (Health and Welfare, 1982, 11) defined three basic principles, consistent with the goals of achieving economic security, that became the basis for pension reform:

1. Elderly Canadians should be guaranteed a reasonable minimum income;
2. The opportunities and arrangements for Canadians to provide for their retirement should be fair; and
3. Canadians should be able to avoid serious disruptions of their pre-retirement living standards upon retirement.

As noted, in an agrarian society, one's needs for economic security could be met within the family and community. While this basic assumed contract still exists, achieving full economic security is not expected to be satisfied within each family unit. Instead financial intermediaries are used to administer this implied contract, the most important being the government. Recent government amendments to the social contract will be the focus of this thesis.

1.3 What is Economic Insecurity?

If economic security is a sense of well-being about the relative certainty of one's ability to satisfy basic needs and wants, both present and future, then economic insecurity must be a parallel sense of uncertainty. Uncertainty, in an economic sense, has been defined as an individual's subjective view of risk, where risk is defined as the economic consequence of an event which can vary from the expected. Kulp and Hall (1968, 3-14) maintain that risk is objective and can be analyzed mathematically, similar to statistical variance. Uncertainty, on the other hand, is subjective and each individual can have his or her own perceptions as to the uncertainty of an event.

For any income maintenance programme, one can calculate expected benefit values given certain assumptions as to rates of earnings, investment income, inflation, labour force participation, mortality, divorce, etc. However, any of these parameters can vary, for any individual, from what has been assumed. This variance logically results in uncertainty for the individual, and is a source of economic insecurity. As discussed in later chapters, the fact that our population is aging (see section 2.1) tends to magnify this feeling of insecurity. A recent Gallup Poll illustrates the existence of uncertainty amongst Canadians. The poll, conducted in October 1994, found that six out of ten Canadians do not think that government programs such as the OAS or C/QPP will be there for them when they retire (Prince, 1996, 65).

Our politicians are telling us we face serious problems. For example, Garth Turner (1996, 39), previous Minister of National Revenue, states:

> Given the population make up, the CPP is cooked. Any serious retirement planning should include no public pension income.

Here an ex-minister of the crown is counselling Canadians that they should not count on any future social security benefits.

Some employers are adding to this concern. For example, an employee benefits booklet entitled *Financial Planning for Retirement* (Cooperators Insurance Group, undated) provided by a large insurance company states:

> Although we are dealing primarily with long range financial planning and since the government programs could change or not be there when you retire, we will outline at this time the present funds available from each plan and possible future availability.

Later in the booklet, the various government-sponsored plans are described in more detail, but in each case the booklet indicates that there is no guarantee that the benefit will be available in the long run and it concludes:

> it is up to you to decide whether or not you include it in your retirement income plans.

Recent amendments to Canada's social security systems have reinforced, in the minds of Canadians, the risk associated with government-sponsored social security benefits.

1.4 Causes of Economic Insecurity

As noted in the previous section, to be able to calculate with certainty one's future income maintenance, one would need to know the exact future values of variables such as rates of earnings, investment income, inflation, labour force participation (or unemployment), mortality, divorce, etc.. The following summarizes some of the factors that may in part create feelings of insecurity.

A. Mortality

- If I die prematurely, will my dependents be economically secure?
- If I, or my spouse, live to a very old age, will our resources be exhausted?
- If my spouse dies, will I face financial difficulties?

B. Health

- If my health, or the health of my dependents, deteriorates, what are the financial consequences to me, and to my dependents?
- Do I have sufficient resources to pay for health care costs not otherwise covered?
- What happens if the government continues to cut back on health care benefits?
- Will I stay healthy enough to enjoy my retirement or should I take early retirement?

C. Job security

- What effect would a job change have on my income maintenance programmes (e.g. pension plan)?
- Could I withstand the financial consequences of an extended period of unemployment?
- What happens if the government continues to cut back on unemployment benefits?
- What are the financial consequences of early retirement, either voluntary or forced?
- Can I withstand the job technology revolution?

D. Inflation

- What effect will inflation have on the real value (purchasing power) of my income maintenance programmes? Which sources are indexed to inflation--fully, partially, automatically, ad hoc?
- Do I have the financial resources to withstand a prolonged period of high inflation?
- What effect will inflation have on the real value of my assets?

E. Retirement

- Will I have enough income from my various sources to retire in an economically secure manner?
- Will I receive the government-sponsored benefits now being promised?
- Will I be able to work after retirement should I so wish?
- What form of pay-out can I choose for my retirement income?
- What form of pay-out will optimize economic security for both me and my dependents?
- Will I be forced to retire early?

F. Divorce

- What are the financial implications of divorce?
- Do I have the financial resources to assure economic security if I divorce?

G. Dependents

- Have I enough wealth to support my dependents in the case of my untimely death?
- Can I afford to pay for my children's education?
- What happens if the government continues to cut back on their support of education?

This is a subjective list of questions relating to economic security. Different individuals would compile different lists and would place different emphasis on the importance of various questions.

A recent poll by Towers/Perrin (1992, 6) found that less than one-third of pension plan members (30 percent) and less than one-quarter of non-members (23 percent) think that they are doing enough retirement planning. Most say they are not doing enough.

As Schulz (1995, 114) states:

> ...the problems involved in preretirement planning are very complex. Most people seem to have a natural inclination to live for today and avoid thinking about old age and death. Hence, they give very little systematic thought to the financial issues of old age until they come face to face with them - when it usually too late. The flood of criticism about the adequacy, financial viability, and equity of social security and private pensions (regardless of their merits) creates confusion and distrust among workers - further discouraging early thinking about retirement preparation.

1.5 Summary

This chapter defined economic security, and looked at sources of economic insecurity. It presents the philosophical theme for the remainder of the thesis, namely, what is economic security and how can it be achieved? Conversely, what is economic insecurity, and why might it exist?

Canada has developed a tripartite system of retirement income security in that workers derive retirement income from the government, from employers and from individual savings. These systems will be reviewed briefly in Chapter 3.

Recent reforms to these systems will change the mix of responsibility. In particular, it will be shown that the support provided by the government will decrease. This means that more has to be done by the employer or the individual or else economic security for the worker will decrease.

The focus of the thesis is to review and critique the recent government reforms and to present alternatives to these proposals that, it will be argued, would provide Canadians with a higher level of economic security.

2. DEMOGRAPHIC, ECONOMIC AND POLITICAL BACKGROUND

2.1 Introduction

Why have significant changes been made to Canada's social security systems in the past nineteen months? This chapter presents the demographic, economic and political context in which these reforms are taking place. The first section of the chapter defines population aging and describes Canada's demographic context as a foundation for later discussion. The following section describes the economic and political context in which social security reform is taking place. It will be seen that the demographic, economic and political factors are interdependent and interconnected, resulting in the impetus for reform.

Finally, this chapter presents the income and consumption profile of todays seniors. It also discusses the ability of the elderly to save and the effect population aging is expected to have on national savings. Further, it examines the prevalence of wealth and poverty among the elderly and the income replacement ratios experienced at retirement.

2.2 Demographic Background

2.2.1 Introduction

One reason that Canada's social security schemes are being modified at this time is a fear at the public policy level that these schemes may not be affordable as the population ages (McDaniel, 1987).

While 'population aging' has several possible definitions (see McDaniel 1986, 9-15), this thesis adopts the definition used by the United Nations: namely,

"growth over time of the proportion of old persons according to some chronological age (usually 65), in the total population" (Chen 1987). One aspect of population aging is increased life expectancy, as experienced in Canada during this century.

Table 2.1

Life Expectancy in Canada
1931 to 1994

Year	at birth		at age 65		at age 75	
	male	female	male	female	male	female
1931	60.0	62.1	13.0	13.7	7.6	8.0
1951	66.3	70.8	13.3	15.0	7.9	8.8
1971	69.3	76.4	13.7	17.5	8.5	10.7
1991	74.6	80.9	15.7	19.9	9.6	12.5
1994 (est)	75.1	81.2	16.1	20.1	9.9	12.7

Source: Statistics Canada 1986, 1995b and 1997a

It is not just that elderly Canadians live longer, but also that proportionately more people attain advanced ages. In 1921, 58 percent of males and 60 percent of females survived to age 65; 80 percent of males and 89 percent of females born in 1991 are expected to survive to age 65 (Statistics Canada 1986, 1995b).

Individual aging is not the only, nor even the most important, way that the proportion of aged increases, or a population ages. Population aging, as defined, also occurs if the birth rate decreases.

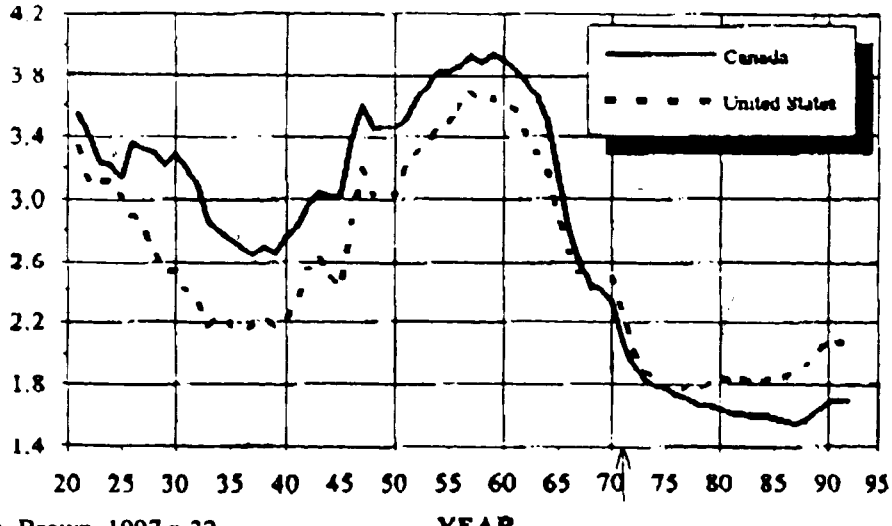
2.2.2 Canada's Changing Demographic Profile

Figure 2.1 shows **Total Fertility Rates*** for Canada and the United States (1920 to 1992). Several observations can be made. First, the baby-boom/baby-bust wave was higher in its peak and lower in its trough in Canada than in the United States. This means that future demographic changes should be more dramatic in Canada than in the United States which, as will be seen later in the chapter, is the case.

Second, fertility rates declined steadily and consistently from 1901 to the mid 1930's. If one were to project the trend in fertility rates in Canada based on the first third of this century, one would arrive at projected rates similar to those experienced in the late 1980s. What is, and was, surprising was the sharp rise in fertility rates in the late 1940s and 1950s, commonly referred to as the 'baby boom'

Figure 2.1

Total Fertility Rates
Canada and the United States
1920 to 1992



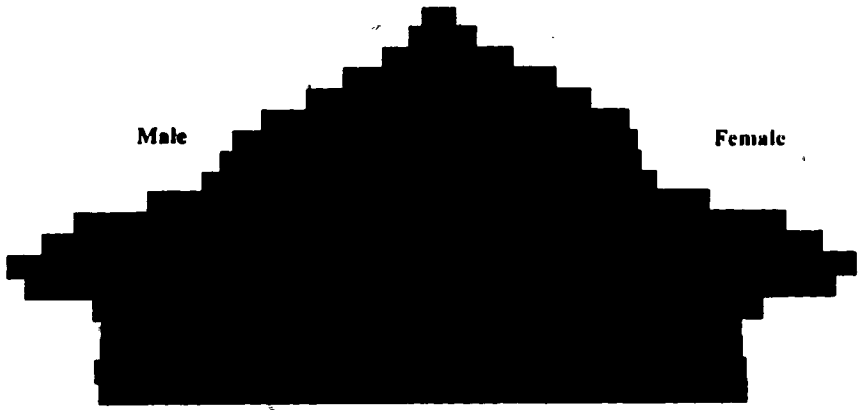
Source: Brown, 1997 p 32

*The Total Fertility Rate is the sum of the Age-Specific Fertility Rates which, in turn, measure the rate at which women of various age groups are having children in a particular year

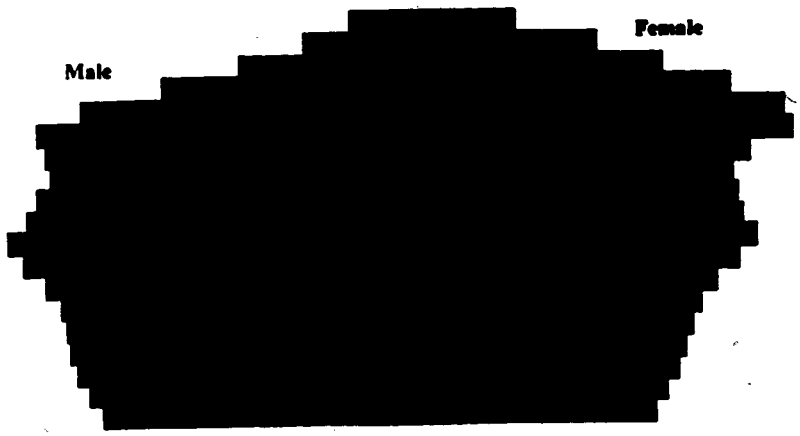
This thesis adopts the widely held definition of the baby boom as the population born in the twenty year period from 1947 to 1966 inclusive (see, for example, Foot and Stoffman, 1996). With this definition, there were 9.8 million baby boomers in Canada in 1996, or 33 percent of the Canadian population. While the leading edge of the baby boom turns 50 in 1997, the youngest of the baby boomers are only just turning 30.

What followed the baby boom was the equally important 'baby bust'. The demographic effect of the baby-boom/baby-bust wave is illustrated in Figure 2.2. Each bar represents a quinquennial age interval, starting at age-group 0-4 and peaking at age-group 95 and over.

Figure 2.2
Population Age Structure
Canada 1991



Canada 2031



Source: Murphy, 1996, 3

While in 1991, Canada had a large potential labour force age-group, and two small dependent age groups (the elderly depression cohort and the young baby bust generation), in 2031, the baby boom will populate the elderly age group, and the economy will turn to the smaller baby-bust generation for the production of wealth.

Today, because of the baby boom, only 11.8 percent of Canada's population is aged 65 and over. That does not even put Canada amongst the 'older' populations around the world as seen in Table 2.2.

Table 2.2

Percent of Population aged 65 and over
1992

Country	**% 65 and over**
Sweden	17.9
United Kingdom	15.7
Italy	15.2
France	15.0
Germany	15.0
Japan	12.8
United States	12.6
Canada	**11.8**

Source: U. S. Department of Commerce, 1993, 11

However, in the period 1990 to 2025, Canada will have the fastest rate of increase in the population aged 65 and over among the developed nations, as shown in Table 2.3.

Table 2.3

Estimated Percentage Increase in the Population Aged 65 and over 1990 to 2025

Country	% Increase
India	242
China	220
Canada	141
Australia	137
Japan	129
Israel	120
United States	101
New Zealand	100
Germany	66
France	65
Italy	63
United Kingdom	45
Sweden	33

Source: U. S. Department of Commerce, 1993 and author's calculations

For example, while Sweden now has the world's 'oldest' population, it will not face as significant a shift in the distribution of wealth in the next thirty years as Canada. Thus, public policy challenges over the next thirty years should be less severe in Sweden than in Canada since only a 33 percent growth in Sweden's elderly population is anticipated. In Canada, the proportion of elderly will grow 141 percent, with most of that growth being experienced after 2010. While this gives some time for public policy responses to be developed, the rapid rate of increase in the Canadian elderly population after 2010 could mean a difficult political period in terms of accepting the rate of cost increases in those government-funded programs affected by aging. The leading programs of consequence are retirement income security (referred to here as social security) and health care (see

Fellegi, 1988, and Denton and Spencer, 1995). As Denton and Spencer (1995, 180) state:

> ...health care, and more especially social security, will absorb an increasingly large share of GNP. Reduced share for education can be expected, but that would provide only a partial offset.

Specific allocations of wealth to health, education and retirement income security are analyzed in detail in Chapters 4 and 7.

On a macro population basis, the decline in birth rates and increased life expectancy mean that Canada will have fewer young people to provide economic security for the larger number of elderly. This is also true on the individual level. Where today's elderly have approximately three children who survived to adulthood, the cohort born in 1960 will have approximately 1.6 (Gee, 1995, 24).

A new demographic reality has emerged:

> ...we have almost become a different species. Retirement used to be rare, because most people died during their work lives. At least one parent had usually died before the last child left home. Orphans were common and old people were scarce. Now the opposite is true (Pifer and Bronte, 1986, 267).

Despite these significant shifts, older people have not been abandoned by or isolated from their families (Connidis, 1989, Bengtson and Harrotan, 1994, and Rosenthal and Gladstone, 1994). The family continues to be a vital part in the lives of older Canadians (Gee, 1990, 185, Marshall and McPherson, 1994, 12). However, society cannot rely on the family to be the sole support for the elderly. To do so would ignore the desire of the majority of elderly to maintain their independence, the high labour force participation of women, and the growing minority of elderly persons who have no children.

> Most of us, for example, think of older people as having children. However, about one in five persons aged 65 or older have no living child, and another one in five have only one living child. Some people never marry, some are infertile, some are voluntarily childless, and some outlive their children. The result is that a significant minority of older people have few or no children as possible resources in time of need (*ibid*, 9).

There is no reason to expect a significant rise in fertility rates. The rate of marriage continues to decline and women continue to have their first child at older ages (Statistics Canada, 1994b, 28, 38, 1996a, 1,2 and 1996d). In the future, not only will older people have fewer children than is the case today, but they will also have fewer siblings, and, indeed, a smaller pool of close relatives than previous generations (Rosenthal and Gladstone, 1994, 170).

Having fewer children means having fewer support persons, and it also increases the chance of living alone. Another reason for the elderly living alone is divorce. From 1969 to 1982 there was uninterrupted growth in both absolute numbers and rates of divorce, which then levelled off (Statistics Canada, 1997, 34). Another relaxation of divorce laws in 1985 led to a further increase. Divorce rates fell slightly in 1989 and 1990, and have remained more-or-less stable since then (*ibid).*

Marital disruption and remarriage have existed throughout history; the basic change is that the cause of disruption at younger ages is now commonly divorce, not death. These high divorce rates may result in more elderly individuals looking to government for their health and social-support services. (For discussion see Connidis 1989, 33-37). Older people in general do not wish to rely on their children for health and social-support services. While older people prefer to seek emotional support from their children, they use other services, often formal services, for instrumental assistance (Rosenthal and Gladstone, 1994, 171).

In analyzing the effects of shifting demographics in later chapters, the focus will be not only on the growth in the proportion of those aged 65 and over, but also on the expected growth of those aged 75 and over and 85 and over. Denton, Feaver

and Spencer (1996, 28/30) provide us with the following projections (mid-range assumptions). (See also, Statistics Canada, 1993, 12).

Table 2.4

Distribution of Canadian Population by Age
1956 to 2036

Year	1956	1976	1996	2016	2036
Age					
under 20	39.4	35.6	26.7	22.0	20.2
20 to 64	52.9	55.8	61.1	61.4	55.0
65+	7.7	8.6	12.2	16.6	24.8
75+	2.5	3.2	5.1	7.1	12.8
85+	0.4	0.7	1.2	2.2	3.8

Source: Denton, Feaver, and Spencer 1996, 28/30

Mid-range assumptions are based on a total fertility rate of 1.8 throughout; immigration at 250,000 declining to 200,000 by 2000 and then constant; emigration of 0.16 percent of the previous year's population; and life expectancy improving at rates consistent with the last two decades.

Thus, over the next forty years, the percent of the population aged 65 and over will double, while the percent of the population aged 85 and over will more than triple. This has an important impact on the funding requirements of both health and social security programmes, as will be discussed in later chapters.

2.2.3 The Case of Women

In any discussion of population aging, women require special attention.

> Although boys outnumber girls in childhood in all countries, elderly women greatly outnumber elderly men in most nations. Thus, the health and socioeconomic problems of the elderly are, to a large extent, the problems of elderly women. ...The percentage female within the elderly population rises with age and may exceed 70 percent among the oldest old (U.S. Department of Commerce 1993, 46).

In Canada, in 1996, women made up 58 percent of the population aged 65 and over, 63 percent of the population aged 75 and over, and 70 percent of those 85 and over (Denton et al., 1996, 10).

Table 2.1 shows that female life expectancy in Canada exceeds male life expectancy at all ages. In fact, the improvement in female life expectancy exceeded the improvement in male life expectancy until 1981 when the trend began to reverse somewhat. As yet, it is not entirely clear what has caused this reversal; however, Statistics Canada (1997a, 65) states that the increase in deaths due to cancer of the respiratory system is responsible for the poorer improvement rate for women.

The higher life expectancy of women presents several policy challenges. For example, inflation protection is more important to elderly women than to elderly men. Given a life expectancy of 19.9 years at age 65 and an inflation rate of only 3.5 percent (a long-term average rate), a Canadian woman on fixed income would see the purchasing power of that income cut in half during her expected lifetime.

While 28.2 percent of all seniors in Canada live alone, elderly women are three times more likely to do so (see Table 2.5).

Table 2.5

Percentage of Canadians Living Alone
1991

Age	Men	Women
45-64	9	14
65+	16	43
80+	23	59

Source: Norland, 1995, 23.

The relatively high proportion of women living alone can be explained by the longer life expectancy of women, the general tendency of the husband to be older than the wife, and the greater likelihood of men to remarry.

Statistics Canada (1995c, 84) states that the probability that men aged 60 and over will remarry is approximately four times that of women. The greater likelihood of widowhood for women and their low likelihood of re-marriage mean that a substantial proportion of elderly Canadian women live alone as seen in Table 2.5. A spouse is one of the most important resources for an older person. The fact that many elderly women live alone must be addressed in any public policy alternatives.

Fully 30 percent of the total non-institutional population aged 75 and over are women living alone. Forty percent of those (or 12 percent of all older elderly) live below Statistics Canada low-income cut-offs. Among men and women 75 and over who live alone, only 20 percent report that they have a close family member in the same neighbourhood (Moore and Rosenberg, 1997, 61-62).

Finally, the rapid entry of women into the labour force during the past twenty years has changed the Canadian labour profile. This has already resulted in increased pressure on the government for more child care facilities and may translate into increased demands for expanded elder-care facilities if women are forced to abandon or curtail their traditional role as care-giver.

It may be, however, that the upward trend in labour force participation among women has ended. The labour force participation rate for women was the same in 1994 as in 1990 (Butlin, 1995, 31). However, much of this work was part-time. In 1993, 26 percent of all employed women worked part-time compared with 10 percent of men (Statistics Canada, 1994a). While some may conclude that women are now capable of saving for their own retirement, part-time work, interrupted career paths, and low wages mean that women generally do not have the level of disposable income necessary to allow for saving for retirement (Townson, 1996c, 3).

The entry of women into the labour force has both positive and negative implications for social security. On the positive side, the financing of social security (e.g. the Canada/Quebec Pension Plan) has been enhanced by the entry of these new worker-participants (Fellegi 1988, 4.1). On the other hand, the entry of middle-aged women into the paid labour force may decrease their ability to provide care to older family members, meaning that such elderly persons might have to rely on government-subsidized care to a greater extent. Policy planners need to allow for such potential expansion in their strategies.

As Canadians have moved from an agrarian society through an industrial to a post-industrial society, some have turned to the government to provide services for the elderly previously assumed by the extended family. Examples are meals-on-wheels and home-care services. Governments have also assumed the responsibility for providing seniors with some minimum safety net of retirement income. However, with the decline in birth rates, there may now be the perception that there will be too few workers in the next century to provide economic security to the rapidly rising number of elderly (see section 7.2).

2.3 The Economic and Political Context

Canada has been coming to grips with an ever-growing debt. At the end of the Mulroney administration, the annual deficit was $44 billion, i.e., Canada was adding $44 billion a year to total national debt. More recently, because of lower interest rates, increased economic activity, and federal government expenditure cutbacks, the deficit is falling and is expected to be around $9 billion this fiscal year (1996/97). That will still increase the federal debt to $594 billion and our combined federal-provincial debt to $858 billion, a huge increase (almost 50 percent) from

five years ago. This is 108 percent of GDP, up from 87 percent five years ago, and it means that 35 percent of federal revenue is spent on debt interest. Further, because 36 percent of the total debt is held in foreign hands, Canada is vulnerable to the fickle winds of international financial markets (Financial Post, 1996, 8). Without the interest on the debt, the federal government would be running an operating surplus of more than $20 billion. It is the accumulated debt, and the interest paid on it, that is the major stumbling block to eliminating the deficit.

In this climate, the federal government has been working to decrease spending and to increase revenues. It expects resistance to any increase in taxation, although Northcott (1994, 74) reports that a majority of Canadian survey respondents would endorse raising personal taxes to support an aging population. The government's reluctance to raise taxes may be because Canada already has some of the highest rates of taxation in the industrialized world. Table 2.8 shows Canada's 1993 level of taxation in comparison with other members of the G-7 (Canada, the United States, the United Kingdom, France, Germany, Italy, and Japan).

Table 2.6

Canadian Taxes and Relative Ranking of G-7 Countries

	Canadian Taxes (All Levels of Government) as a % of GDP	**Rank Among G-7 Countries**
Direct Taxes on Individuals (including income tax and GST)	14.3%	1st
Direct Taxes on Corporations	2.1%	4th
Social Security Contributions	5.5%	7th
Indirect Taxes	14.1%	2nd
Other Taxes	0.3%	2nd

Source: Canadian Institute of Actuaries, 1995b, 20

Personal income taxation continues to rise. In 1993, federal and provincial income taxes accounted for 16 percent of personal income. By the first half of 1996, income taxes took 17.2 percent of personal income. Factoring in other levies, such as Employment Insurance and C/QPP contributions, makes the total 1996 tax burden 24.2 percent of income, compared with 22.9 percent in 1993 (The Globe and Mail, 1997b, D8). One of the main reasons is that income tax brackets are not indexed to inflation. Therefore, each year many Canadians find their income is taxed at higher rates.

On the expenditure side, one of the main methods of trimming the federal budget has been to decrease the cash flow to, and cost sharing with, the provinces. This in turn means that the provinces have had to find ways to trim their budgets. Later chapters will explore the competition between the federal and provincial governments and analyze the federal government's proposals for trimming social security costs.

Social security reform is back on the agenda around the world. Japan, Italy, the United States and others have announced that they will raise the age of eligibility for retirement benefits (see Table 7.4). Chile privatized its social security system in 1981 and has become viewed by some as a model for social security reform for developing nations (see The World Bank, 1994). Indeed, in 1996, Mexico adopted a system very similar to Chile's. In Canada, the Reform Party, the Fraser Institute, the C. D. Howe Institute and the Globe and Mail are calling for similar reform to the Canada/Quebec Pension Plans.

As Myles and Street (1995, 337) observe:

> Clearly, times have changed. Although the retirement income system remains much as it was in 1980, the emergent view of the 1990s is that the system once judged to be inadequate can now be safely cut.

Or as Gee and McDaniel (1994, 221) state:

> (Pension trends reflect) a resurfacing of the residual approach (to social policy) which favours the free market and the meting out of its own justice--rewarding work, thrift, and foresight.

Population aging has not caused social security costs in Canada to rise beyond affordable limits at this time, since Canada has a relatively young population. As will be seen in Chapters 4 and 7, the cost pressures of an aging population do not really accelerate until the next decade. The underlying reason for this conservative fiscal stance is an apparent fear that the economy will not be able to continue to deliver the promises made in the 1960s. The level of economic growth that made these programs appear affordable in the 1960s (and a level of growth that at that time had been the norm for nearly twenty years) has disappeared over the past decade. Were Canada to return to the economic growth rates of the 1950s and 1960s, there would probably not be this financing concern and the political squabbles that come with it.

In particular, between the mid 1960s and today, real economic growth dropped from 5 percent per annum to 2 percent, real wage growth dropped from 3 percent per annum to zero, real interest rates (i.e. net of inflation) increased from 1 percent to 6, and fertility rates plummeted (Hamilton, 1996, 86). As Ilkiw (1996, 102) states:

> (This) underscores the inescapable truth that you can only sustain public pension programs if you have economic growth.

Thus, it can be said that there is a new political reality in Canada. Gone are the days of designing and implementing new social programs. Today, progressive Canadians are fighting hard to maintain what has been promised, and often losing the battle. Fighting the deficit has become more important than fighting poverty.

Providing good returns to shareholders has surpassed the desire to providing seniors with economic security.

As Michael Prince (1996, 62) suggests:

> Social policy is subordinated, in large part, to the fundamental goals of deficit reduction and debt management. The fiscal posture of Ottawa's effectively sets the context for policy priorities, reform objectives and initiatives for the foreseeable future. Pension reforms will be assessed by their implications for the Liberal's plan of "bringing government's size and structure into line with what we can afford" (Paul Martin) (Prince, 1996, 62).

Governments and business make the claim that poverty among the elderly has all but been eradicated (McDonald, 1995, 498) which is questionable given the poverty statistics presented in Section 2.4. McDonald (*ibid)* refers to this as the 'greedy geezer' attitude first expressed in the United States, that makes it easier to reduce social security benefits. As Robert Binstock (1994, 727) argues:

> the long-standing compassionate stereotypes of older persons have been undergoing a substantial reversal.

Or, as Monica Townson (1996a, 125) describes, the new attitude is:

> No more of this coddling of seniors, we've given them far too much anyway. Our notion of a collective responsibility for and to seniors has now been abandoned.

This attitude seems to pervade similar pension reform proposals in Europe, Australia, New Zealand, and the United States. All of these countries are looking at restructuring their retirement programs to minimize the role of government and to put the emphasis on individual responsibility in providing for retirement (*ibid).*

These policy issues will be reviewed and analyzed in later chapters of the thesis.

2.4 Income and Expenditure Patterns of the Elderly

2.4.1 Sources of Income

In the remaining sections of this chapter, the income and expenditure patterns of the elderly are presented. This will give an indication of the reliance of the elderly on certain sources of retirement income security (e.g. the government versus employers) and the shift in this reliance over time. What follows in later sections, are indications of the level of poverty experienced by the elderly.

Table 2.7 compares sources of income for persons 65 years and over in 1971, 1985 and 1994.

