Policy Research Initiative | Projet de recherche sur les politiques

Encouraging Choice in Work and Retirement
Project Report

October 2005

PRI Project

Population Aging and Life-Course Flexibility

Canada

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Terrance Hunsley
Senior Project Director

About this report

The PRI contributes to the Government of Canada's medium-term policy planning by conducting cross-cutting research projects, and by harnessing knowledge and expertise from within the federal government and from universities and research organizations. However, conclusions and proposals contained in PRI reports do not necessarily represent the views of the Government of Canada or participating departments and agencies.

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1. Foreword: Life-Course Analysis and Public Policy

Life-course analysis is beginning to enrich public policy. It is a research and analytical framework that permits the linking of longitudinal research – understanding the life context and the complicated inter-relationships of experiences, transitions and connectedness – to more traditional cross-sectional and time-series analysis, and to coordinate the findings with other tools and models. It allows us to understand the interactions of social and economic dimensions of diverse life trajectories. We can take cognizance of the need of individuals at different stages in the life cycle to have access to different kinds of resources – money, time, information and social support. We can consider how different point-in-time experiences may play out over life courses, and how policy interventions might influence and interact with, not only the targeted event or situation, but also the continuation of life experience.

We come to understand for example, how people with low education levels might enter the labour force four or five years ahead of those with high levels of education, yet finish their work lives at about the same age, with three or four fewer lifetime years of employment. We can calculate the social costs of non-employment, accumulated over the years. We can measure the impact of the cumulative loss of labour supply on the economy due to weaknesses in education, employment and related policies, and project this impact into the future. We can test the effectiveness of policies over time.

In Canada, life-course analysis is getting a boost by new analytical tools enabled by recent developments in information and research technology. Longitudinal surveys, data pooling, and behavioral modelling instruments permit us to ask the "what if" policy questions. Central to this development is a powerful new federal government tool called *LifePaths*,[1] on which the Policy Research Initiative has been collaborating with Statistics Canada.

For this project, PRI established an interdepartmental working group with Statistics Canada, Human Resources and Skills Development Canada (HRSDC), Finance Canada, Social Development Canada, Industry Canada, Office of the Superintendent of Financial Institutions, Canada Revenue Agency, Health Canada, Social Sciences and Humanities Research Council, Public Service Commission and Treasury Board. We are exploring the social and economic implications of population aging in relation to the labour market, fiscal challenges, and flexibility of life course options for individuals. Population aging poses serious challenges, both for social and economic well being. We hoped that life course analysis would enable us to identify "win-win" opportunities, and we believe that this has happened.

2. Introduction and Summary

Population aging brings about social and economic transitions in society, and a large one is about to occur in Canada and many other developed countries, as the World War II baby boomers prepare to enter retirement. Several issues will be triggered by this change, and front and centre will be whether the labour force will be large enough and productive enough to keep the economy growing, which is generally perceived as necessary to sustain quality of life.

Of course there is a wide range of opinion around the "constant growth" objective. Some will question whether population growth and economic growth are really good for the ecology and planetary quality of life. Others may suggest that a smaller workforce could lead to higher wages, more bargaining power for workers, and opportunity for healthier lifestyles. If labour is more scarce and more highly-valued, and if more investment capital per worker is available, perhaps it is time to seek a better allocation of time for living, working, caring, learning, and leisure. On the other hand, many of our advances in health, well-being, poverty reduction and social security, have been built on the forward march of production, technology, and consumption.

The orientation taken in this report is to first try and determine the extent of the economic risk to society posed by population aging and specifically the baby boom retirement. We emphasize a need to maintain a healthy economy and fiscal prudence, while still respecting the opportunity and need for people to exercise choice in the best interests of themselves, their families, and society. The paper explores how older workers could be enabled and encouraged to extend their working lives to benefit themselves, their families, and the economy.

"Enabling" and "encouraging" are key words in the report, reflecting our view that population aging is a challenge, not a crisis. Moreover, our assessment of the future labour market suggests that we do indeed have a societal opportunity to achieve economic, social and quality-of-life objectives through a proactive strategy of attitude change, improved working conditions, human capital development, and social and economic inclusion.

What Are The Messages in This Report?

- Population aging poses a serious challenge to Canada. Finance Canada has illustrated this challenge graphically in an annex to the 2005 budget.[2] Beginning around 2010, the Canadian labour force will begin to decrease, not in absolute size, but as a proportion of the overall population. This decline in relative labour supply will mean that if no offsetting interventions take place, the rate of growth of the economy will be reduced, and this will have negative impact on the fiscal capacity of government, especially in view of pressures for increased public expenditures in programs which respond to older population groups. While these pressures may be, in some measure, offset by potential decreases in expenditures serving other age groups, such rebalancing can be extremely elusive, especially in a federal structure of government and when the impacts can vary significantly by region or community size. Nonetheless, it is important to note that projected increases in taxes paid by the future elderly generation will help to offset future increases in costs of fiscal transfers and health services generated by population aging. The retiring generation has substantial savings.
- There are, however, some trends which are increasing the hours of labour provided by the labour force. These include an increased intensity of labour force participation by women, and an increase in lifetime hours of labour which results from increased education levels of workers. These two trends will moderate the impact of the changing dependency ratio, permitting us to conclude that Canada will not face a crisis of shortage in overall labour supply, even though specific sectors and occupations, and particular periods of rapid change, could pose serious problems of adjustment.
- A strategy emphasizing continued fiscal prudence, productivity increases (all factors) and encouraging increased labour supply, will be important. While future economic growth will be highly sensitive to productivity increases, this report focuses

mainly on labour supply and to a lesser extent on labour productivity. It does not explore other aspects of productivity.

- Population aging will present opportunities for older workers to continue to provide needed labour to the economy, and to enjoy greater choice in their life plans, especially in view of their increasing longevity and increasing years of relative good health. While the present system is tilted toward early retirement, especially for holders of defined-benefit pension plans, the incentives for the overall population are not particularly strong when compared internationally.
- We specifically explore the potential for removing impediments and providing incentives for older workers to extend their working lives. Policy options are identified for relevant departments to consider. The report underscores the importance of a cultural shift in attitudes towards active aging and optimizing employment conditions for an aging labour force. This could involve a broad-based approach, in the nature of an active aging program, which could comprise:
  - a public engagement campaign to counter stereotypical attitudes and promote active aging;
  - removal or balancing of policy disincentives to working later in life and providing flexibility in pension arrangements and phased retirement;
  - initiatives or services to increase employability of older workers; and
  - engaging with other governments and employers to promote more age-adapted workplaces and flexible work arrangements.
- Finally, the paper sets a context for follow-up work in the population aging context:
  a) Recent concerns about the solvency of employer-sponsored defined-benefit pension plans, and a related trend away from such plans towards defined-contribution plans, may indicate a shift of risk to workers and families. Such risk in turn, becomes a matter of concern for the public pillar of retirement income security, especially if the new arrangements do not provide sufficient retirement security. More study is required here.
  b) While labour supplied by older workers could make an important contribution to the economy, it is not likely to fulfill the potential demand of the future labour market. Employers will be keen to recruit workers with appropriate skills, and will also be more sensitive to the need to retain their workforce. Consequently, investments by governments, employers and individuals in human capital development, in improving the quality and productivity of work and workplaces, could bring greater dividends than in past decades when there was a surplus of labour. There is an opportunity here to achieve better arrangements for work-family and work-life balance, to broaden economic participation among disadvantaged populations and to increase social inclusion.

3. The Context: Living Longer-Retiring Younger

Success and a Challenge

Population aging and retirement issues are in a sense, the fruits of success. In the past century, we dramatically lowered infant mortality rates. We overcame deadly childhood diseases. We avoided major military conflicts for half of the century. We also pushed some adult mortality into later age ranges with lifestyle changes, technology and safety improvements, and medical advances. It appears that we are living more years in relative good health.

The resulting increase in the average age of the population, and the increased proportions of the population in the older age categories, are pushed by two main trends: increased longevity, and decreased fertility. Demographic projections indicate that the median age of the population will increase by 5.9 years between 2005 and 2030.

As Table 1 illustrates, Canada is in the middle range of Organization for Economic Co-operation and Development (OECD) countries, but is aging more rapidly than the USA, which has a higher fertility rate (defined as the number of newborns per woman age 15-49). The Canadian fertility rate has dropped from 3.9 children in 1956 to hover around 1.5 now. We are not producing enough children to replace the population.

Longevity is also increasing steadily, at about 2.4 years per decade, and more of us make it into old age – 88% of women and 81% of men born in 1960 are expected to pass the age of 65, compared to 74% and 62% of those born in 1920.

Figure 1 shows, as well, that life expectancy at age 65 has been increasing rapidly. Not only do many more of us reach age 65, but when we do so we expect to live at least 4 more years compared to previous generations.

So we are living longer but having fewer children. Moreover, we have begun in recent decades, to withdraw earlier from the labour force. The amount of labour provided by the older (male) work force has been moving slowly downward, except for the past few years. A happy and healthy retirement has become a major social objective in Canada, and research on subjective well being [3] shows that we feel happiest as we approach that time. To say there is a cultural value placed on early retirement would not be overstating the issue.

As Figure 2 illustrates, the average Canadian male[4] at age 50 can expect to spend many more years out of the labour market, than in it.

It is important to clarify that the lines in this graph may not represent consecutive years, nor correspond directly to age. The "years not in employment" may include years of unemployment, or non-employment, accumulated across the population, regardless of the age (above 50) at which they were incurred. Similarly the "years in employment" might not be consecutive after age 50, but could be spread over more years, for example through part-time, interrupted, or periodic work. Nonetheless the declining amount of total work supplied by the 50+ male population, at least until the 1990's, is evident.

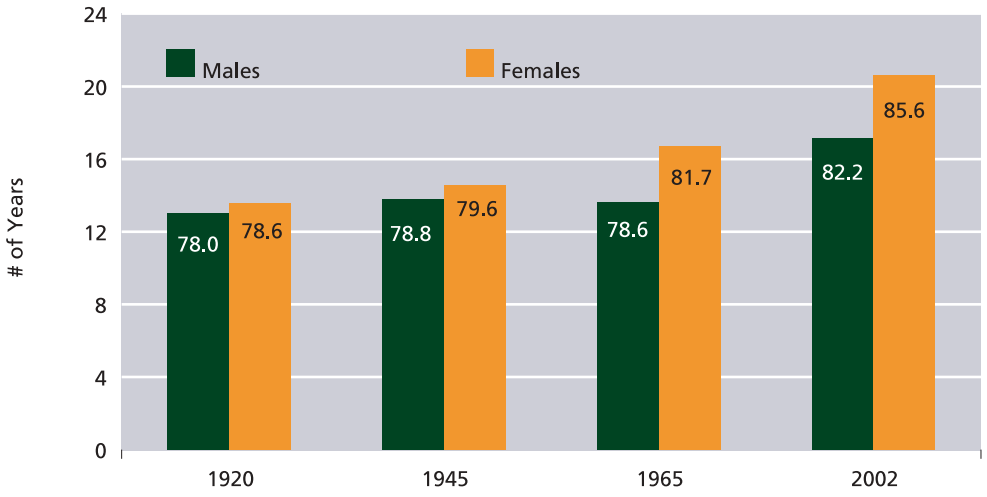
Table 1
Median Age in Selected Countries

	Canada	United States	Europe	United Kingdom	France	Germany	Italy	Japan
2005	38.9	35.9	39.3	38.8	38.9	42.0	42.2	42.8
2020	43.0	37.0	43.6	41.4	42.2	46.7	48.5	48.2
2030	44.8	38.2	46.1	42.5	43.6	47.1	51.7	51.7

Source: World Population Prospects, United Nations Secretariat.

Figure 1

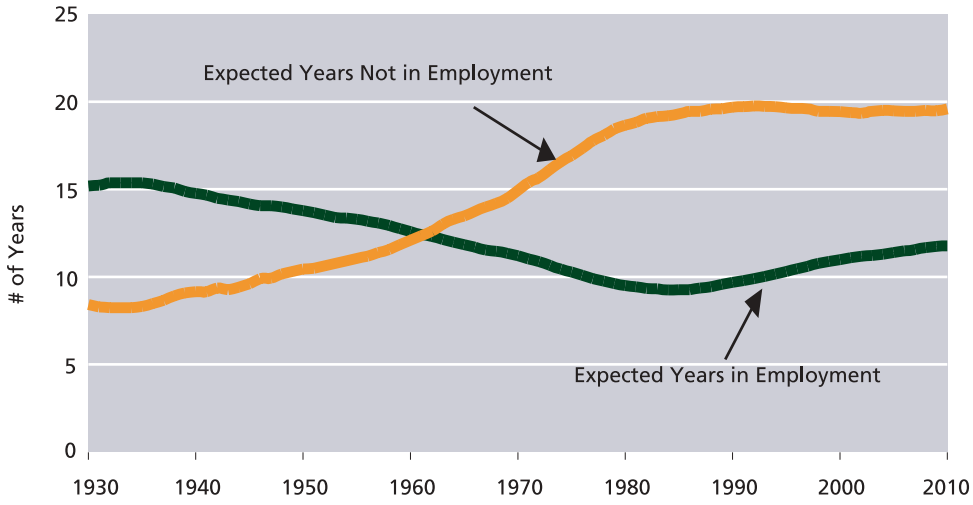
Life Expectancy at Age 65, 1920-2002



Source: Statistics Canada Cat. 84-211 and CANSIM table number 01020511.

Figure 2

Expected Remaining Lifetime Years In and Out of Employment For Men At Age 50*



*Expected remaining lifetime years in and out of employment, for males with at least some paid work and attachment to the labour force at age 50.
Source: LifePaths (Statistics Canada), using assumptions developed by the Interdepartmental Working Group on Population Aging and Life-Course Flexibility.

4. Measuring the Economic Implications of an Aging Population

The elderly population by itself and in combination with the child population, has tended to be labelled as "dependent" on the economic production of the working-age population. While a bit simplistic as a notion, dependency ratios are widely used as a measure of the economic costs associated with elderly and/or young populations, relative to the productive capacity of the labour force. The "total dependency ratio" is the ratio of people under 15 and 65+, to the 15-65 year old (or "working age") population, while the "old age dependency ratio" is the ratio of people 65+ to the 15-65 population.

