Office of the Superintendent of Financial Institutions Canada
Bureau du surintendant des institutions financières Canada
Office of the Chief Actuary
Bureau de l'actuaire en chef

ACTUARIAL REPORT 8th

on the

OLD AGE SECURITY PROGRAM

as at 31 December 2006

Canada

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9 May 2008

The Honourable Monte Solberg, P.C., M.P.
Minister of Human Resources and Social Development Canada
House of Commons
Ottawa, Canada
K1A 0G5

Dear Minister:

In accordance with section 3 of the *Public Pensions Reporting Act*, I am pleased to submit the Actuarial Report prepared as at 31 December 2006, on the pension plan established under the *Old Age Security Act.*

Yours sincerely,

Jean-Claude Ménard

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

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I. Executive Summary

This is the Eighth Actuarial Report since the implementation of the *Old Age Security Act* in 1952. It presents the results of an actuarial examination of the status of the Old Age Security (OAS) Program as at 31 December 2006, and includes projections of future experience through the year 2075. The Seventh Actuarial Report, as at 31 December 2003, was tabled in the House of Commons on 30 May 2005. The next triennial report is scheduled as at 31 December 2009.

The Old Age Security Program has been amended several times, the most recent occasion as a result of the introduction of Part 10 of Bill C-50 on 14 March 2008 which amends the *Old Age Security Act* by increasing the earned income exemption for GIS and Allowance benefits to $3,500 form the current maximum exemption level of $500 effective 1 July 2008. The purpose of this initiative is to remove disincentives to work for seniors. The effect of the amendment has been included in the projections of this report. The financial results excluding the impact of Part 10 of Bill C-50 are presented in Appendix E of this report.

A. Purpose of Report

This report has been prepared in compliance with the timing and information requirements of the *Public Pensions Reporting Act*, which provides that the Chief Actuary shall prepare a triennial actuarial report on the benefits under the various Parts of the *Old Age Security Act*, being as follows:

- Part I: Basic OAS Pension
- Part II: Guaranteed Income Supplement (GIS)
- Part III: Allowance

Another important purpose of the report is to inform the general public of the current and projected financial status of the OAS Program. It provides information to evaluate the Program's financial situation over a long period, provided the Program remains unchanged. Such information should facilitate a better understanding of the financial status of the Program and the factors that influence its costs, contributing to an informed public discussion of issues related to it.

B. Scope of Report

Section II presents the general methodology used in preparing the actuarial estimates included in this report, which are based on the key "best-estimate" assumptions described in Section III. Section IV includes information on key demographic and financial indicators and on the projection of beneficiaries, expenditures and cost ratios. Section V presents a reconciliation with the previous report while Section VI deals with the uncertainty of the results. Section VII presents a general conclusion while Section VIII provides the actuarial opinion. The various appendices provide supplemental

information on the provisions of the Program, a detailed reconciliation of the results with the previous report, a description of the data, assumptions and methods employed, detailed projections of beneficiaries and expenditures, financial results excluding Part 10 of Bill C-50 and lastly acknowledgements.

C. Main Findings

The results of the actuarial projections of the financial status of the Old Age Security Program presented in this report are generally consistent with the trends revealed in the previous actuarial report.

- Demographic changes will have a major impact on the ratio of workers to retirees; the ratio of the number of people aged 20 to 64 to those aged 65 and over is expected to fall from about 4.7 in 2007 to 2.1 in 2050.

- The number of beneficiaries of the basic pension is expected to more than double over the next 23 years, growing from 4.4 million in 2007 to 9.1 million by 2030, mainly due to the retirement of the baby-boom generation over that period.

- The number of Guaranteed Income Supplement and Allowance beneficiaries is expected to increase by 68% over the next 23 years, growing from 1.7 million in 2007 to 2.8 million by 2030. The percentage increase is less than for the basic pension due to the expected decline in recipient rates for these benefits over the same period.

- Total annual expenditures are expected to increase by 15% over the next three years, from $33 billion in 2007 to $38 billion in 2010 and to $110 billion by 2030.

- The ratio of expenditures to the Gross Domestic Product (GDP) increases from 2.2% in 2007 to a high of 3.1% in 2030, driven largely by the retirement of the baby boom generation. Maximum benefits are indexed to the rate of inflation, which is assumed to be lower than the rate of growth in both the GDP and the income of new retirees, which in turn reduces the amount of income tested benefits payable. As such, over the longer term, the effect of price-indexation of benefits predominates and results in the reduction of the ratio of expenditures to GDP to a level of 2.7% by 2050.