Table 2.7

Percentage of Income from Various Sources for Taxpayers 65 Years and Over

	1971		1985		1994	
	Men	Women	Men	Women	Men	Women
Private pension	16.5	8.6	20.5	9.0	28.9	15.4
C/QPP	2.2	1.1	15.5	10.1	21.0	19.8
OAS/GIS	29.3	60.5	26.1	45.2	22.1	40.3
Investment income	20.5	19.7	21.2	28.0	13.0	14.3
Other income	31.6	10.1	16.8	7.8	14.9	10.2

Source: Statistics Canada, 1988b, 97,105, 1997b, 106-108
See also Burbidge, 1996, 35

These data indicate a remarkable change in income sources during this period. The proportion of income from the Canada/Quebec Pension Plans (C/QPP) has increased significantly. In fact, the C/QPP was a very small source of income for both men and women in 1971, because the C/QPP plan was not introduced until 1966 and did not pay full benefits until 1976. Hence, in 1971, only a few Canadians aged 65 and over were receiving any C/QPP retirement benefits.

As the C/QPP matures, the importance of C/QPP income can be expected to continue to rise, especially for women given their increased presence in the labour force. Since C/QPP benefits are earnings related (see section 3.2.5), women who have not been in the work force do not earn C/QPP credits. Until recently, most benefits they have received have been as survivors of spouses with C/QPP benefits (see section 3.2.5). However, because of increased female labour force participation, women are now accruing their own C/QPP credits. Between 1969 and 1989, women's CPP contributions grew at a rate double that of men (Dickinson, 1994, A-I-6). The historic progress of women as contributors to the C/QPP is shown in Table 2.8.

Table 2.8

C/QPP Contributors By Sex
(As a % of those aged 20-64)

Year	Women	Men
1971	53.1	97.4
1976	55.6	95.6
1981	62.1	92.7
1986	62.4	86.0
1991	68.4	81.6
1993	66.4	78.4

Source: Revenue Canada, Taxation Statistics.

The recent drop in female contributors and the continuing drop in male contributors is heavily influenced by the recent introduction of flexible retirement in the C/QPP. As will be discussed in Chapter 3, many workers have taken this opportunity and chosen (or been forced) to retire prior to age 65. Among women aged 20 to 64, the percentage contributing to the C/QPP is rising and is expected to continue to rise.

According to the 1994 Actuarial Report of the Quebec Pension Plan, 99 percent of men and 62 percent of women receive QPP retirement pensions. However, according to QPP projections, by 2030, 98 percent of men and 93 percent of women will qualify for retirement pensions (Quebec, 1995, 63). Similar estimates for the CPP can be found in MacDonald (1995, 5). This is expected to cause substantial improvement in the incomes of senior women in the future (Dickinson, 1994, A-I-7).

However, because of lower wages and more part-time employment, C/QPP retirement benefits paid to women still lag behind those paid to men. In January 1996, the average CPP retirement benefit paid to women was $279.71 a month or $3357 a year, while for men it was $487.02 a month or $5844 a year. Thus, women have benefits that are 57 percent as large as for men (Caledon Institute, 1996b, 2).

With respect to employer-sponsored pensions, historically, relatively few women earned benefits from private pension plans as wage earners. Lack of coverage for part-time workers, long vesting periods (the length of period of employment required to gain rights to the employer's contributions) and lack of benefit portability resulted in women obtaining minimal retirement incomes. Further, relatively few widows received survivors' benefits from their husband's private pension plans. While many of these issues were addressed by the pension reform legislation of the late 1980's (see section 3.3.4), women still lag behind men in achieving economic security through private pensions for several reasons. As long as women participate in the paid work force to a lesser extent than men, earn lower wages than men (while the gap is narrowing, women in full-time jobs still only make 73 percent as much as men (Statistics Canada, 1997b)), and hold more part-time jobs (25 percent of women work part-time versus 8 percent of men), retirement income for women will not be as large as for men.

Income sources vary from province to province especially for the aged poor. Six provinces and the two Territories provide supplements over and above the federal Guaranteed Income Supplement (GIS) (see Appendix to this chapter). The other four provinces (Quebec, PEI, New Brunswick and Newfoundland) do not. It should also be noted that the incomes of the elderly have increased considerably relative to the rest of the Canadian population since 1967 as indicated by the following data from Myles and Street (1995, 343) (and confirmed in Burbidge, 1996, 29) that compare the median family income of different age groups to the overall median family income (all ages combined).

Table 2.9

Median family income by age of head,
as a percent of overall median family income
1967-1991

Age of Family head	1967	Year 1981	1991	%Change 1991/1967
20-26	114	95	78	-32
26-34	114	113	106	-7
35-44	106	117	115	+8
45-54	117	124	136	+16
55-64	114	110	109	-4
65-74	58	60	71	+22
75+	45	50	61	+35

Source: Miles and Street, 1995, 343

While Table 2.7 illustrated that pension income has been a decisive factor in this improvement, Norland (1995, 40) says that educational level is also an important factor in the improved economic situation of the elderly. He states:

> This suggests that as Canada's future seniors have higher educational levels than they have currently, the gap between their income and the income of the total population will likely decrease, and their dependence on government will likely lessen.

However, that does not mean that the elderly are all comfortable. Table 2.9 shows that, while their position has improved, the elderly are still measurably below the median family income.

2.4.2 Other Sources of Economic Security

The elderly have other sources of economic security. For example, some benefits designed for the elderly are not paid in cash, and are often called 'Income-In-Kind'. Table 2.10 lists the minimum guaranteed benefits available to either an individual or a couple living in Ontario in 1995. The table shows that this minimum guaranteed income is above the Statistics Canada low-income cutoffs in all categories listed.

Table 2.10

Annual Income Guarantee
October 1995

Income		Single		Couple
OAS		$4,700		$9,418
GIS		5,596		7,290
Gains-A-Max		996		1,992
Sub-Total;		$11,292		$18,700
Drug Program - automatic drug plan (ODB and the Trillium Drug Plan)				
Sales Tax Grant		$100		$200
Property Tax Grant	Up to	$1,000	Up To	$1,000
Total		$12,392		$19,900
Statistics Canada Low-Income Cutoffs for 1995				
Low-End (Rural)		$10,728		$14,543
High-End (Metropolitan)		$11,569		$15,263

Sources: Ontario Benefits: Ontario Ministry of Revenue; Health;
Canada: Inventory of Income Security Programs

Other examples of provincial non-cash benefits to the elderly are summarized in the Appendix of this chapter. There were an estimated 250,000 seniors in Canada receiving provincial/territorial income supplements in 1995 (like the Gains-A-Max in Ontario). The total value of the benefits was in the order of $285 million a year (National Council of Welfare, 1996a, 13).

The elderly also have several age-related tax advantages that enhance their after-tax income (a better indicator of purchasing power). Two tax advantages, the sales tax grant, and the property tax grant (for homeowners) are listed in Table 2.10 and vary from province to province. There are two other tax concessions for seniors that will disappear in 2001.

First is the age credit which reduces the taxable income of elderly taxpayers (by $3,482, providing a tax savings of $935 in 1995). The maximum age credit goes only to seniors with net incomes below $25,921. Seniors with higher incomes have the gross amount of the credit reduced by 15 cents for every dollar over $25,921. The entire credit disappears once net income reaches $49,134 (National Council of Welfare, 1996a, 47-48).

A second tax credit, also to disappear in 2001, is the pension income credit, which provides a tax credit on the first $1,000 of private pension income or personal retirement income. The maximum federal tax break is 17 percent of $1,000 or $170. With savings on the federal surtax and provincial taxes added in, the total tax break is $269. Also, until 2001, Revenue Canada allows married seniors with little or no taxable income to transfer any unused age or pension income credits to their spouses. That has the effect of doubling the maximum tax break for some couples (*ibid).*

The current cost of the age credit to the federal government is around $1.5 billion a year, and the cost of the pension income credit is about $340 million a

year: Provincial governments also lose tax revenues because of these tax breaks (*ibid*).

Further, price reductions and various subsidies are widely available to persons aged 65 and over, and in some cases to persons as young as 55. These include retail discounts (e.g. senior citizen discount shopping days), subsidies for transportation, and a variety of other income-in-kind transactions.

Retired people also have more time available to do 'home production' such as making gifts rather than buying them. While the value of this time may be low per hour, its total value can be considerable, and it is not counted as part of measured income (Task Force on Inflation Protection, 1988, 249).

Canadians also benefit from a health care system funded from general tax revenues. It has been estimated that the incomes of elderly Canadians would have to be as much as one-third higher if they had to pay for the various services covered under public health insurance (National Council of Welfare 1984, 62).

Finally, an important part of income security of the elderly is home ownership. This aspect of wealth is not reflected in the income statistics, nor is it reflected in the needs test required for income supplementation (which are income based), even though home ownership contributes to economic security (see section 2.4.6). In 1995, 71 percent of all families with a head aged 65 and over were mortgage-free homeowners, whereas this was the case for only 26 percent of families headed by people aged 15 to 64 (Statistics Canada, 1997b, 30-31). Similarly, 43 percent of all unattached seniors owned homes on which the mortgages were paid off, compared with just 7 percent of unattached people aged 15 to 64 (*ibid*, 43-44).

In a special evaluation done of the Old Age Security (OAS) system, it was found that using disposable income measures rather than gross income measures significantly reduces the prevalence of poverty among all sub-groups of the elderly

(for example, from 52 percent to 28 percent for non-married women). The reason for the large difference between the two measures is the special tax allowances for seniors (most of which will disappear in 2001), and the non-taxability of GIS benefits (Dickinson, 1994, A-I-13). The measurement of poverty has important public policy implications. It is interesting to note, therefore, that Statistics Canada is now producing both gross-income and after-tax-income "Low Income Cutoffs".

2.4.3 Consumption Patterns

Table 2.11 compares consumption patterns for those under age 65 to those aged 65 and over.

Table 2.11

Percentage Distribution of Household Expenditures by Age of Head and Expenditure Category, 1992

Category	Household with Head under age 65	Household with Head aged 65 and over
Food	12.3	15.1
Shelter	16.9	17.6
Household Operation	4.3	4.4
Household Furnishings	3.1	3.2
Clothing	5.1	4.2
Transportation	12.4	14.7
Health Care	1.8	2.7
Personal Care	1.9	2.0
Recreation	5.1	4.2
Reading Material	0.4	0.7
Education	1.1	0.4
Tobacco/Alcohol	3.0	3.0
Personal Taxes	21.4	16.0
Security	5.5	1.5
Gifts and Contributions	2.6	6.2
Miscellaneous	2.9	3.3

Source: Statistics Canada, 1997b, 113.

Many of the apparent differences in expenditure patterns can be explained by the simple fact that those 65 and over have lower income levels than those under age 65. It has also be shown (Task Force on Inflation Protection, 1988, 249) that average consumption expenditure rises with age up to age group 45 to 54, and then declines for each subsequent age group. This decline in consumption mirrors the decline of average income (*ibid*). Family units, over the ages analyzed, spend less than their current income on consumption. Even people age 75 and over appear to continue to accumulate assets rather than spend their income on current consumption (*ibid*, and Foot and Trefler 1983).

The Task Force on Inflation Protection (1988, 253) reanalyzed these patterns while controlling for the effects of other variables such as spending unit size (e.g. one or two persons), income level, education of head, and so on. They showed that the effects of age are even less pronounced than indicated in Table 2.11. Therefore, age may not be the most significant factor in consumption patterns.

The Task Force also concluded that for spending units with heads aged 75 and over, average expenditure levels decline, when compared with younger age groups. However, because of a lack of information on health status, it is impossible to know the degree to which reduced consumption levels may be due to poorer health, and the resultant curtailment of certain activities (*ibid*, p289).

2.4.4 Savings

A myth exists that there is a well-defined life-cycle to savings. Young workers and families go into debt as they acquire homes and furnishings. With time, they pay off their debt and become net savers. Then they 'dissave' in

retirement as they live off their accumulated wealth. Hence, one might expect individual savings to peak at the time of retirement. However, empirical evidence suggests otherwise. Kotlikoff and Summers (1981) and Burbidge and Davies (1994) found that savings remain positive well into the early retirement years, that the aged do not run their wealth down during their early retirement years. In fact, their wealth increases. Foot and Trefler (1983, 11) determined that, while real per family net income peaks at a slightly later age than consumption, namely, around age 44, net savings peak much later. Because total consumption declines at a faster rate than income, per family saving does not peak until age 52.5 years. Since income in this period is falling, the savings **rate** does not peak until age 67.

Foot and Trefler (1983) conclude that an aging population may generate more total savings and, therefore, more capacity for economic growth. This conclusion is in contrast to that reached by others who argue that high levels of aged dependency impose a constraint on the potential for saving and growth (see, for example Feldstein, 1974, Soderstrom, 1982 or Burbidge, 1996).

2.4.5 The Prevalence of Poverty

The material presented to this point indicates that Canada is providing significant economic security for the elderly: Canadians are able to continue to save even after retirement; the implementation of the C/QPP and pension reform legislation (see section 3.3.4) have improved security; the elderly have significant non-money sources of financial security (e.g. income-in-kind).

Statistics from the National Council of Welfare (1997) indicate a continuation of poverty for many, however. This agency defines the Canadian poverty line as the income level where, on average, 56.2 percent of income is used

for the essentials of life. This is based on gross rather than net (after-tax) income and is 20 percentage points above the average. These lines correspond to Statistics Canada 'low income cut-offs'.

Some, like the Canadian Council on Social Development, feel that the Statistics Canada criterion understate poverty in Canada, while others argue that it results in an excessive indication of poverty, (e.g. Sarlo, 1994). Ruggieri et al. (1994), argue that using pre-tax income to define poverty ignores several tax exemptions available to the elderly plus the fact that the elderly do not face employment-related expenses. They propose a measure called net purchasing power, an after-tax measure. On that basis, for 1991, they found that 4.7 percent of the elderly were low income.

Poverty, measured using the Statistics Canada 'low-income' criteria for the elderly, fell from 33.6 percent in 1980 to 16.9 percent in 1995 (National Council of Welfare, 1997, 13). For couples 65 and older, the poverty rate has fallen from 22.2 percent in 1980 to 7.5 percent in 1995 (*ibid*, 17). Many of the rates for seniors in 1995 were record lows or near-record lows (*ibid*, 87). Fellegi (1988, 4.8) states that the most important contributing factors are:

--the maturing of the Canada and Quebec Pension Plans (C/QPP)

--substantial increases in the Guaranteed Income Supplement and introduction of the Spouse's Allowance program

--a noticeable increase in private pension income because of more people either being covered by such plans or having Registered Retirement Savings Plans (RRSPs)

--an increase in 'other income', primarily from investments

Between 1971 and 1985, the proportion of the elderly receiving C/QPP increased from less than 15 percent to almost 60 percent; private pension recipients increased from one-fifth to one-third of the elderly; and the proportion receiving

investment income grew from 44 percent to 57 percent (*ibid*, 4.33). In a more recent study, Dickinson (1994, A-I-18) shows that over the decade of the 1980's, the proportion of seniors with income from C/QPP and private pensions increased, as did the share of their income from these sources:

Table 2.12

Seniors with C/QPP or Private Pensions

1981 and 1989

	1981	1989
Singles with C/QPP	46%	64%
Singles with private pension income	26	35
Couples with C/QPP	78	89
Couples with private pension income	46	57

Source: Dickinson, 1994, A-I-18

Before concluding that older people are financially comfortable, however, one needs to examine poverty rates for unattached persons. Unattached elderly Canadians (meaning those who live alone or in a household where they are not related to other members) are the largest identifiable group living in poverty, after children. In 1995, 43.4 percent of unattached women aged 65 and over (versus 68.7 percent in 1980) and 21.3 percent of unattached men (versus 57.8 percent in 1980) were below the poverty line (National Council of Welfare, 1997, 19).

Sources of income for the elderly poor are different from those of the non-poor as can be seen in Table 2.13.

Table 2.13

Percentage of Income by Source and Quintile Group, 1992 (Lone Persons and Couples Combined)

Source	Q1	Q2	Q3	Q4	Q5	Total
OAS/GIS	67	41	22	16	9	30
C/QPP	17	23	20	15	9	18
Private Pensions	3	14	26	30	24	20
Employment Income	0	3	7	13	18	8
Investment Income	5	2	18	21	36	18
Other Income	8	7	7	5	5	6

Source: Baldwin, 1996a, 22

The elderly poor in Canada are heavily dependent on government transfer payments as seen in the Tables 2.13 and 2.14, and dependency on government benefits rises with age (National Council of Welfare, 1997, 62).

Table 2.14

Transfer Payments to the Poor, By Family Type (1995)

Family Type	Average Transfer Payment	Average Income from All Sources	Transfers as Percentage of Total Income
Unattached Men under 65	$3,674	$8,022	46%
Unattached Women under 65	$3,682	$8,271	45%
Childless Couples under 65	$6,275	$12,828	49%
Couples under 65 with Children under 18	$8,448	$19,691	43%
Single-Parent Mothers under 65 with Children under 18	$10,233	$14,696	70%
Unattached Women 65 and Older	$11,248	$12,422	91%
Unattached Men 65 and Older	$11,265	$12,184	92%
Couples 65 and Older	$16,503	$17,905	92%

Source: National Council of Welfare, 1997, 62

This dependence on the government for subsistence will become important in later discussions of social security reform proposals.

The National Council of Welfare (1996a, 5) states that, in 1995, 39 percent of the elderly in Canada had so little retirement income that they qualified for at least a partial Guaranteed Income Supplement. Nearly 80 percent of all single GIS recipients are women (*ibid*, 7). As seen in Table 2.13, the wealthiest senior citizens (Q5) get about 18 percent of their income from the government, while the poorest elderly (Q1) are dependent on public sources for about 84 percent of their income.

For a single pensioner, the maximum GIS was $5,574 a year in 1995. Together with the OAS pension, a single person was guaranteed an income of $10,264 a year. That amount is just below the 1995 poverty line of $10,769 for a single person living in a rural area, but is far below the poverty line of $15,819 for a single person residing in a city with a population of 500,000 or more (*ibid*, 10).

For couples, the maximum GIS was $3,631 for each spouse in 1995. Two maximum GIS benefits plus two OAS pensions provide a total family income of $16,642. That amount is substantially above the poverty line of $14,600 for couples in rural areas, but well below the poverty line of $21,442 for couples living in large cities (*ibid*).

The National Council of Welfare uses these statistics to measure the poverty gap or the depth of poverty. The National Council of Welfare (1997, 51) shows that the elderly who live in poverty have incomes that brings unattached men to within 82.3 percent of the defined poverty line, unattached women to within 83.8 percent, and elderly couples to 87 percent.

In total, the statistics indicate a wide diversity of income among the elderly.

2.4.6 Income Replacement Ratios

Chapter 1 noted two criteria for economic security: assurance of income above an accepted measure of poverty, and maintainance of a certain standard of living. The latter requires a certain replacement ratio of pre-retirement income, although just what that replacement ratio should be is the subject of debate. However, one does not need to replace one's entire pre-retirement gross income to maintain one's standard of living.

There are many reasons for this:

--some tax concessions and price discounts become available at age 65;

--workplace expenses cease;

--contributions to Employment Insurance, Workers' Compensation and other similar programs cease;

--one normally moves to a lower marginal tax rate;

--personal insurance needs are reduced;

--one no longer needs to save for retirement;

--one's children should now be beyond education costs;

--expenditure patterns change (e.g. one will hopefully be mortgage free)

Because of the progressive nature of the income tax system, replacement ratios tend to decline as income rises. In a recent report prepared by the Canadian Institute of Actuaries (1996b, 9), the following replacement ratios were deemed required to allow for a consistent standard of living:

Table 2.15

Income Replacement Ratios Needed To Preserve Pre-Retirement Standard of Living

Earnings Level (as % of Average Wage)	Needed Replacement Ratio
50%	74%
100	70
200	60

Source: Canadian Institute of Actuaries, 1996b, 9

In this regard, it is interesting to see how Canadians have done historically. In analyzing existing replacement ratios, it is better to use a cohort analysis that looks at the replacement ratios of members of one generation rather than cross-sectional data that compare different age groups at one point in time. Such cohort data are shown in Table 2.16.

Table 2.16

Average Total Income, Before and After Age 65, For all Male Taxfilers, 1981-93 (1993 Dollars)

Ages 60-64		Ages 65-69		
Year	Income	Year	Income	%
1981	35,949	1986	28,033	78.0
1982	35,707	1987	27,765	77.8
1983	33,804	1988	29,027	85.9
1984	33,845	1989	30,072	88.9
1985	34,379	1990	28,871	84.0
1986	36,825	1991	30,086	81.7
1987	38,076	1992	30,638	80.5
1988	39,982	1993	30,769	77.0

Revenue Canada: *Taxation Statistics*

It should be noted that the effects of inflation have been taken into account by expressing values in constant 1993 dollars. One can conclude from these data that, to date, Canadians have achieved healthy (although decreasing) replacement ratios of pre-retirement income. Table 3.2 shows that poorer Canadians have even higher replacement ratios than the taxfilers listed in Table 2.16. The ability to promise that to future generations will be explored in later chapters.

2.5 Summary and Conclusions

This chapter has shown that there are elderly Canadians who experience economic insecurity because they live in poverty. At the same time, the 1990 Survey of Ageing and Independence, found that 87 percent of elderly Canadians thought their household income met their needs adequately or very well (Dickinson, 1994, A-I-12). This indicates a diversity of need amongst the elderly. As Schulz (1995, 10) states:

> If one views the aged as one homogeneous group, there is a tendency to try to develop for them one appropriate economic policy--just as in other areas we have tried at times to develop one appropriate housing policy and one appropriate health policy. We have learned over the years that such attempts almost always fail when dealing with diverse groups. The most useful type of data for analysis and evaluation are those that break down the aged population into smaller subgroups.

Figure 2.2 illustrates the demographic shifts resulting from increased life expectancies and declining birth rates. Improved life expectancy means that increasing numbers of people will survive to retirement and will spend an extended period of time in retirement. The decline in births means that there will be a smaller population to provide these retired elderly with goods and services.

Many of the public policy issues relevant to population aging are presented as problems. The elderly should not be 'blamed' however, since they are simply the messengers of future needs of the aging population. Population aging does not create a crisis in social policy. Population aging is, in fact, the result of successful social policies that have made it possible for people to live long lives and to control their fertility (see Gee and McDaniel, 1994, 228).

Despite this, the 'crisis' scenario that rising costs for health care and social security will bankrupt the nation has taken on a life of its own. Population aging has become viewed as the cause of both present and future fiscal difficulties (McDaniel, 1987, 331, and Northcott, 1994, 69). As will be seen in Chapters 3, 4 and 5, acceptance of this has allowed the politicians to raise taxes and cut back benefits to the elderly. McDaniel calls this the new "Guiding Paradigm" of the Canadian welfare state. As was seen, women are more dependent on publicly-sponsored benefits than men, so present and proposed cuts are more important for them. This is worsened by the intent of the new Seniors Benefit (see Section 5.2) to base payments on family income rather than individual income (as is the case with Old Age Security benefits) since women will not receive this income independent of their husband's resources.

Of course, what is not done by public plans is left to the private sector. However, as will be seen in Chapter 3, employer-sponsored private pension plans have actually experienced falling participation in the period of government cut-backs, and governments have further restricted the ability of individuals to save for retirement in RRSPs. Again, women are more exposed to risk than men in employer-sponsored pension plans because of lower wages and interrupted labor force attachment, and in RRSPs because of less ability to save from their own income for retirement.

Thus, it can be seen that the demographics, economics and politics of population aging are not independent but are inescapably intertwined. Again, changes to government-sponsored systems have an immediate impact on private plans, either employer-sponsored or individual savings plans. Also, viewing one part of the system as public and the other schemes as private is misleading, since all parts of the retirement income system are heavily subsidized by the government through tax incentives. Again one sees the dependence and interconnectedness of one part of the system to all others.

To have a better foundation to analyze the impact of social security reforms, the next chapter briefly reviews the schemes that presently exist to provide retirement income security in Canada: government-sponsored, employer-sponsored, and individual savings. The rest of this thesis reviews the reforms that governments are making to social security and the impact it will have on economic security.

Appendix

Provincial and Territorial Supplements for the Elderly, 1995

	Maximum Annual Benefit	
	Single Person	Two Pensioner Couple
Ontario GAINS-A	$996	$1,992
Manitoba 55 Plus	446	959
Saskatchewan Income Plan	1,080	1,740
Alberta Seniors Benefits (renters)	2,350	3,500
British Columbia GAIN	592	1,446
Yukon Seniors' Income Supplement	1,200	2,400
Northwest Territories Senior Citizens' Benefits	1,620	3,240
Nova Scotia Special Social Assistance	NA	NA

National Council of Welfare, 1996a, 14

Provincial Taxation and Shelter Assistance Programmes for Seniors

Newfoundland:	School Tax Exemption
Prince Edward Island:	Tax Deferral for Senior Citizens
	Residential Property Tax Credit
	Provincial Tax Credit
Nova Scotia:	Property Tax Rebate for Senior Citizens
	Rental Assistance Program
New Brunswick:	Assistance for the Payment of Rent or Board or Lodging Expenses
Quebec:	LOGIRENTE (Senior Citizens' Rental Assistance)
	Property Tax Refund
Ontario:	Property Tax Grant
	Sales Tax Grant
Manitoba:	School Tax Assistance for Tenants 55 Plus
	Pensioner Homeowners' School Tax Assistance
	Property Tax Credit
	Shelter Allowances for Elderly Renters
	Cost of Living Tax Credit
Saskatchewan:	Senior Citizens' Heritage Program
	Saskatchewan Tax Reductions
Alberta:	Property Tax Reduction Benefits (including Senior Homeowner Benefits)
	Remote Area Heating Allowance
	Senior Citizens' Renter Assistance Grant
	Senior Citizens' Home Heating Protection Program
British Columbia:	Land Tax Deferment Program
	Home Owner Grant
	Shelter Aid for Elderly Renters
Yukon:	Home Owners' Grant
	Pioneer Utility Grant
NWT:	Senior Citizens' Land Tax Relief
	Home Owners' Property Tax Rebate Program

Source: Human Resources Development, Canada, 1994

3. SOURCES OF RETIREMENT INCOME SECURITY

3.1 Introduction

In *Better Pensions for Canadians* (Health and Welfare, Canada 1982), the government identified three principles as the basis for improvements to the retirement income system:

- elderly Canadians should be guaranteed a reasonable minimum level of income;
- the opportunities and arrangements available to Canadians should be fair; and
- Canadians should be able to avoid serious disruption of their pre-retirement living standards upon retirement.

These goals are consistent with the criteria for economic security as outlined in Chapter 1.

This chapter will analyze the sources of retirement income security within a total system that has three tiers of support and sponsorship: the government, the employer, and the individual. It would be incorrect to study these systems independently as they are not independent--they are interdependent and intertwined. Any change in one part of the system has an immediate impact on all other parts. Further they are all supported at some level by the taxpayers (e.g. pension plan contributions are tax deductible).

Finally, they are part of a larger wealth transfer mechanism that includes other systems such as health care delivery and employment insurance. In later chapters, these systems will be included in the analysis of the impact of social security reform.

3.2 Government Sponsored Retirement Income Security

3.2.1 Background and History

When provincial and federal rights were divided at the time of Confederation in 1867, the provinces were given jurisdiction over matters relevant to health, education, and welfare. It was widely accepted that these provincial rights included the payment of pensions (Longhurst and Earle 1987, 6). This division of power kept the federal government out of the income security field for the first sixty years of Confederation.

In 1927, using the 'grant-in-aid' provision, the federal government entered the pension area through the *Old Age Pensions Act* (a similar process was later used to enter the health field, see section 4.2). The *Old Age Pensions Act* offered to pay 50 percent (later raised to 75 percent) of the cost of means-tested pensions to be paid and administered by the provinces. The maximum pension would be $20 a month to persons age seventy and over who met certain citizenship and residence requirements and who could pass a needs test. Individuals were not required to contribute. By 1951, benefits had risen to $40 a month (the 1997 equivalent is $276 a month).

The *Old Age Pensions Act* was replaced by the *Old Age Security* (OAS) *Act* in 1952. OAS benefits of $40 a month would be paid at age 70 regardless of need. A means-tested pension, also $40 a month, would be available to those aged 65 to 69. This plan remained in force for the next fifteen years, although benefits were increased several times.

The next major reform came into effect on January 1, 1966, when the contributory, earnings-related C/QPP were introduced although full retirement

income benefits were not paid until 1976. The C/QPP promised retirement benefits equal to 25 percent of credited earnings up to the Year's Maximum Pensionable Earnings (YMPE) or approximately the Average Industrial Wage. Thus, the provision of economic security through government-sponsored systems was greatly expanded.

At that time several other changes were also put into effect. The universal Old Age Security (OAS) system qualification age (without need) was lowered from age 70 to age 65 over a five-year period. The Guaranteed Income Supplement (GIS) was added to OAS as a temporary measure to cover the ten-year transitional period of C/QPP implementation, providing income-tested benefits for those with no or low C/QPP benefits. However this temporary add-on is still with us and remains an essential element of the government income security system. At the same time, several provinces also introduced supplements (e.g. Ontario GAINS) for their residents. These were all needs-or-income tested.

When the GIS was introduced it provided, in combination with the OAS pension, an income guarantee to single pensioners equal to about 25 percent of the average wage. A pensioner couple were guaranteed an income equal to about one-half the average wage.

In 1975, the Spouse's Allowance (SA) was added. It is payable to OAS/GIS pensioners' spouses, and widows and widowers, aged 60-64, on an income-tested basis. These households are thus guaranteed a minimum income equivalent to that of a GIS pensioner couple.

Prior to the introduction of the OAS program in 1952, Canada's elderly had suffered relative economic hardship. However, as was detailed in chapter 2, significant gains were made in the battle against poverty among the elderly, mostly because of improved pension benefits.