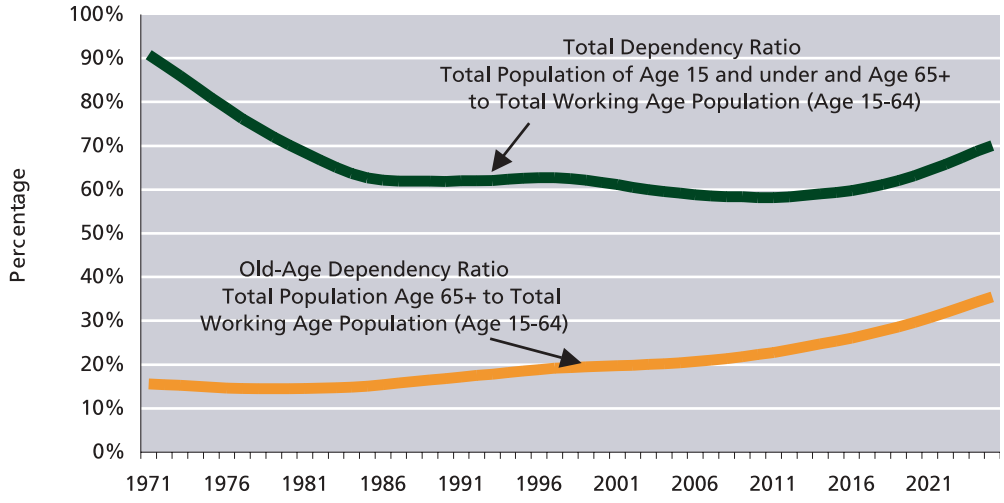
In post-war years, the total dependency ratio was higher than it is today, mainly because of the large number of baby boom children, while the elderly constituted a smaller group. By 1971 there were more than seven people of working age to each elderly person, and that number will fall to about three in 2025. However, there is also a significant reduction in the number of children relative to the working-age generation. This reduces, but is not great enough to offset, the impact of growth in numbers of elderly, and so the total dependency ratio change is not as dramatic as the old age dependency ratio, but it moves in essentially the same direction. Because fertility rates are low, even augmented by immigration, the growth in working-age population will also be slow and this will mean that the demographic-economic problem will not pass quickly. The following graphic compares the two dependency ratios for Canada.

From an international point of view, Canada currently has, along with the USA, the lowest ratio of the elderly to the working-age (15 to 64) population. By 2025, Canada's old-age dependency ratio will be at a level similar to other OECD countries, but the change in the ratio is expected to be more pronounced in the next two decades than for most countries, with the exception of Japan, Finland and Italy.[5] A similar pattern also emerges as one looks at the total dependency ratio. The pace (as well as volume) of change is a factor in economic and fiscal adjustment.

The projections of dependency ratios signal a long-term trend in the age distribution of the population. However, the change in relative size of the age groups does not translate into a proportionate shift in the amount of labour available to the economy.

Figure 3

Old Age Dependency Ratio vs. Total Dependency Ratio, 1971-2025



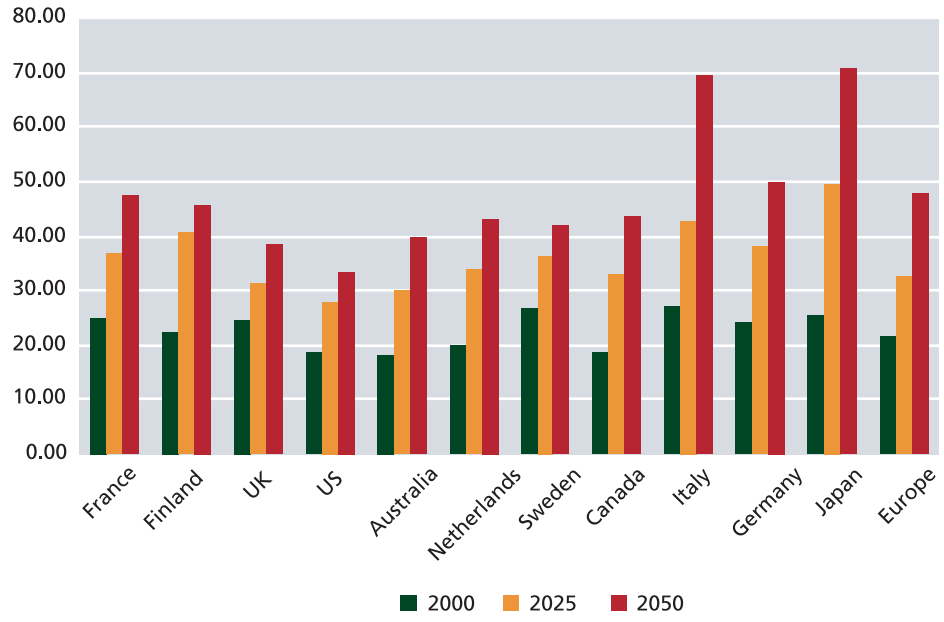
Source: LifePaths (Statistics Canada).

For example, the major increase in participation of women in the labour market over recent decades has increased the average number of total hours of work per person of working age, relative to earlier times. Secondly, and in a similar fashion, increased education levels, combined with the fact that people with higher education work more lifetime years, also increase the effective labour supply. Figures 5 and 6 illustrate these two trends.

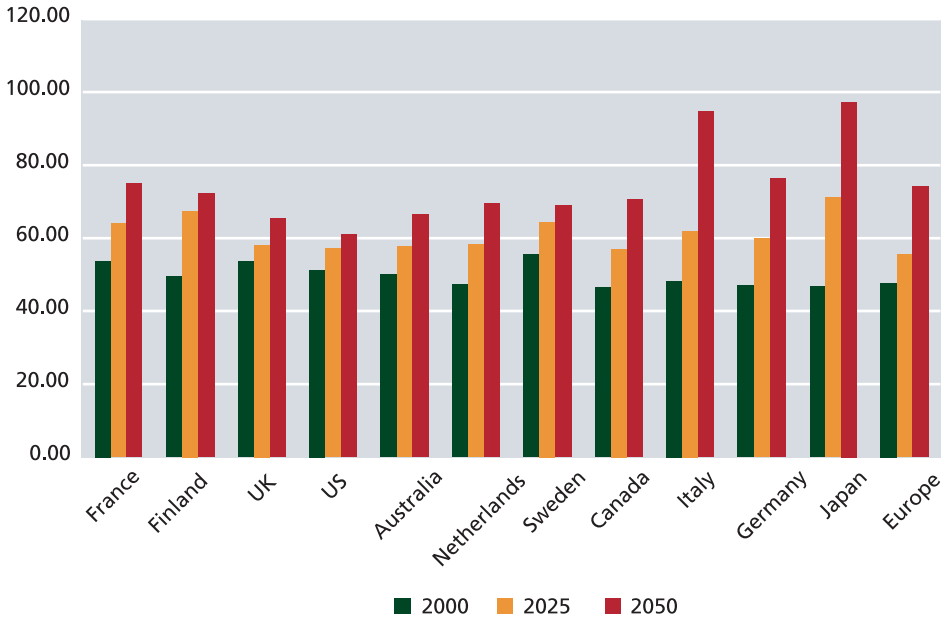
While male participation has declined slightly over the years, female participation has increased dramatically. This participation will likely continue to increase for some time, albeit at a slower pace.

Figure 4

a) Old Age Dependency Ratio



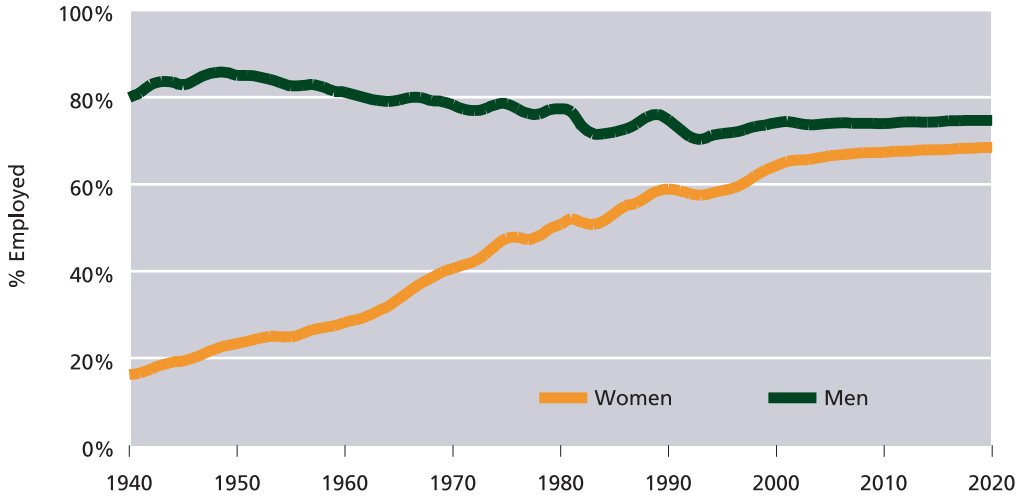
b) Total Dependency Ratio



Source: UN, World Population Prospects, 2004 revisions.

Figure 5

Working Age (15-64) Employment to Population Ratio, by Gender, 1940-2020

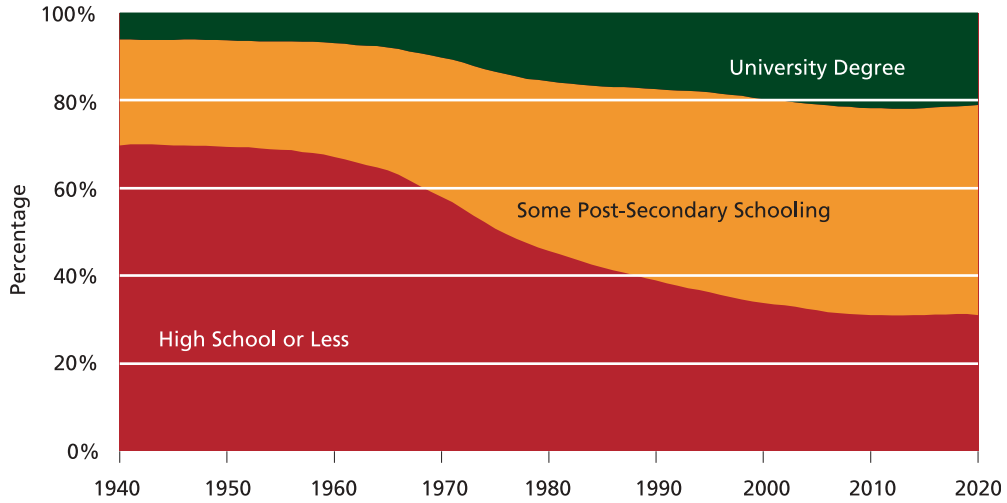


Source: LifePaths (Statistics Canada), using assumptions developed by the Interdepartmental Working Group on Population Aging and Life-Course Flexibility.

Moreover, although youth are entering the labour force at a later age, they do so with more years of education. Life course analysis indicates (Figures 6 and 7) that there is a direct correlation between levels of education and total lifetime years of employment. Individuals with lower levels of education may encounter more unemployment, or be hampered in employment by disability or poor health. So, increased education levels and increased female participation, mean that total hours of work over the lifetime of the next working-age population will be relatively greater (and they will be more productive), than previous generations. Because of the later age of career establishment of youth, the younger generation may also see a trend toward a later age of retirement.

Figure 6

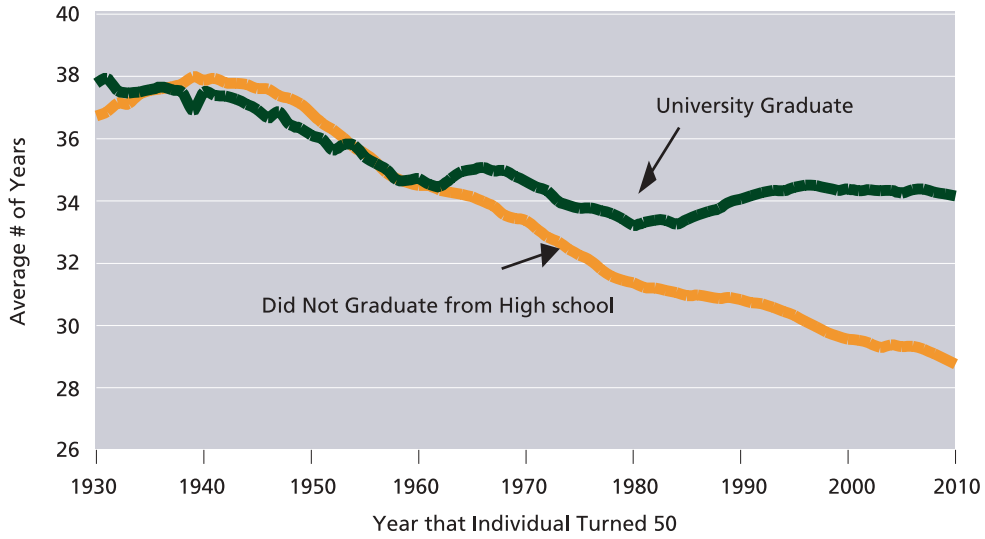
Educational Attainment of Canadians Ages 25-44: Past, Present and Future



Source: LifePaths (Statistics Canada), using assumptions developed by the Interdepartmental Working Group on Population Aging and Life-Course Flexibility.

Figure 7

Expected Total Lifetime Years in Employment, Men*



Source LifePaths (Statistics Canada), using assumptions developed by the Interdepartmental Working Group on Population Aging and Life-Course Flexibility.
* Expected total lifetime years in employment, once schooling has been completed for Canadian born males.

The dependency ratio misses other details, which can affect the supply of labour:

- When people actually enter and leave the labour force is a factor – they tend to enter later than age 15 (or 20), and leave before 65, so there is room for variation within the age range adopted for the measure.
- The employment opportunities for specific cohorts may change. In the 1980s and early 1990s, the labour market could not absorb the growing numbers of working-age individuals (especially in a policy context where inflation had to be controlled) and resultant unemployment was high, especially for youth. With expected higher labour demand in future, and with a better-educated population, it is likely that unemployment and underemployment can be reduced. This trend may have already started; for example, the labour market situation of older workers has improved considerably in recent years. Since 1995, the participation rate of men and women aged 60-64 has increased by more than 5 and 11 percentage points, respectively – the highest increase among OECD countries.[6] This result may be in part due to higher education of these cohorts, to better labour markets since the mid-1990s, and/or to the decline in stock market returns and current low interest rates, which bring poor returns on savings, thus delaying the retirement aspirations of some baby boomers.
- Another aspect that is overlooked by the dependency measure is the quality of the labour force. Here, it should be noted that Canada has the highest proportion among OECD countries of "prime-age" workers (25-49) holding a post-secondary level of education and, for older workers, the second highest proportion.[7] As education levels increase, lifetime labour hours increase, as well as productivity.

A final qualifier should also be made about the use of dependency measures. The degree to which an elderly population may be dependent on the working-age population will also vary with the sources of income of the elderly, and the extent to which their own taxes serve to offset their costs. As we will illustrate later, Canada's elderly population are increasingly relying on their own income sources and less on public transfers.

A Better Measure of Labour Supply Relative to the Size of the Overall Population

Using *LifePaths*, we have calculated the actual number of hours worked in the formal labour force by individuals over their lifetime, regardless of their age or the times or patterns in which they worked. We are also able to project these behaviours into the future, adjusting them to trends such as increasing participation of women, age of labour force entry, and increases in education levels.

Figure 8 presents the annual supply of labour hours calculated relative to the total population of the country. This indicator, like the dependency ratio, shows that we may be in a period of peak overall labour supply relative to the population. We will begin to see a decline in relative labour supply after 2010, but the long-term decline will not be as dramatic as would be indicated by dependency ratios. The low point, in about 2050, will be roughly the same as the labour supply in the late 1990s . This projection takes into account some of the recent upswing in participation of older workers. Should it develop that the recent increases are only a temporary phenomenon, the projected labour supply in 2050 might decline to a point more comparable to that of the early 1990s.