D. Uncertainty of Results

To measure the sensitivity of the long-term financial status of the Program to future changes in the demographic and economic environment, individual sensitivity tests were performed. These tests focus on varying the key assumptions individually in order to measure the impact on the cost ratio of Program expenditures to GDP. These tests show that the cost ratio could deviate significantly from its projected best-estimate values if other than best-estimate assumptions were to be realized. For example, if life expectancies at age 65 were to increase by three more years than the best-estimate of this report, then the ratio in 2050 would increase from 2.70% to 2.93%. As another

example, if recipient rates for the GIS and Allowance benefits were to increase by 20%, then the ratio in 2050 would increase from 2.70% to 2.79%.

E. Conclusion

The retirement of the baby boomers over the next 25 years will increase the expenditures of the Program. For this reason, total annual expenditures expressed as a percentage of the Gross Domestic Product are expected to grow from 2.2% in 2007 to a high of 3.1% in 2030. As each successive cohort of new retirees is assumed to be wealthier than the preceding one, recipient rates for GIS and Allowance benefits are expected to decrease over the projection period. Combined with the fact that benefits are indexed to inflation as opposed to wages drives the cost of the Program down over the long term, with the result that annual expenditures are expected to fall to 2.7% of GDP by 2050.

A more costly demographic outlook due to the continuing increases in longevity combined with projected higher recipient rates offset in part better-than-anticipated economic experience, especially regarding labour force participation and employment data over the period 2004 to 2006. In addition, lower inflation and higher real wage expectations act to reduce the costs of the Program. Due to these offsetting effects, the results presented in this report are somewhat similar to the ones presented in the previous triennial report.

II. Methodology

The actuarial examination of the Old Age Security Program involves projections of its expenditures and cost measurement bases over a long period of time, so that the future impact of historical and projected trends in demographic and economic factors can be properly assessed. The actuarial estimates in this report are based on the current provisions of the Program and Part 10 of Bill C-50, the data regarding the starting point for the projections, the "best-estimate" assumptions regarding future demographic and economic experience, and the methodology for translating this information into estimates of future expenditures.

Since the Old Age Security Program is financed from general tax revenues on a pay-as-you-go basis, there is no need to project either contributions or investment earnings. However, projections have been made of combined Canada Pension Plan (CPP) and Québec Pension Plan (QPP) contributory earnings, total employment earnings and of the Gross Domestic Product (GDP), which bases are then used for measuring the relative costs over the projection period.

The costing begins with a projection of the general population of Canada. This requires assumptions regarding demographic factors such as fertility, migration and mortality.

Expenditures are made up of the benefits paid out and administrative expenses. Benefits are projected by applying assumptions regarding recipient rates for various types and levels of benefits to the projected population at the relevant ages, along with assumptions regarding increases in the maximum benefit rates. Administrative expenses are projected based on historical experience.

The combined CPP and QPP contributory earnings and total employment earnings cost measurement bases are derived by applying labour force participation and job creation rates to the projected population and by projecting average annual employment earnings. As such, assumptions such as wage increases, an earnings distribution and unemployment rates are required. The GDP is projected based on the historical relationship between GDP and total employment earnings.

The assumptions and results presented in the following sections make it possible to measure the financial status of the Program over the projection period. A wide variety of factors influence both the current and projected financial position of the OAS Program. Accordingly, the results shown in this report differ from those shown in previous reports. Likewise, future actuarial examinations will reveal results that differ from the projections included in this report.

III. Best-Estimate Assumptions

A. Introduction

The information required by statute, which is presented in Section IV, requires making several assumptions regarding future demographic and economic trends. The projections included in this report cover a long period of time (up to year 2075) and the assumptions are determined by putting more emphasis on historical trends than on short-term trends. These assumptions reflect our best judgement and are referred to in this report as the "best-estimate" assumptions. The assumptions were chosen to form a coherent whole, taking into account certain interrelationships among them. To the extent applicable, the assumptions are consistent with the best-estimate assumptions used in the Twenty-Third Actuarial Report on the Canada Pension Plan as at 31 December 2006 (23rd CPP Report).

Table 1 presents a summary of the most important assumptions used in this report compared with those used in the previous triennial report. The assumptions are described in more detail in Appendix C of this report.