3.2.2 Old Age Security (OAS)

All persons in Canada aged 65 or over who are citizens or legal residents may qualify for either a full or partial OAS pension. The pension normally begins in the month following a person's 65th birthday. There are two methods of meeting residency requirements for a full pension. Canadians 25 years of age or over on July 1, 1977 qualify with 10 years of residence immediately prior to application. Persons not aged 25 by July 1977 qualify for a full pension only after 40 years of residence in Canada (after age 18). Those not qualified for a full pension may receive a partial pension, on a pro-rated basis, provided they have at least 10 years' residence. The OAS pension benefit may be paid indefinitely outside of Canada if the pensioner has 20 years of residence in Canada after age 18. Otherwise, it may be paid for six months outside of Canada, and resumed when the pensioner returns to Canada.

Reciprocal International Social Security Agreements exist with twenty-seven other countries (although not the United Kingdom). A person residing in Canada may add those periods of residence in a reciprocating country to years of residence in Canada in order to qualify for the OAS pension. Also, for reciprocating countries, persons who have spent portions of their working lives in more than one country can receive partial social security benefits from each country.

OAS benefits are paid from general tax revenues and are taxable income. The OAS monthly pension as of January 1, 1997 was $400.71. This benefit is fully indexed to the cost of living as measured by the Consumer Price Index, with benefit increases taking place quarterly. In 1996, OAS was paid to 3.6 million Canadians with payments totalling $16.5 billion (Canada 1996b, 22). Of this, about $400 million was returned to the federal government through the OAS clawback

(explained later) and $3.2 billion was recaptured by the federal and provincial governments because OAS is taxable income (Caledon Institute, 1996a, 94).

The importance of OAS in the total income security package has reduced over the last 25 years. In 1964, OAS benefits equalled 20 percent of the average industrial wage; by 1983, that had declined to 14 percent (Treasurer of Ontario 1984, 28). The importance of OAS would have been expected to continue to decline without explicit amendments since, normally, wages rise faster than the cost-of-living. However, the recent anemic growth in wages has meant that the OAS benefit has been a fairly constant 15.7 percent of the average industrial wage over the past half decade.

Prior to 1989, the OAS pension was universal for those 65 years of age and over, subject only to residence requirements. No income or asset tests were applied. In 1985, the federal government debated the merits of the continued universality of OAS benefits (i.e. no needs or income test) and proposed to partially de-index the OAS, adjusting only for cost-of-living increases in excess of 3 percent per annum. This provision was abandoned in the face of strong opposition from senior citizens' groups.

However, in 1989, the federal government introduced measures to 'clawback' the OAS benefit from recipients with net income in excess of $51,765 (in 1991) a year. Seniors have to pay back their OAS benefits at a rate of 15 cents for every dollar that net income exceeds $53,215 (1997). Seniors with net incomes of $84,484 or more get no OAS pension. As stated by the National Council of Welfare (1989, 1):

> this marks the end of universality, a fundamental and long-standing principle of Canada's system of social benefits.

The $51,765 limit was not fully indexed (it is now $53,215) but adjusts to the rate of inflation less three percent. As a result, more and more Canadians face

the claw-back each year. This claw-back of benefits from the wealthy changed OAS from a 'demogrant' benefit (i.e. payable to all, based on a residence test only) to a second-tier of the Guaranteed Income Supplement (GIS).

The introduction of the new Seniors Benefit in March 1996 clearly signalled that the OAS will no longer be the cornerstone of the government-sponsored income-security system. The foundation will now be a combination of the GIS/OAS called the Seniors Benefit, plus the C/QPP. The new Seniors Benefit will be discussed in Chapter 5.

3.2.3 Guaranteed Income Supplement (GIS)

OAS pensioners with little or no income may receive full or partial GIS benefits. If a pensioner leaves Canada, the Supplement is paid for six months and is then discontinued until his/her return. The value of any assets which the household may have does not affect eligibility for GIS or the benefit received.

There are two rates for the GIS. One applies to single pensioners (never-married, widowed, divorced, or separated persons) and also to married pensioners whose spouses are not in receipt of either the OAS pension or the Spouse's Allowance. The other applies to spouses in married couples where both spouses are pensioners. For a single pensioner, the maximum monthly Supplement is reduced by $1 for each $2 of income (other than OAS). For a married couple where both spouses are in receipt of the basic OAS pension, the maximum monthly Supplement of each pensioner is reduced by $1 for every $4 of their combined monthly income (other than OAS).

A special provision applies to a married couple in which only one spouse is a pensioner and the other is not eligible for either the basic OAS pension or the

Spouse's Allowance whereby the pensioner is entitled to receive the GIS at the higher rate paid to single persons; moreover, the maximum monthly supplement is reduced by only $1 for every $4 of the couple's combined monthly income (excluding the OAS benefit).

Benefits are indexed quarterly. GIS payments are made out of general tax revenues; no contributions are required. The maximum monthly benefit in January 1, 1997 was $476.20 (single) and $310.18 each (married). Additional supplements of varying amounts are also paid by six provinces and two territories (see Chapter 2, Appendix). GIS benefits are non-taxable, although those eligible for GIS would probably not pay much tax anyway. In 1996, there were 1.4 million GIS beneficiaries and benefit payments totalled $4.8 billion (Canada 1996b, 22). Nearly 80 percent of all single GIS recipients are women (National Council of Welfare, 1996a, 7).

GIS benefit levels have been increased several times since its inception (over and above the automatic cost-of-living increases), and it is now a significant part of the retirement income security system in Canada. However, as income from the C/QPP and private pensions has grown, the proportion of seniors receiving GIS has fallen from 58 percent in 1973 to 40 percent in 1995 (*ibid*).

3.2.4 Spouse's Allowance (SA)

The spouse of an OAS pensioner may be eligible for a Spouse's Allowance (SA) if the spouse is 60 to 64 years of age and has 10 years residence in Canada. Eligibility is also subject to an income test similar to that for GIS. The benefit ceases to be payable if the couple becomes separated or divorced, or if the SA recipient dies. The spouse who is eligible for a SA when the OAS pensioner spouse

dies retains eligibility for the SA until age 65, or until remarriage (known as Extended SA). A 1985 amendment provides for payment of a Spouse's Allowance to any widow(er) who is between the ages of 60 and 64 who has been a Canadian resident for at least ten years prior to the date of application.

One qualifies for the SA only if married to a low-income person or widowed. The single, divorced, separated, or never-married are not elibible. This is being challenged under the Charter of Rights and Freedoms (Townson, 1996b, 57). The fact that it is not payable to a same-sex spouse is also being challenged (*ibid*).

For couples, the SA benefit is based on their combined annual income, whereas for beneficiaries of Extended SA and Widowed SA it is based on the surviving spouse's income only. Assets are not considered for entitlement. The maximum full monthly SA is equal to the full basic OAS pension plus maximum GIS at the married rate. The SA is reduced by $3 for every $4 of the couple's combined monthly income until the OAS equivalent is eliminated. After that, the GIS equivalent of the SA and the GIS of the pensioner are each reduced by $1 for every additional $4 of combined monthly income. SA benefit payments are made from general tax revenues (i.e. no contributions are required).

As at January 1, 1997, the maximum monthly allowance to spouses was $710.89, and to widows and widowers, $784.82. Benefits are indexed quarterly to the cost-of-living. In 1996, the number of SA beneficiaries was 107,000 and the total payment made was $440 million (Canada 1996b, 22 and Caledon Institute, 1996a, 94).

The combination of the OAS/GIS/SA programmes is designed to provide a minimum floor of security. The minimum income guarantee for single, widowed and divorced pensioners is about 30 percent of the average industrial wage, while that for pensioner couples is approximately 40 percent of the average industrial

wage. The program offers nothing to low-income people 60 through 64 who are never-married, divorced, or separated.

While these plans provide a minimum floor of security, they are not designed to satisfy the requirement of maintaining a consistent standard of living since the benefits are not a function of pre-retirement earnings. The only government-sponsored programs that have this attribute are the Canada/Quebec Pension Plans.

3.2.5 Canada and Quebec Pension Plans (C/QPP)

The Canada Pension Plan and Quebec Pension Plan (Regie de rentes du Quebec) were introduced in 1966, and are compulsory contributory social insurance plans. The Canada Pension Plan (CPP) operates in all regions of Canada except Quebec. Both plans provide retirement, disability, and survivors' pensions, disabled contributors' children's benefits, orphans' benefits and death benefits. There is reciprocity between the two plans to ensure coverage for all adult Canadians in the labour force.

The two plans are similar in terms of eligibility criteria, benefits, and financing. The following description applies to both plans (differences are noted where relevant).

a) Eligibility

The C/QPP are financed by compulsory contributions between ages 18 and 65, based on earned income. Persons over 65 who are still in the labour force have the option of contributing until age 70. Persons already receiving

disability or retirement benefits or those with earnings below the Year's Basic Exemption, YBE, ($3,500 in 1997), do not contribute. All benefits under C/QPP are payable regardless of whether the beneficiary lives in Canada or abroad.

Starting in 1997, the YBE will be frozen at $3,500. This will mean that with each passing year more and more Canadians will have to contribute to the CPP (but more and more Canadians will also qualify for benefits), and those who are in the plan will contribute on a wider wage base since contributions are on wages up to the Year's Maximum Pensionable Earnings (YMPE) less the YBE. This reform can be viewed as being regressive, and will be discussed in greater detail in Chapter 6.

Pension credits earned by one or both spouses during marriage can be divided equally in the event of divorce or legal annulment. In the case of separation, either spouse may apply for a division of pension credits after one year has elapsed.

Under the Reciprocal International Social Security Agreements mentioned earlier, persons residing in Canada may add the credits which they have earned under the social security system of a reciprocating country to their Canadian credits. Eligibility for C/QPP benefits is not based on income or assets but on contributions.

b) Benefits

The C/QPP provide the following monthly benefits which are treated as taxable income: a retirement pension, a disability pension, a surviving spouse's pension, a disabled contributor's child's benefit, and an orphan's benefit. Once benefits are in place, they are adjusted annually to the Consumer Price Index.

c) Contributory Period

The C/QPP contributory period starts at age 18 (or January 1966 if later) and ends when the beneficiary retires or turns 70. There are provisions which allow a person to drop, from the contributory period, months of low or zero earnings totalling up to 15% of the total period, so long as the contributory period is not less than 10 years. Should an individual choose to defer application for a retirement pension beyond age 65, months of pensionable earnings after age 65 may be substituted for months of low or no pensionable earnings prior to age 65. Any month during which a disability pension was paid is excluded from the contributory period.

A special child-rearing drop-out provision allows for the exclusion of any months of low or zero earnings which occurred when a person was caring for a child under age seven.

d) Retirement Pension

A retirement pension is payable to a person who is aged 60 or over who has made even one contribution to CPP or for at least one year to QPP. Persons aged 60-64 who apply for this pension must have retired from work; C/QPP applicants over age 65 are eligible for a retirement pension regardless of whether or not they have stopped working. Once a retirement pension becomes payable, or a person reaches age 70, no further C/QPP contributions can be made.

The annual retirement pension is equal to 25 percent of average adjusted pensionable career earnings received during the contributory period, i.e.

earnings for each eligible year worked up to the YMPE. Historic earnings are adjusted upward in line with the YMPE.

Payment of the retirement pension can begin at age 60. For persons retiring between ages 60 and 64, the pension benefit is reduced by 0.5 percent for each month left until their 65th birthday (or 6 percent per year). Persons who delay retirement beyond 65 have their pension increased by 0.5 percent for each month of delay from their 65th birthday until they receive their first pension payment (up to their 70th birthday). Once the entitlement is calculated, the pension remains the same except for annual indexation to the cost of living.

e) Surviving Spouse's Pension

Benefits are payable to the surviving spouse of a deceased contributor, providing contributions have been made for a minimum qualifying period. Payment to a common-law spouse is subject to further legislated conditions. There is a pro-rated reduction in this benefit when the surviving spouse is between the ages of 35 and 45, is not disabled and has no dependent children. A spouse who is under age 35 when widowed, and is neither disabled nor has dependent children, is not eligible for a surviving spouse's pension before reaching age 65.

A surviving spouse over age 65 receives a benefit equal to 60 percent of the contributor's retirement pension at the time of the contributor's death. Remarriage used to mean a loss of this benefit, but no longer does.

f) Financing

The C/QPP are funded through employer and employee contributions plus interest earned on surplus funds. The CPP excess funds are lent to the provinces in proportion to the province's contributions to the Plan. The Quebec Deposit and Investment Fund (Caisse de depot et de placement du Quebec) manages the excess QPP funds and invests some of the QPP fund in the private sector.

Employee contributions to the CPP in 1997 were to be made at the rate of 2.925 percent of earnings between the YBE of $3,500 (now frozen) and the YMPE of $35,800. Persons earning incomes at or above the YMPE pay the maximum contribution. Employers match the employees' contributions, while self-employed persons contribute the total 5.85 percent themselves.

The comparable QPP contribution rate for 1997 is 6.00 percent. This would have been the first time that the CPP and QPP contribution rates differed. However, with the changes to the CPP announced February 14, 1997, the CPP contribution rate moves to 6 percent immediately (equal to the QPP rate) through a one-time extra deduction in everyone's 1997 tax return.

The contribution rate of 6 percent (total) for 1997 will move to 9.9 percent by 2006. This will be more than enough to fund current benefits, and the present contingency fund of $40 billion will grow to a projected $110 billion. Issues around this large accumulation of funds will be explored in detail in Chapter 6.

As of January 1, 1997, the maximum monthly retirement benefit was $515.77 at age 60, $736.81 at age 65, and $957.85 at age 70. This is taxable income to the recipient. About 3.3 million Canadians get CPP or QPP retirement benefits (Canada, 1996a, 12) worth a total of $14 billion a year

(National Council of Welfare, 1996a, 20). About one million people--89 percent of them women--receive survivor pensions valued at $3.2 billion a year (*ibid*). Total benefit payments from C/QPP in 1995-96 were $21.8 billion, $16.7 billion for CPP and $5.1 billion for QPP (Caledon Institute, 1996a, 95). These retirement benefits are only 63 percent of total benefits for the CPP (and only slightly more for the QPP). This is an important statistic for many Canadians who think of the C/QPP as purely retirement income security schemes. The above benefit amounts are projected to rise rapidly, especially after the retirement of the baby boom.

Over 42 percent of C/QPP benefits come back to the government (federal or provincial) in the form of income tax, decreased benefits under other programs (e.g. GIS) and decreased tax credits (MacDonald, 1995, 62).

For pensioners aged 65 to 69 in January 1996, the average C/QPP retirement benefit paid to men was $517 a month, and the average benefit paid to women was $289, or 56 percent (National Council of Welfare, 1996a, 26).

There are many advantages to the C/QPP. Coverage is universal and automatic for those employed and earning at least the YBE. Benefits are immediately fully vested and are fully portable. (These terms are explained in section 3.3.4). They are indexed before retirement to the YMPE (which approximates the average industrial wage) and after retirement to the cost of living.

However, coverage does not extend to the never employed, the chronically unemployed or the very poor since a person must have earned income at least equal to the YBE to earn benefit credits. Consequently, homemakers are the largest group of Canadians not covered. For these Canadians, economic security in retirement is reduced since the maximum C/QPP benefit available to them is the 60 percent survivor's benefit.

However, increasing benefit levels under C/QPP would do very little for the very poor, the chronically unemployed or never employed (e.g. homemakers). For those now eligible for GIS, increases in C/QPP benefits will mean decreased GIS benefits. For example, for a poor worker in 1995, the difference between receiving one-half of the full C/QPP retirement benefit and the full benefit was $4,279 gross, but only $2,191 in net income because of the GIS clawback (National Council of Welfare, 1996a, 24,25) and because C/QPP income is taxable (see also, MacDonald, 1995, 62). Since GIS is funded from general tax reserves, while the C/QPP is funded by contributions on earnings, the overall end result would be regressive; that is, the low income worker would pay the increased costs of contributions for little in extra benefits.

If one totals the cost of the benefits described above, the total is as follows:

Table 3.1

Total Public Pension Costs
1995-96

Plan	**$Billions**
OAS (gross--without clawback)	16.083
GIS	4.700
SPA	0.440
CPP	16.672
QPP	5.085
Total	42.979

Source: Caledon Institute, 1996a, 98

3.2.6 Income Replacement Ratios and Poverty

In section 2.4.5, the significant decrease in poverty because of government-sponsored income security system was discussed. Table 3.2 and Figure 3.1 show the income replacement in retirement provided by government programmes for an individual in 1993.

Table 3.2

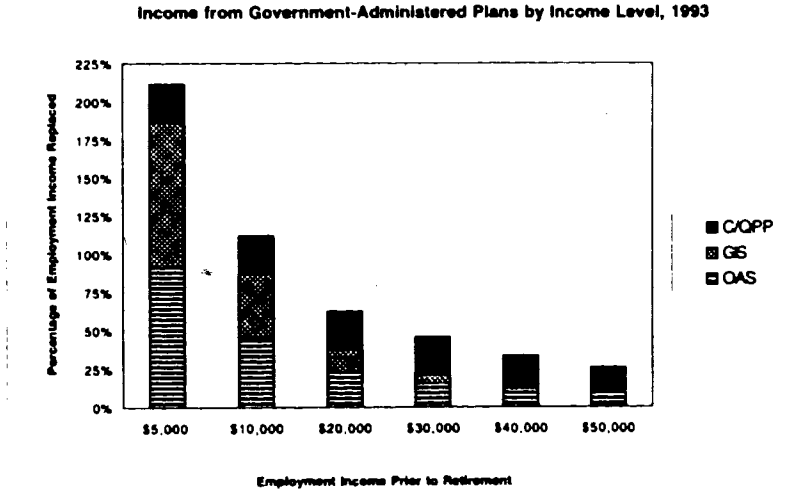
Income from Government-administered Plans By Income Level, 1993

Employment Income Prior to Retirement	OAS	GIS	C/QPP	Total	Percentage of employment income replaced
$5,000	$4,547	$4,779	$1,250	$ 10,576	212
10,000	4,547	4,154	2,500	11,201	112
20,000	4,547	2,904	5,000	12,451	62
30,000	4,547	1,654	7,500	13,701	46
40,000	4,547	404	8,350	13,301	33
50,000	4,547	-----	8,350	12,897	26

Source: Statistics Canada, 1996b, 129

Figure 3.1

Replacement Ratios from Government-Sponsored Plans 1993



Source: Author's graph of Table 3.2

Low wage earners actually increase their net-after-tax income after retirement, while those at the upper income levels are expected to provide more of their retirement income through employer sponsored or personal savings plan (for which tax concessions are available). It would appear that the C/QPP were consciously limited to allow for this flexibility and to encourage the growth of investment funds that arise from private sector plans.

Low income senior citizens get virtually all their income from government sources (see Table 2.13). Also, as stated in Chapter 2, the importance of government-sponsored income rises with age so that, as Canadians age, their income levels become more nearly alike.

3.2.7 Public Policy Issues Not Addressed by C/QPP Reform

Several public policy issues with respect to government-sponsored social security remain. Of these, Chapter 6 looks at the new Seniors Benefit and its implications plus issues around the freezing of the Year's Basic Exemption (YBE). Chapter 6 also discusses the implications of fuller-funding for the C/QPP.

Two issues not addressed in the announced reform of the C/QPP will now be discussed.

a) The Indexation of Benefits--What Index?

There is some question whether the Consumer Price Index (CPI) is the correct index to reflect the cost increases incurred by seniors. Much has been written on this topic (see Task Force on Inflation Protection, 1988, and Mercer,

1997). The most extensive Canadian study found that cost-indices for seniors conformed closely with the CPI. In making its recommendation, the report states:

> Our conclusion is therefore that the all-Canada CPI would likely be a satisfactory indexing standard for Ontario pensions if a price indexing formula were to be adopted (Task Force on Inflation Protection Vol. 1, 290).

A larger discussion is now ongoing in the United States as to whether or not the CPI overstates the growth of costs. It is argued that this overstatement occurs because the index in the U.S. does not react quickly enough when consumers change their product mix of purchases (e.g. substituting pork for beef if beef rises in cost), and does not reflect the increase in quality of many products (e.g. tires cost more today, but also last longer). While the former criticism (i.e. product mix) does not appear to be an issue in Canada, the latter is, and may require a proper public policy discussion. This may occur if there is a change in the manner of computing the CPI in the United States. (For a full discussion of this issue, see Mercer, 1997.)

b) Flexible Retirement

Until 1984 for the QPP, and 1987 for the CPP, retirement benefits were payable no earlier than age 65. While this is still true for OAS benefits, C/QPP benefits can now be taken at a flexible retirement age, with an actuarial adjustment in benefit level (as mentioned earlier). Take up of these early benefits has been dramatic. When QPP flexible retirement benefits started in 1984, 80 percent of new retirees in the first half of 1984 chose early retirement. (It is impossible to know how much of this was caused by the shift to the flexible retirement benefits scheme within the QPP and how much was because of outside pressures for early retirement.) In March of 1995, 57 percent of all new CPP retirement benefits were paid to people under 65 (Baldwin, 1996b, 72-73).

There has been some debate as to the level of adjustment in the benefit payable (1/2 percent per month). Analysis by the QPP actuary (Menard and Potvin, 1993) has shown that the adjustment of 1/2 percent per month in benefit levels is justified given today's mortality rates and certain reasonable economic assumptions.

A second issue is the effect the new flexible retirement benefits will have on the labour force participation rates of Canadians over the age of 60. In the past two decades, male labour force participation rates beyond age 60 have declined significantly. Although this is not the case for women, for whom participation rates beyond age 60 have remained relatively stable, their rates can be viewed as being in relative decline since all other female age-specific participation rates have risen.

The issue of what age should be required for eligibility for retirement benefits will be discussed in more detail in Chapter 7.

3.2.8 Conclusion

This section reviewed the major provisions of the government-sponsored income security systems. There continues to be strong support for government-sponsored social security as seen in a recent Angus Reid-Southam poll (February, 1996). Seventy percent of Canadians polled said the public plans were good and should be fixed rather than being phased out and replaced. However, confidence in the future of the C/QPP is not strong. In a survey conducted in the fall of 1994, Towers Perrin found that only 29 percent of respondents between the ages of 18 and 29 believed that they will receive the CPP, and even among 50 to 64 year-olds, the number only rose to 47 percent (Canada, 1996c, 15).

The public plans reviewed in this section are available not on a contractual basis (as are private plans) but on a statutory basis. In a private plan, once the

contract is issued, it cannot be changed. In a public system, however, today's workers, by paying benefits to today's retirees, establish a social contract in the expectation that the next generation of workers will likewise provide their retirement income benefits. As seen in the 1989 amendment to the OAS benefits and the 1996 introduction of the Seniors Benefit, such contracts can be amended at any time, as long as the voters are supportive.

The publicly administered retirement income systems are not intended to provide all the income needed in retirement. Indeed, when the C/QPP were introduced, they were designed deliberately to leave room for private retirement income schemes (International Social Security Association 1987, 106).

3.3 Employer-Sponsored Pension Plans

3.3.1 Introduction

Government sponsored OAS and GIS provide a basic floor of protection to all Canadians who qualify. Maintaining a consistent standard of living on retirement is **partly** satisfied by the C/QPP, for those who are able to contribute and earn benefits.

Whatever needs are not met by government-sponsored retirement income security must be met through private sector sources or will not be met at all. Thus, there is a direct interconnection between the two parts of the system. Any reforms to government systems have a direct impact on the private systems, as will be seen.

Private provisions for improving one's replacement ratio have two advantages. First, the system is flexible. Not everyone requires the same replacement ratio, and few require a 100 percent replacement as explained in

section 2.4.6. This wide divergence of need can best be satisfied through schemes tailored to the individual. The second advantage of the private system is that such plans represent an important source of investment dollars which can fund risk ventures upon which the Canadian economy depends. In general, (the Quebec Pension Plan being an exception), government sponsored schemes have not provided investable funds in the past. The new CPP amendments do intend, however, to create a fund that will reach $110 billion by 2017 to be available for investment in the Canadian economy. This will be discussed in more detail in Chapter 6.

3.3.2 Background and History

In describing the genesis of private pension plans, Morton and McCallum state:

> Once again, pension plans were created to further a company's corporate goals of inspiring loyalty and cooperation among employees, raising morale and efficiency, cutting labour turnover, and inducing the retirement of older workers. In general, the introduction of pension plans helped to reduce labour strife. In 1919, the worst year for strikes in Canadian history, one corporate official explained that a pension plan 'is not philanthropy and it is not benevolence: it is a cold-blooded business proposition.' (Task Force on Inflation Protection, 1988, 12).

Despite these beginnings as pure business enticements, pensions grew rapidly in importance as one key aspect of employee benefit programmes, especially after World War II when unions took a more active interest in this employee benefit.

In the 1960s, governments began to regulate employment pension plans to guarantee certain basic rights and minimum benefits to workers. Ontario was first with its Pension Benefits Act which came into effect January 1, 1965. This was followed by similar (but not identical) legislation in other jurisdictions. The fact

that the provincial Pension Benefits Acts are not identical increases pension plan administration costs.

These Acts had several objectives. Their primary concern was that the plans were adequately funded and that the funds were invested prudently (Ontario now has a Pension Guarantee Fund to further protect the benefits of workers whose pension plan might end). There were specific rules as to when employees gained rights to employer contributions (called **vesting**). Also, the Acts allowed the transferability of pension rights or assets when a worker changed jobs (called **portability**). Most of these Acts have undergone significant revisions as noted later in this Chapter.

3.3.3 Existing Plans and Coverage

a) Coverage:

As shown in Table 3.3, growth in the coverage of Canadian workers in employer-sponsored registered pension plans has leveled off since 1980. In fact, coverage has failed to keep pace with the expanding labour force.

Table 3.3

Pension Plan Members

As Percentage of Paid Workers*					As Percentage of Labour Force*				
Gender	**1970**	**1980**	**1990**	**1993**	**Gender**	**1970**	**1980**	**1990**	**1993**
Female	32.2	37.6	39.0	43.5	Female	26.9	31.2	33.1	35.7
Male	47.0	54.2	49.6	50.7	Male	37.7	45.1	41.1	39.5
Total	42.0	47.7	44.8	47.4	Total	34.1	39.7	37.6	37.8

* The difference between the labour force and paid workers is the exclusion of unpaid family workers, self-employed workers in unincorporated companies and the unemployed from the labour force to get 'paid workers'.

Source: Statistics Canada, Pension Plans in Canada, 1972, 1982, 1992, 1995a

Table 3.3 also shows that male participation rates in pension plans is generally higher than for females. One reason for this is the higher participation rates of female workers in industries where pension plan coverage is lower (e.g. personal service industries versus mining, construction, and manufacturing). Women also hold more part-time jobs which often do not earn pension credits.

However, the gender gap is closing. In fact, in the decade between 1983 and 1993, the number of female plan members was up 47 percent, while the number of male plan members was down 2 percent (Statistics Canada, 1996b, 12). Most of the drop in male membership was the result of the decline of small pension plans (*ibid).* Membership is small plans (those with fewer than ten members) dropped by 50 percent between 1986 and 1994 (*ibid*). Many small companies have changed to less cumbersome employee retirement packages such as group RRSPs.

As can be seen in Table 3.3, 47.4 percent of paid workers or 5.2 million employees were covered by registered pension plans (RPPs) as of January 1, 1993, up from 4.5 million in 1980--an increase of about 17 percent over 13 years. During the same period, the total labour force grew nearly 21 percent (Canadian Institute of Actuaries, 1996b, 4). There were 15,845 registered pension plans as of January 1, 1993, a drop of 5,439 since a peak of 21,239 in 1988 (*ibid*, 5). Reasons for this drop are discussed in section 3.2.8.

Many employers, especially small employers, prefer to sponsor a group RRSP either as a stand-alone pension program or in addition to a basic pension plan. These plans are not included in the pension coverage statistics maintained by Statistics Canada. Although there are no comprehensive statistics available for group RRSPs, a survey conducted by Benefits Canada

(Charles, 1994, 29-31), reported that there were more than 22,400 group arrangements covering a total of 949,000 members. If these members are included in the pension coverage statistics, pension coverage in the private sector increases by between 10 percent and 12 percent (not allowing for double counting where an employer sponsors both an RPP and a group RRSP). Thus, the overall pension coverage in the private sector remains below 50 percent (see Table 3.5).

More recent data indicate that by 1996 the number of group RRSP plans in Canada totalled 32,500 with 1.4 million members and $18.2 billion in assets (Globe and Mail, 1997a, C20).

A review of 1992 taxation statistics shows that the percentage of private-sector employees between the ages of 25 and 65 who participated in at least one of a Registered Pension Plan (RPP), Deferred Profit Sharing Plan (DPSP), or a Registered Retirement Savings Plan (RRSP), was 58 percent. The corresponding percentage for the public sector was 86 percent. Table 3.4 disaggregates these statistics by age and income group.

Table 3.4

Percentage of Tax Filers Participating in RPPs, DPSPs and RRSPs (1992)

By Age Group			By Income Group		
	Public Sector	Private Sector		Public Sector	Private Sector
<25	41.0	20.0	<20,000	43.0	24.0
25-44	83.0	55.0	20-39,999	87.0	62.0
45-64	90.0	67.0	40-79,999	97.0	87.0
25-64	86.0	58.0	80,000+	99.0	92.0

Source: Canadian Institute of Actuaries 1995b, Appendix D

In general, younger workers and women (see Table 3.3) show lower levels of coverage. Also the level of public sector coverage greatly exceeds that in the private sector. Public sector employees represented about one-quarter of

the paid workforce but almost one-half of the total RPP membership in 1993 (Statistics Canada, 1996b, 12). In a study that analyzed tax filings including RRSP contributions, the Canadian Institute of Actuaries (CIA) found that the public sector average savings rate was close to 16 percent while in the private sector it was about 7 percent. The CIA concluded that public sector employees will have sufficient resources to be able to retire at around age 58, while private sector employees will have to wait until about age 68, or ten years later (Canadian Institute of Actuaries, 1995b, 41).

One reason for this disparity of coverage is the fact that small employers tend not to offer pension plans to their employees, and most small employers are in the private sector. In 1992, fully 96 percent of the members of plans with fewer than 10 participants were employed in the private sector (Statistics Canada, 1994c, 25). The relationship between size of the firm, and the probability of pension coverage is indicated in Table 3.5.