Nevertheless, an important and long-term reduction in relative labour supply will begin about 2011, and it will have consequences on economic growth.

Economic and Fiscal Consequences of Population Aging

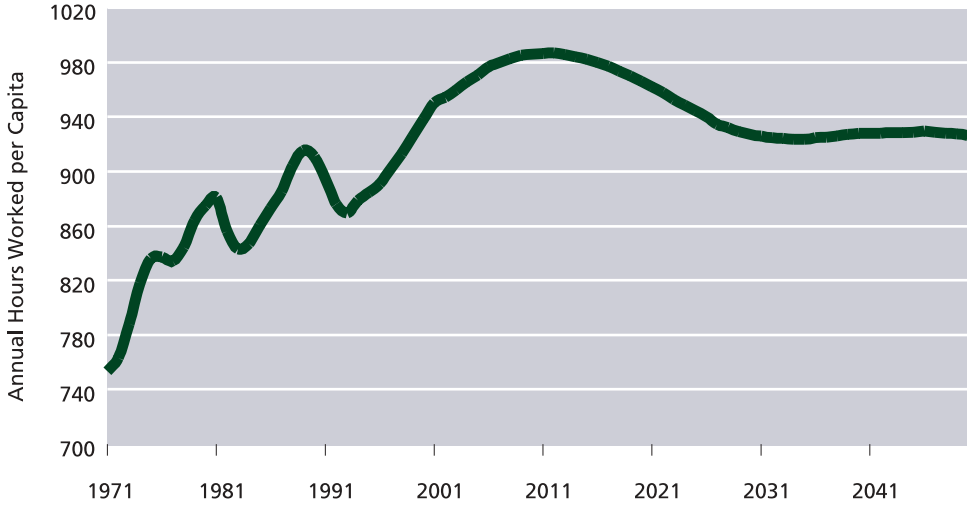
Productivity and Gross Domestic Product (GDP)

Over the last thirty years, employment growth played an important role in ensuring sustained improvements in economic living standards – defined as real GDP per capita. For instance, since 1997, GDP per capita increased at an average annual rate of 2.6 per cent, 1.4 percentage points of which came from a higher share of the population being employed. The expected fall in the relative labour supply will exert a negative influence on GDP per capita growth in decades to come. This could account for as much as 0.5 percentage points from the annual real per capita growth over the 2011 to 2030 period.

A key factor will be productivity growth. Unfortunately, productivity growth is highly unpredictable and depends on the interaction of a number of factors, including labour supply and quality, investments

Figure 8

Total Labour Supply per Capita, (in hours of work)*, 1971-2050



Source: LifePaths (Statistics Canada), using assumptions developed by the Interdepartmental Working Group on Population Aging and Life-Course Flexibility.
* Total Hours Worked per year divided by Total Population.

in physical and human capital, innovation, and general macro-economic conditions. Nonetheless, it will be key in determining our ability to prosper economically and to pay for public services and programs. According to Finance Canada analysts, assuming that productivity continues to grow at the same pace as observed over the 1997 to 2003 period (2% /year), the reduced growth in labour supply would mean that real GDP per capita growth would decline steadily over the period to reach 1.5% annually by 2030. A more pessimistic scenario would be productivity growth at the level it was between 1976 and 1995, or 1.5%, over the projected period. In such case, real GDP per capita growth would be reduced to 0.8% by 2030.

In brief, population aging will exert downward pressure on the growth in GDP per capita from levels experienced in the last decade or so, and the uncertainty inherent in long-term economic projections suggests that caution is merited.

Fiscal Pressures

Population aging will also have effects on public finances by exerting upward pressure on age-related expenditures. International organizations such as the OECD and the IMF have suggested that the current and projected policies of prudent budget planning and the reduction of the federal government debt burden have better positioned Canada to meet future challenges related to aging than many OECD countries. This being said, the challenge associated with population aging is non-trivial for all levels of governments and will require the containment of growing expenditures cast in a relatively low growth economic environment.

The intergenerational impacts of aging can be discerned across a wide range of government spending, and they do not all move in the same direction. Expenditures on the elderly or on programs used more heavily by the elderly can be expected to increase. For other costs, such as children's benefits, education, employment insurance, justice and incarceration, it may be anticipated that low fertility will cause those costs to decrease.[8] We have limited ourselves in this paper to reviewing recent analyses of implications for the two most visible programs, which respond to increasing numbers of elderly, namely the Old Age Security-Guaranteed Income Supplement (OAS-GIS) and health care.

Old Age Security-Guaranteed Income Supplement

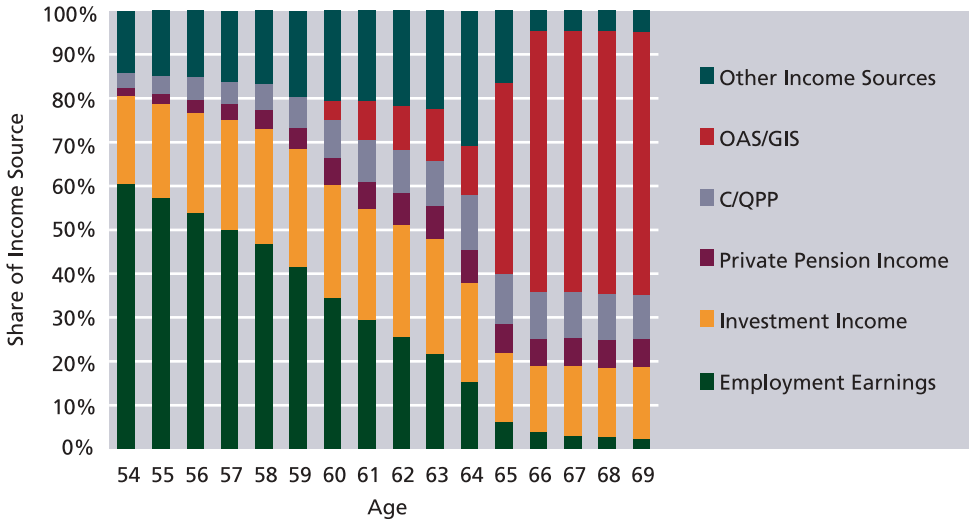
Expenditures on OAS-GIS will increase with the number of seniors. The relative size of these costs in total federal expenditures, and as a proportion of GDP will also increase. However, there are several factors that influence this growth other than aging. For example there are significant gender differences embedded in these programs, with more women than men receiving the GIS: From 1990 to 2000, about 65% of those receiving both OAS and GIS were women, whereas only 35% were men. Women are now beginning to enter old age with significant work experience – accompanied by retirement income drawn from Canada Pension Plan (CPP), private pension plans, and Registered Retirement Savings Plans (RRSPs). These factors are of importance because OAS and GIS are targeted benefits. While there is only a mild targeting of OAS, with the great majority of seniors receiving full benefits, GIS is highly targeted as a poverty reduction mechanism. In recent years, and continuing into the future, increases in retirement income from CPP, RRSP, and private pensions are acting to reduce GIS costs, and proportionally, also the importance of the OAS.

Figures 9 and 10 illustrate the changes taking place in the relative importance of various sources of income for older workers.

As the graphs indicate, Registered Pension Plan (RPP) and CPP income are increasing as sources of retirement income for both women and men, while OAS-GIS is decreasing proportionately. According to analysis from the CPP Chief Actuary,[9] the GIS paid benefits to 35.8% of seniors in 2004, but in 2020 the coverage of the GIS will be reduced to 30.9% and to 21.9% in 2050. The following projections indicate that the combined OAS-GIS costs as a percentage of GDP are projected to increase by somewhat less than 1% over the next quarter century. However, estimates of the projected increase presented in Table 2 make the implicit assumption that the generosity of these programs will not be increased in years to come. If benefits were to be increased, the projected impact would be greater. For example, the Office of the Chief

Figure 9a

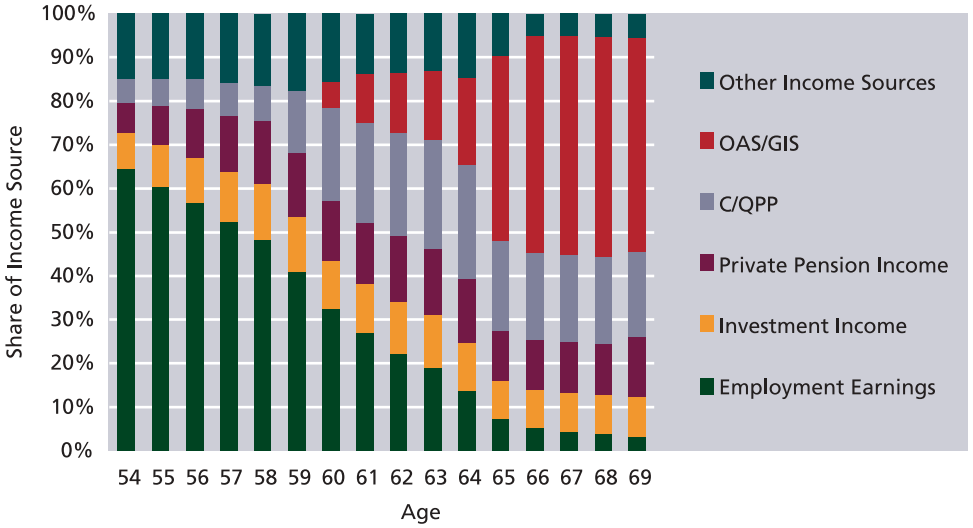
Average Share of Income by Source, Females, 1985



Source: Statistics Canada, 1986 Census — Reported income sources in year prior to Census.

Figure 9b

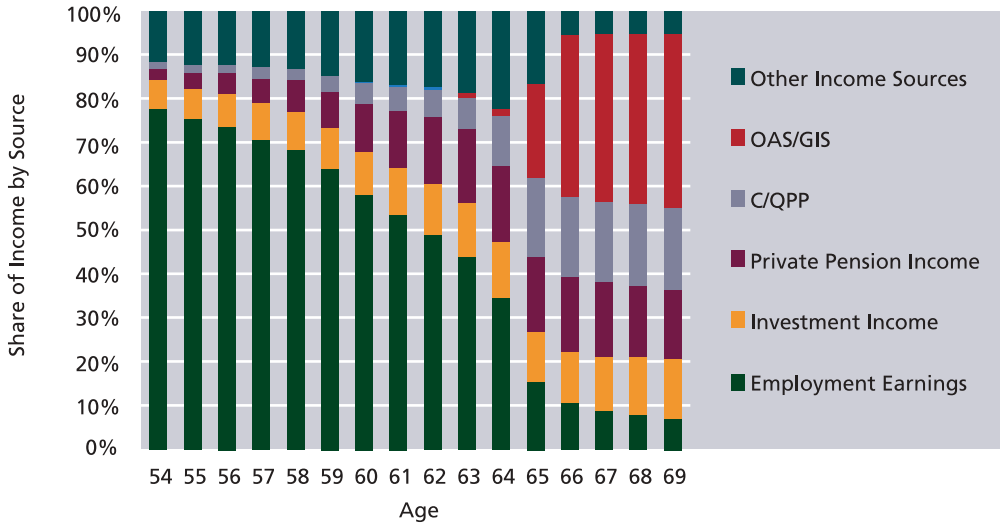
Average Share of Income by Source, Females, 2000



Source: Statistics Canada, 2001 Census — Reported income sources in year prior to Census.

Figure 10a

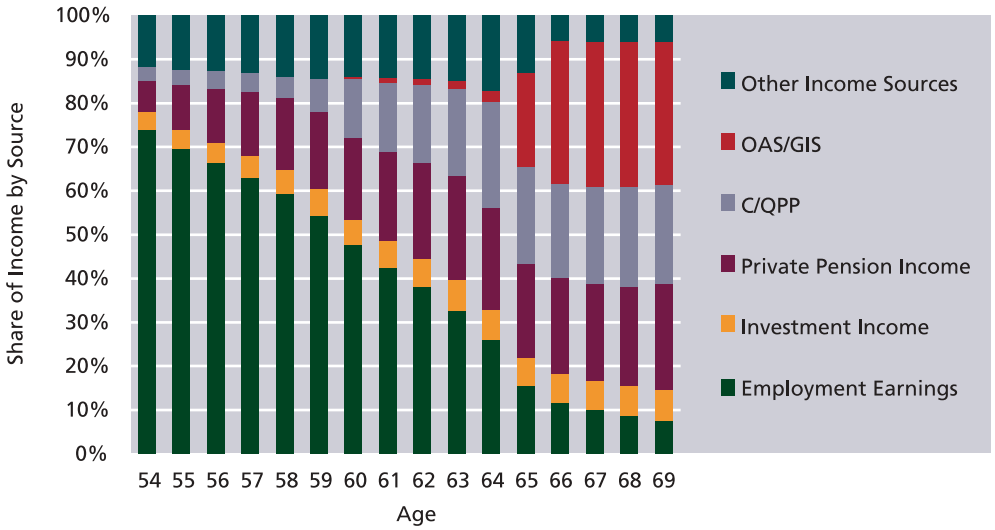
Average Share of Income by Source, Males, 1985



Source: Statistics Canada, 1986 Census — Reported income sources in year prior to Census.

Figure 10b

Average Share of Income by Source, Males, 2000



Source: Statistics Canada, 1986 Census — Reported income sources in year prior to Census.

Table 2

Projections By	Total Change in OAS/GIS Benefits as a % of GDP
Conference Board of Canada	**0.8%** (Between 2001-2019)
Office of the Auditor General	**0.9%** (Between 1996-2031)
C.D. Howe Institute	**0.4%** (Between 2001-2031)
Office of the Chief Actuary	**0.8%** (Between 2001-2030)

Source: World Population Prospects, United Nations Secretariat.

Actuary has shown that moving from price indexing to partial nominal-wage indexing (CPI plus 60% of the growth in real-wage) would increase total spending on OAS, and GIS benefits as a share of GDP by about another 0.5 percentage points in 2030.[10]

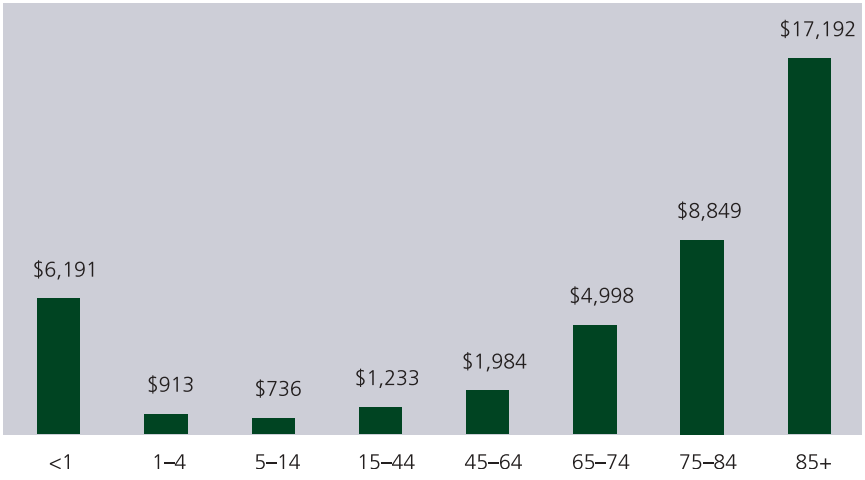
Canada Pension Plan

It is argued by some that payment of increasing CPP benefits could also displace other important social expenditures. However, the International Monetary Fund (IMF) and the most recent Actuarial Report from the Chief Actuary[11] indicate that the (albeit recently increased) level of premiums is sufficient to achieve a sustainable and sound CPP system for the next 75 years. The CPP is supported by contributions and accumulated funds, and increases in future expenditures are already forecast and included in the current premium rate, which will not have to be increased under current assumptions.