Table 1 Best-Estimate Demographic and Economic Assumptions

Canada		8th Report (as at 31 December 2006)			7th Report (as at 31 December 2003)		
Total fertility rate		1.60 (2010+)			1.60 (2016+)		
Mortality		2000-02 Life Tables for Canada with future improvements			1995-97 Life Tables for Canada with future improvements		
Canadian life expectancy		Males	Females		Males	Females	
at birth in 2007		84.5 years	87.7 years		83.1 years	86.5 years	
at age 65 in 2007		19.3 years	22.0 years		17.6 years	21.6 years	
Net migration rate		0.50% of population to 2015 0.54% of population for 2020+			0.50% of population to 2015 0.54% of population for 2020+		
Participation rate (age group 15-69)		74.2% (2030)			73.4% (2030)		
Employment rate (age group 15-69)		69.9% (2030)			68.6% (2030)		
Unemployment rate (age group 15+)		6.3% (2007+)			6.5% (2020+)		
Rate of increase in prices		2.5% (2016+)			2.7% (2015+)		
Real-wage differential		1.3% (2015+)			1.2% (2012+)		
		2007	2025	2050		2007	2025	2050
Recipient rates	OAS:	98.7%	100.1%	100.6%	OAS:	98.8%	99.9%	100.3%
	GIS:	35.8%	31.6%	26.2%	GIS:	36.6%	28.8%	21.9%
	Allowance:	5.5%	3.2%	2.0%	Allowance:	6.1%	4.2%	2.5%

B. Demographic Assumptions

The demographic projections start with the population of Canada on 1 July 2006, to which are applied fertility, migration and mortality assumptions. The population projections are essential to determine the future number of beneficiaries.

The distribution of the population by age has changed considerably over the last 50 years, with the population aging each year since then. The causes of this aging are examined in the following subsections.

1. Fertility

The first cause of the aging of the Canadian population is the large drop in the total fertility rate over the last three decades relative to the baby boom generation born between the mid-1940s and the mid-1960s. The fertility rate in Canada has dropped rapidly from an average level of about 4.0 per woman in the 1950s to 1.8 in the late 1970s and to 1.6 over the last two decades.

The decrease occurred as a result of changes in a variety of social, medical and economic factors. It is unlikely that fertility rates will return to historical levels in the absence of significant societal changes. It is assumed that the total fertility rate for Canada will increase slightly from its 2004 level of 1.53 to an ultimate level of 1.60 in 2010.

2. Mortality

Another element that has contributed to the aging of the population is the significant reduction in age-specific mortality rates. This can be best measured by the increase in life expectancy at age 65, which directly affects how long benefits will be paid to beneficiaries. Life expectancy at age 65 has increased by 28% for men between 1966 and 2004, rising from 13.8 to 17.7 years. For women, life expectancy at age 65 has increased by 25%, from 16.8 to 21.0 years over the same period. Although the overall rates of increase in life expectancy since 1966 are similar for males and females, more than half of the increase in life expectancy at age 65 occurred after 1989 for males, while for females, 70% of the increase occurred prior to 1990.

Mortality improvements are expected to continue in the future, but at a slower pace than observed over the last 15 years. The ultimate rates of improvement for years 2029 and thereafter were established by examining trends in Canadian experience over the last 30 years by age and sex. Rates of improvement for the period 2005 to 2009 are assumed to be equal to those experienced over the last 15 years (1989 to 2004). After 2009, the rates are assumed to gradually reduce to their ultimate levels by the year 2029.

3. Net Migration

Net migration (i.e. the excess of immigration over emigration) is unlikely to materially reduce the continued aging of the population unless (1) the level of immigration rises significantly above what has been observed historically and (2) the average age at immigration falls dramatically.

Net migration to Canada was 0.65% of the population in 2006 and has averaged 0.50% of the population over the last 30 years. Based on a continuation of these net migration levels and the expected pressure on the labour markets due to the impending retirement of the baby boom generation, an ultimate assumption of 0.54% of the population has been established for years 2020 and beyond. The initial level of 0.50% is kept constant from 2007 until 2015, then increases uniformly to reach an ultimate level of 0.54% for years 2020 and thereafter to take into account the effects of the anticipated labour shortage. The ultimate 0.54% assumption is lower than actual averages observed over the last 20 years.