Table 3.5

Pension Coverage by Firm Size
Private Sector (1989)

Size of Firm (Number of employees)	Pension Coverage Ratio %
1-19	13
20-99	27
100-499	48
500 or more	65

Source: Frenken and Maser 1992, 28

The same analysis also found that union affiliation affects pension coverage. For example, the proportion covered among unionized paid workers in the private sector was 67 percent. Coverage for those not included in a collective agreement was 29 percent (*ibid*). Persons not covered are primarily low-

income workers, employees under the age of 25, part-time workers, and employees of small firms. There may be some acceptable reasons for this lack of coverage.

> For many of these workers, membership in employment plans may not be desirable or necessary. For example, for persons under the age of 26 saving for retirement is not a high priority. Small employers may be financially unable to undertake the cost of a pension plan. In many cases, the small employer will provide other forms of savings such as a deferred profit sharing plan or ownership in the company (Longhurst and Earle 1987, 75).

b) Types of Plans

Pension plans can be subdivided into two types: contributory (which require employee contributions) and non-contributory (which do not). In 1994, 73 percent of all plan members were in contributory plans (Statistics Canada, 1996b, 55). Virtually all public sector plan members made contributions whereas less than half of the private plan members did.

Pension plans can also be subdivided according to the method used to determine the contributions and benefits:

In a **defined benefit plan**, the amount of the member's retirement benefit is specified in advance. The benefit can be a function of earnings and years of service or may be defined as a fixed dollar amount for each month or year of service (flat benefit). This benefit is promised by the plan sponsor who then builds up a fund to fulfill the promise. The risk that pension funding variables (e.g. rate of investment income earned) may deviate from the expected amount is borne by the plan sponsor, normally the employer.

In a **defined contribution plan**, frequently called a money purchase plan, the pension contract specifies the contributions to be made by the employer and perhaps also by the employee. These funds are then invested. The funds that accumulate are usually used at the time of retirement to purchase a

retirement annuity (i.e. monthly income payments). The risk that the resulting retirement income is inadequate is borne by the employee. The employee also bears the risk that investment rates of return will vary from those expected.

The timing of retirement can affect significantly one's retirement income as the cost of the retirement annuity will vary with prevailing interest rates. A person who retires when interest rates are relatively high will receive a larger annuity than a person who retires when interest rates are low. These two factors mean that such plans create a substantial level of risk for the person nearing retirement age. Over the past decade, Canadians have experienced variations of more than 50 percent in the retirement income that could be purchased by a defined contribution scheme.

Thus, unlike defined benefit plans, defined contribution plans place the investment risk on the employee. Particularly for large employers, it is more appropriate for the plan sponsor to bear the investment risk in a defined benefit plan since they can more readily adjust for fluctuations.

In 1994, 44 percent of plans were Defined Benefit plans, but they contained 90 percent of all workers (Statistics Canada, 1996b, 56-61). In 1982, corresponding figures were 57.6 percent and 93.7 percent (Statistics Canada, 1984a) which means that there has been a slight decline in Defined Benefit pension plans. The other 55 percent of all plans, in 1994, were Defined Contribution, with only 10 percent of plan members.

In summary, defined contribution plans do not provide as well as do defined benefit plans for continuity of income (one of the income security goals).

3.3.4 Deferred Profit Sharing Plans (DPSPs)

Deferred Profit Sharing Plans are frequently used as a retirement income scheme, either on a stand-alone basis or as a supplement to an RPP. One advantage of DPSPs often espoused by plan sponsers is that they are not subject to the detailed minimum pension standards legislation.

Employee contributions to a DPSP are prohibited. Employer DPSP contributions cannot exceed a maximum contribution per employee which is equal to half of the employer contribution allowed to a defined contribution pension plan (see section 3.4.4 for details) or 18 percent of the employee's earnings from the employer. Overall contribution limits apply to total contributions to all plans, so the maximum contribution to a DPSP may be reduced as a result of contributions to other registered arrangements.

DPSPs are small relative to other retirement income arrangements. A 1994 Benefits Canada survey (Charles, 1994, 29-31) reported only 1,182 DPSPs with total accumulated assets of $1.4 billion.

3.3.5 Pension Reform

In 1985, the federal government introduced pension reform legislation which was expected to be the model for uniform provincial legislation (except for federally regulated employment, pensions are a provincial matter). Unfortunately, reform consensus was not achieved and each province has slightly different legislation. This makes the design and administration of pension plans difficult for companies having employees in more than one province.

Most of the following changes were adopted by the provinces on January 1, 1988.

(i) Coverage: Every full-time employee who belongs to a class of employees for whom a pension plan is provided is eligible to become a member after two years of service. Part-time workers who earn at least 35 percent of the C/QPP YMPE, or $12,530 in 1997, in each of two consecutive years must be allowed to join if they are in the same category as full-time members (or if they worked at least 700 hours in each of 2 consecutive years).

The use of RRSPs was expanded to allow employees of small firms to accumulate pensions equivalent to those now available only to employees of larger firms.

(ii) Vesting and Portability: Vesting and locking-in of contributions now occur after two years of plan membership. A member with vested benefits can transfer the commuted value to another pension plan or to a prescribed savings arrangement (e.g. certain RRSPs).

(iii) Minimum Employer Cost: Employers now have to pay at least 50 percent of the cost of benefits or index deferred benefits either to 75 percent of the cost of living increase, less one percent, or to the fund's earned interest rate, less 5 percent.

(iv) Benefits at Death: If a plan member dies before retirement, the death benefit is either a lump sum to the beneficiary or an annuity to the spouse equal to the value of the member's pension credits at the time of death. For death after retirement, any member who is married at retirement must take the pension in a form that provides at least a 60 percent pension to the surviving spouse. This form of pension is automatic but can be waived if both spouses sign a waiver form. The

pension to the worker can be adjusted to reflect the value of the continuing benefit to the surviving spouse.

(v) Retirement age: Pensionable age is the earliest age at which an unreduced pension is payable. Members must be permitted to retire up to 10 years prior to pensionable age, but benefits may be appropriately reduced. Members who postpone retirement and do not take their pension must be allowed to continue to build up credits.

Defined benefit plans are capable of providing full, or only partly reduced benefits, on early retirement. It is almost impossible, however, for defined contribution plans to provide early retirement benefits without a full actuarial reduction in benefits.

(vi) Gender Issues: Pension benefits for men and women retiring in equal circumstances must be equal. Contributions paid by employees must also be equal, but employer contributions may vary by gender. The latter may be necessary for plans which buy retirement annuities from life insurance companies because such annuities cost more for females than for males based on life expectancies.

(vii) Disclosure: Increased disclosure of pension plan information to plan members and their spouses is required. First, material describing the plan must be provided when the worker is hired or at least 30 days before one is eligible to join the plan. Members must be informed of any plan amendments. Additional material must be made available on request (e.g. investment results). Moreover, regular statements must be provided showing personal plan information (e.g. benefit credits earned to date).

Many of the pension reform issues were of particular importance to women. Examples include coverage for part-time workers, earlier vesting of pension

benefits, easier portability of benefits from plan to plan (women more often have to move to accommodate the needs of their spouse), elimination of sex discrimination, and enhanced survivorship benefits. As a result of the reforms, the proportion of male participants in plans with spousal benefits increased from 45 percent in 1978 to 77 percent in 1988, and was expected to exceed 90 percent by the early 1990s (Dickinson, 1994, A-II-19).

3.3.6 Public Policy Issues

- Coverage of workers by private pension plans is not expanding, despite the hopes and goals of the 1985 reforms (see Table 3.3). Both Statistics Canada and a recent report from the Canadian Institute of Actuaries (1996b, iii) have identified the current regulatory environment as one possible culprit. As stated by Statistics Canada (1996b, 12):

> The administrative requirements imposed by revised pension regulatory legislation may have influenced employers sponsoring these plans to seek other options, such as group RRSPs (Statistics Canada 1996b, 12).

The Canadian Institute of Actuaries goes on to propose reduced and simplified regulation as a vital necessity not just to encourage growth of registered pension plans, but to avoid further erosion in coverage.

One goal mentioned by several commentators is the achievement of uniform regulation across the eleven jurisdictions (ten provinces plus federal regulation). The Canadian Association of Pension Supervisory Authorities (CAPSA) has, in fact, drafted uniform regulations to which they have all agreed. All that is needed now is the political will to implement these uniform regulations.

On the other hand, if voluntary pension coverage is failing, perhaps what is needed is legislation mandating workplace pensions similar to what has happened in Australia. Several issues would need to be addressed before such a significant initiative were taken. First, is such a mandatory plan preferable to the flexibility that is now available? Must the government impose mandatory plans, or should individual workers and employers find the mix of salaries and deferred compensation that suits their unique situations? Would small employers be excluded? If not, what are the cost implications to them? Would coverage be for all workers or only full-time workers? Would casual workers be included? What impact might this have on the price of labour? How many jobs would be lost as a consequence? What would be the general economic impact since this would remove current consumption dollars from the economy?

These are not easy matters, and legislation should not be imposed without full public consultation. Recent experience with mandatory coverage in Manitoba suggests that this might not be popular with either employees or employers.

Another unresolved concern to pension plan sponsors is the ownership of any surplus that accrues in a pension plan. As noted above, in a defined benefit pension plan (to which 90 percent of Canadian plan members belong), the plan sponsor/employer carries the investment risk. That is, if investment returns on the pension fund assets do not meet projected expectations, then the employer must fund the deficit and guarantee the retirement benefits (hence the name, defined benefits). Thus, sponsors have taken the position that if investment returns exceed expectations (as they often did in the 1980's), that any surplus that accrues should be returned to the plan risk-taker, namely, the plan sponsor/employer.

However, the matter is not that straightforward. As mentioned above, pension benefits are seen as 'deferred wages'. Workers often give up salary increases in favour of improved pensions. Unions bargain on a total compensation

package which balances pension benefits and salaries. Thus, if the cost of the pension plan is less than projected, because of high investment returns, it is argued that the surplus should belong to the worker and not to the plan sponsor. At the very least, in plans where employee contributions are required (and 73 percent of plan members do contribute to their plan), any 'excess' investment returns should be shared between the employer and the workers.

Despite several court cases on this issue, the matter is still not completely resolved, and begs legislative initiative.

3.4 Individual Savings/Registered Retirement Savings Plans

3.4.1 Introduction

As noted in Section 2.4.6, the ratio that one's retirement income bears to one's final salary is called one's replacement ratio. Each individual, or couple, will have a unique target replacement ratio to satisfy perceived economic security. The working poor will require a larger replacement ratio just to achieve a level of income above the poverty line. The higher one's income, the lower the required replacement ratio can be in order to achieve a consistent standard of living. Much of the replacement ratio will be satisfied by government-sponsored and employer-sponsored benefits. Any shortfall must be satisfied through individual savings.

3.4.2 Achieving a Target Replacement Ratio - An Illustration

As noted previously (Section 2.4.6), a target replacement ratio of between 50 and 80 percent of final salary should generally allow for no disruption in one's standard of living.

Assuming that a person, earning the average industrial wage, has set a target replacement ratio of 70 percent, and government-sponsored schemes today replace close to 40 percent (25 percent from C/QPP, and 15 percent from OAS/GIS), this individual must replace 30 percent of final salary from employer-sponsored and/or individually-arranged schemes. However, what will this 30 per cent benefit cost if, for whatever reason, it is completely the responsibility of the individual?

The calculations that follow are based on the following assumptions:

- Life expectancy - Canada Life Tables 1990-92
- Marginal tax rate - 40 percent
- Annual salary increase - 4 percent
- Inflation (per annum) - 3 percent
- Rate of interest (before tax) 6 2/3 percent (i.e. 4 percent after tax)

If an individual wishes to replace 30 percent of final income after tax such that retirement income will increase with the rate of inflation post-retirement and, if one uses ordinary savings vehicles (not registered), the following table indicates the percentage of salary that must be set aside each year to meet the 30 percent target.

Table 3.6

Required Percentage of Salary that must be Saved to Achieve 70% Integrated Replacement Ratio

	Age At Which Saving Starts	Age at retirement 60	65
Men	25	15.0	10.8
	35	21.0	14.5
	45	35.0	21.7
Women	25	18.2	13.5
	35	25.5	18.0
	45	42.5	26.9

Source: Author's Calculations

These figures show how expensive true retirement income security can be, especially if one starts late in life, and especially for women because of their life expectancy. In fact, for many persons, the ability to retire on 70 percent of final

salary would result in a significant increase in *disposable* income since one could then stop saving.

One should also note how much extra it costs to retire at age 60 instead of at age 65. There are three reasons for these cost differentials:

i) fewer total contributions are made,

ii) because benefits are payable earlier, less interest income is earned, and

iii) because benefits are payable earlier, income will be paid out longer.

Hence, one should be realistic in assessing the ability to afford early retirement. However, the government has provided special tax concessions which include employer-sponsored Registered Pension Plans (RPPs) and individual Registered Retirement Savings Plans (RRSPs) to assist in attaining retirement income security (see Section 3.4.4 for details).

Money contributed to an RPP is tax deductible (within limits) at the time of contribution. Hence, for a worker in the above example, a $1 contribution to an RPP only costs $.60 directly. Also, the investment income earned in a registered plan accrues tax free until taken as income. Hence, in the example above, one earns the full 6 2/3 percent rate of return (as opposed to 4 percent after tax) during the life of the plan.

On the other hand, income from an RPP is taxable at the time it is taken out post-retirement which may be at rates either lower or higher than before retirement if the Senior Benefit clawback is included in the analysis (see Section 5.2). Table 3.7 assumes the same 40 percent marginal tax rate after retirement as before, which may be optimistic given the Seniors Benefit clawback. Because of the tax advantages of registered funds, the required percentage of salary shown in Table 3.6 reduces substantially, if one saves through Registered Plans.

Table 3.7

Required Percentage of Salary that must be Saved Using Registered Retirement Plans to Achieve 70% Integrated Replacement Ratio

	Age At Which Saving Starts	Age at retirement 60	65
Men	25	8.9	6.4
	35	13.6	9.4
	45	24.7	15.3
Women	25	10.3	7.6
	35	15.7	11.1
	45	28.5	18.1

Source: Author's Calculations

Comparison of Tables 3.6 and 3.7 illustrates that, depending on gender and the age at which savings start, the required savings rate is almost cut in half by using registered plans. It still costs more to retire at age 60 than at age 65 and to provide income for a woman than for a man. Similar realities are portrayed in the annuity quotes provided in Table 3.8 These are life annuities that could be purchased with a $50,000 lump sum at the given age at purchase.

Table 3.8

Monthly Annuity Income for Life

	Male		**Female**	
Age at Purchase	**60**	**65**	**60**	**65**
	$378	$418	$348	$378

Source: Canadian Annuity Exchange (Cannex)

Virtually all employer-sponsored plans are registered, and much of the target replacement ratio will be satisfied in this way. To the extent that it is not, one must assume responsibility for the balance. Obviously it is advantageous to do so through RRSPs.

3.4.3 RRSPs - Background and History

RRSPs started under amendments to the Income Tax Act introduced in 1957. The original legislation provided tax incentives for saving in an RRSP as long as the individual then purchased a **life annuity** by age 71 (now age 69). One could take the proceeds as a lump sum, but this sum would all be taxable income in one year and would thus incur very high tax.

Limits on the amount of money that could be placed in an RRSP have been increased regularly. The intent of RRSPs is to level one's lifetime income. One defers income (and income tax) during the working years and then takes that income (and pays tax) during retirement.

Workers can place their contributions (within limits) into a spousal RRSP. This is often advantageous if the spouse is not earning income or pension credits, since the spouse's income tax bracket after retirement would frequently be lower than that of the retired worker. It also provides an incentive to provide retirement income security to the dependent spouse.

3.4.4 Tax Reform

At the same time as it introduced pension reform, the federal government also introduced proposals for tax reform relevant to RPPs and RRSPs. Through tax reform, the government was attempting to correct three perceived shortcomings in the existing system:

(i) There was unequal access to tax assistance for workers in different employment situations because the tax incentives differed between employees and self-employed and between defined benefit pension plans and defined contribution arrangements.

(ii) There was rigidity in the timing of retirement savings. Generally contributions had to be made in particular years or the tax advantage was lost. That is, if one did not take advantage of a tax-deductible contribution in a particular year, that opportunity was forever gone.

(iii) Dollar limits on tax-deductible contributions and on tax-assisted benefits were not adjusted for inflation. In particular, the amounts that could be contributed to defined contribution plans had fallen behind relative to average wages.

In short, prior to tax reform there were tax incentives that favoured the use of defined benefit plans for employer-sponsored pensions over defined contribution (including RRSPs) arrangements. Given the previously noted advantages of defined benefit plans, this may have been fortunate and intentional. Nevertheless, the federal government decided that all forms of private pension schemes (including RRSPs) should operate on a 'level playing field' when it comes to tax incentives.

In 1997, the maximum pension the federal government allows in a registered defined benefit plan is 2 percent of ones' best earnings for each year of employment or $1,722.22 per year of employment, whichever is less. A person who works 35 years for the same employer and qualifies for the maximum benefit each year would get a pension of $60,278 a year on retirement. To qualify for this, however, a person would need best earnings of at least $86,111 a year. These limits have been frozen until 2003.

For a defined contribution plan, the 1997 maximum contribution that is allowed in a registered plan is $13,500 or 18 percent of remuneration, whichever is less. These amounts are also frozen until 2003.

Contributions to an RRSP were also limited to the lesser of 18 percent of earned income and the dollar limits shown below, reduced by the Pension Adjustment earned in any RPP in the previous year.

Table 3.9

Dollar Limits for Registered Savings Contributions

Year	Defined Contribution Pension Plan	RRSPs
1991	$12,500	$11,500
1992	$13,500	$12,500
1993	$14,500	$13,500
1994	$15,500	$14,500
1995	$15,500	$15,500

Source: Coward, 1991, 143

After 1996, the $15,500 limit was to have been indexed to the rise in the average industrial wage so as to retain its real value. However, successive governments deferred these increased contribution limits taking effect. In his 1995 budget, Paul Martin scaled back the contribution level to $13,500 where it will remain frozen until the end of 2003. It is now scheduled to rise to $14,500 in 2004 and then to $15,500 in 2005--a whole decade later than originally intended. This is extremely important. Even if inflation only rises by 2 percent per annum, the decade deferral in the $15,500 limit effectively decreases the ability to save for retirement by 22 percent in real terms.

In 1976, when the upper limit on tax assistance for retirement savings was first established, the limit was about five times the average industrial wage (AIW). Tax reform in 1991 set the new limit at two and a half times the AIW, and the 1996 deferral of the extension of these limits effectively means that the eventual cut-off will be twice the AIW (Mercer, 1996b).

If one participates in an employer-sponsored plan, the 18 percent/$15,500 limit is reduced by a factor called a 'pension adjustment', which is the 'value' of the contribution to the employer-sponsored pension plan. If that plan is a defined contribution plan, it is the total contribution made (employer plus employee). If it is a defined benefit plan, it is nine times the amount of increased benefit in that year. For example, if the benefit is 1.5 percent per year of service, the pension

adjustment is 13.5 percent (9 times 1.5) and the maximum allowable contribution to an RRSP is 4.5 percent of earnings.

Also, under tax reform, one can no longer roll pension income tax-free into an RRSP. This includes OAS, C/QPP benefits, as well as other pension income. This is consistent with the 'deferred wage concept' of tax-encouraged pension plan contributions since the three sources of income listed above do not cease until death. In addition, under recent tax reform, if one cannot contribute the entire allowable amount to an RRSP, any 'deficiency' can be carried forward indefinitely. One is still advised to contribute as early as possible, however, to earn the maximum possible tax-sheltered interest.

There are public policy issues around the level of tax incentives provided to private pension plans. Contributions to registered plans (both employee and employer are tax deductible, and any investment earnings are not taxed until taken as income). Muszynski (1996, 121) goes so far as to ask why they should be called 'private' plans when the level of public involvement by way of tax subsidization is so significant.

3.4.5 Registered Pay-out Options

The RRSP may be matured or annuitized at any time, except that the annuitant payments must commence or the funds must be transferred to an RRIF (explained shortly) prior to the end of the year in which the taxpayer's 69th birthday is reached (71st birthday before 1996).

Until 1978, the only form of retirement income that one could purchase from an RRSP was an annuity payable for life. This annuity could have a guaranteed period and could be designed to continue payments to the surviving

spouse (last survivor annuity). The more guarantees included, the lower the initial income one receives per unit of RRSP fund.

In 1978, the government introduced two more maturity options. The first was an annuity-certain option payable to age 90 whether the annuitant lives or not, and the second was a special payout scheme--the Registered Retirement Income Fund (RRIF). It is not the purpose of this thesis to describe these options in detail, but the elderly should investigate these options before committing their life savings (see Turner 1996).

The rules governing RRIFs have been liberalized over the years (especially in 1986) so that one can tailor one's income to needs (as long as one withdraws a minimum amount each year and pays income tax on the amount withdrawn). For example, should one wish to retire at age 60, but cannot receive a company pension until age 65, one can take heavier withdrawals from the RRIF for five years and then cut back. Also, one can withdraw larger amounts for emergencies. There is no problem, with an RRIF, of being forced to buy an annuity when interest rates are low. It is even possible to have more than one RRIF.

RRSPs are a form of a defined contribution pension plan. One makes contributions which grow with earned investment income. As one approaches age 69, one buys an annuity or a pay-out RRIF. As with other defined contribution pension plans, the interest rate prevailing at the time of the purchase of the retirement income annuity will vary with the prevailing interest rates. Hence, one is well-advised not to wait until age 69 to buy a life annuity, in case interest rates decrease just when one is forced to buy. The following table shows the effect that interest rates have on annuity values. These monthly annuity income figures assume that a $50,000 fund is being used at age 65 to buy a life annuity, guaranteed for 15 years for a male.

Table 3.10

Annuity Incomes
At Various Interest Rates

Interest Rate	Monthly Annuity Income
6%	$363.91
8%	420.85
9%	450.04
10%	479.99
11%	510.71

Source: Polson and Brett, 1993, 92

Many Canadians have locked-in RRSPs, or locked-in retirement accounts from a pension plan. These cannot be cashed-out as can a regular RRSP. Until recently the only retirement income option with a locked-in RRSP was the purchase of a lifetime annuity. Now it is possible to purchase a Life Income Fund (LIF). It is also possible to purchase a LIF with any other pension funds.

The LIF is essentially a RRIF with some restrictions. First, one must be at least 55 years old to set up a LIF (there is no minimum age for a RRIF). Also unlike the RRIF, there is a maximum income that can be paid out in any one year (like the RRIF, there is also a minimum amount that must be withdrawn each year). Finally, by age 80, any LIF must be converted to an annuity in all provinces except Alberta and Saskatchewan. This must be a joint-and-last-survivor annuity for those who are married, unless the spouse waives the right.

3.4.6 The Importance Of RPPs and RRSPs To The Economy

Table 3.11 shows the contributions made to RRSPs by Canadian taxpayers in 1993.

Table 3.11

Contributions to RRSPs by Income Class
Ages 25-64
1993

Income Class	Number of Contributors	Percentage of Those with Taxable Returns	Average Contribution to RRSP
Under $10,000	132,063	23	$1,115
$10-19,999	531,582	23	$1,661
$20-29,999	885,262	35	$2,058
$30-39,999	973,751	48	$2,621
$40-49,999	759,907	57	$3,208
$50,000+	1,358,792	69	$5,155
Total	4,641,357	43	$3,203

Source: National Council of Welfare, 1996a, 43

As can be seen, RRSPs are used more by the wealthy. There are several reasons for this. First, the poor do not have the disposable income to direct toward RRSPs. Second, the tax incentives that encourage the use of RRSPs are of little or no value to the poor, but are of increasing value as one's income rises. Third, those receiving the federal GIS/SA or Provincial supplements will have any RRSP income 'taxed back' at marginal rates of 50 to 100 percent (see Sections 3.2.3/3.2.4). This will be even more important under the new Seniors Benefit because the Seniors Benefit clawback extends upward until family income exceeds $78,000, and creates marginal tax rates (clawback plus taxation) of 47 to 77 percent (see Section 5.2). Finally, government-sponsored pension plans (see Table 3.2) will replace more than one hundred percent of pre-retirement net income for the poor, but less than twenty-five percent of net income for the relatively wealthy. Thus, RRSPs are not designed to provide a minimum income security floor, but mainly provide security in maintaining one's standard of living.

RRSP savings provide an important source of investable funds for the economy. In 1969, fewer than 206,000 individuals contributed an average of $867 per person to RRSPs. By 1983, 2.3 million Canadians (or 23 percent of the paid

workforce) contributed to RRSPs, and their average annual contribution was $2,145 (Task Force on Inflation Protection 1988, 22). The 1991 legislative changes resulted in extraordinary growth in contributions. While the total assessed income of all taxfilers increased just 11 percent from 1990 to 1993, RRSP contributions grew 70 percent (Statistics Canada, 1996b, 80). In 1993, 5.1 million Canadians (or 44 percent of the paid workforce) contributed to RRSPs, and their average contribution was $3,741.

Overall, almost one-half (47 percent) of men saved through RRSPs or RPPs in each of the years 1991 to 1993 (66 percent did in at least one of these years). For women, the comparable proportions were 36 and 53 percent, probably because 43 percent of the women had incomes of less than $10,000 compared to 24 percent of the men. Among taxfilers with incomes of $10,000 or more, women are more likely than men to participate in one or both of an RPP or RRSP (*ibid*, 128).

However, Canadians employed in the private sector are not saving enough through their pension plans and RRSPs to guarantee retirement income security. As was mentioned in Section 3.3.3, a recent Canadian Institute of Actuaries Task Force (1995b) found that while most public sector employees were making adequate provision for retirement through the use of registered plans, only about one-half of the workers in the private sector (between ages 25 and 65 and with incomes between $20,000 and $80,000) were saving enough for retirement. This is of particular concern when one understands that unused RRSP contribution room can now be carried forward indefinitely and that there presently exists a $179 billion pool of unused contributions (Statistics Canada, 1996b).

Total net annual RRSP contributions have risen from $27.5 million in 1960, to $3.7 billion in 1980 and to $19.2 billion in 1993 even though this represented only 15 percent of what could have been invested and only 11 percent of tax-filers made maximum contributions (*ibid*, 13). RRSPs account for 8 percent of total

savings, up from less than 1 percent in 1970 (Task Force on Inflation Protection Vol 2. 1988, 47). By 1993, there were $177.3 billion invested in RRSPs in total (Statistics Canada, 1996b, 25). Excluded from this amount are an estimated $25 to $30 billion held in self-directed RRSPs, but not deposited with financial institutions (*ibid,* 82). These funds represent an important source of risk capital for the economy (or they could if the national debt were not $600 billion).

Not all of this money is being used to provide retirement income security, however. Many Canadians cash-out their RRSP accounts prior to retiring. For example, in 1993, $4.4 billion were withdrawn from RRSPs, or 23 percent of the total amount deposited. Almost 80 percent of this amount was withdrawn by persons under 65 years of age (*ibid,* 83). Questions arise as to whether funds that are not used for retirement income security should receive the tax advantages of an RRSP. This issue has not been discussed to any great extent, however, and no legislation has ever been proposed to inhibit early withdrawals. In it interesting to note that in the United States, registered (referred to as 'qualified') funds withdrawn prior to age 59 1/2 are subject to a tax penalty equal to 10 percent of the amount received (with certain exceptions such as disability).

The overall importance of RPPs and RRSPs to the Canadian economy is illustrated in Table 3.12 by the value of their accumulated assets.

Table 3.12

Number of Contributors, Contributions ($B), and Accumulated Assets: C/QPP; RPPs; RRSPs

Plan	Number of Contributors (,000)	Contributions ($B)	Accumulated Assets ($B)
C/QPP	12,912	11.9	56.1
RPPs	5,215	20.2	424.4
RRSPs	5,132	35.3	177.3

Source: Statistics Canada 1996b, 22-25.

These assets total $658 billion. Except for the assets of the CPP ($41.7 billion), this money ($616 billion) is available to be invested in Canadian ventures. One must remember, however, that in March 31, 1994, the federal debt totaled $508 billion, which meant that net national savings were small indeed. If one also considers that 13 percent of all trusteed pension funds are invested outside of Canada, there is almost a perfect match between total Canadian retirement savings and federal debt (*ibid*, 70). In short, on a national basis, nothing is left for risk capital.

3.4.7 Public Policy Issues

One of the reasons for the deferral in increasing the tax deductible RRSP contribution limits, and the ability to save for retirement, is the government's perception that the tax incentives provided to RPPs and RRSPs cost the government a lot of money. Just the tax deductibility of contributions is worth $473 per $1000 contribution for someone in the highest income bracket and $269 to a taxpayer in the lowest bracket (National Council of Welfare, 1996a, 43). In a 1994 study (Canada, 1994), the Ministry of Finance estimated that retirement savings systems cost the federal government $14.9 billion in 1991 ($9.4B for RPPs and $5.5B for RRSPs), easily the largest federal 'tax expenditure'. This is because registered contributions are tax deductible and investment income in a registered plan is not taxed until taken as income (most likely after retirement).

The Canadian Institute of Actuaries (1995b, 44-56) disputed these figures. The CIA argued that the Ministry of Finance ignored behavioural response in their analysis. That is, were there no tax incentives for saving for retirement, not as much money would go into registered plans. Adjusting for behavioural response, and some other technical factors, the CIA estimated that the annual cost of the

retirement savings system to the federal government, in taxes deferred, is between $4.0 and $5.3 billion. Even this estimate ignores the favourable impact that retirement savings plans have on the cost of income-tested government programs (e.g. GIS), and the contribution that retirement savings plans make to capital investment in the Canadian economy.

It has been suggested that perhaps these tax deductions should become tax credits, as are given for contributions to the C/QPP. The National Council of Welfare (1996a, 44) estimates that Ottawa would gain about $1.4 billion dollars in tax revenues each year if RRSP tax deductions became tax credits. It is difficult to understand, however, why Canadians would use RRSPs to save for retirement if they got a 17 percent tax credit going in to the plan, but paid full marginal tax rates (and clawbacks for GIS and the Seniors Benefit) when the money came out.