Health Care

Elderly Canadians make greater use of the health-care system than do younger Canadians; in fact, there is a very steep gradient in the cost of healthcare services as individuals age. The chart below shows this gradient for provincial and territorial government health expenditures.

Figure 11
Per Capita Provincial Health Spending by Age Group, 2001



Source: CIHI National Health Expenditures.

Table 3

Costs to the Health Care System

	Age- Specific Cost (if not in last year of life)		Cost of last year of life
	0-64	65+	All ages
Males	$362.01	$666.36	$29,180.80
Females	$428.92	$544.66	$50,956.34

Source: Pollock 2001.

Two things need to be noted about this chart. First, it depicts the current age-specific spending levels in health, which may or may not be indicative of future age specific levels of health spending. While it is almost certain that the elderly will apply more pressure to the healthcare system than younger Canadians, it will not necessarily follow the pattern described above. Many factors enter into the cost descriptions above (health status at various ages, structure of the healthcare system, level of technology, costs of inputs, etc.) and the future trends of these are very hard to predict. Second, the reason older Canadians cost so much more than younger Canadians is uncertain. Seniors may use the system more or use more expensive aspects, and/or they are more likely to be in their last year of life. The year when an individual dies costs significantly more than prior years). The findings of one Health Canada study are shown in the table above, illustrating the distortionary effects of costs in the last year of life.

The growth of the elderly population is only one factor driving health-care spending. Several other factors influence the costs, including:

- population growth,
- inflation,
- the pattern of demand for services,
- the incidence of chronic illness,
- public policy (which influences the type of services provided, access and how funds are allocated),
- pharmaceutical costs,
- technological improvements,
- health human resources, and
- patient safety factors.

To understand the various factors affecting health-spending growth, factors other than population aging, population growth and inflation are typically regrouped into a composite factor called the "rate of enrichment". This health enrichment rate represents the amount of real increase in healthcare services per person on an age-adjusted basis. Research by Jackson and McDermott (2004) and Health Canada[12] indicates that the health enrichment rate will be a very significant factor determining the overall growth of healthcare expenditures. It is expected that this rate will at least match that of productivity growth. Aging is expected to account for about one third of the annual increase in nominal public health expenditures; however, aging is a more significant factor contributing to the expected increase of healthcare expenditure as a percentage of the GDP (Table 4). This is because the impact of aging on the GDP is expected to be negative. In contrast, some of the major non-aging influences on health spending growth are expected to exert parallel influences on GDP growth.[13] Thus, the major factors giving rise to a potential increase in the health spending-to-GDP ratio are population aging, health sector specific inflation (i.e., inflation beyond that captured in the general price index) and potential increases in health enrichment that are not matched by commensurate increases in productivity growth.

The findings of several important analyses of the impact of aging on health costs are found in Table 4 below.

Table 4

Projections by:	Change in Public Health Care Expenditures as a % of GDP Due to Aging
Office of the Auditor General	2.6 percentage points (Between 1996-2031)
OECD	4.2 percentage points (Between 2000-2050)
Jackson and McDermott	3.5 percentage points (Between 2001-2040)
C.D. Howe Institute	3.9 percentage points (Between 2000-2040)

Clearly then, aging will have a significant impact on health expenditures and this will have fiscal implications. However, it is worth noting that all of the above studies assume that age-specific health costs will not change over time. It is not clear how increases in life expectancy will increase healthcare costs as this depends on whether the additional years of life expectancy will tend to be years spent in good or poor (i.e., high cost) health. Moreover, there is substantial uncertainty of the long-term projections depending on when the baby boom will be entering "last year of life."

In sum, the sustainability of the healthcare system is expected to be a key fiscal challenge in years to come. Public healthcare spending is expected to grow by approximately 4% of the GDP over the next five decades, mostly due to population aging.

Seniors as Source of Revenues

Traditionally, seniors pay lower income taxes than working-age people, and receive more in transfers and benefits. This is not unusual given that the situation was the reverse during their working age years. However, seniors of the future will be wealthier compared to the current population of older Canadians. They will receive a lower portion of their income from transfers and they will pay more taxes. For example, in a space of only 15 years, between 1985 and 2000, the share of all seniors' income deriving from CPP, RPP, RRSP, and investment income, increased by more than 2.3 percentage points for the 65-69-year-old population. The trend was even more evident for women, where the increase was 3.8% over the same period.[14]

The increase in taxable income from public and private savings for older Canadians also translates into proportionately more income taxes paid by seniors. While in 1986 the 65-69-year-old population represented 4.04% of all taxpayers, they paid 3.15% of all personal income taxes. In 2001, 15 years later, the 65-69-year-old population represented 4.38% of all taxpayers, and they paid 3.74% of all personal income taxes. The gap between their proportion of the total population and the proportion of taxes they pay is narrowing, and this trend is likely to continue as the baby boomers begin to retire en masse, and draw on their substantial assets. A recent study (Robbins and Veal)[15] predicts significant increases in future tax contributions from RPP, RRSP, CPP and OAS income, with future income tax revenues on present value RPPs and RRSPs savings estimated at some $300 billion.

The estimates of the anticipated increase in government revenues from these and other taxable income sources of seniors vary significantly. Mérette (2002) suggests that government revenues from these sources could increase by nearly 5% of GDP between 2000 and 2050, while Finance Canada makes a much more conservative estimate of 0.9% between 2000 and 2034. Moreover, Finance Canada points out that the net tax expenditure for RPP/RRSPs will remain positive in future due to anticipated increases in tax deferrals for contributors of all ages. They point out as well that some 43% of people currently receiving income from RPPs and RRSPs are under 65.

Conclusions Regarding Economic and Fiscal Implications of Population Aging

The aging population will pose challenges for fiscal management in the years to come. Spending pressures, however, could be offset to some extent by the fact that seniors will be paying more taxes and relying proportionately less on the income support system. As well, reduced pressures can be anticipated in programs serving other age groups. It will be a

major political and administrative challenge to manage public finances through the periods of change, especially because business cycles may present other pressures, which are not coincident with the longer range trends.

The International Monetary Fund in a recent assessment of Canada's economy, concluded, "… the fiscal system was well placed to cope with expected pressures from population aging compared with many other G-7 countries…"[16]

Over the last decade, Canada has steadily reduced the ratio of public debt-to-GDP at the federal, provincial and territorial levels. The federal debt-to-GDP ratio fell to 41.1% in 2003-04, down from its peak of 68.4% in 1995-96. With prudent fiscal management, the debt-to-GDP ratio is expected to continue to decline to 25% by 2014-15. As a result of this reduction in the federal debt, the interest charged to service public debt as a share of revenues have fallen to just over 19% – the lowest level since the late 1970s.

This means that, in the future, a smaller share of government revenues will pay interest on public debt, and Canada will have more fiscal flexibility and a greater proportion of revenue available to respond to future needs.

Adjustment Within the Pension System

The structure of Canada's pension system may enable it to adjust more readily than systems which are more uniform and more heavily state-sponsored. Canadians depend on a variety of savings vehicles for their retirement income, including tax- and transfer-based, income-targeted support, a mandatory contributory pension, tax-subsidized employer-provided defined-benefit and defined-contribution plans, and tax-subsidized personal retirement savings. Some of these vehicles respond directly to market changes, while others are pooled private risk, which may moderate the impact of, but still respond to, market effects.

However, this mix of private and public retirement savings mechanisms also has its weaknesses in that the protection from market risk, and the generosity of pensions, can vary significantly across the population. As Table 5 indicates, defined-benefit/high-replacement/inflation-protected pension systems are heavily concentrated in the broad public sector. In the private sector, defined-benefit programs tend not to be as generous either in income replacement or inflation protection.

In recent years, serious concerns have been raised about the solvency of some employer-sponsored plans, and Finance Canada has launched a consultation on the issue. As well, there has been a decline in defined-benefit programs in both the public and private sector, with increased reliance on defined-contribution and group RRSP programs. The differentials in retirement security and return on savings by sector may be having an effect on older workers' retirement decisions. While this could account for some of the recent increase in participation rates of older workers, it could also signal some concerns for the retirement-support capacity of the private pillar of the retirement system. This, in turn, would have implications for future pressures on public spending. This issue merits close monitoring and study.

Table 5

Registered Pension Plan Coverage Rates by Sector and Type of Plan

	Private				Public (broad)				Total			
Year	**1992**		**2002**		**1992**		**2002**		**1992**		**2002**	
Coverage Rate	34.2%		29.3%		95.0%		86.6%		49.6%		42.3%	
Type of Plan	**DB**	**DC**	**DB**	**DC**	**DB**	**DC**	**DB**	**DC**	**DB**	**DC**	**DB**	**DC**
	28.7%	5.5%	21.7%	7.6%	91.2%	3.8%	81.4%	5.2%	44.6%	5.0%	35.1%	7.2%

Source: Author's own calculations, Villemaire (2004) and the Labour Force Survey (Statistics Canada).
DB: Defined Benefit DC: Defined Contribution Coverage rate: % age of total employees holding RPPs

Distributional Implications of Retirement Policies

We have addressed earlier the issue of possible displacement of other social priorities by age-related expenditures. There are some indications that offsetting reductions in expenditure pressures in other areas (e.g., education) could ease somewhat but not eliminate overall fiscal pressures stemming from aging, although the exercise of political and policy choice will by no means be easy. Many choices are heavily influenced by popular perceptions, and age-related expenditures (e.g., health, OAS/GIS) will definitely be seen to increase.

On the other hand, the baby boom generation is expected to be relatively less financially dependent in retirement than earlier generations. It will pay more taxes and will eventually pass on substantial assets.

On the whole, Canadians are entering retirement better equipped financially to look after their own needs, although there are some troubling signs of a widening gap in protection levels between public and private sector employees.

It might also be noted that Canada's retirement income system has been an effective equalizing system over the years. In retirement, lower-income workers are able to replace a larger share of their pre-retirement income with targeted benefits. This has had the effect of lowering poverty rates and income inequality among the elderly (although over time indexed benefits tend to lose some relative value because they are indexed to costs rather than wages).

These factors are part of public discourse about inter-generational equity. A thorough analysis of this issue requires much more in-depth analysis of taxes, expenditures, public debt, benefits of past and present policies, value of public and private assets and liabilities…a substantial project in itself. Optics are extremely important here, however, and public policy regarding aging may be judged on how it looks "in comparison" to policies which protect the economic security and well being of the general population. The history of Canadian social policy is often referred to as "incrementalism," where a new benefit or protection developed for a portion of the population (often the elderly first, or in the case of pension benefits, the public sector) is gradually extended to other groups in society. It will be important to ensure that economic security among all generations is solid and equitable.

Another distributional issue is a gap in lifetime years of employment between workers with higher and lower levels of education. Figure 7 shows that those with higher education tend to work about 34 years over their lifetime, and that they have actually somewhat increased their lifetime participation in the labour market since the 1980s. However, those who do not have a high school diploma work fewer years. In 1990 these individuals were working about 31 years over their lifetime, and we forecast that this will decline to 29 years by 2010. Note that it may not be because of earlier retirement that those who have lower education are working fewer years; they have more difficulties in keeping stable employment. On the flip side, reductions in the proportion of the labour force with low levels of education have had substantial effects on labour supply, and this signals a key area for potential further progress.

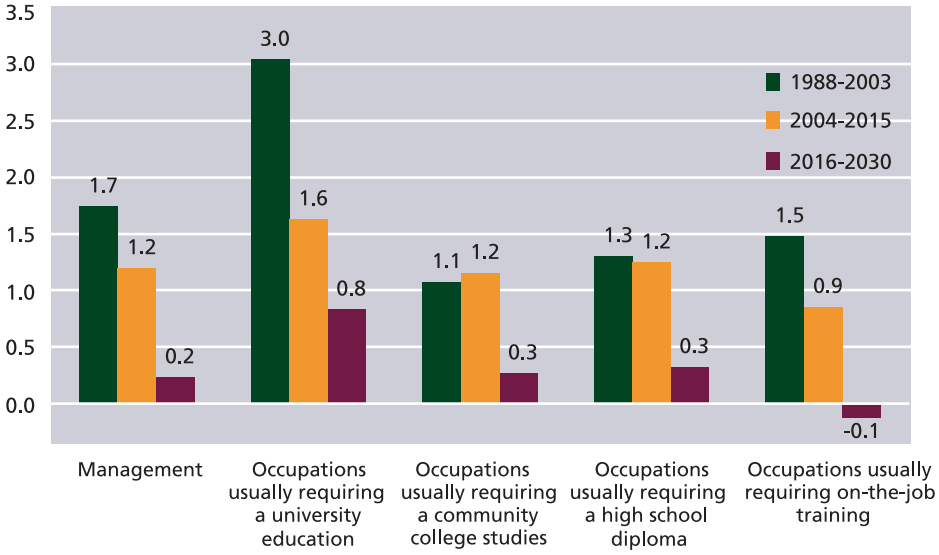
Labour Market Impacts of Population Aging

HRSDC[17] has recently analyzed the impact that the retirement of baby boomers will have on the labour market. They forecast that over the next 10 years, as the wave of baby boom retirement begins, 605,000 jobs a year will become available. Of these, 400,000 will be triggered by retirements, with the remainder from economic expansion. Of course, the next 10 years is only the beginning of the retirement wave, which will eventually be followed by a slower decline of workforce growth due to low fertility. HRSDC puts retirement as accounting for 53% of all job openings in 2004, and a projection to 2013 puts this figure at 75%. If, globally, it is believed that the market will adjust, this adjustment will be more difficult in some sectors than others. Much better job matching will become more important than ever before, and human resource functions will take on increased importance.

- In essence, we will change from a 30-year period of labour surplus (when the baby boomers crowded, and expanded, the market) to an extended period of relative strong labour demand (as the baby boom generation exits). While we do not anticipate generalized labour shortages, it is

Figure 12

Skilled Workers Will be in Higher Demand: Employment Growth by Level of Education (Average annual growth rate)



Source : COPS (Human Resource and Skills Development Canada).

highly likely that specific sectors will have difficulty matching supply with demand. This will be a planning and management challenge to employers and institutions responsible to respond to labour market needs. There will be also be an economic challenge to keep labour supply at optimum levels.

- On the other side of the coin, this transformation of the labour market will provide a golden opportunity to reconsider a wide range of related policy issues in the context of the emerging high-demand scenario. There may be opportunities for social gains to be combined with increased labour supply.

What are the Likely Impacts on Labour Productivity?