4. Population Projections

Table 2 shows the population by age groups over the projection period. The ratio of people aged 20 to 64 to those aged 65 and over is a measure that approximates the number of working-age people to retirees. Because of population aging, this ratio drops by more than half during the projection period, from 4.7 in 2007 to 2.1 in 2050. The number of people reaching age 65 in any given year is representative of the number of new basic pension beneficiaries coming into pay each year. This number is expected to almost double over the next 18 years growing from 282,000 in 2007 to 515,000 in 2025.

C. Economic Assumptions

The expenditures are presented as cost ratios using three different measurement bases, namely combined CPP/QPP contributory earnings, total employment earnings and the Gross Domestic Product. These cost bases are projected using economic assumptions such as labour force participation rates, employment rates, unemployment rates and average employment earnings increases. For benefit projection purposes, assumptions regarding the rate of increase in prices and recipient rates for the various benefits are also required.

One of the key elements underlying the best-estimate key economic assumptions relates to the expected labour shortage due to the aging of the population and the retirement of the baby boom generation between 2010 and 2030. Labour force growth will weaken as the working-age population expands at a slower pace. The outlook for the participation rates also points to slower labour force growth. Growing labour shortages, especially after 2010, are assumed to force higher real wage growth. The higher real wages may help keep people in the labour force who might otherwise retire.

Table 2 Population of Canada
(thousands)

Year	Total	Age 0-19	Age 20-64	Age 65 and Over	Ratio of 20-64 to 65 and Over	Reaching Age 65
2007	32,904	7,777	20,707	4,420	4.7	282
2008	33,189	7,756	20,892	4,540	4.6	301
2009	33,477	7,731	21,081	4,665	4.5	310
2010	33,767	7,697	21,276	4,794	4.4	317
2011	34,058	7,670	21,448	4,939	4.3	339
2012	34,348	7,651	21,562	5,135	4.2	393
2015	35,213	7,643	21,870	5,701	3.8	400
2020	36,655	7,804	22,110	6,741	3.3	467
2025	38,021	8,078	22,005	7,937	2.8	515
2030	39,215	8,206	21,913	9,097	2.4	513
2040	41,045	8,192	22,701	10,152	2.2	466
2050	42,420	8,394	23,184	10,842	2.1	528
2075	45,704	8,968	24,727	12,009	2.1	535

1. Labour Force

Employment levels are reflected in the projections through the assumption regarding the proportions of the population, by age and sex, who have earnings in a given year. These proportions vary not only with the rate of unemployment, but also reflect trends in increased workforce participation by women, longer periods of formal education among young adults and changing retirement patterns of older workers.

As the population ages it becomes more heavily weighted in age groups where participation is lower and, as a result, the labour force participation rate for Canadians aged 15 and over is expected to decline from 67.1% in 2007 to 61.6% by 2030. A more useful measure of the working-age population is the participation rate of those aged 15 to 69, which is expected to decline from 74.7% in 2007 to 74.2% in 2030. The participation rates of those aged 60 to 69 are gradually increased after 2006. Moreover, the narrowing of the gap between the age-specific participation rates of men and women continues but at a much slower pace than in the past, except for certain age groups.

Recent significant increases were experienced in both younger and older age groups for both males and females. In general, participation rates for females are projected to increase more than for males, primarily for those aged 30 to 49. Overall, the male participation rate of those aged 15 to 69 is expected to decrease from 79.2% in 2007 to 78.3% in 2030, while the female participation rate for the same age group is expected to remain at 70.1% during the same period. Thereafter, the current gap of 9.1% between males and females is expected to slightly decrease to 8.2%.

The job creation rate in Canada was 1.8% on average from 1976 to 2006, based on available employment data. It is assumed that the number of jobs will increase by 1.0% in 2007. From 2008 to 2010, the job creation rate is assumed at about 0.8% on average and 0.4% from 2010 to 2020. For 2020 and thereafter, because of the aging of the population, the job creation rate follows the labour force growth rate of about 0.3%.

The job creation rate is determined on the basis of the short-term economic outlook and the unemployment rate, which is set at 6.3% for years 2007 and thereafter. The relative stability of the labour force makes it possible for the unemployment rate to remain at 6.3% throughout the projection period.

2. Price Increases

Price increases, as measured by changes in the Consumer Price Index (CPI), tend to fluctuate from year to year. Based on the renewed commitment of the Bank of Canada and the Government to keep inflation between 1% and 3% until 2011, a rate of price increase of 2.0% has been assumed for years 2007 to 2011. Beginning in 2011, the rate is uniformly increased until it reaches an ultimate rate of 2.5% in 2016.