Instead of looking at the tax incentives for RPPs and RRSPs as tax expenditures, the government could view the monies accumulating in these funds as the perfect deferred tax asset. This is true because, as the baby boom retires, they will take their registered income out of their retirement plans, and pay income tax thereon, just when the government will need the money to pay for the Seniors Benefit and health care for the now-aged baby boom.

3.5 Conclusion

This chapter has reviewed sources of retirement income security. OAS/GIS (to become the Seniors Benefit) provide one criterion of economic security, namely a basic floor of protection. The other requirement of economic security is the maintenance of a consistent standard of living. This is provided by the C/QPP, employer-sponsored plans and individual savings.

These schemes are not independent. Rather they are interconnected and intertwined, thus amendments to one part of the system affect all other parts of the system. This will be the focus of later chapters that review recent reforms to the government-sponsored schemes.

4. HEALTH CARE AND ECONOMIC SECURITY

4.1 Introduction

Previous chapters of this thesis have laid out the sources of retirement income security for Canadians and introduced related public policy issues. The remaining chapters will examine in detail public policy issues facing these retirement income security schemes. They will also look in detail at the impact that population aging will have with respect to the continued viability of these various systems.

As will be seen in this chapter, population aging will have its major impact on two government-sponsored economic security systems, namely, retirement income security and health care. Analysis has shown that the impact on other support systems (e.g. education) is expected to be smaller. Both retirement income security and health care provide economic security to Canadians: retirement income by providing a source of funds for retirement, and health care by removing a source of expense risk to Canadians. As was stated in Chapter 2, it has been estimated that the income of elderly Canadians would have to be as much as one-third higher if they had to pay for the various services covered under public health insurance (National Council of Welfare 1984, 62).

On the other hand, if any segment of government spending rises faster than the growth in tax revenues, it will create competition among all programs for scarce government resources. Thus, for example, if health care costs were to rise faster than government revenues, they could threaten other security systems such as OAS and GIS (or the Seniors Benefit which will replace them).

This chapter will review the evolution of the health care system in Canada and historic health care costs as a percentage of Gross Domestic Product. It will

also show how an aging population, of and by itself, will create cost escalation pressures on the health care system. This chapter will not look at any issues that could be called 'micro-management' of the Canadian health care system. Many writers have stated that the problem with the Canadian health care system stems from inefficiencies, inappropriate services, and poor management, not lack of funding.

For example, the National Forum on Health (1997, Volume II, Section II p5), states that:

> ...without exception, all reviews have concluded that the health care system needs better management, not more money.

For readers interested in these aspects, many references are available including: The National Council of Welfare (1990), Evans (1993), Blomqvist (1994), Rachlis and Kirshner (1994), Angus et al. (1995), Barer (1995), Deber and Williams (1995), Barer, Lomas and Sanmartin (1996), and The National Forum on Health (1997). Issues around the efficiency and efficacy of today's health care system will not be explored in this chapter.

4.2 The History of Health Care in Canada

In Canada, the responsibility for health care falls primarily under provincial jurisdiction. Hence, it took time, and political ingenuity, for a national health care system to evolve. Even so, there are still significant provincial variations in both benefits and financing.

The first federal intervention was the *National Health Grants Programme* of 1948 which was intended to overcome perceived shortages of health resources after

the depression and war. A universal coverage hospital insurance plan already existed in Saskatchewan (1946), followed by British Columbia (1949). These provincial schemes appeared to result in both greater equity of access to services and better control of costs than the system in other provinces which were made up of industry pre-payment plans combined with government subsidies to assist persons unable to pay.

In 1958, the federal government introduced the *Hospital Insurance and Diagnostic Services Act* whereby it would pay approximately 50 percent of the cost of Provincial Health Care Plans that qualified under defined criteria. By 1961, all provinces and territories had joined the national programme which focused on pre-payment of hospital in-patient care and diagnostic services. This was followed by the *Medical Care Act* (1968) which added universal coverage of physician services. All provinces and territories joined the medical care arrangements by 1972.

Because of a concern that there was no incentive for the provinces to control costs, new funding arrangements were legislated in 1977 (*Established Programmes Financing Act, or EPF*). Instead of the federal government paying approximately 50 percent of the cost, payments from the federal government became composed of an increased transfer of tax revenues and special cash grants. As a result of this Act, federal contributions, in general, would rise with GDP. This placed the responsibility for controlling health care costs, beyond the rise in GDP, solely on the provinces. Along with the EPF arrangement, the federal government granted conditional support for nursing home care, residential care for adults, health aspects of home care, and ambulatory health care services. The motivation for this federal intervention was not just the goal of establishing a national health care system.

> The money was provided, not because the federal government was interested in creating national standards for extended health care programmes but to meet provincial criticisms that federal funding encouraged provinces to adopt high cost solutions to health and aging problems, specifically by utilizing hospitals rather than nursing homes (Brown, M. 1987, 31).

In the early 1980s, the federal government became concerned that certain of the original basic standards, such as universal access, were being eroded. In particular, it objected to user fees being charged by hospitals and the extra billing by some doctors that was allowed by some provinces. Their answer was the *Canada Health Act* (1984) which imposed financial penalties on provinces that did not allow reasonable access to health services without financial or other barriers. The conditions for federal assistance, as established in the *Canada Health Act*, are:

1. Public Administration: The program must be administered on a non-profit basis by a public authority, appointed by and accountable to the provincial government.
2. Comprehensiveness: The program must cover all necessary hospital and medical services.
3. Universality: All eligible residents must be covered for insured health services.
4. Portability: Coverage must be portable from one province to another. Insured health services must be available to Canadians temporarily out of their own province.
5. Accessibility: Insured services must be provided on uniform terms and conditions for all residents. Reasonable access to insured services must not be precluded or impeded, either directly or indirectly, by charges or other mechanisms. Financial impediments, such as deductibles, for essential medical services are viewed as a breach of the criteria at the federal level and the funding reduction can be equal to the value of the deductible.

By the late 1980s, all provinces had passed legislation complying with the *Canada Health Act*.

In the 1990s, the federal government, in an effort to lower the federal deficit, made several cuts to its transfer payments that support provincial health care. Provinces responded by scaling down their health care programs, by closing some hospitals (and beds in others) and by shifting some costs to employer health care plans and to individuals. This was done in a manner that did not compromise federal funding under the *Canada Health Act.*

The immediate impact of these cutbacks can be seen in Figure 4.1. While total health expenditures exceeded 10 percent of GDP in 1992 and 1993, these expenditures have actually fallen since then and represented 9.5 percent of GDP in 1995 (National Forum on Health 1997, 12).

Each province and territory has its own method of paying its part of the costs. Two provinces--Alberta and British Columbia--require premium payments by participants as part of their funding. In Alberta, residents aged 65 and over (and their dependants) do not pay premiums. These two provinces subsidize low income residents. Ontario, Quebec, and Manitoba use a payroll tax, payable by employers, to partly fund their health care schemes. All other provinces finance their plans through general tax revenues.

Provincial variation in benefits exists. For example, prescription drug plans are found in all provinces and territories except Prince Edward Island; dental-care plans for the elderly exist in Alberta and the Yukon; hearing aids are a covered benefit in British Columbia, Saskatchewan, and Alberta. In the area of long-term care, several provinces have insured nursing home care while others have not. Other provincial variations exist (see Hall, 1996, 251-253).

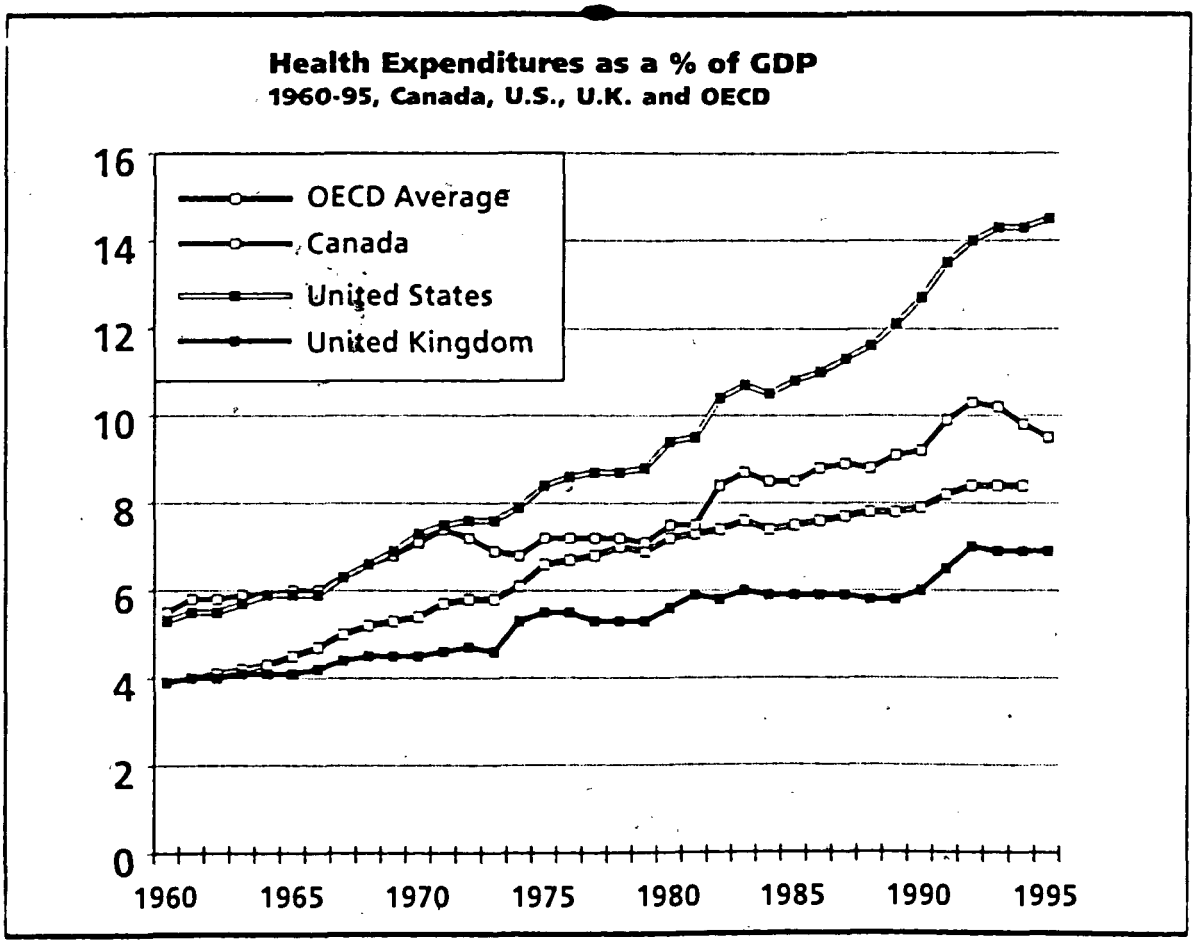
The introduction of government funding caused health care expenditures to rise.

> Not surprisingly, the introduction of comprehensive public insurance in Canada between 1956 and 1971 increased expenditures on hospital and medical services significantly. Measured in terms of 1971 dollars per capita, expenditures increased from $1,141 in 1956 to $4,403 in 1971, representing an average growth rate of 9.42 percent. While over half of this growth was financed rather painlessly through growth in real GNP, it nevertheless also represented a trend toward increasing tax burdens for Canadians (Brown, M. 1987, 32).

However, since 1971, with government as the primary payer, health spending in Canada has not risen as rapidly as in the United States, and has moved more in line with other OECD countries as illustrated in Figure 4.1.

Figure 4.1

Health Expenditures as a Percent of GDP
1960-95
Canada, U.S., U.K. and OECD



Source: National Forum on Health, Synthesis Report, 1997, 12.

4.3 Shifting Demographics and its Impact on Health Care

The fact that the Canadian population is aging, and at an increasingly rapid pace, was documented in Chapter 2. As was explained, Canada now has a relatively young population, especially among developed nations, not even ranking among the oldest twenty nations of the world. However, over the next thirty years, as the post-war baby boom ages, Canada will see a rapid increase in the number of people aged 65 and over. In fact, it will experience the fastest rate of increase among the developed nations (see Table 2.3). The impact of these shifting demographics on the Canadian health care system will be reviewed in the next two sections: first the impact on the historic supply of health care; and then the impact on future demand for health care.

4.3.1 Impact on the Supply of Health Care Resources

As outlined in section 4.2, the present Canadian health care system was designed between 1958 and 1972. One of the critical building blocks of that evolution was the report of Justice Hall in 1964 (Canada, 1965). One must remember that Hall's analysis was done at the end of what was a long and continuous period of high fertility. Many of Hall's conclusions were based on the assumption that high birth rates would continue into the future. As a result, Hall foresaw a shortage of health care resources in Canada. Based on then existing

population forecasts and an assumption that there was some 'unmet need' in health care which public health insurance would reveal, he set a goal of a population-to-physician ratio of 857, and concluded that Canada needed more medical schools and more doctors for the future (Evans, 1984).

Soon after the government put Hall's plans into motion, Canada experienced the end of the baby boom and the beginning of the baby bust. The result of the push for more health resources was an average annual growth rate in physician supply between 1968 and 1975 that exceeded population growth by 3.4 percent per annum (Lomas and Barer, 1986, 251) and a resultant ratio of population to physicians of 452 in 1990 (see BDO Dunwoody, 1994). As Lomas and Barer, (1986, 254) state:

> ...the physician supply was increased in anticipation of an increased demand that never occurred. ... Thus, by the beginning of the 1970s it was clear that an already physician-dominated health care system had become over-burdened with them, with significant effects on total health care expenditures. An appropriate policy response to this situation was not, however, as obvious.

Fulton (1993, 23) claims that Hall's projections would have provided health care to a population of 37 million Canadians in 1993, whereas, by 1993 our population was only 27 million, a 37 percent difference.

According to the National Council of Welfare (1990, 34), there could be a surplus of 5,982 doctors in Canada by the year 2000, given rates of growth in the population and the profession. They estimate that, with the control that doctors have over many health care costs, this could mean well over $1 billion a year in excess billings, tests, and procedures.

If these estimates are true, or even only close to reality, then the recent 'cut-backs' in some provincial plans may only be returning the system to the levels originally deemed appropriate. However, as the National Council of Welfare (1990, foreword) notes:

> One of the unfortunate realities in the world of health is the wide gap between the opinions of the experts who study our health care system and the views of ordinary Canadians.
>
> The experts say we have more doctors than we need. The general public believes we have too few. The experts think we have enough hospital beds. The public wants more. The experts have their doubts about some of the latest medical technology. The public seems completely uncritical and wants all it can get immediately.
>
> More fundamentally, the experts believe that curative medicine is reaching its limits and that more substantial gains in health will come through preventing illness. The public still seems preoccupied with disease and clings to its faith in miracle cures.

But what of the future? Having misread the need for health care services once, is Canada in danger of missing the mark again because of the demands that an aging population might place on our health care system?

4.3.2 Impact on the Future Demand for Health Care

Could the rapid rate of increase in the Canadian elderly population mean a rapid rate of increase in the total cost of health care? If so, what impact might that have on other government-funded programs which will also be affected by this aging process?

The programs most affected by population aging are social security and health. As Denton and Spencer (1995, 180) state:

> **The results...suggest that health care, and more especially social security, will absorb increasingly large shares of GDP. Reduced shares for education can be expected, but that would provide only a partial offset.**

Given the statistics on the aging of the population as outlined in Chapter 2 (e.g. a 141 percent increase in the number of elderly in Canada by 2025), it is not surprising that health care costs are expected to rise, especially since the old/old proportion of the population is growing faster than the young/old (see Table 4.1), and it is the old/old who make the largest demand on the health care system (Barer et al., 1995, 201).

But as Barer et al. (*ibid*) point out, it is necessary to determine whether this demographic pressure should be categorized as an "avalanche" or a "glacier". Thus, one needs to determine whether Canada is approaching a crisis or an inexorable but manageable pressure on costs.

Table 2.4 (Denton and Spencer, 1996, 28-30) showed that the percent of the population aged 65 and over will double in the next 40 years, and that the percent of the population aged 85 and over will more than triple (See also, Fellegi, 1988 and Murphy and Wolfson, 1991).

Denton and Spencer used these demographics, and quinquennial sex-specific cost data, in an economic model to determine what impact population aging will have on government expenditures in three areas: health care, education, and social security. Health care here includes hospital, medical, preventive, and other health care costs, but only those paid for by the government. Similarly, education costs are only those paid by the government. Social security costs include the C/QPP, and the present OAS (including the GIS and the SA). Denton and Spencer (1995,

178) present the following impact of population aging on these government expenditures when per capita expenditures for each age-sex group are held constant (1986 = 100.0):

Table 4.1

Implied Expenditures (1986 = 100.0)
Health, Education and Social Security
1991 to 2041

Year	Health	Education	Social Security	Total
1991	110.1	99.6	116.9	105.7
2001	131.3	105.4	146.6	117.2
2011	150.4	107.9	180.3	127.1
2021	175.7	107.9	246.6	138.6
2031	201.1	110.0	314.0	149.4
2041	214.6	111.4	337.1	155.1
Growth Rate per annum*	1.4%	0.2%	2.2%	0.8%

Source: Denton and Spencer, 1995, 178
*Author's calculations.

Very similar projections were done by the Organization for Economic Cooperation and Development (OECD) in the late 1980s. It projected the rate of increase in public social expenditures between 1980 and 2040 (1980 was set equal to 100 in all countries) assuming constant real per capita expenditures by age within each programme. The results follow in Table 4.2.

Table 4.2

Growth of Public Social Expenditures in the OECD (1980 = 100)
1980 to 2040

Country	Health	Social Security	Total*
Australia	240	288	207
Britain	121	130	110
Canada	218	304	187
France	119	172	128
Germany	90	126	97
Italy	108	134	107
Japan	146	229	140
Sweden	117	123	109
United States	178	215	165

* Includes all social expenditures (e.g. education, unemployment)
Source: Walker, 1990, 384

Denton and Spencer go on to model 'expected' rates of economic growth (given a growing population) and then project the proportion of the future Gross National Product each of the above sectors can be expected to consume, assuming that productivity improvements will be equal across all sectors. Comparing Table 4.1 and 4.3, one can see, assuming growth in the economy, that the impact of population aging among the three sectors (health, education and social security) does not change. What does change is the apparent affordability of the systems if some growth in the economy is assumed. For example, in Table 4.1, health care costs more than double (from 110.1 to 214.6). However, if the economy grows, then the share of a growing economy that is consumed by health care only grows 48 percent in the same period.

Table 4.3

Projected Government Costs
Relative to the Productive Capacity of the Economy

Year	Health	Education	Social Security	Total
1991	6.2%	5.5%	4.6%	16.3%
2001	6.8	5.4	5.0	17.2
2011	7.4	5.1	5.6	18.1
2021	8.2	4.9	6.8	19.9
2031	8.9	4.8	8.0	21.7
2041	9.2	4.7	8.3	22.2
Ratio 2041/1991**	1.48	0.85*	1.80	1.36
Growth Rate per annum**	0.8%	--	1.2%	0.6%

Source: Denton and Spencer, 1995, 180

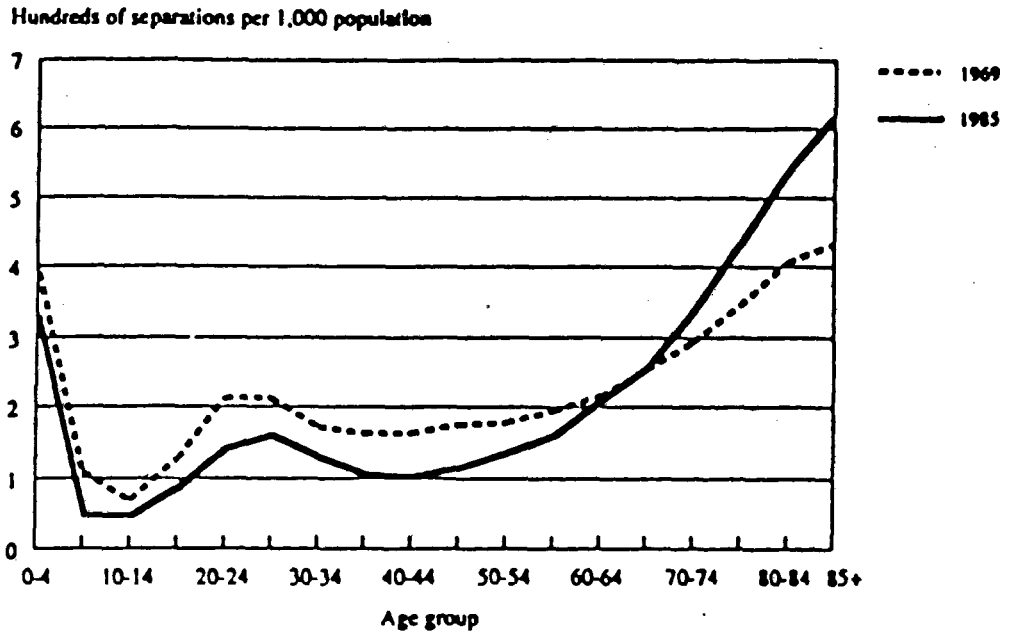
**This may be optimistic. Since 1966, the ratio of young people to working age people has dropped from 84 percent to 45 percent, but spending on education increased from 5.9 percent of GDP to 6.6 percent (Canadian Institute of Actuaries, 1995, 9-12). See also McDaniel, 1997, 10.*

*** Author's calculations*

The Barer et al. (1995) analysis is a useful addition to this discussion. First, it points out that people aged 65 and over made up 11.7 percent of the population in 1991/92, and 4.75 percent of the population were 75 and over. However, those 65 and over accounted for nearly 60 percent of hospital inpatient days, and 40 percent of all days were provided to those 75 and over (*ibid*, 201), as shown in Figures 4.2 and 4.3. They go on to say, however, that these statistics have more to do with increased utilization rates and increased levels of service provided than with the aging of the population.

Figure 4.2

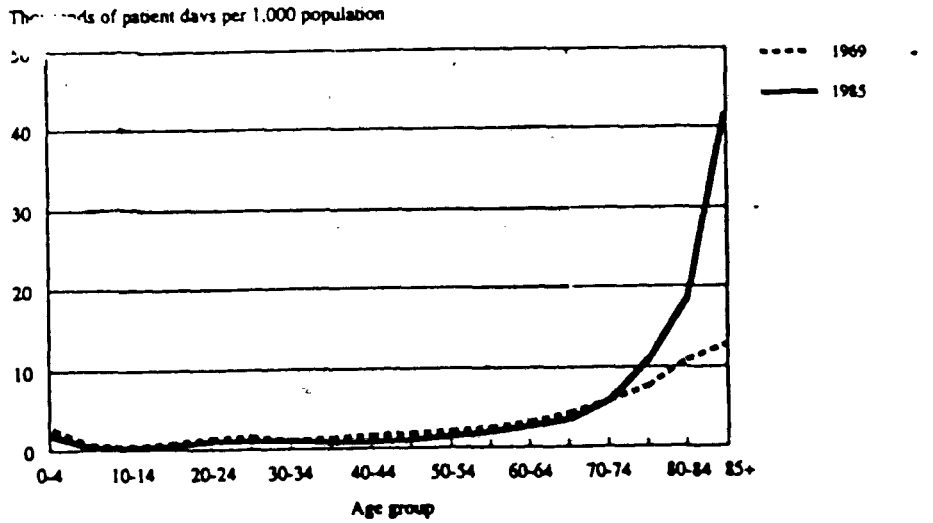
Total Hospital Separations



Source: Barer et al., 1995, 204

Figure 4.3

Total Days of Separations



Source: Barer et al., 1995, 204

In a paper completed for the OECD, Barer (1995, 22) notes that this is not just a Canadian problem.

> When one examines utilization and cost trends in individual countries, they show a common and unambiguous pattern. Care of the elderly absorbs a growing share of the health budget, but this is almost entirely a result of increases in the per capita rates of use (age-adjusted) by elderly people. Increases in their numbers, or their ages, have much smaller effects. Any claim that demographic forces have played a major role in the past escalation of health costs, in aggregate, is simply false.

Barer et al. (1995) conclude that if servicing levels for the elderly had remained at 1961 rates, the 60 percent 'use' statistic quoted above (use of inpatient days for those 65 and over) would only have been 40 percent. Finally, they argue that the health care system providers and players want us to believe that the cause is the aging of the population since that would mean that it is beyond their control. This is done to divert attention from the real question: "Why are elderly people getting so much more health care?"*(ibid,* 218).

Their arguments can be viewed as both good news and bad news. The good news is that the rising costs of health care in Canada to date have not been driven primarily by an aging population. Rather increased costs have occurred because of increased servicing of the elderly. Thus, if increased servicing is controlled, the rate of increase of health care utilization by the elderly could be softened. The projections of Denton and Spencer assume constant cost for each age and sex group. That is, Denton and Spencer take a health care cost vector, and apply it as a constant to an aging Canadian demographic profile to project health costs. If service levels can be decreased, projected health care costs can also be decreased (see also Lomas and Barer, 1996).

If the utilization rates continue to increase as over the past decade, however, the cost projections of Denton and Spencer will prove optimistic (see also Fellegi, 1988, 4.14 and Henripin, 1994, 92).

The Canadian Institute of Actuaries (1996a, 6/7) showed that if health care costs rise one percent per annum faster than earnings (as they did during the 1980s), the portion of GDP spent on health care will rise by more than five percentage points to 15 percent by 2020, representing a 50 percent increase in the share of GDP taken by health care. To maintain the current level of health care costs as a percentage of GDP (around 9.5 percent) during the next 25 years, the rate of growth of health care costs in Canada must be kept from 0.5 to 0.75 percent **below** the rate of growth in earnings.

Barer et al. (1995, 196) also answer the question as to whether the aging of the population and its impending impact on health care costs should be viewed as an avalanche or a glacier. Consistent with the findings of the Canadian Institute of Actuaries, they determine that the impact of population aging on total health care costs (in real terms, net of inflation), will be slow--about 1 percent per annum. They state (*ibid,* 195):

> Projections suggest that future effects, while not inconsequential, will appear gradually, and will be within the capacity of historical rates of economic growth. Yet these consistent research findings, like a light house lost in the fog, have remained obscured by the persistent claims that the aging of the population will bankrupt our health care systems.

These comments are consistent with the analysis by Denton and Spencer which showed that the increase in health care costs over the next fifty years, purely

because of population aging (i.e. service levels held constant) will average 1.4 percent per annum.

However, health care is not alone in creating upward pressure on government budgets. According to Denton and Spencer's projections, while the growth rate for health care is projected to be 1.4 percent per annum, the growth rate for social security is 2.2 percent per annum, or 57 percent higher. While social security is a much smaller government program than health care today (4.6 percent of GDP versus 6.2), it will grow more rapidly and almost equal health care in terms of projected government expenditures by 2041 (9.2 percent for health care versus 8.3 percent for social security).

If government revenues are finite, then how will these growing demands for public funding be met? What will public policy priorities be?

4.4 The Future Competition between Health Care and Retirement Income Security for Scarce Government Resources

It would be easy to assume that health care and retirement income security are two completely independent programs. That might, however, be a mistake in predicting the direction of future public policy.

A broader perspective of what it means to be healthy, beyond being free of disease, was first identified by the World Health Organization (WHO) with its 1940 definition of health as: "A state of complete physical, mental, and social well-being." In its Ottawa Charter, the WHO (1986) stated that health is a resource for

everyday life, not the objective of living. It identified the prerequisites for health as peace, shelter, education, food, income, stable ecosystem, sustainable resources, social justice and equity. These broader determinants of health (i.e. beyond traditional medical care) were restated in the National Forum on Health (1997, 9) which went on to say that previous actions on these broader determinants of health (versus traditional health care) led to most of the improvement in the health status of Canadians over the last century.

In *Achieving Health for All: A Framework for Health Promotion* (Canada, 1986), Jake Epp, Minister of National Health and Welfare, stated that the number one challenge for improved population health was the reduction of inequities in the health of low- versus high-income groups. The document states (*ibid*, 4):

> There is disturbing evidence which shows that despite Canada's superior health services system, people's health remains directly related to their economic status.

It is clear from the literature that there is a strong correlation between income and life expectancy. Studies that provide evidence of this are many and include: Kitagawa and Hauser (1973), Rosen and Taubman (1979), Caldwell and Diamond (1979), Hadley and Osei (1982), Duleep (1986), Rogers (1992), Sorlie et al. (1992), Wilkinson (1992), Feinstein (1993), and Menchik (1993). Research using Canadian data includes Wilkins et al. (1990), Wolfson et al. (1990), and Adam (1995).

Recent research has found evidence of a widening gap in the life expectancy of high and low income persons (Duleep, 1989, and Pappas et al., 1993). The effect of income appears to be stronger than many other variables that can have an impact

on life expectancy such as race and education level. Rogers (1992) and Menchik (1993) found that the effect of race on life expectancy was virtually eliminated when family income was accounted for. In addition, Menchik (1993) found no separate effect of education on life expectancy once income was taken into account.

Mustard and Frank (1994, 8) in their chapter on The Determinants of Health point out that:

> The most dramatic historical improvements in the health of the average individual have been associated with increased prosperity. The enhanced prosperity of regions leads to better living and working conditions.

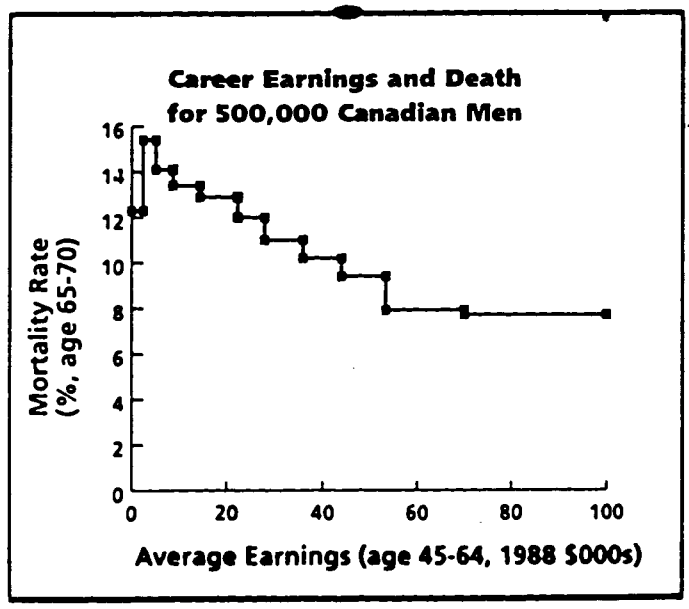
The National Forum on Health (1997, 15) states:

> We have known for some time that the better off people are in terms of income, social status, social networks, sense of control over their lives, self-esteem and education, the healthier they are likely to be. The wealthiest Canadians can expect to live four years longer than the poorest Canadians....Higher incomes are related to better health not only because wealthier people can buy adequate food, clothing, shelter and other necessities, but also because wealthier people have more choices and control over decisions in their lives. This sense of being in control is intrinsic to good health.