- With an older labour force and strong labour demand, we may anticipate that, particularly in sectors where labour will be relatively the most scarce, there will be pressure to increase wages and improve working conditions. This could have a positive impact on productivity if it leads to more investment in human capital. A simulation carried out by a group of researchers[18] suggests that the extra investment in human capital could increase Canada's stock of human capital by 2050, by 17% higher than it would have been without the population-aging factor.
- Other analysis[19] suggests that the pyramidal labour structure of many organizations and enterprises will provide opportunity for more rapid advancement of younger cohorts, with productivity being accelerated in the process. Eventual shortages, if they endure, should become evident at the bottom of the structure, where labour may be more easily replaced by capital investment or by outsourcing to other countries. The important point here is that workplace organization and quality will have a substantial impact on productivity.
- There are also factors that could undermine productivity growth. There are suggestions,[20] for example, that productivity may decline with a workforce that is aging. Such a decline could happen for several reasons, including:
  - a lower share of young workers when younger cohorts are more educated;
  - a suggestion that technology adoption may be easier for younger cohorts;
  - a lower share of healthier, younger cohorts;
  - the possibility that younger cohorts work harder to secure promotions and tenure; and
  - net depreciation of human capital as workers get older and stop investing in themselves.

Despite the lack of overall consensus on the labour productivity issue, HRSDC projects increases in labour productivity to be quite strong:

> Growth in labour productivity is expected to average an historically strong 1.8% in the long-term, given that the aging of the labour force will result in proportionately more experienced workers, the continued migration of low-skill labour intensive jobs to low wage countries, the increasing proportion of highly educated workers in the labour force and a rising capital to labour ratio. This rate is comparable to the growth in labour productivity experienced over the second half of the 1990s (1.7%) and much higher than the 1.1% growth averaged over the 1980s and the first half of the 1990s.[21]

It is important to note as well that the factors identified in the arguments could potentially be influenced by policies or employer practices. Figure 12 illustrates the areas where demand is likely to be highest.

The data suggests that job matching will become a more important factor. However, it will not solve another potential imbalance: Future job growth will increasingly be in occupations and sectors that require higher skills (e.g., at least some post secondary education). While educational levels are increasing, there is still a significant proportion of the labour market without post-secondary education. There is some evidence that workers with lower skill levels have fewer opportunities to upgrade their skills, and that lower-level skills tend to lose ground in the changing economy. This is one explanation for the phenomenon observed earlier, that lower-educated workers will have significantly fewer years of gainful employment – and, therefore, also lower lifetime earnings and pension savings – than other groups.

With lower employment growth, increases in the GDP per capita will increasingly depend on improvements in productivity. These improvements will largely stem from technological change, which is brought about by, among other things, new technologies and processes. But they are also highly dependent on a well-trained, flexible, innovative and adapting labour force. From a public policy point of view, the challenge will be to encourage positive macroeconomic conditions and policies that create an economic environment propitious to productivity growth and policies, which favour development of human capital.

Retirement from the Public Service

Employment in the public and quasi-public sectors most often involves broad pension coverage, and defined-benefit plans. In many instances the benefits are also adjusted for inflation. In these sectors, the incentives to retire early can be quite strong, although many “retired” public servants do re-enter the labour market. For purposes of this study, the PRI joined with the Public Service Commission and Treasury Board to carry out a special analysis and projection of retirement patterns in the federal public service.

Case Study: The Federal Public Service

MGMTS: Management	**SCIPR:** Scientific and Professional
ADMFS: Administration and Foreign Service	**OPERS:** Operational
TECHS: Technical	**ADSUP:** Administration Support

All sectors of the Canadian economy will be facing a baby boom retirement exodus in the next few years. However, the Federal Public Service (FPS) is generally older than the Canadian labour force and, as such, it will be at the forefront of this retirement wave.

As shown in Chart 1, in 2004, one in three permanent employees in the Federal Public Service, Canada's largest employer, was 50 years of age or older.

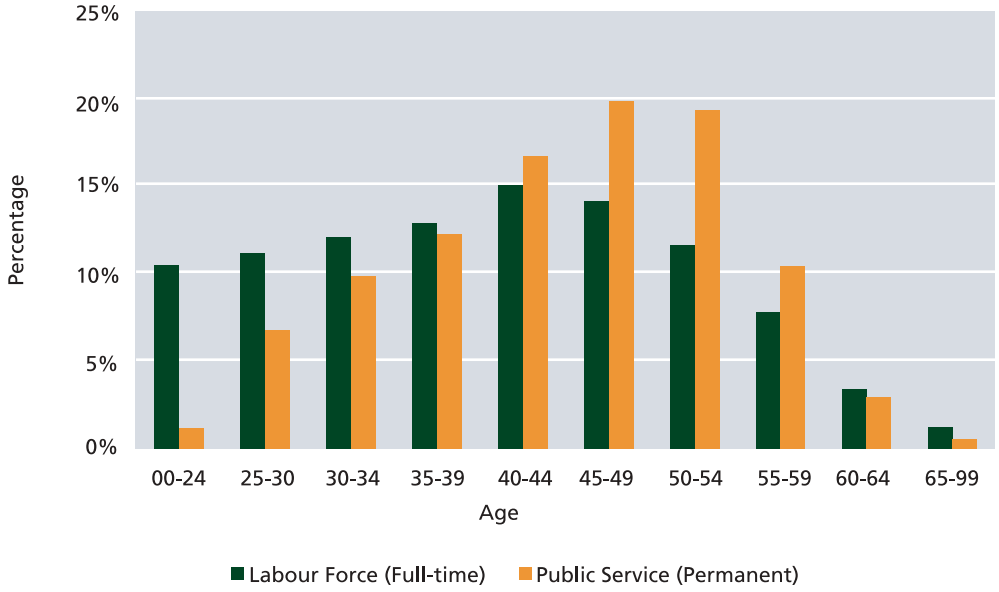
With the Treasury Board of Canada, the Public Service Commission and Statistics Canada, the PRI studied long-term changes in retirement patterns of FPS employees. We found that the wave of baby boom retirements has already started in the FPS, and that it will reach a peak in 2013. For example, in 2005 we expect that more than 3,500 permanent employees will retire from the FPS, an increase of 85% compared to 2000. In 2013, at the peak of the retirement wave, we expect that over 5,600 permanent employees will retire.

The study also looked at behaviour differences in retirement decisions. Even though all FPS employees retire on average between the age of 57 and 59, employees in management, administration, technical, scientific, and professional categories are more likely than other groups to work beyond the minimum requirements to retire without penalty.

As shown in Chart 2, the percentage of employees retired at age 55-59 with 30 years of service or more (the shaded area) is higher among Technical, Managers and Administration and Foreign Service compared to Administration Support and Operational. In fact, 76% of Technical, 77% of Managers, 64% of Administration and Foreign Services and 62% of Scientific and Professionals retired between the ages of 55 to 59 with 30 or more years of service.[22] This compared to only 36% of employees in the Administrative Support category and 43% in the Operational

Chart 1

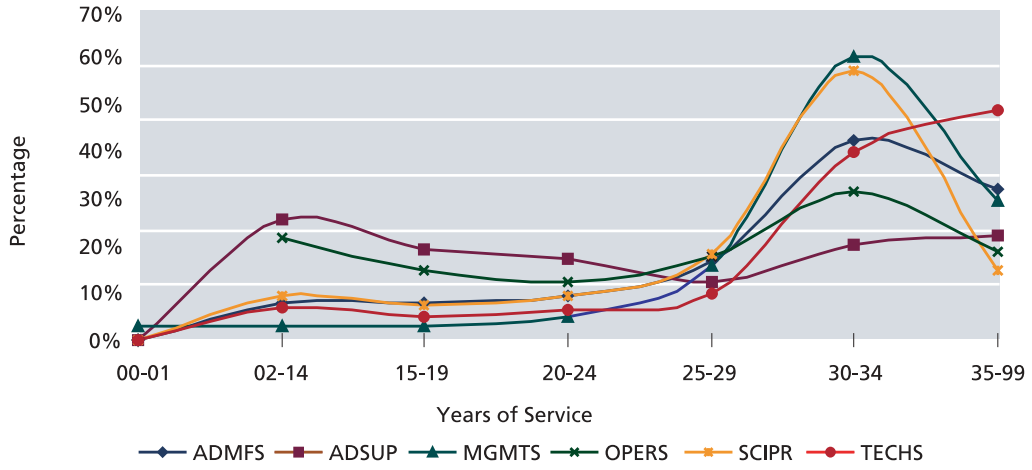
Age Distribution of Public Service Employees and Canadian Labour Force



Source: Labour Force Survey and Treasury Board Secretariat.

Chart 2

Distribution of Public Service Retirees at Age of 55-59, 1990-2004



Source: Job-Based Analytical Information System, Public Service Commission.

category. These groups tended to retire at the same age, but with less than 30 years of services.

The Study also highlights the fact that the profile of jobs in the public service is undergoing a transformation toward more scientific, technical, and professional positions. Employees belonging to the Administration and Foreign Service and to the Scientific and Professional groups accounted for 58% of the total FPS workforce in 2004, compared to 43% in 1990. At the same time, there was a decline in the combined proportion of Administration Support and Operational positions from 42% to 28%[23].

As well as the difference in the retirement behavior between occupational categories and changes in the occupational mix of the federal public service, the age of entry into the FPS influences the retirement pattern of FPS employees. During the last decade, the average age at retirement in the FPS stayed quite stable at around 58. However, during the same period, the average years of service at retirement increased by about three years (from 23.5 to 26.9). The increase in the average years of service at retirement reflects a younger age of entry into the public service, of recent retirees. For instance, 56% of recent retirees entered the FPS at the age of thirty or less compared to only 38% among previous cohorts.

Although women retire from the FPS at around the same average age as men – within one year – they have usually accumulated fewer years of service. The difference ranges from 3 years among the Administration and Foreign Service to 8 years within the Scientific and Professional category. Although data limitations did not permit further exploration, we may surmise that some of the differences could be due to the age of entry of women to the FPS, work interruption and joint retirement decisions with partners.

The gradual increase over the years in the education, training and experience requirements in the FPS, coupled with an anticipated decrease in the availability of younger workers, is increasing the age at which federal public servants are hired. The percentage of new permanent appointments under the age of 30 went down from 40% in 1992 to 30% in 2003. During the same period, the percentage of employees hired at the age of 40 or higher went up from 24% to 37%.

Considering the higher skill requirements, the delayed entry to the labour market among recent cohorts, and the anticipated decrease in the availability of younger workers, new public servants will likely work until later ages to accumulate sufficient years of service.

5. The Potential for Increasing Labour Supply by Working Longer in Life

What if we were able to convince older workers to delay their retirement? If they would work two years longer, it would have a major impact on labour supply. In fact, as the following *LifePaths* projection illustrates, the result would be that labour supply relative to the population would be about equal in 2025 to what it is today.

As the projection indicates, the potential labour supply impact of delayed retirement is quite dramatic, because the increased labour is not offset by any increase in the economically dependent population. The question to be posed, of course, is whether older workers would agree to work two years longer. We will present evidence indicating that there is some desire to work longer even under current work conditions. What then if more flexibility is provided and if workers have more incentives?

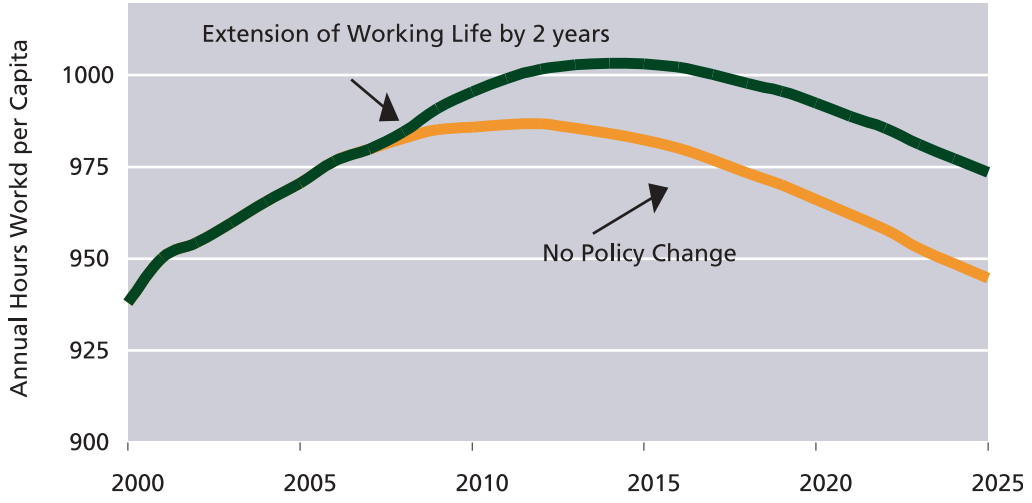
Looking farther into the future, it is important to recognize that life expectancy continues to increase, and in recent decades the increase has been more rapid than expected. Should future decades witness similar increases, a continuing societal adjustment, which incorporates longer working lives, would be much needed. A simulation[24] of this option follows, based on a cultural adjustment, which takes place more gradually, at an arbitrary rate of one-half of future life expectancy increases. This measure could have substantial impact on labour availability over the long term, and would also assist to moderate future contribution adjustments if life expectancy increases exceed expectations.

What do we know about older workers' preferences relative to labour market participation; the incentives that they have for an early exit, and obstacles that they face if they wish to work later in life?

The retirement transition does not always take place when and how people would like it to. Individual life projects may be frustrated. Moreover, what constitutes "retirement" may vary significantly from person to person. An act of retirement may mean stopping

Figure 13

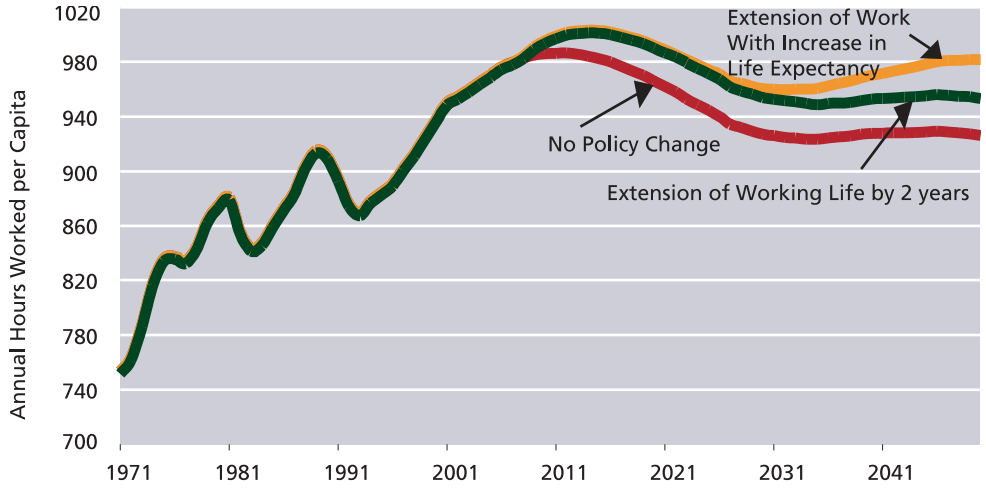
Impact of Extending Working Life by Two Years: Total Labour Supply per Capita,* 2000-2025



Source: LifePaths (Statistics Canada),using assumptions developed by the Interdepartmental Working Group on Population Aging and Life-Course Flexibility.
* Total hours worked in Canada, divided by total population per year.