3. Real Wage Increases (Average Annual Earnings)

Wage increases affect the financial balance of the OAS Program in two ways. In the short term, an increase in average annual earnings (AAE) translates into higher total employment earnings, GDP and combined CPP/QPP contributory earnings, with little immediate impact on benefits. Therefore, costs in relation to these measurement bases will decrease. Over the longer term, higher average earnings in relation to the level of prices may be expected to produce lower payouts for income-tested benefits such as the GIS and Allowance. The long-term projected costs relative to the various measurement bases are more dependent on the differential between the assumed annual rates of wage increases and price increases (the real-wage differential) than on the absolute level of wage increases assumed.

Many factors have influenced the real rate of increase in AAE, including general productivity improvements, the move to a service economy, decreases in the average number of hours worked and fluctuation in the size of the workforce. Considering these factors, together with historical trends, the expected labour shortage and various long-term economic forecasts, an ultimate real-wage differential of 1.3% is assumed for 2015 and thereafter. Combined with the price increase assumption described above, this results in an assumed annual increase in AAE of 3.8% in 2016 and thereafter. For 2007,

the real increase in AAE is assumed at 0.2% and is then gradually increased to reach 1.3% by 2015. The assumptions with respect to the increase in average annual earnings and job creation rates result in projected average annual real increases in total employment earnings of about 1.7% for the period 2007 to 2020. This decreases to about 1.6% ultimately, reflecting the 1.3% real increase in annual wages and the 0.3% annual growth in the working-age population. Table 3 summarizes the main economic assumptions over the projection period.

Table 3 Economic Assumptions

			Labour Force			
Year	Real Increase Average Annual Earnings	Price Increase	Participation Rate	Job Creation Rate	Unemployment Rate	Labour Force Annual Increase
	(%)	(%)	(%)	(%)	(%)	(%)
2007	0.2	2.0	67.1	1.0	6.3	1.0
2008	0.4	2.0	66.9	0.9	6.3	0.9
2009	0.6	2.0	66.7	0.8	6.3	0.8
2010	0.8	2.0	66.5	0.8	6.3	0.8
2011	0.9	2.0	66.3	0.7	6.3	0.7
2012	1.0	2.1	66.1	0.6	6.3	0.6
2013	1.1	2.2	65.8	0.5	6.3	0.5
2014	1.2	2.3	65.6	0.5	6.3	0.5
2015	1.3	2.4	65.3	0.4	6.3	0.4
2016	1.3	2.5	65.1	0.4	6.3	0.4
2020	1.3	2.5	63.9	0.3	6.3	0.3
2025	1.3	2.5	62.5	0.3	6.3	0.3
2030	1.3	2.5	61.6	0.4	6.3	0.4
2040	1.3	2.5	60.3	0.3	6.3	0.3
2050	1.3	2.5	59.5	0.1	6.3	0.1

D. Recipient Rates

Old Age Security recipient rates represent the proportion of the Canadian population that has received (historically) or is projected to receive OAS benefits. The recipient rate for a given benefit is derived as the ratio of the number of beneficiaries of that benefit to the population. It is worth noting that recipient rates for the basic pension presented in this report exclude the impact of the clawback provision. The impact of the clawback provision on the basic pension recipient rates is discussed in Section IV of Appendix C. The GIS and Allowance recipient rates presented throughout this report reflect the most recent amendment pursuant to Part 10 of Bill C-50, which increases the employment income exemption for these benefits to $3,500 effective 1 July 2008 (see Sections IV and V of Appendix A).

The overall basic pension recipient rate for males is projected to increase from 98.9% in 2007 to 100.9% in 2050 while for females it is projected to increase from 98.3% to 100.2% over the same period. The gap between the recipient rates for males and females is thus projected to remain about the same over the projection period. Recipient rates for the basic pension can exceed 100% of the population due to benefits paid outside of Canada. Finally, the distribution of the basic pension recipient rates by level of benefit for years 2007 and thereafter is projected by age and sex based on historical trends over the period 2001 to 2006.

The GIS and Allowance recipient rates by age, sex, type and level of benefit for year 2007 were used as the starting point for determining the best-estimate assumption. GIS and Allowance recipient rates are projected taking into account that each new cohort of beneficiaries is assumed to be somewhat wealthier than the preceding one resulting in a lower proportion of the basic pension recipients becoming eligible for these benefits over the projection period.