Two recent papers provide additional evidence of the correlation between income and life expectancy using Canadian data. Figure 4.4 shows results obtained by Wolfson et al. (1990) using a longitudinal study of Canadian male mortality by pre-retirement income.

Figure 4.4

Mortality Rates: Ages 65-70



Source: *ibid*, 5

As the authors note (*ibid*, 6):

> It is difficult to imagine a clearer and more unequivocal result. These data cover over half a million individuals, and for each individual data from almost a quarter century of their lives have been drawn....It should be emphasized that these are not cross-sectional results.

The authors determine that an hypothesis that poor health causes low economic status cannot be used to explain the results. They show that these mortality differentials remain for the sub-set of workers whose (real) earnings were generally increasing year after year prior to retirement (clearly not a group for whom illness harmed employment).

Wolfson et al.'s work correlates post-retirement mortality with pre-retirement income. This does not indicate, however, if post-retirement income correlates with post-retirement life expectancy.

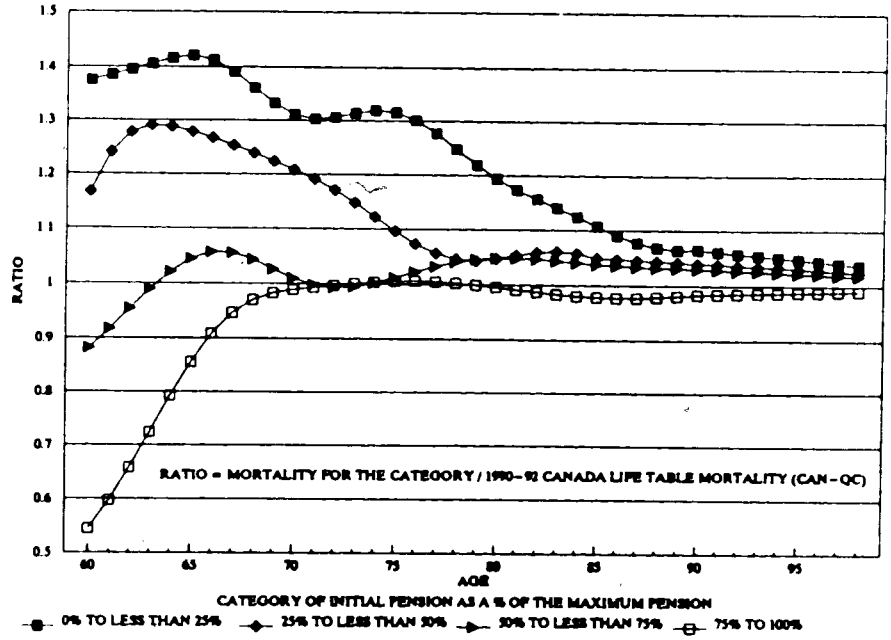
Studies have been done to determine the correlation between post-retirement income and mortality (e.g. Adam, 1995). One recent study analyzed post-retirement mortality rates as a function of the size of the CPP retirement benefit received. The CPP data base is an excellent resource for this analysis; for every

Canadian who has ever earned more than the Year's Basic Exemption (YBE), the CPP files contain a complete career earnings record for every year where earnings exceeded the YBE. Also, because one's retirement income ceases upon death, and because there is a CPP death benefit, the exact date of death of all CPP participants is available. Using the CPP records, one is thus able to compare age at death with the level of the retirement income being paid to determine if there is evidence of increased longevity with larger social security income.

The findings of one such study follow. Mortality is presented, by gender, for retirement income beneficiaries stratified into four groups: those receiving 0 to 25 percent of a full benefit, those receiving 25 to 50 percent of a full benefit, those receiving 50 to 75 percent of a full benefit, and those receiving 75 to 100 percent of a full benefit.

Figure 4.5

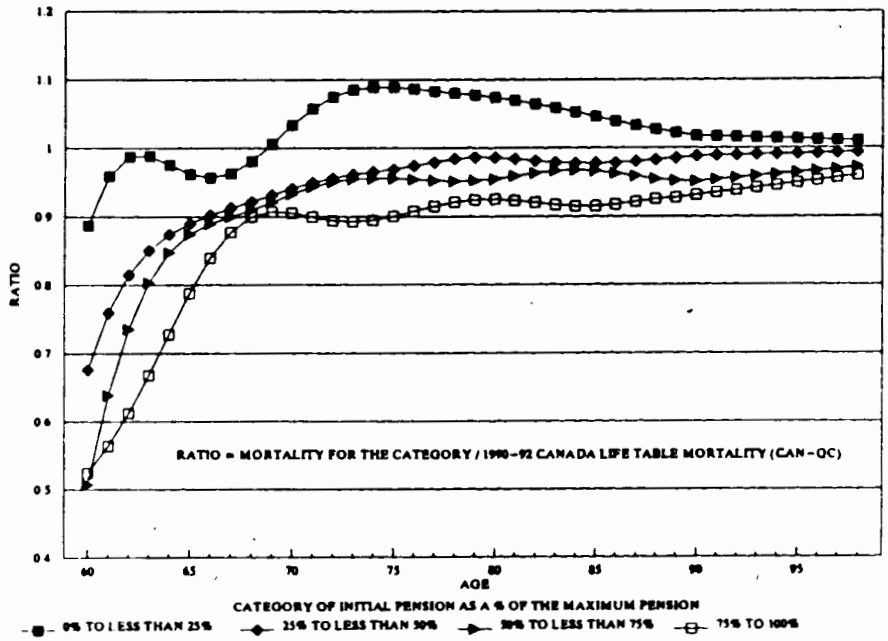
CPP Graduated Male Mortality
By Level of Retirement Pension



Source: Personal Memo from CPP Actuary

Figure 4.6

CPP Graduated Female Mortality
By Level of Retirement Pension



Source: Ibid.

Clearly, those with higher incomes have lower mortality, and, thus, enhanced life expectancies. There is more than a 50 percent differential in mortality rates (e.g. 0.027 versus 0.018) at the younger male ages, decreasing fairly regularly to nothing at the oldest ages (also found by Wolfson et al, 1990). However, a 50 percent differential in mortality rates does not mean a 50 percent differential in life expectancy. Life expectancy depends on survival. For example, if the mortality rates at a certain age are 0.018 and 0.027 respectively, there is a 50 percent differential. However, the survival rates at that age are 0.982 and 0.973 respectively, or less than a 1 percent differential. Based on the CPP analysis, for men, there is a maximum 15 percent differential in life expectancy at age 60 for the highest incomes (75-100 percent of full benefits) versus the lowest incomes (0-25 percent of full benefits).

The differentials are much smaller for women. However, for the period of study (1988-1994), CPP retirement income for women would be less indicative of family income, and women's true standard of living, than CPP retirement income for men since much of the indicated income for women was from survivors' benefits. Only when women achieve full life-time earnings records will statistics like those contained in Figure 4.6 be indicative of the true standard of living of women. Having said that, other studies have found smaller mortality differences by income levels for women than for men (Arber and Ginn, 1993). However, there is clearly a strong correlation between actual post-retirement income and mortality.

Mustard and Frank (1994, 8) also recognize the correlation between income disparity, and the health status of a country (see also Frank, 1995, Hertzman, 1996, and Canadian Public Health Association, 1997).

> In general there are correlations between a nation's GNP per capita income and health status measures such as life expectancy. But there are rather strong correlations between the degree to which national income is equitably distributed and health status (*ibid*, 13).

In that regard, Canada's retirement income security system represents an important sharing and redistribution of national income.

Mustard and Frank (1994, 9) go on to identify the potential competition between paying for traditional health care and other programs that may affect population health:

> It appears there could be a threshold for useful spending on the formal health care system. Beyond that threshold, overall population health may actually suffer not only because the care itself has marginal or dubious benefit, but also because less money is available to support health enhancing activities in the general social and economic policy spheres.

Of course, one of these competing social policies is the provision of retirement income security. Thus, it may well be argued, in the competition for scarce real resources, that not only is the provision of retirement income security a positive public policy goal in and of itself, but it is also good for public health (i.e. two benefits for the price of one).

What effect might this have on future public policy? There are several potential impacts that might be expected.

It is conceivable that the federal government could use the connection between income/income redistribution and health to defend further erosion of its direct funding of traditional medical care. The federal government's argument would be that because it sponsors and pays for our retirement income security programs (e.g. OAS/GIS and the Seniors Benefit), it is making its contribution toward good health in the process and should not be expected to contribute further by paying also for traditional health care. On the other hand, given the correlation between income/income redistribution and health, any future cutbacks of the federal retirement income security systems should be expected to have detrimental effects on population health.

This demonstrates a classic Canadian conflict between the federal and provincial governments. Health care is a provincial matter, and the federal government has effectively capped its future expenditures and handed the total risk (i.e. growth in costs) to the provinces. At the same time, however, the federal government believes it has the power to limit the ability of the provinces to control

their health care costs by passing such legislation as the *Canada Health Act* (1984), and *Bill C-91* (which extends patent protection for pharmaceuticals, and increases drug costs to the provinces).

Basic retirement income security benefits (i.e. OAS/GIS/Seniors Benefit) are almost totally a federal cost centre (there are some provincial supplements, but they are small in the total picture). While the CPP is self-sufficient (it runs entirely from CPP contributions), it is the federal Ministry of Finance that is the driving force behind proposed CPP reform. Thus, the federal government unilaterally faces the political heat of sharper rates of increase in social security costs.

Thus, as the population ages, there is potential for competition between government-sponsored retirement income security and health care for scarce government resources. Politically, this will play itself out as a classical battle between the federal and provincial governments as to who pays what share of the total economic security bill in Canada.

4.5 Conclusion

This chapter has indicated the potential for competition between retirement income security and health care for scarce government resources. One should not assume that more health care means better health. In a paper comparing international health outcomes and the level of health care spending, Babazono and Hillman (1994) found that total health care spending is not related to any health outcome tested. Instead, they determined that non-health care resources may be as

important to health outcomes and health care spending. Moreover, if available resources are limited, other investments may suffer if too much is spent on health care. An appropriate balance between health care spending with non-health care spending is crucial. Despite that, Canadians continue to behave as though medical care is the only determining factor of health status (National Forum on Health, 1997, Volume II, Sec. III, 9).

The Federal/Provincial/Territorial/ Advisory Committee (1994, 3) stated:

> There is mounting evidence that the contribution of medicine and health care is quite limited, and that spending more on health care will not result in further improvements in population health. On the other hand, there are strong and growing indications that other factors such as living and working conditions are crucially important for a healthy population.

One of those "other factors" is the provision of retirement income security. As argued above, as the population ages, the ability of the government to maintain today's level of funding for both health care and retirement income security will be under significant pressure. Traditional health care and retirement income security eat from the same finite economic pie. Canadians have already seen the intention of the federal government to decrease retirement income benefits in two ways: first by replacing OAS/GIS by the Seniors Benefit, and second by decreasing benefits paid by the C/QPP (to be discussed in detail in Chapter 5 and 6).

As Evans and Stoddart (1994, 55) have stated:

> ...the expansion of health care draws resources away from other uses that may also have health effects. In public budgets, for example, rising health care costs for the elderly draw funds that are then unavailable for increased pensions or other forms of social support; rising deficits may even lead to pension reductions. ...A society that spends so much on health care that it cannot or will not spend adequately on other health-enhancing activities may actually be reducing the health of its population.

Given the strong positive correlation between income levels and longevity, it can be argued that retirement income security is an important public health

resource. In fact, it has been argued that increased spending on traditional health care may not result in enhanced public health. Thus in any potential competition between retirement income security and traditional health care for scarce government resources, the provision of retirement income security might be given preference over traditional health care, since retirement income security might do as much to enhance population health as traditional health care while also providing retirement income security. It is anticipated that this will become an important public policy issue.

5. RECENT AMENDMENTS TO CANADA'S RETIREMENT INCOME SECURITY SYSTEM

5.1 Introduction

Within the last two years, the government (including the provincial governments in the case of amendments to the Canada Pension Plan) has announced two massive changes in the existing system of government-sponsored retirement income security. In March, 1996, the federal government announced that, effective in 2001, the Old Age Security and Guaranteed Income Supplement would cease to exist and would be replaced by the new Seniors Benefit.

Then, in February 1997, the federal government (with the agreement of eight provinces) announced significant changes to the Canada Pension Plan (which, it appears will be mirrored by amendments to the Quebec Pension Plan).

This chapter explores several of these amendments and discusses their potential impact on the overall economic security that Canadians can hope to realize as a result.

5.2 The Seniors Benefit

In its budget speech of March 6, 1996, the government announced the most fundamental amendments to social security in Canada since the introduction of the Canada/Quebec Pension Plans in 1966. It was announced that, in 2001, Old Age Security (OAS) and the Guaranteed Income Supplement (GIS) would effectively disappear, to be replaced by the new Seniors Benefit.

However, anyone 60 or over on December 31, 1995 (and his/her spouse, no matter what age) will have the choice between moving to the new system or maintaining their current OAS/GIS payments, whichever is more advantageous.

In his budget speech, Finance Minister Paul Martin stated that the new Seniors Benefit would guarantee that the support provided to seniors through the OAS and GIS would be sustainable and be there in the future (Canada, 1996b, 3). In fact, the government claims that:

> it is proposing a new Seniors Benefit to take effect in 2001 as part of its commitment to Canadians to ensure they have a secure and sustainable pension system now and in the future (*ibid*, 5).

This section explores the new Seniors Benefit in an attempt to ascertain the validity of the Finance Minister's claims.

Under the new Seniors Benefit, elderly persons who receive GIS today will get $120 a year more. 75 percent of single seniors and couples will receive the same or higher benefits. Another 16 percent would receive lower benefits. The remaining 9 percent--seniors with the highest incomes--would receive no benefits at all (National Council of Welfare, 1996b, 17).

The Seniors Benefit will be non-taxable. The present age credit (seniors earning up to $49,134 annually now qualify for a full or partial age credit) and pension income credits (the first $1000 of pension income is now tax free) disappear when the Seniors Benefit comes into effect. The new benefit is fully indexed to inflation (including the clawback thresholds). The clawback will be based on the combined income of spouses, as is the case for the GIS today (however, for the OAS clawback, individual income is used today).

Seniors with incomes above $45,000 will receive lower benefits than they would have under the present system. Single seniors with incomes above $51,721

and couples with incomes above $77,521 will receive no benefits at all. The following table illustrates the projected level of the Seniors Benefit in 2001.

Table 5.1

Projected Level of the Seniors Benefit
By Income Level, 2001

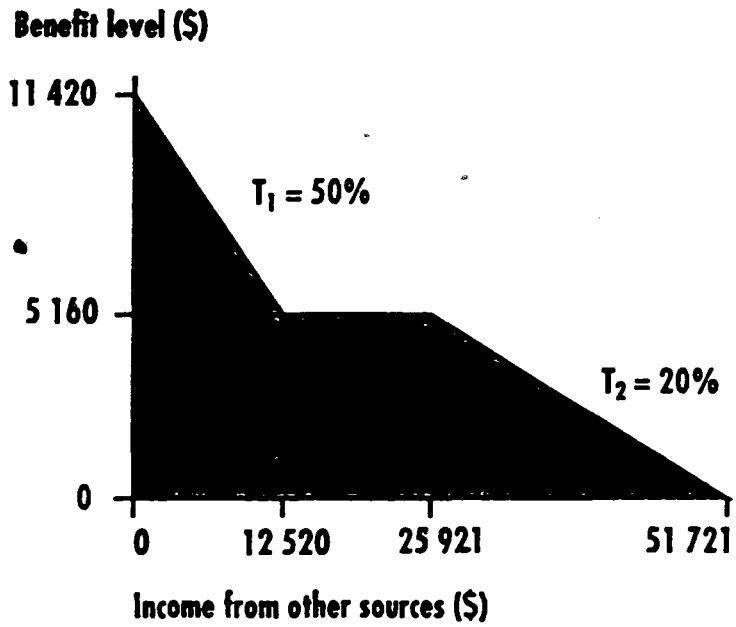
Income from other sources	Tax-Free Benefit	
	Single seniors	Elderly couples
0	11,420	18,440
5,000	8,920	15,940
10,000	6,420	13,440
15,000	5,160	10,940
20,000	5,160	10,320
25,000	5,160	10,320
30,000	4,350	9,510
35,000	3,350	8,510
40,000	2,350	7,510
45,000	1,350	6,510
50,000	350	5,510
60,000	0	3,510
70,000	0	1,510
80,000	0	0

Source: Canada, 1996b, 30

The maximum benefit is $11,420 ($18,440 for a couple), $120 more than the projected maximum value of OAS/GIS in 2001. The benefit is reduced by 50 cents for each dollar of income until it reaches $5,160 per senior which is equal to the level of current OAS payments adjusted for projected inflation to the year 2001. Beginning at an income level of $25,921, the benefit is reduced by 20 cents for each dollar of additional income. This is illustrated in Figure 5.1 (Quebec, 1996, 38).

Figure 5.1

Level of the Seniors Benefit for Single Seniors According to Income



Source: Quebec, 1996, 38

Seniors will have to apply for the benefit at age 65. The level of benefit will be automatically recalculated each year, based on the previous year's tax return. In the case of couples, the monthly payment will be split and sent separately to each spouse.

For couples where one spouse is under 65 and the other is over age 65, the older spouse will be eligible for the Seniors Benefit. The Spouse's Allowance (SA) will remain in place, so the younger spouse may be eligible for SA if he or she is between 60 and 64 and the couple has a low income.

In total, the new system is expected to save the federal government money (Canada, 1996b, 34), with projected savings of $0.2 billion in 2001, $2.1 billion in 2011, and $8.2 billion in 2030 (which is 10.7 percent of the program cost). Future

savings depend on how much faster wages rise than cost-of-living (the government assumes that wages will grow 1 percent per annum faster than benefits), because the Seniors Benefit is indexed to inflation, not wages. Thus, if wages rise faster than cost-of-living (the historic norm), more and more Canadians will have more and more of their Seniors Benefit clawed-back.

It would appear that the new Seniors Benefit was designed as a fairly straight forward combination of the present OAS/GIS systems, with a larger clawback than now in effect for the OAS. This is not without problems and issues.

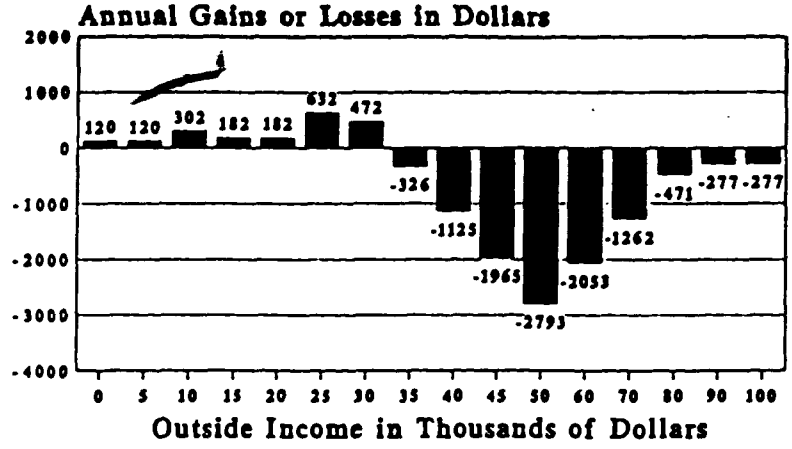
5.2.1 Issues with respect to the Seniors Benefit

The Seniors Benefit is to be clawed back in two tiers: 50 percent on a portion of annual family income up to approximately $16,000, and 20 percent for each dollar of additional income above $25,921 (This compares to the present OAS clawback threshold of $53,215 single, or $106,430 for a couple). There is no clawback between $16,000 and $25,921. The benefit is entirely clawed back for a single person earning $51,721 a year or for family income of $77,521 (versus $84,484 single and $168,968 for a couple for the OAS). Strictly speaking, the reduction under the new Seniors Benefit is not a clawback--it simply is not paid out in the first place.

The resultant gains and losses under the proposed system are displayed in the three figures that follow (National Council of Welfare, 1996b, 10-11).

Figure 5.2

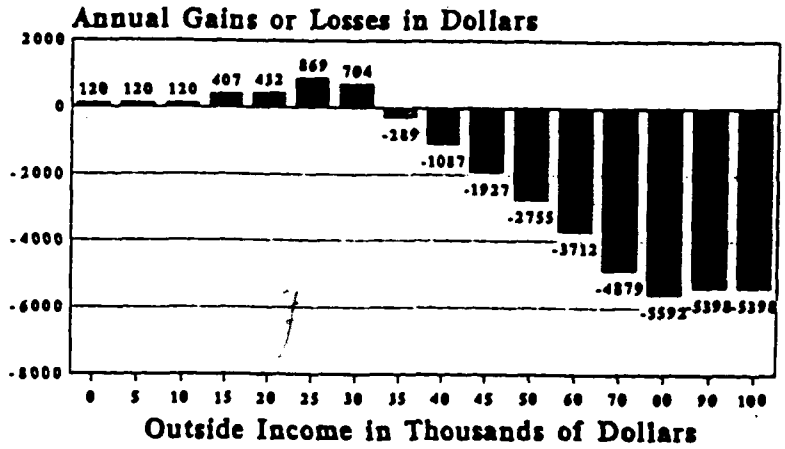
Gains and Losses under the New Seniors Benefit Single Pensioner, 2001



Source: National Council of Welfare, 1996b, 10

Figure 5.3

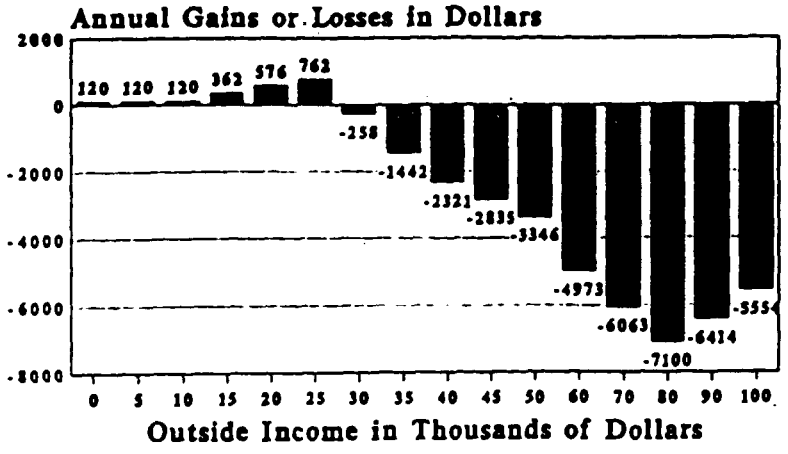
Gains and Losses under the New Seniors Benefit One-Income Couple, 2001



Source: ibid

Figure 5.4

Gains and Loses under the New Seniors Benefit Two-Income Couple, 2001



Source: National Council of Welfare, 1996b, 11

If the marginal clawback rate for the Seniors Benefit and the marginal tax rate are added, senior citizens will lose between 47 and 78 percent of every dollar of post-65 income from all sources other than the Seniors Benefit, with a small exception for income between $16,000 and $25,921 (Mercer, 1996a). This is shown in more detail in Table 5.2. The effect is close to a 50 percent flat tax for senior citizens, higher than the marginal tax rates faced by many corporate executives. Turning 60 by 1995 may be very valuable. Couples with total income of $78,000 will keep $7,185 less under the new Seniors Benefit than under the current OAS/GIS system. Once the general public understands these rates, there could be a significant reduction in retirement savings. Most Canadians, finding their marginal tax rates are higher after age 65, will avoid taxes by cutting back on savings or by taking savings out of RRSPs before age 65.

Table 5.2

Projected Total Marginal Clawback and Tax Rates (Single Seniors)

Other Income ($)	Clawback Rate (%)	Tax Rate (%)	Total Marginal Rate (%)
0-6500	50	0	50
6500-12,500	50	27	77
12,500-26,000	0	27	27
26,000-36,000	20	27	47
36,000-51,750	20	40	60
51,750-54,000	0	40	40
54,000+	0	50	50

Source: Author's calculation

Table 3.12 indicated that RPPs now hold $424 Billion and RRSPs hold $177 Billion. Further, contributions in 1994 totaled $20 Billion to RPPs and $35 billion to RRSPs. What impact would the high marginal tax rates of the new Seniors Benefit have on these contributions and accumulated assets? There has been no public policy debate on this matter, which is of extreme importance to the Canadian economy.

The Seniors Benefit presents another dilemma for pension plan sponsors. In many cases, the employer-sponsored pension benefits will simply act as an offset to the Seniors Benefit. In effect, the employer will be helping the government more than the employee. On the other hand, if the employer abandons the private pension plan, employees will be vulnerable to future changes in government policy.

There is also an interesting relationship between the C/QPP and the Seniors Benefit. For every dollar the average worker contributes to the C/QPP, there is a 27 cent tax credit (18 cents from the federal government and 9 cents from the provincial government). Thus, the one dollar nominal contribution only costs the worker 73 cents. However, when the average retired senior gets a dollar from the

C/QPP, he/she will lose 43 cents to the federal government (tax plus clawback) and 7 cents to the provincial government (tax only). Thus, a one dollar nominal contribution flowing through the C/QPP has the following net effect: the worker contributes 73 cents net; the retired senior gets a 50 cent benefit; the federal government gains 25 cents; and the provincial government loses 2 cents in the bargain. Thus, the future affordability of the Seniors Benefit depends on the continuance of the C/QPP, and provides a strong motivation for the federal government to keep the C/QPP plans in place. One might also expect some provincial government unhappiness.

Finally, because the 'clawback' under the Seniors Benefit is based on family income and not individual income (as under OAS), older women who have never participated in the paid labour force will no longer have retirement income in their own right. They will, therefore, lose a degree of economic autonomy in their spousal relationship and in their community of women who have not been employed.

In conclusion, the new Seniors Benefit, in total, will be smaller than the present OAS plus GIS. The main group to suffer from the cutbacks will be elderly married women (or widows with large spousal survivor benefits). The overall reduction is consistent with the present focus in Ottawa on fiscal conservatism (see Chapter 2), and means that the principle of universality that had been part of the OAS system (at least prior to 1989) is now lost.

5.3 Amendments to the Canada Pension Plan

On February 14, 1997, the Minister of Finance, Paul Martin, announced that agreement had been reached between the federal government and eight provinces to

amend the Canada Pension Plan (agreement is required among 2/3rds of the ten provinces, representing 2/3rds of the population). Proposals for amendments to the Quebec Pension Plan that have been discussed to date are very similar, and it is expected that the two plans will continue to evolve in parallel (see Quebec, 1996). A detailed description of the amendments to the CPP can be found in *Securing the Canada Pension Plan* (Canada, 1997). This document is the source for much of this introductory section.

It is noteworthy that while the C/QPP are financed entirely by worker and employer contributions, workers and employers have little, if any, direct say in how the plan is run. In this instance, the decision to amend the plans was made by the federal and provincial governments behind closed doors and announced as a 'fait accompli'. Further, amendments to OAS/GIS (i.e. the Seniors Benefit) and the C/QPP were presented as if these programmes were stand-alone programmes that could be changed without significant implications for the rest of the system (e.g. potential impact on private pension plans).

The government claims in the document *Securing the Canada Pension Plan* that:

> The changes will ensure that the CPP is affordable to future generations and can be sustained in the face of an aging population, increasing longevity, and the retirement of the baby boom generation. (Canada, 1997, 6)

This section of the chapter explores the claim that the reforms will guarantee affordability of the C/QPP to future generations. To begin with, it should be noted that the document *Securing the Canada Pension Plan* (Canada, 1997, 6) begins by telling Canadians that many important aspects of the plan will not be changed. In particular:

--all retired CPP pensioners or anyone over 65 as of December 31, 1997 are not

affected by the proposed changes. Anyone currently receiving CPP disability benefits, survivor benefits, or combined benefits, is also not affected;

--all benefits under the CPP will remain fully indexed to inflation;

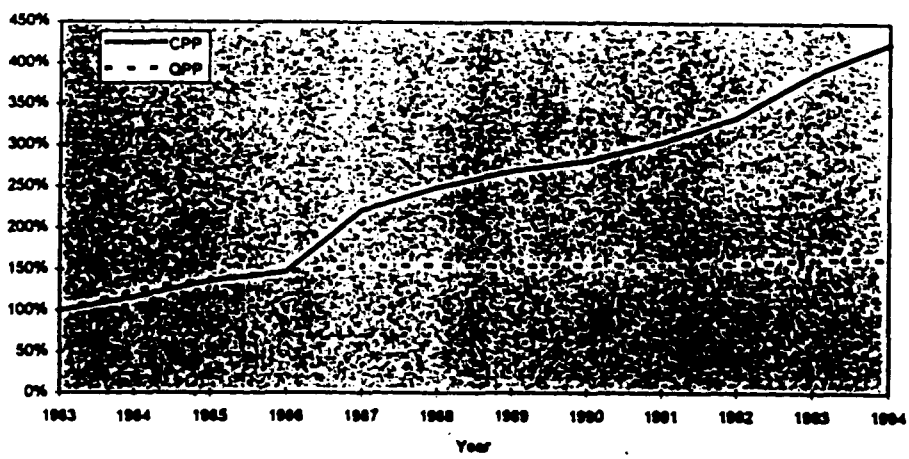
--the ages of retirement--early, normal, or late--remain unchanged.

However, several amendments were announced that will both decrease the benefits paid in the future by the CPP and increase its level of funding.