Figure 14

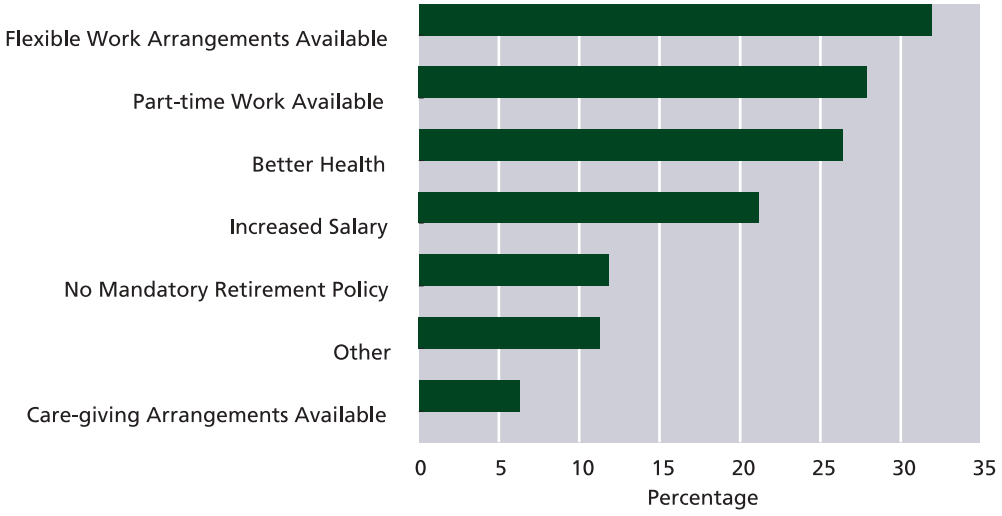
Impact of Extending Working Life by Two Years and Increasing Working Life by 50% of Increases in Life Expectancy: Total Labour Supply per Capita,* 1971-2050



Source: LifePaths (Statistics Canada), using assumptions developed by the Interdepartmental Working Group on Population Aging and Life-Course Flexibility.
* Total hours worked in Canada, divided by total population per year.

Figure 15

Recent Retirees Would Have Continued to do Paid Work if:



Source: Schellenberg (2004).

work and collecting a pension; then working again on a part-time basis, or in another job. (About 25% of "retirees" return to the labour force.) Researchers tend to think of retirement as a final withdrawal from the labour force, but in fact it can be a varied set of pathways.

Two recent Statistics Canada studies[25] provide important insights:

"Near-retirees" (aged 45-59) tend to identify a "preferred" retirement age, which is younger by about 4 years, than their planned or expected retirement age. On the latter measure, their estimates pretty much correspond with actual retirement age trends. The desire to retire early indicates that withdrawal from the labour force, or at least from dependence on one's current job, is a highly valued expectation – (66% of near-retirees would like to retire before the age of 60) – what the author calls a "culture of early retirement."

While older workers have more realistic plans or expectations, it seems that these plans are often not clear, especially when the person does not have a defined-benefit pension. A quarter of older workers do not have any plans to retire. About a third of retirees say they would have worked longer if circumstances had been different – if they could have reduced their working time, taken on different duties, been paid more, etc. Another 26% might have continued working if their health had been better.

The study yielded interesting – and a bit counter-intuitive – information on retirement plans of different occupational groups. In general, more highly educated workers tend to work more lifetime years than others. Yet among current older workers in public service, education, health and social services, those in professional categories are more likely than others to plan to retire before the age of 62. It may be that many of these individuals do return to the work force after taking official retirement in order to draw pension benefits. People who are self-employed seem to plan their retirement more precisely, and they do tend to work longer.

Another exercise that examined this question was held in 2004 with several focus groups throughout Canada, a project sponsored by PRI.[26] Participants in these groups were identified by age and by socio-economic characteristics; those with low education or low earnings, and others with higher education or higher earnings. They were asked about their preferences and attitudes regarding work and retirement. Most of the participants indicated that they enjoy work, though not necessarily their current jobs. Their plans for the future tended to vary according to their socio-economic status.

Younger, lower-educated workers had more modest aspirations. Most had neither an employer-provided pension, nor savings. Their main objectives were to reduce their debt and if possible, buy a house. For older lower-paid workers, the objective was to stay in their jobs until 65 when the retirement income system becomes fully operative. They were interested in the possibility of part-time work after retirement, but could not afford it before.

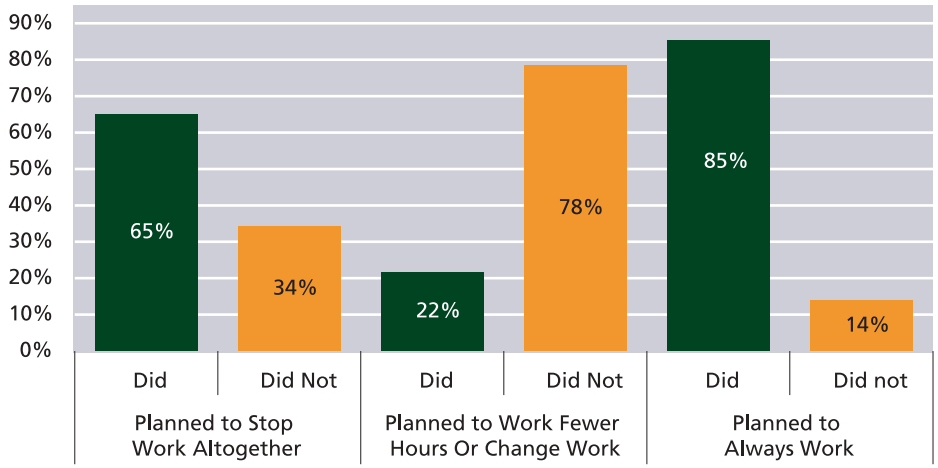
Of the higher socio-economic status group, several of the younger ones wanted to change their jobs, either for a better work-family balance, or for a more interesting position. Many had postponed children in order to advance their careers and get financially established. Among the older group, the desire to retire was strong, although many would like to remain active either in the labour market or in volunteer work. Like their counterparts in the lower socio-economic status group, they also did not want to continue in their current jobs.

Recent research in the USA[27] indicates that older Americans as well do not always get their wishes in retirement, even when they are at a point of making a decision.

As Figure 16 indicates, the majority of people who want to continue working but would like to change their work or reduce their time are not successful in doing so. Again, it appears that the timing of retirement is often subject to imposed conditions, obstacles, or factors beyond the control of the individual.

Figure 16

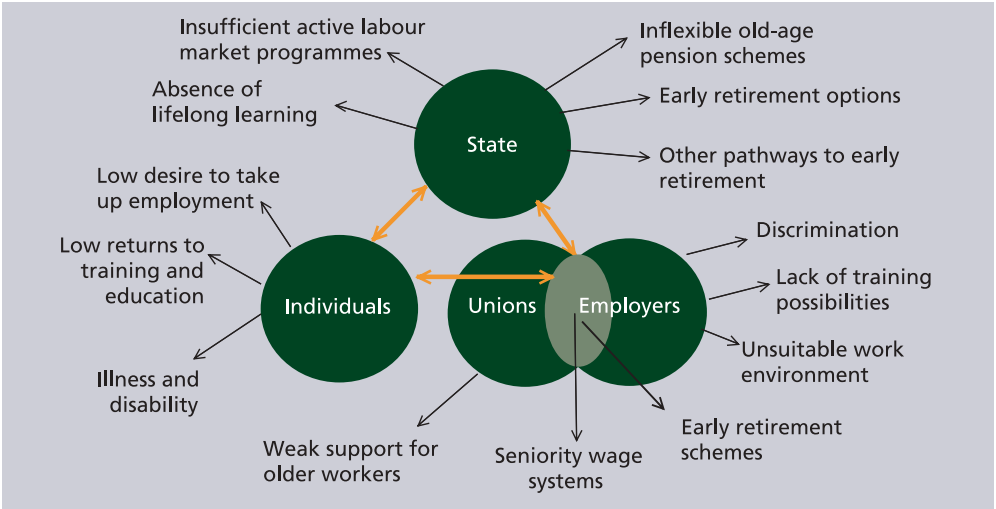
Comparison of Retirement Plans and Outcomes Among Older Americans



From Waves 2 through 6 of the National Health and Retirement Survey, outcomes of those who planned to make transition prior to next interview.
Source: Abraham and Houseman (2004).

Figure 17

Employment Barriers: Older Workers



Source: OECD (2005).

It seems then that early retirement is highly valued, but for the independence it implies rather than total withdrawal from work. Moreover, the plans of many older workers are quite fluid and open to influence.

Factors That Influence Retirement Decisions

So, people place a high value on retirement. However, many are not able to retire when or how they wish. Some would like to (or need to) work longer to increase their retirement income. Some may find that the increase in their income from work will not be enough incentive if their retirement income is substantial. Others would like to change their job, and/or to phase into part-time work. Undeniably, many would also retire as early as possible if they could afford to. On the other hand some simply wish to continue working because they get satisfaction from their work or their work role.

Figure 17 depicts the kinds of barriers and disincentives to working longer, which the research indicates to be most common. Generally, they fall into the categories of attributes of the individual, employer and union practices, and public policy.

Many forces – market, individual, and policy forces – combine to favour early retirement and to dissuade those who would work longer. Public and private pension programs offer options for early retirement. Employers have tried to reduce their work force in times of organizational adjustments to the markets, by providing early retirement and buy-out options. Mandatory retirement rules put in place in earlier times still have effect in some jurisdictions. And during times of over-supply of labour, some workers have been enabled to leave the market through relaxed unemployment or disability benefit programs. Older workers themselves have often let their skills decline, and have not been encouraged by employer-sponsored training. Many of these policies made sense while labour was in surplus supply. Now they have become, in some cases, barriers to adjustment and flexibility.

Would Extended Work Lives Reduce Other Important Contributions of Retirees?

Canadians provide many hours of valuable informal work for their families and communities. Their contributions are important economically as they provide needed services in several sectors, such as recreation, health and culture. They also contribute to strengthen the Canadian social fabric and to create social capital. Their work underpins the effectiveness of most religious communities. It is important, therefore, to ask whether an intervention to encourage longer working lives would have an undermining effect on volunteering.

It is interesting to note that the percentage of people active in volunteer work tends to decline with age, although the average hours worked by each volunteer increases with age.

We used *Lifepaths* to project the effects that longer work lives would have on volunteering.

As Figure 20 illustrates, there would be a small but discernible impact on total volunteer time. For this reason, we suggest that an active aging program should promote active involvement in general, as well as longer working lives, and thereby aim for an offsetting increase in overall volunteering levels.

Figure 18

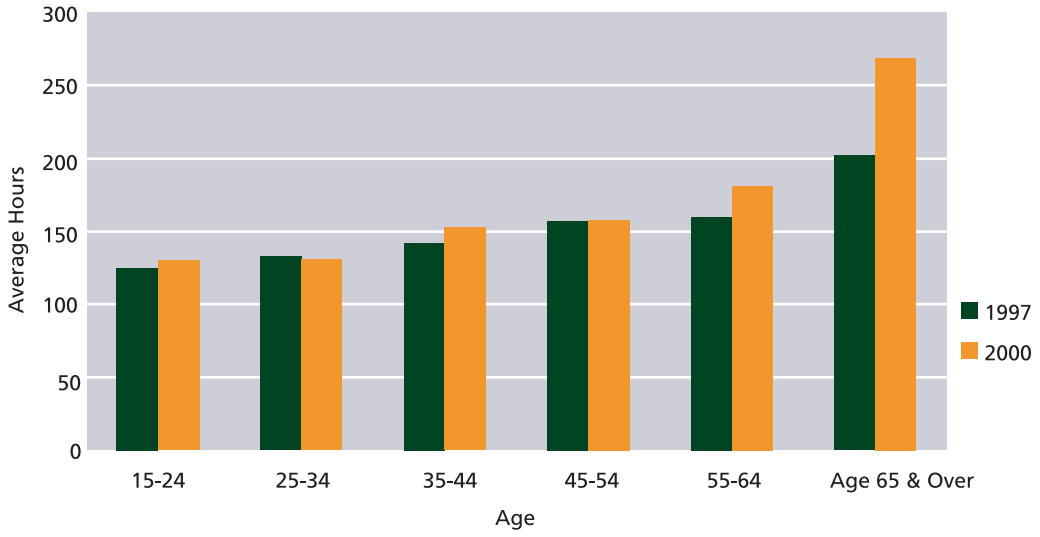
Rates of Volunteer Participation: By Age Group

Percentage of Volunteering by Age	1997 (%)	2000 (%)
Age 15-24	33	29
Age 25-34	28	24
Age 35-44	37	30
Age 45-54	35	30
Age 55-64	30	28
Age 65 and Over	23	18

Source: Hall et al. (2001).

Figure 19

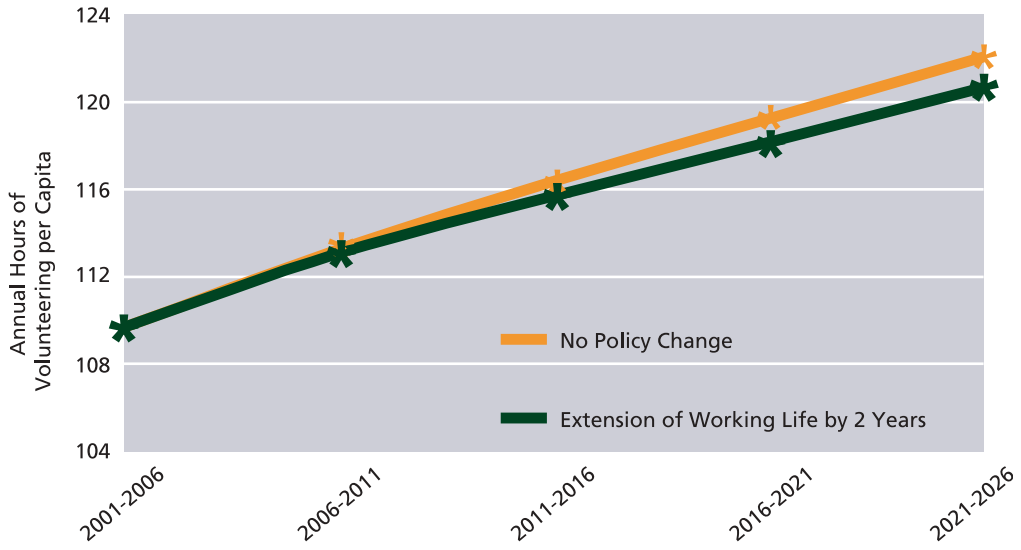
Average Hours Spent Volunteering Per Person: By Age Group, 1997 vs. 2000



Source: Hall et al. (2001).

Figure 20

Impact of Extending Working Life by Two Years: Total of Volunteering per Capita,* 2001-2026



Source: LifePaths (Statistics Canada).
* Total hours volunteered in Canada, divided by total population per year.