Furthermore, for GIS and Allowance, experience adjustment factors are used to adjust the projected recipient rates so that characteristics and trends of historical recipient rates by age, sex, type and level of benefit over the period 1998 to 2007 would be reproduced more closely. These experience adjustment factors were used for the first ten years of the projection period. The change in the assumed recipient rates by level of benefit is automatically taken into account by the formula.

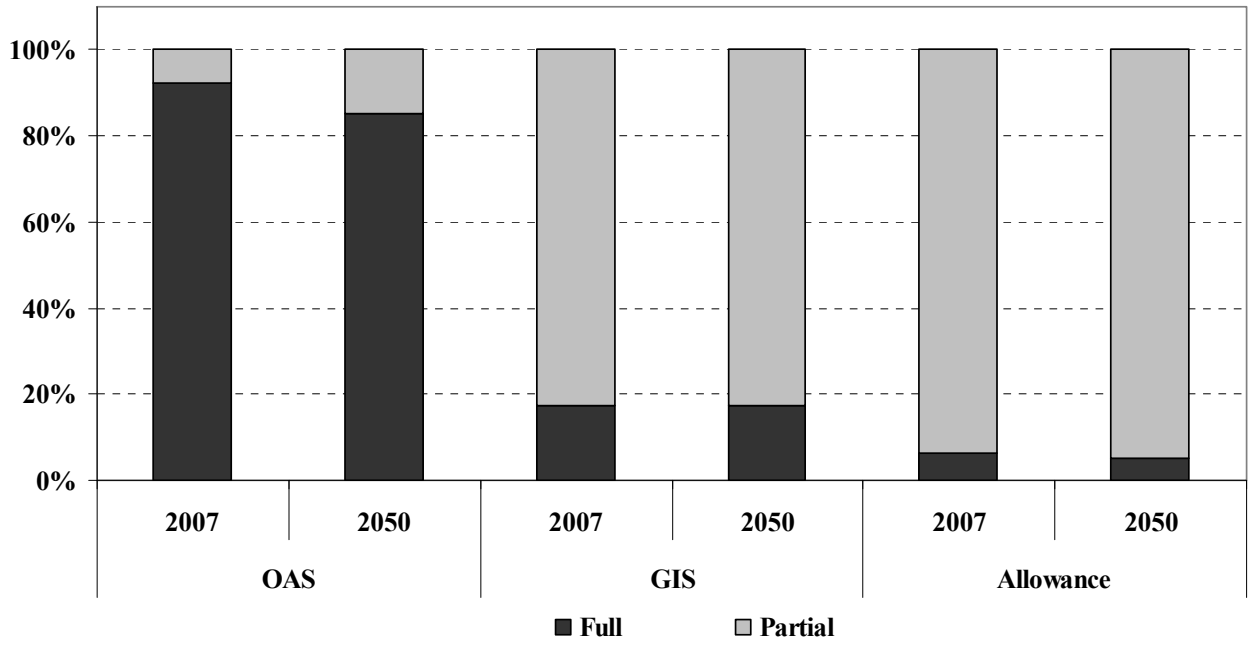
Table 4 presents a summary of the projected recipient rates by type of benefit. Chart 1 presents the projected distribution of beneficiaries by type and level of benefit.

Table 4 Recipient Rates
(population aged 65+)

	Males*			Females*		
	2007	**2025**	**2050**	**2007**	**2025**	**2050**
OAS	**98.9%**	**100.4%**	**100.9%**	**98.3%**	**99.7%**	**100.2%**
GIS-Single	11.1%	11.4%	10.1%	29.8%	25.2%	23.1%
GIS-Spouse as a Pensioner	12.4%	10.4%	8.0%	9.7%	9.0%	5.9%
GIS-Spouse not a Pensioner	3.1%	2.9%	1.8%	0.9%	0.8%	0.7%
GIS-Spouse with Allowance	3.0%	2.7%	2.0%	0.2%	0.2%	0.2%
GIS-All	**29.6%**	**27.3%**	**21.9%**	**40.5%**	**35.3%**	**29.9%**
Allowance-Regular	0.7%	0.5%	0.3%	6.8%	4.8%	3.2%
Allowance-Survivor	0.3%	0.2%	0.1%	3.1%	0.9%	0.4%
Allowance-All	**1.0%**	**0.6%**	**0.4%**	**9.9%**	**5.8%**	**3.6%**

* Overall recipient rates for the basic pension are on a gross basis (i.e. before the application of the clawback provision). All recipient rates include benefits paid outside Canada and for this reason can exceed 100%. GIS and Allowance recipient rates include the impact of Part 10 of Bill C-50.