5.3.1 Issues with Respect to Disability Income Benefits

As can be seen in the following graph, Disability Income benefits within the CPP rose sharply after 1986 (Canadian Institute of Actuaries, 1996c, 12). In fact, it was this increase in Disability Benefits, projected forward, that caused the CPP Actuary to suggest that the CPP contingency fund would be exhausted by 2016 (see OSFI, 1995). There was no parallel increase in disabililty benefits in the QPP, which has led to many questions and concerns. Reasons for this are discussed below.

Figure 5.5
Growth in C/QPP Disability Benefits, 1983-1994
(1983 = 100%)



Source: Canadian Institute of Actuaries, 1996, 12

In 1985, disability benefits represented 13 percent of all CPP expenditures. By 1995, these benefits had grown to 19.7 percent of overall costs or $3.3 billion (Office of the Superintendent of Financial Institutions, 1995, 8). This increase, by itself, adds 1.5 percentage points to the long-term costs of the CPP (Canada, 1996a, 24).

Not all of the increase was a surprise. Prior to 1987, contributors were required to have worked and made CPP contributions for at least five of the last 10 years before they could claim disability benefits. In 1987, the rules were changed to allow workers who had paid into the CPP for two out of the past three years to qualify for disability benefits (not two full years, but any part of two of the past three years). Also in 1987, the time limit for filing a retroactive claim was extended from 12 to 15 months, and the CPP disability benefit was increased to make it equivalent to the QPP benefit. However, the QPP rules and qualifying periods were not changed.

Another government bill in 1992 lifted the time limit on late applications. This change opened the program to many workers who previously had been denied benefits. There was also a campaign to make workers and employers more aware of these changes and the CPP Disability Benefits in general.

Another reason for the growing difference between the CPP and QPP in this benefit category was a change in the adjudication of disability within the CPP. The CPP introduced some non-medical factors in the establishment of disability. For example, the ability to find work became a factor in getting disability benefits within the CPP, but not within the QPP. In 1988, the former Director of the Disability Operations Division of CPP issued a memo stating that if applicants for CPP disability were over the age of 55 and unable to do their job, that they should be considered as being unable to do any job (Ford, 1996, 85/86). For a while, the CPP became a de facto Unemployment Insurance program (Torjman, 1996, 107).

The use of socioeconomic factors in determining disability was rescinded in September, 1995 (Ford, 1996, 86). As a result, new applications for CPP disability benefits are down (Torjman, 1996, 108).

The CPP also recognized several 'new' causes of disability not recognized by the QPP such as stress, chronic fatigue, and environmental hypersensitivities. The QPP continues to use a more physical-cause base for disability (Wills, 1996, 74).

Once a worker qualifies for a CPP Disability Benefit, there is little follow-up to reassess claims for continued disability. This was not a serious problem historically when workers had to have profound physical disabilities to qualify for the CPP Benefit, but, today, there are indications that some workers continue to collect CPP disability benefits even after they are able to return to work. The Auditor General estimates that the lack of systematic reassessment, even in some cases where the individual has reported his/her return to work, has led to overpayments of up to $65 million a year (Ford, 1996, 88).

In response, the CPP administration started a program of reassessment. The project, started in May 1993, had conducted 18,585 reassessments by August 1996 and ceased payments to 6,762 beneficiaries (Torjman, 1997, 5). Under the new directives, it is hoped that up to 20,000 files per year can be reassessed out of the 350,000 recipients. However, at this time, there are not enough personnel to achieve this goal.

The CPP is also the first payer of benefits when two sources are available. For example, if a worker is eligible for disability benefits under both the CPP and a Provincial Workers' Compensation plan, the CPP pays its full benefit, and the Workers' Compensation plan need only top-up benefits to the extent necessary (in some provinces the disabled worker gets the total of both benefits, a significant disincentive to return to work). In Quebec, people on Workers' Compensation

cannot apply for QPP Disability Benefits. If there is another source of disability income (e.g. a claim against an automobile insurance policy), the QPP is second payer. This helps to keep QPP disability income costs down.

A wide variety of potential changes to CPP Disability Income Benefits were proposed. These included (Torjman, 1996, 109-120):

--Make the contribution period for eligibility longer. Instead of requiring contributions in two of the last three years, it would be moved to four of the last six years.

--Separate the CPP Disability Benefits from the rest of the plan. In this way, the other CPP benefits would be immune from the apparent volatility of the Disability Benefits. At the same time, however, contribution rates for the now-separate Disability Benefits would assume that volatility.

--Make the CPP Disability Benefit second payer to other Disability Benefits including Workers' Compensation, Employment Insurance, and private Disability Income Insurance. This would put the CPP on a more equal footing to the QPP in this regard, and should also do more to provide rehabilitation for the disabled worker.

--Completely reform the coverage of disability in Canada so that there is one logical integrated system for all, versus the patchwork approach today.

Of the above, the only reform adopted has been the first one, that is, extension of the contribution period required for eligibility. There will also be a non-retroactive change in the way disability pensions are converted to retirement pensions at age 65. The conversion will be based on the C/QPP's Year's Maximum Pensionable Earnings (YMPE) at the time of disablement with subsequent full price indexing, rather than on the YMPE at the time the recipient turns age 65 (which means, in short, indexation to prices, not wages). This is consistent with how other CPP benefits are calculated (Canada, 1997, 15).

In conclusion, one can see a hardening attitude toward disability income claims under the CPP. This could mean that workers who are too young for early retirement benefits under the C/QPP, and who might have previously qualified for Disability Income Benefits, will now more likely be dependent on provincial welfare. We will return to this in the discussion of public policy implications of raising the age-of-entitlement for retirement income security in Chapter 7.

5.3.2 Changes to Benefits and Their Administration

A number of changes to benefits and their administration have been announced. The government projects that these changes will reduce costs by 9.3 percent by the year 2030.

New retirement pensions, and the earnings-related portions of the disability and survivor benefits, will now be based on a contributor's average career earnings updated to the average of the YMPE in the last five years, instead of the last three years, prior to the commencement of benefits. This change will be phased in over the next two years. While this saves the C/QPP money (and lowers the ultimate contribution rate), it also makes the C/QPP plans more like private pension plans since many more private plans use the five-year final average approach than the three-year final average formula (see Statistics Canada, 1994c).

The government estimates that if this measure had been in place in 1997, the maximum CPP retirement pension would be $724 a month instead of $736, or $12 a month less. However, this calculation is done in a period of very low wage increases. Consulting actuaries from Watson Wyatt (1997, 7) have shown that if average wage increases were four percent per annum, benefits for those with

earnings below the YMPE would be reduced by about 3.75 percent, or $25 a month versus the $12 claimed by the government.

This is a straight reduction of benefits. Private pension plans that are integrated with the C/QPP will pick up the difference between these reduced benefits and the benefits promised by the employer-sponsored plan (where benefits are based on earnings, 87.9 percent of workers are in plans where benefits are integrated with the C/QPP (Statistics Canada, 1996b, 64)). For the government, decreases in C/QPP benefits will be offset to a certain extent by increased costs for GIS benefits for those who qualify. The National Council of Welfare (1996c, 27) has estimated that a 10 percent cut in C/QPP benefits would increase GIS costs by $270 million. Hence, a total 9.3 percent cut should be expected to cost the GIS system about $250 million. The government does not disclose any estimate in this regard. Thus, while costs to the C/QPP may be reduced by 3.75 percent by these amendments, total costs of retirement income security in Canada will be reduced by much less.

Other benefit changes were made. For example, individuals who receive retirement pensions or disability benefits from the CPP are entitled to further survivor benefits if their spouse dies and contributed to the CPP. New rules (which are largely the same as pre-1987 rules--when the rules were relaxed) will limit the extent to which these benefits can be combined.

Finally, it is proposed that the CPP death benefit continue to be equal to six months of retirement benefits, but that the maximum be limited to $2500. Currently (1997), the maximum is equal to 10 percent of the YMPE or $3580. Although the option of eliminating the death benefit was discussed in the dialogue leading up to reform, it was rejected.

Again, these reforms are simply ways to cut C/QPP benefits. While they result in lower ultimate contribution rates, they also result in equally smaller benefits.

5.3.3 Freezing of the Year's Basic Exemption

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 percent of the YMPE rounded down to the nearest $100). The government has announced that the YBE will be frozen at its current level of $3500 for the foreseeable future.

While this reform seems small, and is subtle, the philosophical importance of this change will be discussed in detail in Chapter 6.

5.3.4 Fuller Funding of the CPP

Whereas the CPP (and QPP) are now designed to carry a reserve fund equal to two years of benefit payments (about $40 billion for the CPP), contributions will be raised substantially to 9.9 percent by 2003 which is expected to increase the reserve fund to about five years of benefits (or about $110 billion for the CPP) over the next two decades. Whereas these funds are now lent to the provinces, who pay the federal long-term bond rate of interest on the borrowed funds (note: they were not lent to the provinces free as the myths purport and the provinces have repaid loans when needed), the new reserve fund that will build up is to be invested by an independent CPP Investment Board in a diversified portfolio of securities at arm's length from governments, with the objective of achieving higher rates of return

(estimated to be 3.8 percent per annum, real). It is these hoped-for higher rates of return that will allow the ultimate CPP contribution rate to stabilize at its projected 9.9 percent.

The Board will be subject to broadly the same investment rules as other pension funds in the private sector. The 20 percent foreign investment limit will apply.

If the provinces wish to borrow from the CPP, they will pay the same rate of interest as they do on their own market borrowings. However, as a transitional measure, provinces will have the option of rolling over existing CPP loans at maturity for another 20-year term, which could dampen the overall rate of return of the fund for some time to come. In addition, for the first three years, provinces will have access to 50 percent of the new CPP funds that the Board chooses to invest in bonds.

There are a myriad of public policy issues surrounding the proposal to create a larger level of pre-funding for the CPP. These matters are considered important enough to be discussed separately in Chapter 6.

5.3.5 Issues Left for Future Review

A number of important issues are left to be addressed over the next few years, so long as the steady state contribution rate of 9.9 percent is not affected. These include:

--the possibility of providing partial pensions during phased retirement, while participants continue to work and earn further pension credits;

--possible amendments to the provision of survivor benefits, given that 68 percent of working-age women are in the workforce earning credits

in their own right;

--the possibility of requiring mandatory credit-splitting during marriages;

--a possible extension of covered earnings beyond the YMPE, as proposed by British Columbia;

--a study of the integration of OAS/CPP benefits with those under the Employment Insurance (EI) programme;

--a possible further reduction in the YBE, as proposed by Quebec.

5.4 Conclusion

This chapter has reviewed some of the reforms legislated to the Canadian social security system, including the new Seniors Benefit. With regard to the Seniors Benefit, serious reservations were expressed with the level of effective taxation inherent in the new benefit, and the impact that might have on incentives for individuals to save for retirement.

The next two chapters look at three particular aspects of proposed amendments to the Canada Pension Plan that are worthy of fuller public policy discussion than has been received to date. Chapter 6 looks at the proposal to freeze the Year's Basic Exemption (YBE) and the implications of such an amendment, and also discusses the issues surrounding the plan to implement fuller funding of the CPP, and attempts to determine if such a move will add to the real security of social security. Finally, Chapter 7 offers a potential demographic alternative previously rejected in the potential reforms to the CPP, namely the use of the age of eligibility for retirement benefits as a means to stabilize the future financing of Canada's social security systems.

6. SOCIAL SECURITY REFORM: ISSUES REQUIRING FURTHER DISCUSSION

6.1 Freezing the C/QPP Year's Basic Exemption (YBE)

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 percent of the YMPE rounded down to the nearest $100). The government has announced that the YBE will be frozen at its current level of $3500 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 will be shown that this change saves the system very little money, but threatens the progressivity of the retirement income benefit within the 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 $35,800 in 1997 (see Chapter 3). Contributions are not paid on the first $3,500 of earnings in 1997 (the YBE), although pensions are accrued on this amount if earned. This is unlike private pensions where 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, it 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 February 14 amendments to the CPP, both the CPP and the QPP have official 1997 contributions rates of 6 percent 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 is actually 5.4 percent (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 percent (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 $3400 in 1997 neither contributes to the C/QPP nor receives any benefit accrual for 1997--it is a lost year as far as C/QPP benefit accrual is concerned. On the other hand, a worker earning $3600 in 1997 will make a 3 percent contribution on $100 and earn a benefit accrual based on earnings of $3600. 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 currently 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 (personal 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 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 (Section 4.4), 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 et al., 1990. Thus the question is: do high-income workers do better than low-income workers?

In the discussion that follows, regressiveness will be defined as a system in which low-income workers pay more per dollar of actual benefit than high-income workers or in which low-income workers realize a lower effective rate of return than high-income workers.

The results of the analysis of post-retirement 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 percent of a full benefit have life expectancies 15 percent longer than those receiving benefits equal to 0 to 25 percent of a full benefit (see Table 6.1). 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 pays more than just retirement income benefits. In fact, only 64 percent of the dollars paid out of these plans goes to retirement income (OSFI, 1995, 8). The other one-third of cash flow is paid in benefits for disability (19 percent), survivors' benefits (14 percent), orphans benefits (1 percent), and death benefits (1 percent) (*ibid*). These benefits dampen to a great extent any regressiveness in the pure retirement income benefits. This is true for two reasons. One, ancillary benefits are not purely wage related. For example, in 1996, a

disabled contributor was able to receive a pension which was equal to $325.61 plus 75 percent of the contributor's retirement pension (calculated as if the contributor attained age 65 as of the date of disability) to a maximum of $870.92. The flat-rate portion of the benefit formula means greater relative benefits to the worker with lower earnings. Two, because both death and disability are negatively correlated with income and socio-economic status (Moore and Rosenberg, 1997, 135), low-income workers get more ancillary benefits than do high-income workers.

Second, while this chapter focusses on the C/QPP plans, Canada's retirement income security system also pays benefits from OAS, GIS, and 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 percent federal), the result is a highly progressive system in total. Finally, OAS/GIS/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 ($3500 in 1997). Thus, if a worker earns $3600 in 1997, contributions are made on only $100, but benefit credits are assigned to $3600 of earnings. Similarly, if a worker earns exactly half the YMPE, or $17,900 in 1997, contributions would be made on $14,400, while benefit credits would accrue on $17,900. Finally, for the worker who earns the YMPE ($35,800 in 1997), contributions would be made on $32,300 and benefits would accrue on the full $35,800. (This is also true for anyone earning more than the YMPE.)

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

Given the YBE, the higher-income worker contributes on $32,300 of earnings (indexed to wages) while the lower-income worker contributes on $5,450 (indexed to wages). Ignoring differences in life expectancy for the moment, the 100-percent-YMPE worker gets a benefit credit four times that of the 25-percent-YMPE worker, but pays a contribution that is 32,300/5,450 (or 5.93) as large. Thus there is a 48 percent advantage (1.4825) to the 25-percent-YMPE worker in the benefit/contribution formula. Because this 48 percent contribution formula advantage is greater than the 15 percent life expectancy advantage of the 100-percent-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 all cells except for age 60 male retirees whose earnings averaged between 50 and 75 percent 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 percent YMPE retirement benefit (1.04). Thus, one would conclude that, in total, the CPP is progressive, even if one considers only before-tax retirement income benefits (which, it has been argued, is unfair).

Table 6.1

CPP Benefit-Contribution vs. Life Expectancy Advantage at Age 60

Wage Band	Benefit-to-Contribution Advantage versus 100% YMPE Earner	1988-1994 Average Age 60 Life Expectancy		Relative Life Expectancy Advantage of 100% YMPE Earner	
		Male	Female	Male	Female
0-25%	1.48	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	1988-1994 Average Age 65 Life Expectancy		Relative Life Expectancy Advantage of 100% YMPE Earner	
		Male	Female	Male	Female
0-25%	1.48	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.

Thus, the amendment to freeze the YBE at $3500 could turn out to be extremely important. As earnings rise, but the YBE remains frozen at $3500, the 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 pre-funding of the Canada Pension Plan as announced in February 1997. The section does not present a balanced discussion of the issues. Rather it presents a defense of pay-as-you-go (paygo) financing as the method which should be preferred. There are many authors now speaking in favour of a more fully-funded system (see, for example, Robson, 1995, Slater, 1995, World Bank, 1994, and Kotlikoff et al., 1996) who appear to have the ear of the policy makers at this time.

The purpose of this section is to pose a large number of important questions that need to be answered by policy-makers before any move to larger pre-funding of the C/QPP actually occurs. In the discussion that follows, the meaning of the words 'paygo' and 'funded' need to be carefully understood. Neither word is to be taken in 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 which carries only a small contingency (no more than 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 'pre-funded' schemes. In that regard, the C/QPP plan of Canada, today, carries a side-fund of about two years' worth of benefits. Thus, this chapter refers to the current C/QPP as paygo. Recent government amendments to the plan would raise the contribution rate by 73 percent over the next six years, to 9.9 percent and create a side fund worth five years of benefit expenditures. Thus, the amended C/QPP would not be referred to as paygo.

One important aside in these introductory remarks 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 in the C/QPP). As will be 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 beneficiaries 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 modelled 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 pre-funding 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 (e.g. have a small proportion of surplus assets invested in the private sector) to very dramatic (e.g. 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 tomorrows 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 importantly, however, are the impending demographic dependency shifts as the baby boom moves out of the labour force to be replaced by the baby bust cohort (see Figure 2.2). Those in favor of pre-funding 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 the above 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, and Kotlikoff et al., 1996). For example, assume that the total of retirement income security and health care for the aged today costs 12.5 percent of all wages from all workers. That means that a worker who is paid for a 40-hour week has to

work 5 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 percent of wages, or work 10 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 percent 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 5 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 (CPI). 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 pre-retirement 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 (e.g. Treuil, 1981) that if social security is financed on a paygo basis, the implicit 'rate of return' 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 labour 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, 3), 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.

Funding Arrangement	Projected Cost as % 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 percent per annum to 2 percent; real wage growth dropped from 3 percent per annum to 0 percent; real interest rates increased from 1 percent to 6 percent per annum (Hamilton, 1995, and Canada, 1996a, 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:

Funding Arrangement	Projected Cost as % of Payroll
Paygo (mature plan)	14.5%
Fully-funded	7.2%

Hence the 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 pre-funded scheme more secure? Can productivity rates be increased by pre-funding social security? Are pre-funded plans demographically immune? How long will factors favouring pre-funding last? Would switching back and forth between financing arrangements be accepted as good public policy? These are the questions that should be posed by public-policy makers before any switch in funding methods is adopted. The rest of this section will explore many of these issues.

6.2.3 Is a Funded Pension Demographically Immune?

One of the problems with any discussion around 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 post-retirement. Thus, it would seem logical for a nation to provide for its citizens' post-retirement needs by designing a pre-funded social security scheme that accumulates large account balances that can be used to fund post-retirement consumption.

Bayo (1988, 178), Deputy Chief Actuary of the U.S. social security system (OASDI) states that this is not 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.

Nicholas Barr (1993, 220) 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.

Thus, a review of the literature indicates strongly that pre-funded 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 pre-funded scheme as economically advantageous.

6.2.4 Is Pre-funded Social Security More Secure?

Barr (*ibid*, 223) points out that declines in the working aged population can be offset by increased productivity amongst the remaining workers or by increased labour force participation rates (e.g. 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 pre-funding to have any consequence on the security of social security, three requirements must be satisfied (all three); namely:

--pre-funding must increase Gross National Savings

--those increased savings must be invested in a manner that increases worker productivity

--the pre-funding 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 pre-funding of social security as the preferred proposal?

Does the pre-funding 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 (e.g. see Ricardo, 1817, Daly, 1981, Aaron, 1982, Barr, 1993, Burbidge, 1987 or Atkinson, 1995), but no clear conclusion. This turns out to be a very difficult question if one allows for behavioural 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 (and it was in the United States with the introduction of Social Security or OASDI) by two behavioral responses. 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 (i.e. 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 and 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 percent from the total social security system (including OAS/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 behavioural response may not be as applicable to systems that do provide full retirement income security (e.g. some European systems).

In Chile, in 1980 when the social security system was financed on a paygo basis, the gross national savings rate was 21.0 percent. In 1981, Chile introduced a mandatory individual retirement savings scheme requiring 10 percent 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 percent in 1991 (Uthoff, 1993). In a more recent paper, Holtzmann (1997) 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

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 straight

fraud on the part of the political masters. According to Rosa (1982, 212), 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.

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 labour 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, 51,52)

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 pre-funded 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 (e.g. 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, 72-81).

6.2.5 Policy Alternatives

A wide variety of proposals for the privatization of social security exist. This chapter looks at several of these proposals in their broadest aspect (i.e. not with any particular proposal in mind), and attempts to outline their advantages and disadvantages.

'Privatization', as discussed below, will include both a shift from paygo social security to more prefunding, with assets invested in the private sector (such as is now proposed in Canada) or the more radical change where a paygo system is replaced by a Defined Contribution Individual-Account system such as in Chile.

a) Keep the C/QPP as a Defined Benefit Plan, but Invest Assets Privately

Keeping the C/QPP as a Defined Benefit plan has a number of advantages, including low administrative costs. Also, by continuing the Defined Benefit nature of the program, 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 ancilliary 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 pre-funded 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 pure 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 each generation paying for its social security 'in full' gains a higher moral level of claim on prospective benefits, the pre-funding 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 (e.g. welfare payments). The only real debate here is whether payroll taxes (which is what social security contributions are) have a different impact on labour 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 macro-economic 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 its 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 pre-funded 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 (i.e. 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 proposed amendments to the C/QPP, the Canadian government proposes to establish a panel of experts who will work at arms 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 pre-funded social security scheme will build up rapidly now as the baby boom pre-funds 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 (1994):

> 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.

Thus, it can be logically argued that a pre-funded 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 pre-funding social security are based are internally contradictory. The move to pre-funding 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 twenty 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, 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, 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 pre-funded social security, however, even if invested widely in the private sector.

First, pre-funded schemes are exposed to the risk of unforeseen inflation (i.e. 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 (e.g. France and Germany--see Linton, 1935, 365). This may be one of the reasons that these schemes now are funded on close to paygo financing. Pre-funded provident funds which 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 where 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 its first twenty-five years. Based on the latest actuarial projections, of the 14.2 percent ultimate contribution rate required to fund the C/QPP, 2.4 percentage points come from the expansion of benefits just mentioned (Canada 1996a, 46). This was also a reason often used to continue basic paygo financing for OASDI over 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. By [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)

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 labour 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 (i.e. the underground or cash economy). The level of non-compliance in the Chilean system may be partly explained by this taxation-limit phenomenon. As long as government debt exists, 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 pre-fund social security. Any government action that increases saving for retirement could be substituted for pre-funded social security if the goal is to increase savings and productivity. Clearly, the increased (mandatory) contribution rates needed to pre-fund 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 pre-funding 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 (e.g. RRSPs), 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 an attempt to achieve them as a by-product of social security financing?

In this regard, it seems very strange that the Canadian government is considering a pre-funded 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 pre-funded social security that can have the same probability on enhancing savings and productivity, then, for the reasons just listed, it should be the preferred public policy.

Earlier in this chapter, it was noted that the pre-funding 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.

b) Change the C/QPP to a Defined Contribution Plan

Another possibility that some are proposing (e.g. The Reform Party of Canada) is to turn the present Defined Benefit C/QPP into a Defined Contribution scheme 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), Columbia (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, the inflation risk, and the 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 percent of extra return over the lifetime of a worker would result in a pension that is about 24 percent larger (see Adams, 1967). Even if one is only concerned about the cost of purchasing an annuity at the time of retirement, 2 percent of extra return translates into a retirement annuity that is about 17 percent larger for a fixed purchase price (Coward, 1991, 66).

Second, the ancilliary 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 which 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 percent of cash flow versus the 1.3 percent expense ratio for the C/QPP (or 0.8 percent 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 men with identical work and contribution records, because of higher female life expectancy. In Canada, women would also lose the child-rearing drop-out 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 (i.e. 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 run-off. 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 anti-selection).

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 Reviewed

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 percent of pay to one of fifteen investment fund agencies (called AFP's). There is also a 3.5 percent (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

percent contributions were mandated, workers were granted an 18 percent 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 percent of the labour force are contributing members. This represents a high level of non-compliance, 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 only had 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 percent of the minimum pension is guaranteed, plus 75 percent 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 percent 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, these would be considered to be very high for a mature economy.

Under the new plan about 40 percent of total assets are invested in government bonds, which means that to that extent the new plan is still paygo.

As was noted earlier, in 1980, under the old paygo financing system, gross national savings in Chile were 21.0 percent of GDP. After the introduction of the new mandatory individual savings scheme, savings rates dipped in the 1980s and stood at 18.8 percent of GDP in 1991 (Uthoff, 1993).

Obviously, the system only includes wage and salaried employees (e.g. 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 (e.g. 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 percent 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 percent 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 percent for the C/QPP.

Almost all (99.8 percent) 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 percent. 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 while the Chilean system of mandatory individual savings accounts has been

> studied and touted as a model from Britain to Uzbekistan, 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 (*ibid*).

6.2.7 Conclusion

This chapter has explored at some length the issues surrounding the advantages and disadvantages of the pre-funding 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

--there cannot exist a better method of achieving the first two stated goals

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

7. A WEALTH TRANSFER MODEL TO ASSURE 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 programmes (i.e. OAS, C/QPP, GIS) were originally designed (i.e. 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, 3).

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

> 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, 3).

Section 2.2 noted how the age structure of the Canadian population will change in the next forty 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

would rise about 95 percent over the period from 1991 to 2041 (see Table 4.2). However, research indicates 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 the following table developed by the QPP valuation actuary.

Table 7.1

Factors Related to the Increase in the Pay-as-you-go QPP Contribution Rate 1990 to 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%

* 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.
Source: Menard, 1992, 267

What follows is, first, an analysis of the demographic variables that could have an effect on the future costs of social security and, then, a Wealth Transfer Model that could be used to stabilize the financing of Canada's total social security

system, and which would also lower the ultimate cost of Canada's retirement income security programmes.

7.2 Demographic Variables that could Affect the Financing of Social Security

7.2.1 Fertility

As noted previously, higher fertility rates have a favourable 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, 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, 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 $8000 (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 non-taxable. 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 latest year of published rates (1994), Quebec slipped further behind the rest of Canada.

Figure 7.1

Total Fertility Rates
Quebec and Canada
1923-1993

Source: Brown, 1997, 201

Evidence from other countries suggests that similar incentives have little effect (Hohn 1987, 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, 21).

Finally, raising fertility rates could create it own problems since it would result in increased youth dependents (McDaniel 1987, 334). In the short run, this would increase total government expenditures as presented in Tables 4.2 and 4.3.

Perhaps the last word should be left to Keyfitz (1984) 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.

7.2.2 Immigration

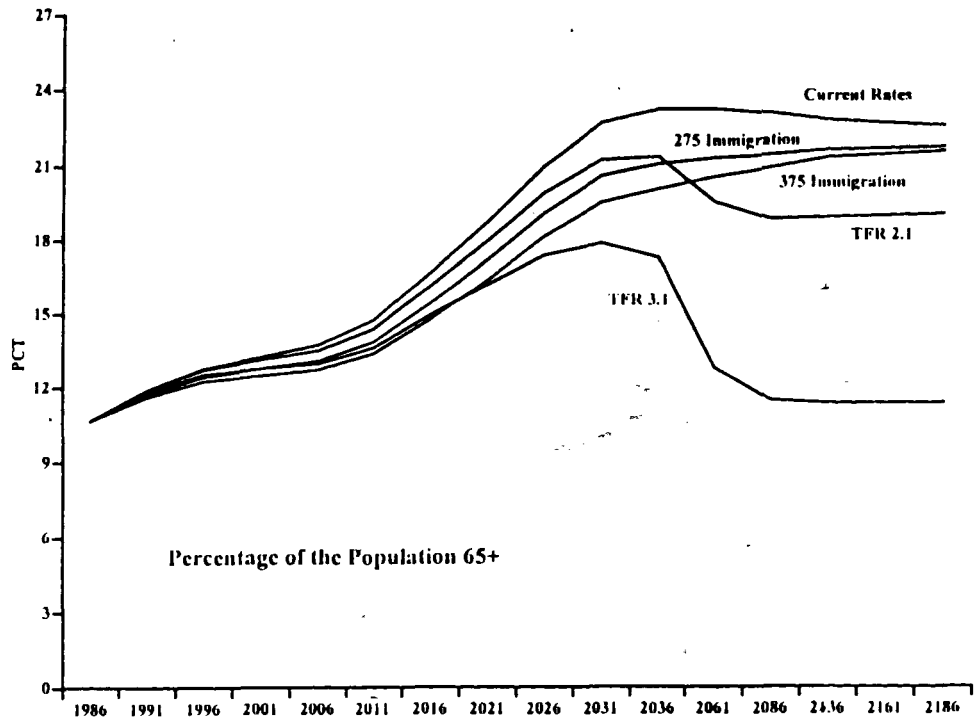
Increased net immigration has a similar effect on dependency ratios as increased fertility, and may even be superior if workers enter after being educated and prepared for the work force. However, the Economic Council of Canada study "One in Three" points out that increased immigration today is not desirable, 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, i.e. those born in the twenty year period from 1947 to 1966, then the baby boom in 1997 is between ages 31 and 50--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, 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, 4) concludes that without another baby boom, the aging of Canada's population is all but inevitable. Similar conclusions are found in Fellegi (1988, 4.4), Henripin (1994, 80), Gee and McDaniel (1994, 224), and Denton et al. (1996, 14).