6. What Might Canadian Employers do to Retain Older Workers?

In coming years, employers, especially those in sectors characterized by rapid growth (e.g., the health care sector), and/or by high levels of withdrawal of older workers (e.g., the education sector), will begin to have difficulty recruiting workers with required skills and experience. Eventually, aging will influence all occupational sectors, and difficulties in recruiting and retaining personnel will become more high profile.

Gradually, the issue of retaining older workers will become a higher priority; not just because they will be retiring, but because those who do not wish to retire may seek a change in job or work arrangements, and because an increasing proportion of the workforce will be made up of older workers, creating a need for adjustments.

At the same time, employers will react to a new set of challenges and opportunities:

- In some cases, the withdrawal of older workers will be seen as an opportunity to seek higher efficiency and productivity through reorganizing work.
- It will provide opportunities to invest in labour-saving technology.
- It may provide incentives to outsource labour, either to specialized Canadian agencies, such as specialized labour services, or to other countries where the necessary skills may be available at lower cost.
- On the other hand, it is likely that a high level of demand for labour will develop relative to the supply, and that it will become more common for employers to seek ways to retain all workers, including older workers, and indeed to recruit older workers who may be seeking a job change.
- We can anticipate changes in work organization, work social relations, labour-enhancing technology, including ergonomics and task reorganization.
- As the workforce ages, workplace health and well-being will become more important, with greater impact on retention, recruitment, absenteeism, productivity, and hence, the bottom line.

Current Developments

Although this is not yet a major issue at the firm level, it is moving onto the radar screen with institutional employers and is also being recognized as an important emerging issue by industry associations and sector councils. The Alliance of Sector Councils has commissioned a report,[28] which indicates that:

- little has been done in Canada related to attracting, retaining and maintaining older workers;
- employers are likely first to compete harder for new recruits in the existing labour force, then to look at growing the labour force through groups such as immigrants and First Nations peoples, and then to look toward retention of older workers;
- there is also currently a considerable "stockpile" of skills within the existing labour force, among people who have not pursued, or been able to pursue, careers in their area of training. It is anticipated that some of these people will move into areas of demand, especially if their careers have not become embedded where they are, or if their skills are not out of date.

A Canada-USA-UK alliance of business organizations has recently endorsed a report,[29] which indicates that large employers are beginning to formulate general strategies, and to consider the kinds of public policy interventions that will be needed to retain older workers. The report highlights:

- new recruitment strategies;
- adapting flexible work schedules;
- training needs;
- adapting work content and compensation to individual productivity; and
- changes in workplace organization and technology to adapt to an older workforce.

In considering means to increase the supply of labour, the group identified marginalized groups (such as first nations people in Canada), immigration, and also temporary workers, as possible areas for greater recruitment. They made specific reference to the need to recognize foreign credentials. They point out

that older workers are not simply a work force to retain, but also one to recruit, given that many may wish to change jobs or working arrangements. They recommend the development of phased-retirement programs. In this regard they point to research[30] indicating that although only about one-fifth of workers seem to have access to phased retirement, as many as 75% indicate that they would prefer to withdraw gradually from work rather than abruptly. However, as many as half of those employers who did not have such plans may not actually have had employees request them.

The group does not recommend targeting training to older workers, but to increase access of older workers to general training. They also indicate that policy reforms that encourage later labour force exit would, in turn, increase the willingness of employers to invest in training for older workers. In this, they challenge the conventional notion that employers consider, or should consider, younger workers to be a better investment for training because of a longer amortization period. They postulate that younger workers are more mobile and less likely to stay with the firm where they are trained.

7. Removing Barriers and Disincentives for Working Longer: Canadian Policy Options and Relevant International Experience

As explained earlier, Canada is in a relatively positive situation compared to some other countries. Desired behavioural change can be pursued by removing barriers and rebalancing disincentives, and by relying on and encouraging market response, rather than adopting more coercive measures that may have been implemented elsewhere. The following OECD chart[31] provides a measure of the incentives to retire embedded in public pension systems across several countries. It illustrates that the public elements (OAS-GIS and CPP) in Canada's retirement income system are not a significant barrier to working later compared to many other OECD countries. This may be in part because the level of income replacement in the public sector programs is not high. The CPP does have an early retirement option, which we respond to later, but the combined retirement incentive of the two programs does not come into play until age 65.

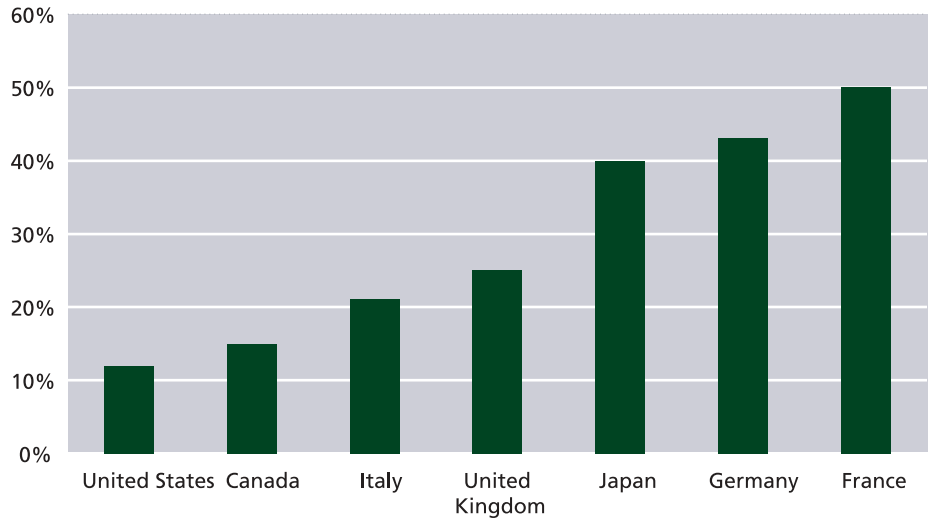
Nonetheless, although there is wide diversity in institutional and policy settings in OECD countries, there appears to be an emerging consensus that increasing labour supply will be more effective if the various factors are tackled in a broad-based approach, which engages the resources of society. Not only does such an approach need to operate within a sound macroeconomic framework and a well functioning labour market, but it also needs to take into account factors determining demand and supply conditions, as well as the specific needs of older workers.

Components of a Broad-Based Approach

- Balancing institutional incentives for early versus later retirement;
- Providing more choice in the timing of retirement, including programs for phased retirement;

Figure 21

Implicit Tax on Continued Work at Age 60 in Currently Legislated Pension Systems and Early Retirement Schemes



Source: Duval (2003).

- Removing barriers and dealing with attitudes related to hiring and retaining older workers;
- Enhancing the employability of older workers and promoting self-employment; and
- Improving working conditions that fit older workers' needs.

To date, however, such a broad approach has only been attempted in Finland,[32] which has considered the relationship between employment, pensions and learning when formulating policies.[33] Elsewhere, policy responses have been more fragmented, although with limited moves towards more integrated approaches.

Towards a Comprehensive Approach: The Finnish Example

The Government of Finland released in November 2004 a proposal to deal with the future economic and social implications of population aging. The report "Finland for People of All Ages" provides a framework for policy coordination with the cooperation of local governments and the social partners. The underlying values, which guide the report, are intergenerational solidarity, gender and generational equity. The goal is to develop an approach that is economically sustainable, socially equitable and designed to ensure the well being of the population as a whole.

The report has seven recommendations:

1. Population policy measures to create a more balanced population structure.
   - Reorientation of family policy (parental leaves, child related allowances, work-life balance and housing and family services) to encourage higher fertility without reducing the attractiveness of work.
   - Increasing opportunities to combine studying with family life.
   - Increasing work-related immigration.
2. Investments in promoting health and functional capacity.
   - Promoting healthy and active aging.
   - Narrowing health disparities between population groups.
   - Increased homecare and informal care capacity.
   - Increased accessibility of services.
3. Investment in children and youth.
   - Ensure welfare of youth, through investment in human capital and nurturing environments.
   - Prevention of poverty and exclusion.
4. Ensuring economic growth with a focus on both employment and productivity.
   - Increasing both employment and productivity (aim for employment rate to increase to 75% by 2011, and productivity growth maintained at 2-2.25%).
5. Reforming social security and its financing.
   - Benefit schemes must be developed to increase individual flexibility with the goal of maximizing labour input.
   - Continued reform to the earnings related pension scheme.
6. Reconsidering local service provision.
   - Examining the relationship between the state and local authorities in relation to an aging society.
7. Support and make use of resources of the elderly.
   - To ensure that skilled and active people of retirement age have more opportunities to take part in productive or working life if they so wish.
   - Participation of all ages must be encouraged, by increasing incentives and reducing barriers to increase supply and demand factors for gainful employment and volunteer work among the elderly.

Source: Prime Minister's Office (2004), *Finland for People of All Ages.* Finland.

Options for Canada

The Government of Canada might wish to launch, and invite provinces, municipalities, employers and unions to join, some form of a Canada Active Aging Program. This might consist of a public engagement campaign, some funding to encourage best practices in workplaces, and a set of specific reforms, as suggested in the following sections. A broad-based campaign to promote active aging in all aspects, including volunteer engagement in the community, would be appropriate. Although demographic change moves slowly, there is some urgency to put appropriate measures in place, as the leading edge of the baby boom is now in the 55-64 year "retirement zone."

Balancing Institutional Incentives for Later Retirement

International Experience

Over the past decades early retirement has become more widespread in many OECD countries. Indeed, it was found that the timing of retirement is still influenced in many ways by institutional arrangements and policy. In order to reverse this trend, many efforts in the past 15 years have been made to eliminate provisions and to tighten eligibility criteria for "unofficial" early retirement programs, such as compensatory layoffs, unemployment, and disability benefit systems.

A subsequent and more ambitious step has been to introduce major changes to public pension systems to reflect the new demographic and labour market realities of the future. To do so, some countries have adopted measures of a more coercive nature in order to encourage people to work longer. Among others, they have increased the "normal" age of entitlement (e.g., USA; Italy), adjusted gender differences in the normal age of retirement (e.g., Australia; United Kingdom) or lengthened contribution periods for public pensions (e.g., France). Another measure has been to raise retirement ages in line with projections of future life expectancy (Italy, Sweden and Finland). For the most part, these reform strategies have been done incrementally. The USA, for example, announced in 1983 that it would increase the age of entitlement to social security from 65 to 67 over an extended period (2001-2027). France has increased the number of years of contribution before individuals can be eligible for full pension benefits from 40 to 41 for private sector workers (between 2008 and 2012) and from 37.5 to 40 for public sector workers (between 2004 and 2008).

Another strategy has been to review institutional parameters in order to make the incentives to work more attractive. Many countries have changed actuarial adjustments to balance incentives for early and later retirement. For instance, Sweden and Finland provide for a lower replacement rate at 61 and 62 years of age but reward working longer with incremental incentives. In these cases, the financial rewards can be substantial if one delays retirement until 70 as the replacement rate (of working income) can reach 90% and more.

Options for Canada

Given the indications that some workers would like to delay their retirement, that our retirement system has already made some adjustments and that the projected decline in labour supply does not represent a crisis, it does not appear necessary that Canada use coercive measures to extend retirement age. Such measures could have an uneven and inequitable impact, require substantial advance notice and are unnecessary. Coordinated measures to remove barriers and balance incentives will be reinforced by market forces and can lead to individual benefits, enhanced social cohesion and economic improvements.

The Canada Pension Plan

Work Cessation Test

The CPP requires workers to leave their employment for at least a period of two months in order to draw benefits. This provision discourages older workers from moving into phased retirement within their current workplace. Removing the work cessation test, for purposes of adopting a phased retirement schedule, would facilitate flexible paths to retirement. The calculation of benefits would also need to be changed to permit this change without penalizing the worker by having his/her pension calculated based on reduced wages. It should be noted that this measure

could also encourage some workers to opt for phased retirement who might otherwise have to remain in fulltime work. However, the modest nature of the benefits would mean that that effect would be weak.

Balancing the Actuarial Adjustment

The CPP regulations influence retirement decisions, although the limited amount of the pensions translates into a limited incentive. Early retirement is possible at the age of 60 or after, with a reduction of 5% for each year below the age of 65. Similarly, postponement of benefits results in an increase of 5% per year after 65. This system results in more lifetime benefits for those who retire early, and CPP benefits are being increasingly received by people in the 60-64-age range. Quebec is considering adjusting the increase for deferral after 65 to 0.7% per month, or 8.4% per year, and it would be useful to consider the same for the CPP.

Continued Accrual of Benefits

The CPP does not permit continued contributions and accrual of benefits after pension withdrawal begins. Nor does it permit accruing more than the maximum number of years of service credits. Removing both of these restrictions would provide a modest encouragement to continue working, especially in combination with a greater adjustment for deferral.

The Old Age Security-Guaranteed Income Supplement/Spouses' Allowances

The public pillar of Canada's old age security system provides an effective income guarantee, which keeps most seniors above poverty levels. As such it has a particularly positive impact on the living conditions of low- and modest-income workers. Usually, retiring workers are able, at 65, to combine their CPP benefits with OAS and, if necessary, be supplemented by the GIS. However, the 50% reduction rate of the GIS, combined with taxation of other income, forms a strong disincentive for continued employment among lower income earners. Two changes may be appropriate, and could have modest positive results for those desiring to work longer:

- Deferral of the OAS could be allowed, with actuarial upward adjustments (e.g., 8.4% per year past the age of 65).
- An earnings exemption or similar adjustment in the calculation of benefits for low-income workers (including the self-employed) could be introduced, permitting them to work longer and earn a limited amount (say, $5,000 to10,000) without affecting their benefits. (Due to the broad application of the GIS, and the practice of combining a couple's incomes in calculations, such an exemption would need to be carefully designed.)

Measures Affecting Private Pension Plans

The *Income Tax Act* currently prohibits workers to draw from and pay into the same registered pension plan at the same time. This means that most workers with these plans stop work and leave their employer in order to draw on their pension entitlements. (They can legally return to work and not contribute to the plan, but employer policies, collective agreements, or pension rules often prevent a worker to work and not contribute to the pension plan, or go to another employer and contribute to another plan.) This requirement, along with the usual calculation of defined benefits as a percentage of the best earning years, tends to make it difficult for workers to adopt part-time work, a lower-paying job, or other form of phased retirement, or to move to another employer with more flexible policies.

In Canada, many of the highly paid (and by implication more economically productive) workers are covered by defined-benefit RPPs. These are generally structured, by collective agreement or by employer policy, to provide strong incentives to retire early. Although some workers who "retire" do receive their pension, and then return to the labour force – often self-employed or with another employer – it is important that these plans provide as much flexibility as possible. This could be undertaken by employers, but can be aided somewhat by policy adjustment.

A policy change to permit drawing and contributing to a pension plan at the same time would assist, and a change by plan administrators to permit phased retirement without loss of potential benefits, and to adopt a new formula for calculating benefits would also help.