Chart 1 Distribution of Beneficiaries by Type and Level of Pension



IV. Results

A. Overview

The results of the actuarial projections of the financial status of the Old Age Security Program presented in this report are generally consistent with the trends revealed in the previous triennial actuarial report. The key observations and findings are as follows.

- Demographic changes will have a major impact on the ratio of workers to retirees; the ratio of the number of people aged 20 to 64 to those aged 65 and over is expected to fall from about 4.7 in 2007 to 2.1 in 2050. Chart 2 shows an analysis of the Canadian population by age group.

- The number of beneficiaries for the basic pension is expected to more than double over the next 23 years, from 4.4 million in 2007 to 9.1 million by 2030.

- The number of Guaranteed Income Supplement and Allowance beneficiaries is expected to increase by 68% over the next 23 years, growing from 1.7 million in 2007 to 2.8 million by 2030. The percentage increase is less than for the basic pension due to the expected decline in recipient rates for these benefits over the same period.

- Total annual expenditures are expected to increase by 15% over the next three years, from $33 billion in 2007 to $38 billion in 2010 and to $110 billion by 2030.

- The ratio of expenditures to the Gross Domestic Product (GDP) increases from 2.2% in 2007 to a high of 3.1% in 2030, driven largely by the retirement of the baby boom generation (see Chart 3). Maximum benefits are indexed to the rate of inflation, which is assumed to be lower than the rate of growth in both the GDP and the income of new retirees, which in turn reduces the amount of income tested benefits payable. As such, over the longer term, the effect of price-indexation of benefits predominates and results in the reduction of the ratio of expenditures to GDP to a level of 2.7% by 2050.

Over time, price-indexation of benefits which increases more slowly than the rate of growth in average employment earnings means that benefits will replace a decreasing share of an individual's pre-retirement earnings. In the past, this issue has been addressed through occasional ad hoc increases in the benefit rates. One of the sensitivity tests shown in section VI provides an indication of the impact on projected results if benefit rates were increased to partially reflect the growth in real wages.