Figure 7.2

Impact of Immigration on the Proportion of Population 65 and Over

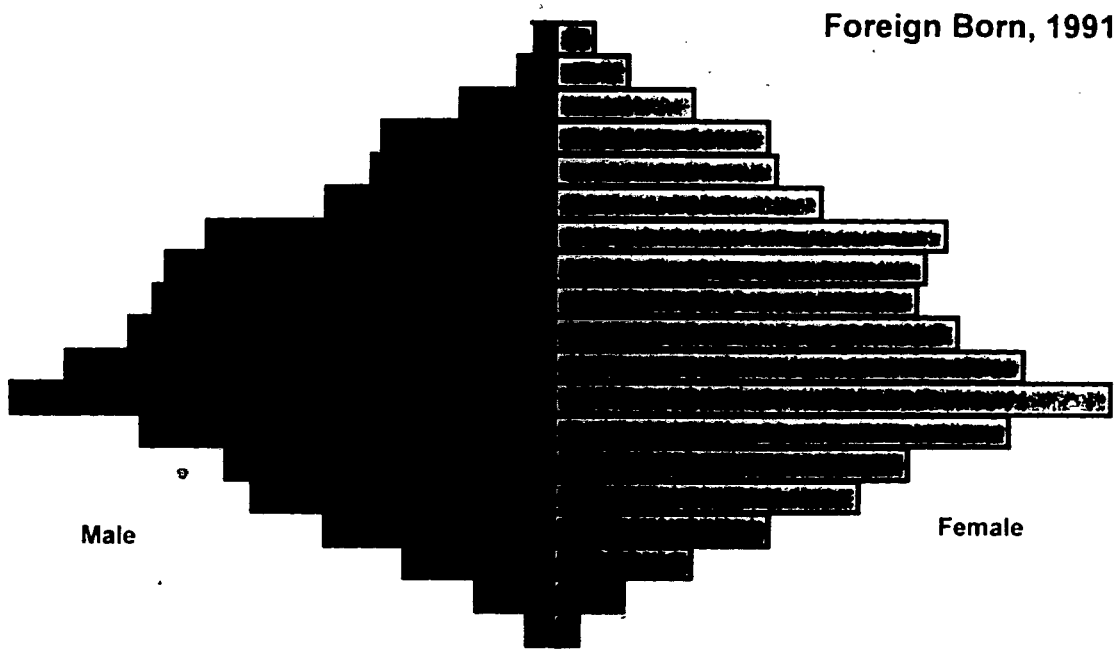


Source: Murphy, 1996, 5

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, 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 31, one can see why the Economic Council of Canada stated that increased immigration at this time is not a solution to our financing concerns.

Figure 7.3

Age Structure of the Total Immigrant Population



Source: *ibid*

There are two other factors which 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 programmes to enhance social integration. Gee (1995, 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, (1994d), Population Projections 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 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 labour force participation rates of males, aged 55-64, have been falling. In June 1994, 60.9 percent of men aged 55 to 64 years of age remained in the labour force as compared to 86.5 percent in 1953 (McDonald, 1996, *x*). For men aged 65 years of age and over, the labour force participation rate was 11.2 percent in 1994 versus 34.8 percent in 1953 (*ibid*). For females aged 55 to 64, the labour force participation rate has remained relatively level for the past decade (38.9 percent in June 1994), while the participation rates at all other ages have risen (*ibid*). 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 programmes which encourage older workers to retire early (e.g. flexible retirement age under the C/QPP). These programmes were adopted largely because of the relatively high levels of

unemployment in the young labour 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 labour force. Following it is the baby bust cohort. In the future there may be pressure toward keeping older workers in the labour force for longer periods of time, since they may be needed as workers because of a decline in the supply of labour (Statistics Canada, 1996c, 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 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 non-response 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 also because their employers will be presenting them with later-retirement incentives as employers face the labour 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, 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 work force 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?

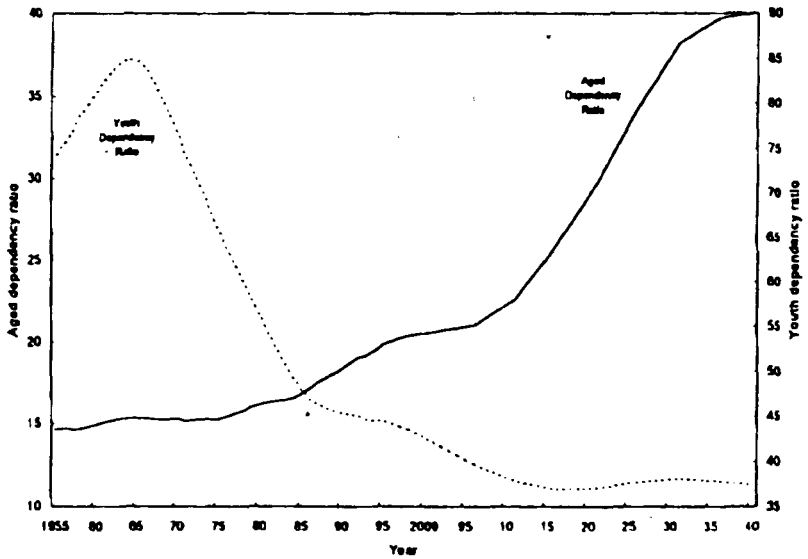
If later retirement, or longer labour force participation, is expected, and if wealth transfer stability is a worthy public policy goal, it would be wise for the government to provide Canadians with incentives to keep the consumption-production ratio at a constant equilibrium. In fact, the government, 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 non-producing consumers (youth and aged dependents) is going to change rapidly,

especially after 2015. However, the decline in 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.

Figure 7.4

Youth and Aged Dependency Ratios
1950 to 2025



Source: Author's calculation using statistics from Brown and Bilodeau, 1997

The Youth Dependency Ratio presented is the number in the population aged 0 to 19 divided by the population aged 20 to 64. Similarly the Aged Dependency Ratio is the number aged 65 and over to those aged 20 to 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 for Canada (Foot, 1989, 107) 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 Canada data, can be found in Brown and Bilodeau (1997)[1]. The authors developed a statistic (technical details of the derivation and input data can be found in the Appendix to this chapter, page 213) called the Wealth Transfer Index (WTI) defined as:

$$WTI = [(1.866 \bullet Y) + (1 \bullet U) + (4.636 \bullet A)]/LF$$

where: Y = Youth, 0-19
U = Unemployed persons
A = Aged, 65 and over
LF = the projected employed Labour Force

The weights of 1.866, 1, and 4.636 were derived using data from McDonald and Carty (1980, 16,17) developed for the Task Force on Retirement Income Policy (1979). The weights reflect relative wealth transfer values 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 total 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 was a background paper to a federal commission into pension reform *(ibid)*. It is unfortunate that there exists no more recent analysis similar to the work by McDonald and Carty (see Foot, 1989). Clearly, the weights by age would have changed, leading to a different Wealth Transfer Index. This is just one symptom of the fact that in this latest round of pension reform, the reforms have been piecemeal and no attempt has been made to

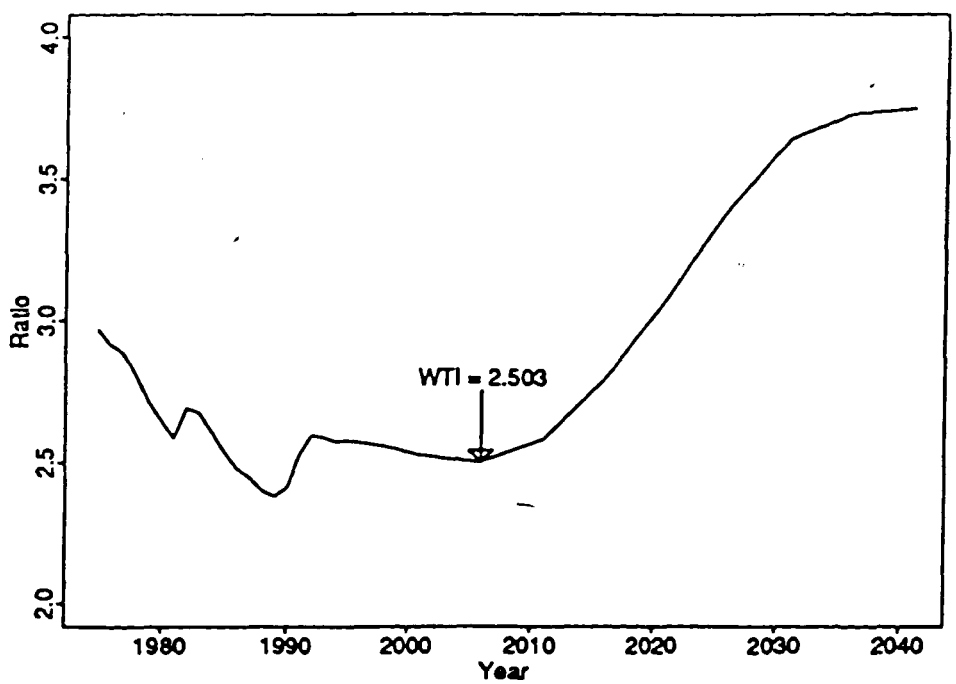
look at the impact on the total pension system. Such a full public policy debate is still needed.

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

The statistic, Wealth Transfer Index, is a single statistical indicator of the supply of (denominator) and demand for (numerator) goods and services. As shown in Figure 7.5, this Wealth Transfer Index actually trends slightly downward from now until 2006.

Figure 7.5

Wealth Transfer Index
Canada, 1975 to 2041



Source: Brown and Bilodeau, 1997, 10.

After 2006, it increases rapidly as the population ages, and, in particular, as the baby boom generation retires and the labour force turns to the baby bust generation for the creation of goods and services. For example, compared to a Wealth Transfer Index of 2.503 in 2006, its expected value is 3.746 in 2041, or 50 percent higher.

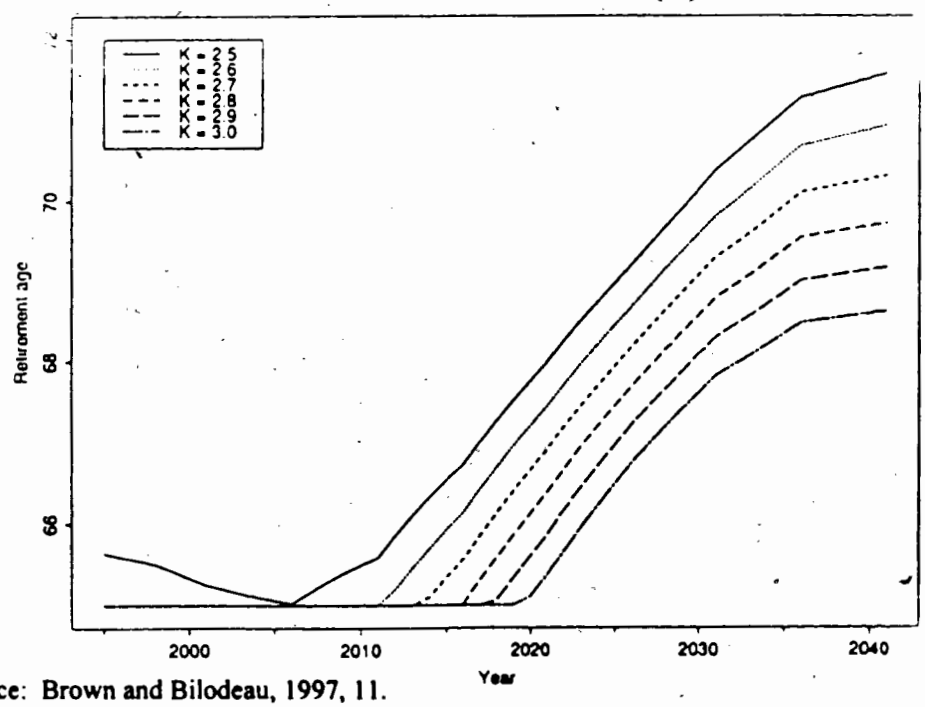
Brown and Bilodeau determined an increase in the age of entitlement for aged benefits, versus age 65 today, that would keep the Wealth Transfer Index stable, in fact, constant. This shift in the age of entitlement can be determined by finding T such that:

$$WTI = [(1.866 \bullet^{\bullet} Y) + (1 \bullet^{\bullet} U) + (4.636 \bullet^{\bullet} A_{65+T})]/(LF_{65+T}).$$

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

Figure 7.6

Entitlement Ages for Certain Constant Wealth Transfer Indices (K)



Source: Brown and Bilodeau, 1997, 11.

Thus, for example, if society can only accept a Wealth Transfer Index 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 Wealth Transfer Index at its 2006 level, an all-time low (at least for the years measured). But the Wealth Transfer Index has been as high as 3.0 as recently as 1975. Thus, shifts in age of entitlement for Wealth Transfer Indices 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 Wealth Transfer Index 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 Wealth Transfer Index are listed in Table 7.2.

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, 10

Brown and Bilodeau then do a more detailed analysis of certain models for the age of entitlement using a Wealth Transfer Index of 2.5. This could be considered a worse-case scenario for two reasons. First, as seen in Figure 7.6, a Wealth Transfer Index of 2.5 represents the absolute minimum value of the Wealth

Transfer Index over the period of study. Second, the Wealth Transfer Index assumes no productivity growth per worker. That is, the denominator of the Wealth Transfer Index is the number of active members of the Labour Force, not reflecting any increased ability to produce goods and services.

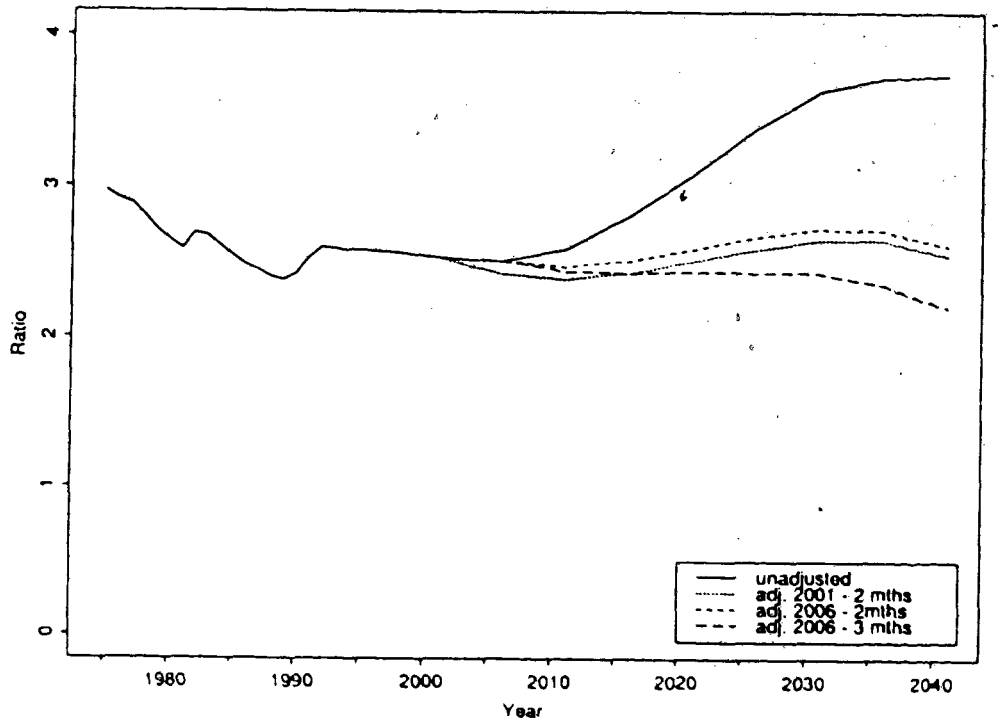
To understand the significance of this lack of productivity factor, consider the shift in required wealth transfer indicated in Figure 7.5. The Wealth Transfer Index moves from 2.503 in 2006 to 3.746 in 2041, a 50 percent increase in 35 years. This is equivalent to an average growth rate of 1.2 percent per annum. If workers could become more productive by 1.2 percent per annum over the same 35 years, then no shift in the age of entitlement is required whatsoever. If workers became 0.6 percent more productive per annum, then the age shifts indicated could be cut in half. To repeat, then, the age shifts modelled in Figure 7.6 should be considered a worse-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, 13). Thus, were one to base one's modelling 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 present a series of possible shifts in the age of entitlement that would retain the Wealth Transfer Index at its 2006 level of 2.503. Clearly, it is desirable to obtain a regular and logical increase in the age of entitlement, such as an integer number of months per year. To have non-integer shifts, or differing shifts from one year to the next would create justifiable scepticism in the minds of the public.

Figure 7.7

Wealth Transfer Index
Under Three Age-of-Entitlement Models



Source: Brown and Bilodeau, 1997

Figure 7.7 presents three projected entitlement age shifts that will maintain a stable Wealth Transfer Index. The dotted line increases the retirement age by 2 months per year starting in 2001. This model would have an entitlement age of 66 in 2006, age 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 2 months per year starting in 2006, while the 'faster' model has the entitlement age rising by 3 months per year. All three models indicate that this process will not need to continue beyond 2035.

These modelled projections assume that as the entitlement age increases, the elderly remain in the labour 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 labour 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 et al. (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, 9) find that the prevalence of chronic disability in the United States over the period 1982 to 1989 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 et al. (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 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, 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, 178) show, between 1991 and 2041, health care costs are expected to rise 95 percent 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 modelled projections.

If longer labour 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 (1992, 188):

> 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.

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 C/QPP, previously projected ultimate contribution rates of close to 14.4 percent (OSFI, 1995) could be expected to top out at around 11.9 percent 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, 1993, 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 was 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 follows.

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, 15.

Table 7.3 shows that, by 2041, a normal entitlement age of 73.7 would equate to a 1966 normal retirement age of 65. Remember none of the Brown-Bilodeau projections result in an ultimate age of entitlement as high as 73.7 (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 Wealth Transfer Index models can be reduced because of this increased productivity. Again, 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 post-retirement 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 (i.e. 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 modelled actuarially, it presents some aspects that might prove difficult politically. For example, one should expect non-acceptance of a system whereby there were large discontinuities in the age-of-entitlement over small ranges of benefits (i.e. a measurable difference for a worker receiving a benefit equal to 49 percent of a full benefit versus 51 percent 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 which 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), the 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 amended (see section 7.4.1 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 modelling where the actuaries provide government with 25-year projection models on a tri-annual 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 Wealth-Transfer-Index 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.

Table 7.4

Worldwide Changes to Retirement Age and Other Conditions for Full Pension

Country	Entitlement Age	Measures
Australia	male-65 female-60	no change 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 female-56	increase to 65 by 2002 increase to 60 by 2002 increase from 15 to 20 years for pension entitlement
Japan	male-60 female-57	discussion of increase to 65 moving to age 60 by 2000 increase from 25 to 40 years of coverage for full pension
U.K.	male-65 female-60	no change increase to 65 by 2020
U.S.	65	increase to 67 for persons reaching that age after 2026

Source: Canadian Institute of Actuaries, 1995, 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 and Scherman, 1995).

Many of the amendments in Table 7.4 are as significant as those proposed by the Wealth-Transfer-Index 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 labour 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.

Table 7.5

Average Retirement Age in Selected Industrialized Countries 1950-1990

Country	1950	1960	1970	1980	1990	1990-1950
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
U. K.	68.6	66.9	65.9	64.4	62.9	- 5.7
U. S.	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

* 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.

Source: Latulippe, 1996, 10 and 14

In 1994, the average retirement age for women in Canada was 58.5 years compared with 61.4 years for men (Statistics Canada, 1996c, 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 6.0 years for men and 8.5 years for women (Latulippe, 1996, 22 and 24).

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

Burkhauser (1996, 1) states:

> ...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.

In fact, in the United States, labour force participation rates for those aged 60 to 70 are no longer falling, but have bottomed out (*ibid*, 6).

In Canada, McDonald and Chen (1994, 130) state:

> At the policy level, the potency of an adequate pension cannot be overlooked. If reducing early 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.

What effect would the elimination of mandatory retirement have on the labour force participation of older workers? McDonald and Chen (*ibid*, 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 labour 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 provision be made for vulnerable workers who cannot work? Burkhauser favours shifting the early retirement age with the normal

entitlement age. (Note, 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." (*ibid*, 9/10)

Burkhauser (*ibid*, 11) 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.

Canadian data (McDonald, 1996, 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, 351). For men, the most important factors in deciding to retire early are: having a job-related pension; personal income (e.g. investments); early retirement incentives; and home ownership (McDonald, 1996, 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. The Seniors Benefit enhances this existing situation by income-testing family income. (emphasis added). (McDonald, 1996, 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, 108) report that, depending upon the age group, from 60 to 85 percent 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, 312), who note that the connection between age and individual productivity is very weak and can be changed with the environment.

Despite all of these optimistic data from the literature, there will be workers who 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 labour force producing goods and services. These public policy issues will be discussed more fully in section 7.4.3.

It must be remembered that the philosophy behind the rise in the age of entitlement consistent with the Wealth Transfer Index 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 (1996, 13/14):

> ...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. (See also Statistics Canada, 1996c.)

As Schellenberg notes (1996, 9), 27 percent of male retirees and 38 percent of female retirees left the labour force before the age of 60. In total, 60 percent of men and 70 percent of women retired before age 65 in 1991. At the other end of the age spectrum, 10 percent of men and women leave the labour force after age 65. In fact, Statistics Canada (1996c, 5) estimates that only 10 percent of men retire at age 65 (versus 19 percent in 1989). Recent studies show that in the late 1980s, almost one-third of retired people had returned to the labour force (more than double the proportion of the 1970s), and that this increase is closely linked to the drop in retirement age (*ibid*, 25). The majority of these (59 percent) took part-time employment. This phenomenon is also present in the United States and appears to be growing (*ibid*).

Financial reasons, although present, are not the only factors involved in the decision to return to the labour force. In fact, in the 1994 general social survey, Statistics Canada (*ibid*, 26) found that of those retirees who reported returning to the work force, 25 percent cited financial reasons, 20 percent reported a desire to occupy their free time, 20 percent cited personal preference, and 35 percent gave other reasons (e.g. 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, 17) reports that in 1994, one in

four retirees reported retiring for health reasons. Firbank (1994, 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 (1996c, 39) 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. (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 Quebec Pension Plan.

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, in any) until they reach age 65. In cases where 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 which depend on how many workers take up this offer). Rather the worker is depleting his/her post-65 benefits, to some extent, in return for phased or early retirement.

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

Thus, despite the fact that the recent reforms to the Canada Pension Plan 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 this author that one part of the ultimate financing model for the C/QPP and OAS/GIS will include later eligibility for retirement income benefits.

7.4 Public Policy Issues

7.4.1 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 percent of all Registered Pension Plan members in Canada are in non-integrated plans while 82.2 percent are in integrated plans.

Where benefits are based on earnings, 12.1 percent of plan members are in non-integrated plans whereas 87.9 percent 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 reduces early retirement benefits by 1/2 percent per month or 6 percent 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.

7.4.2 Issues for Other Government Support Systems

As has been stated repeatedly throughout this thesis, 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/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, the thesis 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 where workers often 'retire' from one job only to return to the work force 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 retirement. The model for phased retirement proposed by the Province of Quebec presents possible alternatives for

public policy, and is a system in which the Wealth-Transfer-Index model would work as outlined in this chapter.

7.4.3 Other Public Policy Issues

One of the key assumptions of the Wealth-Transfer-Index model is that older workers will be able to find work. It is the contention of the thesis that the private sector will want to retain older workers because of the decline of the labour 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 labour force participation of such older workers.

David (1993) found that there are six obstacles to employment of older workers:

1. Labour Force Transformation: both technological change and the movement from declining manufacturing industries to the service sector;
2. Government Policies: a lack of retraining programmes 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 percent of blue-collar workers retire early, as compared to only 11 percent of managers, professionals, and technicians).

The literature is virtually unanimous in listing the need for human resource retraining and reeducation programmes as an essential element in keeping the older worker employed (see, for example, Gibson et al., 1992 or Foot and Gibson, 1994). The National Advisory Council on Aging notes that not only must government

programmes for labour force re-entry be developed and expanded, but also that there must be a shift in attitude among all of government, business, labour 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, 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 et al., 1992) found that one obstacle to retraining of older workers was the perception that their workplace life expectancy (i.e. prior to retirement) was too short to justify the cost of retraining. However, labour 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 (Foot and Gibson, 1994). 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 (*ibid*, 108).

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

--business should set aside a minimum of 1 percent of payroll for retraining;

--tax laws should be amended to allow severance benefits to be received tax-free if used for approved re-training;

--the federal, provincial and municipal governments should harmonize their social assistance programmes and bring about the reforms necessary to make it financially advantageous for the employable unemployed to re-enter the labour force (e.g. 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 Wealth-Transfer-Index model cannot occur unless older workers find a way to remain valuable members of the Canadian labour force. That is an essential and will require government initiatives.

7.5 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 percent felt that the CPP would no longer exist, and only 17 percent thought it would deliver the same benefits as it does now (Human Resources Development, 1993, 1). Interestingly, nine in ten of those who think that the plan will cease to exist altogether would "deplore its loss" (*ibid*, 2). Among those aged 25 to 44 (i.e. the baby boom generation), 46 percent believe that the plan will be much reduced in scope by the time they retire, and 44 percent believe it will be entirely extinct *(ibid)*.

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 percent of those polled said the public plans were good and should be fixed, with just under 30 percent 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 virtual universal coverage of the labour 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 RRPSs or Defined Contribution Plans), and low administrative costs. Many of these points were discussed in Chapter 7.

Chapter 2 indicated how important the C/QPP are to the elderly in Canada, especially those living in or close to poverty, mostly women.

Chapter 3 showed that the cost of many other retirement income security systems is lowered measurably by the existence of the C/QPP (this would include 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, 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. Further, the projected savings in the new Seniors Benefit are highly dependent on the continued existence of the C/QPP.

Chapter 3 also indicated that only 50.7 percent of male workers and 43.5 percent of female workers are covered by private pension plans and that coverage is not increasing. 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 percent of workers whose benefits are earnings related are in integrated plans.

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

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

To conclude: 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 thesis so as to secure the future of the Canada's social security system. However, the thesis also laments the fact that a 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-Carty paper.

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

[1]The author would like to acknowledge the assistance of Ms. Claire Bilodeau in the development of the Chapter 7 material on the Wealth Transfer Index. Ms. Bilodeau was a Masters student at the University of Waterloo and a Research Assistant. She wrote the computer program and input the data that allowed for the analysis presented in Chapter 7, referred to as the Wealth Transfer Index.

Appendix: A Technical Discussion of the Wealth Transfer Index

The Wealth Transfer Index was defined as:

$$WTI = [(1.866 \bullet Y) + (1 \bullet U) + (4.636 \bullet A)] / LF$$

Where: Y = Youth, 0-19

U = Unemployed persons

A = Aged, 65 and over

LF = the projected employed Labour Force

The weights of 1.866, 1, and 4.636 come from work done by McDonald and Carty (1980, 16,17) for the Task Force on Retirement Income Policy (1979). In that study, McDonald and Carty (*ibid*) found that the total expenditures by all levels of government (i.e. federal, provincial, and municipal) for various age groups were as follows:

Table 7.6

Government Expenditures by Age Group 1976

Age Group	Total Government Expenditures	Percentage of Population	Per Capita Expenditures
0-17	$13.9 B	31.6	$ 1,889
18-64	14.1	59.8	1,118
65+	9.4	8.6	4,745

ibid, 16-29 and Foot, 1989, 107

Brown and Bilodeau (1997) adjusted these data so that the Youth sector included ages 0 to 19. Brown and Bilodeau also 'normalized' the weights so that the weight for the unemployed was set equal to 1.0. These two adjustments resulted in the weights of 1.866, 1, and 4.636 respectively. As previously stated, these weights

do not have any meaning by themselves—they are only weights relative to a weight of '1' for unemployed persons.

The Wealth Transfer Index has two variables. The first variable is the level of required Wealth Transfer itself, labelled 'K' in Figure 7.6. 'K' represents the total amount of wealth, or goods and services, that must be transferred from the active Labour Force (LF) to the Young (Y), the Unemployed (U), and the Aged (A). If government expenditures in each age group were to rise equally (e.g. by 10 percent), then the value of 'K' would rise by that same amount. This would indicate a need for a larger transfer of wealth.

The Brown and Bilodeau analysis focuses, not on 'K', but on the impact that the aging of the population has, assuming that government expenditures by age remain at the values derived by McDonald and Carty. Thus, there is an implicit assumption in the Wealth Transfer Index that if workers are willing to transfer a proportion of their output large enough to support the government transfers in place today, that they would be willing to transfer that proportion of their production in the future. What is of interest is how one might keep such an implicit transfer level as the population ages.

Brown and Bilodeau use a shift in the age of entitlement for social security (which includes health care) to achieve a constant Wealth Transfer Index over the next 45 years. The Wealth-Transfer-Index model presented is conservative for two reasons. First, the model assumes no improvement in the productivity of workers. Such an improvement would lessen the need for a shift in the age of entitlement as presented on page 191. Second, the detailed analysis for the age of entitlement uses a Wealth Transfer Index of 2.503. This is the absolute minimum value of the Index over the entire period of study. Thus, the shift in the age of entitlement presented in Figure 7.7 should be viewed as a worst-case scenario.

A number of scenarios were run to test the sensitivity of the Wealth-Transfer-Index model to changes in the input parameters (using McDonald and Carty, 1980, Table 22).

The first test determined the sensitivity of the model to changes in health care costs. Runs were done assuming that health care costs would be either 10 percent higher or 10 percent lower than those originally assumed. These are rather extreme variations as they would result in total health care costs that vary from 9 percent of GNP to 11 percent 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 the elderly of today and there is a positive correlation between the use of health care and level of education (Marshall, 1987, 420).

Using the worst-case scenario of a Wealth Transfer Index of 2.5, increasing health care costs by 10 percent 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 percent, then the 2041 age of entitlement becomes 69.6. The total difference, corresponding to a range of change of 20 percent in health care costs, is 3.6 years. This is significant. However, a 10 percent change in health care costs is also significant. A smaller shift in health care costs results in a proportionately smaller change in the ultimate age of entitlement. For example, assuming a + or - shift in health care costs of 5 percent 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 to modify the age of entitlement appropriately. It is also worthy of note that even with health care costs rising by 10 percent, the ultimate required age of

entitlement of 73.2 is still lower that the 'life-expectancy' equivalent of 73.68 presented in Table 7.3.

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 dependent on 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 1 percentage point above and below what had been modelled (which is an 11 percent variation). Using the worst-case scenario of a Wealth Transfer Index of 2.5, increasing the unemployment rate by 1 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 1 percentage point lower than those modelled, 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 Wealth-Transfer-Index model is sensitive to large shifts in health care costs, but not particularly sensitive to other input variables.

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