Providing More Choice in the Timing of Retirement, Including Programs for Phased Retirement

International Experience

Programs for phased retirement have been introduced in several countries. Offering more choice and flexibility in the way people plan the timing of their retirement, they make it possible to ease into retirement by working part-time, perhaps a three- or four-day week, or having longer annual vacation periods. One of the most popular schemes has been to combine part-time work with partial pensions. For instance, the Government of Belgium introduced an income-supported time credit scheme for older private sector workers (aged 50+) to reduce their working time by 20-50%, without losing the right to build up pensions. Something similar was adopted in Germany where those aged 55 and over can halve their working hours in return for a partial pension. As part of its pension reform in 1998, the Swedish government made it possible to work and draw a pension at the same time from the age of 61 onwards.

Other countries have encouraged greater flexibility in time-allocation or a better balance between professional obligations and family life at the end of one's career. In Austria for instance, working hours may be reduced for older workers by 40 to 60% of normal working hours and may stay reduced for up to six and a half years. In the United Kingdom, the government introduced the *Work-Life Balance Initiative* in 2000, which aims to play a key role in adapting workplace practices and, in general, working conditions that accommodate the needs of older workers.

Options for Canada

It could be useful for governments, employers, insurance companies, and RPP administrators to engage in exploration of partial pension/part-time work combinations. Eliminating the work cessation requirement in the *Income Tax Act* would encourage this discussion.

It may also be useful for CPP to provide a partial benefit/part-time work option, although the modest size of the benefit will have less impact when divided into partial benefits.

The recommendation to permit an OAS/GIS deferral and exemption for low-income workers would also facilitate part-time work after 65.

Removing Barriers and Dealing with Attitudes Related to Hiring and Retaining Older Workers

International Experience

Many countries have used the legislative route to reduce the incidence of discrimination on the basis of age. The USA was a precursor in this area by adopting anti-age discrimination in the 1960s. More recently, the European Union has adopted a directive that will be in effect in its 25-country membership in 2006.

Other initiatives have aimed at promoting the value that older workers can bring to employers. These have been achieved for the most part through educational campaigns and by promoting a more active involvement of economic and social agents in the process.[34] Two of the better examples in this regard are the Age Positive campaign in the United Kingdom and the National Initiative for Senior Workers in Norway. The National Programme on Aging Workers in Finland is also a good example of a cost-effective program.[35] These initiatives, which included the participation of governments, business organizations and unions, produced positive results in changing employers' attitudes towards older workers in those countries.

Several countries have debated the merit of abolishing mandatory retirement, which is often viewed as a barrier for older workers wishing to carry on working beyond age 65. The international evidence of abolishing mandatory retirement as a means to raise the labour participation rates of older workers shows little discernible impact[36] on retirement behaviour generally, but it is important to specific groups.

Several OECD governments have also offered different ways to reduce the cost of labour of older workers. Wage subsidies have been the most common approach taken in an attempt to offset the costs of hiring or retaining older workers, particularly those with lower skills. These subsidies can take various forms: traditional subsidy schemes to help unemployed older workers or those with disadvantages; and income support to delay exit of older workers, or to help progressive retirement by compensating the loss of income due to shorter working hours.

Options for Canada

As in other countries, a debate exists in Canada on the merit of abolishing mandatory retirement. In fact, mandatory retirement is still permitted under human rights and labour standards legislation in four provinces, and can be included in collective agreements in several others. Quebec and Manitoba have been the first to abolish it completely. The federal government does not impose it as an employer, and discrimination based on age is banned in the *Charter of Rights and Freedoms*. There have been relatively few formal complaints about discrimination in Canada, but as has been experienced in the past with other discrimination-type concerns, these issues can remain invisible if not brought into the public discourse. Moreover, there is potential for broad public education in this area.

Where mandatory retirement is not banned, it would be appropriate to remove the age cap in human right codes, to ensure that people 65 and over have the normal protection against age discrimination; and to encourage provincial governments, employers and unions to cooperate in eliminating it through labour standards and from collective agreements, except in such cases where it can be clearly defended. This could potentially lead to the development of clearer rationales for limiting employers' liabilities in relation to seniority pay.

In all occupations, but especially where a person's physical ability to perform the work deteriorates with age, it would be appropriate for employers to provide, where possible, programs of phased retirement including changing responsibilities to account for deterioration of physical capacity.

It would be useful for Canadian employers, perhaps by way of the Sector Councils, to become engaged in a broad exchange about labour force aging, the implications for hiring and retaining older workers, and especially for the Human Resources role in facilitating this.

Enhancing the Employability of Older Workers and Promoting Self-Employment

International Experience

Several OECD countries have recognized that improving the employability of a growing number of older individuals will be critically important for those who remain active in the labour market. In the majority of OECD countries, in-company training is often concentrated on younger workers – the common belief being that employers can better recoup their investment. The availability of time, the lack of flexibility in training activities and family responsibility also contribute to create barriers to access to training. It is therefore not surprising to find that older workers are under-represented in training programs as compared to other age groups.

One of the better-known programs was *Job Start* in Australia, which provided training credits for older workers in the 1990s. The Netherlands is providing tax incentives to employers for training their older workers. Spain and the United Kingdom have included training and placement for unemployed workers as part of their employment services. Other countries have looked at accumulated working-time credits that can be used later for things like time off for training. Working-time accounts of various sorts are available in Germany, the Netherlands, Denmark, and France.

Older workers are also moving to self-employment as an alternative for extending their working life. Programs helping older workers make the transition to self-employment are increasingly popular in countries such as Finland, Switzerland, and the United Kingdom.

The lack of job search skills and the absence of employment services adaptable to older workers can play a role in reducing their employability. The OECD argues that public employment services can be more effective if they operate as a fully integrated agency combining the three core functions of job placement, benefit payments, and placing participants on active programs. Recent initiatives in Australia (*Centrelink*) and the United Kingdom (*Job Centre Plus*) are instructive in this regard.

Options for Canada

Better access to training is needed for older workers. Some changes in training practice may be accomplished with employers, especially when they consider that older workers are more likely to remain with them and where it is clear that a worker wishes to continue working.

It is also likely that older workers will be more willing to contribute to financing their own training, or to contribute to it, if other policies encouraging longer working lives are in place. Public and private learning institutions must be enabled to respond with appropriate learning opportunities. It may be appropriate to ensure that Registered Education Savings Plans (RESPs) and learning bond options are available and tailored to older worker needs.

It is essential for the federal and provincial governments, as well as sector councils and unions, to collaborate in the development of systems to recognize acquired competence, so that older workers could have and develop more portable human capital.

Special effort could be made to open opportunities for older workers to have access to training and preparation for self-employment.

It would be appropriate for Canada to experiment with time banking systems and work-time accounts, whereby credits are accumulated, either for time off, or for financial assistance, for training or for development of self-employment skills.

CPP and Unbundling Disability

The OECD has raised questions about disability programs being used as routes to retirement. In the late 1980s and early 1990s, the CPP Disability (CPPD) program experienced increasing caseloads due to several unrelated factors: legislative changes in 1987 and 1992 enriched the amount of the monthly benefit, made it easier to qualify on earnings and contributions and introduced a provision to make it easier for late applicants to qualify. Several provinces initiated reviews of their social assistance caseloads to identify clients with CPP eligibility. In addition, however, economic re-structuring likely encouraged additional CPPD applicants.

The percentage of CPPD beneficiaries aged 50 to 64 has increased slightly since 1998, from 69.5% to 72.6% in 2004. This increase is mainly attributable to a rise in the inflow of those aged 50 to 54 and is in line with overall demographic trends.

However, declining health and functional limitations affect a much larger proportion of the labour force than have access to the CPPD, as some 26% of retirees might have continued working if their health were better. As the working population ages it is likely that the number of people with various forms of work-limiting restrictions or conditions will increase. In order to respond to the variety of situations and needs, it would be useful to find ways for them to continue working. New technologies and new workplace arrangements, as well as new forms of self-employment, could yield valuable results in facilitating work. Moreover, "custom-fit" employment supports will be needed to offset the impact of specific work-limiting conditions that might otherwise become in effect, disabling. In a sense, the concept of disability needs to be "unbundled."

There may be a limited number of current or future recipients of CPP disability benefits who could succeed in some form of employment, and the CPP has been facilitating such efforts on a modest scale. Broader experimentation would be useful, especially if rehabilitative services, incentives, and preventive measures can be offered to the broader group of older workers who have health problems and limitations that undermine their employability. Phased retirement and employment supports should be offered in ways, which respond and adapt to work-limiting conditions.

Clearly this is not just an area of CPP responsibility or jurisdiction, but would involve Employment Insurance (EI) services as well as provincial government programs.

Improving Working Conditions to Fit Older Workers' Needs

International Experience

There is an emerging consensus that better conditions in the workplace could lead to longer careers. One of the reasons for this consensus is that loss of functional capacity and discouragement are important factors behind the decisions of some older workers to leave employment. As well, many workers of all ages rely on their workplace to encourage and support their needs for satisfying work, creativity, social status, and social bonds. Several countries, particularly Sweden and Finland, have focussed their efforts on promoting work environments better adapted to older workers' needs.

Options for Canada

It might be useful for Sector Councils to consider the development of a broad-based program for adapting workplaces to the needs of older workers.

Adapting Employment Services to Older Jobseekers

There is a general lack of employment services for older workers. Recent initiatives in Australia (*Centrelink*) and the United Kingdom (*Job Centre Plus*) have focussed on in-depth counselling, job-finding incentives (e.g., re-employment bonuses) and job-search assistance programs.

Options for Canada

It would be appropriate to ensure that all employment support services that are available to other workers through EI measures, active labour market programs, and all related measures, are equally available to older workers.

8. Conclusion and Next Steps

Population aging poses a serious challenge to Canada and to other nations. From an economic and fiscal perspective, a central issue of this challenge is ensuring the quantity and quality of the labour supply required for a successful economy.

This report has demonstrated that encouraging older workers to extend their working lives would help in responding to the challenge. Demographic change takes place slowly, but we are well along the aging process, and action is required now if we are to influence the decisions of the baby boom generation as it nears retirement.

The tides are not against us in this effort. Many older workers would like to continue working, either in their current work, or on a part-time basis, or in a different job. Moreover, the labour market is likely to provide some opportunities, and healthy young retirees are also likely to create new opportunities on their own. Public policy and public engagement campaigns can remove obstacles and encourage new developments.

The life-course analysis underlying the current research also brings a better understanding of how demographic and social change have altered many of our basic life patterns. An extended period of "youth," including varied pathways of post-secondary education, career establishment, and family formation, has replaced what in earlier generations was a more rapid change in roles. Consequently, other important developments such as having children and saving for retirement, tend to be postponed. At the other end, early withdrawal from the labour market brings a transition to increasingly lengthy periods of retirement. These developments, combined with the now dominant model of two-earner families, have compressed the availability of time for children, for caring for elderly or disabled family members, or for personal and professional development. In a follow-up report, we will explore how society can provide some flexibility for families to manage their time demands, and whether such flexibility can also bring gains in social and economic productivity.

As mentioned within the report, population aging and a tighter labour market in the future may also provide us with some new opportunities. Initiatives which increase labour supply by enhancing the social and economic participation of groups who have previously been marginalized or disadvantaged, could pay double and triple dividends. Increased economic production, decreased social costs and improved social relations may be attainable. We will explore the potential for new efforts at inclusion – for recent immigrants and their families, for First Nations peoples, for people with disabilities, and for the under-educated and under-employed. PRI will continue to engage with federal departments and agencies to assess the opportunities offered by aging and the changing labour market for a broad range of policy objectives.

Notes

1 For more detailed information please refer to <http://www.statcan.ca/english/spsd/LifePathsOverview_E.pdf>

2 The Budget Plan 2005, Annex 3, Canada's Demographic Challenge

3 SDC (2004).

4 We use males for this illustration because their historical participation rates are closer to the expected norm. Because female participation rates have been increasing dramatically in recent decades it would be difficult to use historical rates with confidence about their future accuracy.

5 Finance Canada (2005).

6 OECD (2005).

7 OECD (2005).

8 Denton, Frank, and Spencer, Byron, *Population Aging and its Economic Costs: A Survey of the Issues and Evidence*, Canadian Journal on Aging, Vol 9, suppl. 1, Summer 2000. Denton and Spencer suggest that on a theoretical whole-of-government basis, reduced expenditures on children and on the working age population could in large measure offset increases in spending for the elderly given that some benefits such as OAS/GIS and CPP are taxable. They conclude that demographically-induced growth in expenditures could fall within the parameters of general population growth.

9 Office of the Chief Actuary (2005).

10 OSFI, 5th Actuarial Report on the Old Age Security Program as at 31 December 2000 (2002).

11 Office of the Chief Actuary (2005).

12 Pollock (2000) and Jackson and McDermott (2004).

13 For example, while population growth will cause an increase in the rate of health spending, it will also cause a similar increase in the rate of GDP growth. Thus, the overall influence of population growth on the health spending-to-GDP ratio will be negligible.

14 Data from Tax Statistics on Individuals, 1987 (for 1985 tax year), Canada Revenue Agency (CRA), and from the CRA web site for taxation year 2000 (see: <www.cra-arc.gc.ca/agency/stats/gb00/pst/final/tables-e>).

15 Robbins and Veall (2002) estimate that the present value of the future stream of federal and provincial income tax revenues from RRSPs and RPPs was nearly $300 billion dollars.

16 IMF (2004).

17 HRSDC (2004a).

18 Fougère & Mérette (2000).

19 Mérette (2002).

20 Guillemette (2003) and MacLeod & Tang (2004).

21 HRSDC (2004b).

22 For the purpose of this comparison we used the "Rule of 85", which requires an age of 55 and at least 30 years of services to be eligible to retirement without penalty. The same finding holds for retirees 60 years and older.

23 A portion of this decrease could be attributed to government reorganizations.

24 This scenario examines what would occur in the future, if people not only extend their labour force activity by an additional two years, but also work longer in proportion to future increases in life expectancy (assumed to reach a maximum of four years for those born after 1981). We arbitrarily adopted a gradual increase of working life equal to one-half of the future increases in life expectancy (to a maximum of two years for individuals born after 1981). The resultant increase in labour supply is expected to be significant over the long term, with hours per capita nearly 6% higher in 2050 than if no policy changes were enacted.

25 Schellenberg (2004) and Schellenberg & Silver (2004).

26 PRI (2004).

27 Abraham and Houseman (2004).

28 Malatest and Associates (2003).

29 Robson (2001).

30 Hertz (1995).

31 The implicit tax rate is a broad measure of the opportunity costs of continuing to work, which captures the incentives to retire in a pension scheme based on age eligibility and the generosity of benefits. The chart depicts the implicit tax that a 60 year old "representative" individual, with

average earnings (who began their career at age 20) would face from their country's public pension system (including early retirement schemes if available) if they wished to continue working for five more years.

32 Finland (2004).

33 Also see: The *National Programme on Aging Workers*, 1998-2002.

34 The UK government took a significant step toward this objective with its Age Positive campaign in 1999. Other countries, such as Finland and Norway, have equally been active in the promotion of an age diversity culture through initiatives such as Age Positive and the National Initiative for Senior Workers. In some countries in particular, non-governmental organizations (NGOs), as well as other private agencies, have taken a special role in promoting aging and the benefits older people can bring to society and the workplace.

35 The program, which took place between the 1998-2002 period, had an operational cost of 4.2 million Euros.

36 See for example, Brook (2001) and Peracchi & Welch (1994).

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