Chart 2 Analysis of Population of Canada by Age Group

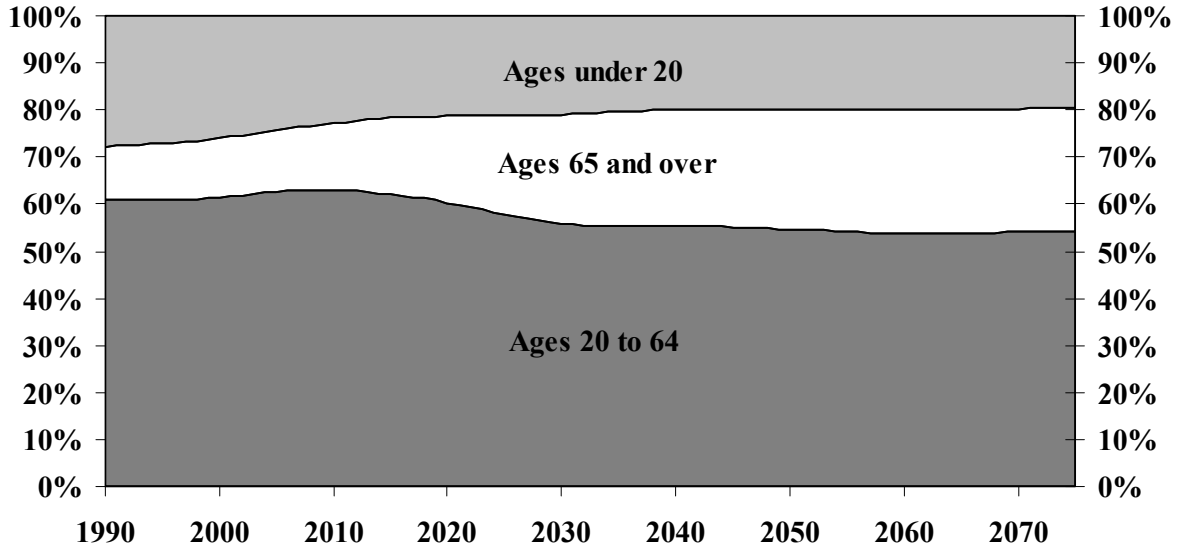
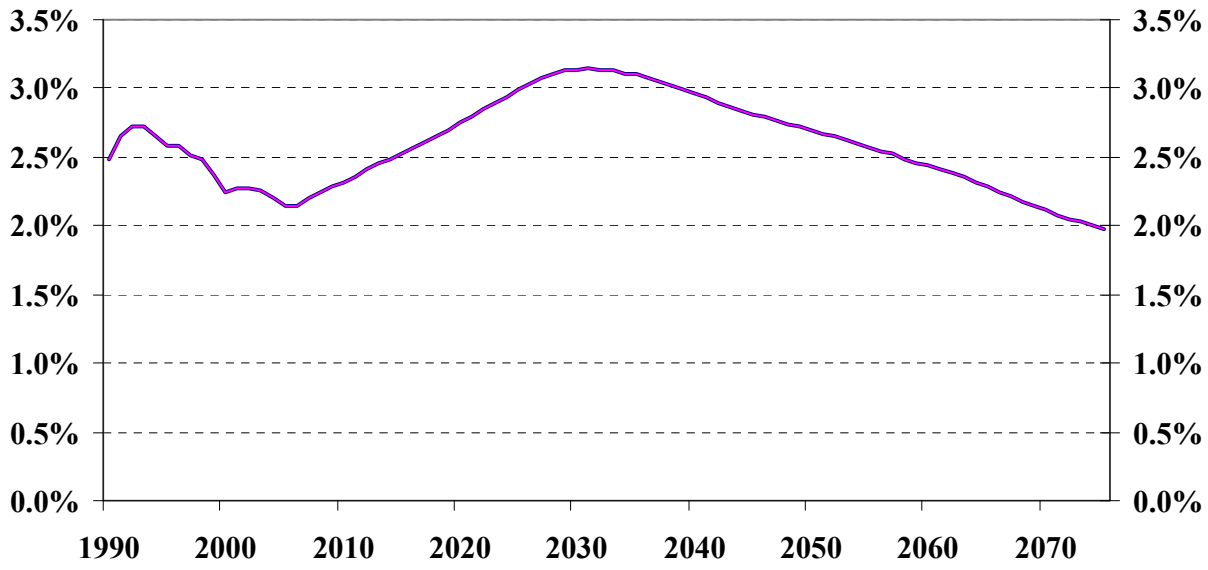


Chart 3 Expenditures as a Proportion of GDP



B. Number of Beneficiaries

Tables 5 and 6 present the historical and projected number of beneficiaries along with the respective overall recipient rates. The number of beneficiaries is the product of the population and the relevant recipient rates, which vary by year, age, sex, type and level of benefit. Beneficiaries include those who receive benefits outside of Canada. In 2006, about 2.2% of the male population was receiving a basic pension outside Canada while it was about 1.1% for females. These percentages are expected to increase over the projection period.

The numbers of beneficiaries of the basic pension shown in Table 5 and 6 are on a gross basis, i.e. they have not been reduced to account for the clawback provision, which applies to high-income pensioners. The clawback provision effectively reduces recipient rates since very high-income pensioners may have their benefit completely reduced (e.g. about 4.9% of males and 2.1% of female OAS pensioners in 2006 had their pensions completely reduced). The new pension income split provision of the *Income Tax Act* that came into effect in 2007 affects the number of individuals impacted by the clawback provision. Section IV of Appendix C presents more detailed information on the projected impact of the clawback provision (after pension income split) on the number of beneficiaries and total amounts payable.

The number of beneficiaries for the basic pension is expected to more than double over the next 23 years, growing from 4.4 million in 2007 to 9.1 million by the end of 2030. By contrast, after 2030, due to the relative stability in the growth of the population aged 65 and over and in the basic pension recipient rates, the number of beneficiaries is expected to continue to increase but at a slower pace until the end of the projection period.

The number of GIS beneficiaries is expected to increase by 75% over the next 23 years, growing from 1.6 million in 2007 to 2.8 million by 2030. This also results from the anticipated aging of the population and the retirement of the baby boom generation over that period. However, the increase in the number of GIS beneficiaries is smaller than for the basic pension as recipient rates for GIS benefits are expected to decrease by 15% over the same period. Each successive cohort of new retirees is assumed to be wealthier than the preceding one as retirement income increases in line with the rate of growth in wages, while the income limits for the GIS are assumed to increase in line with prices. Over the projection period, this has the effect of reducing the number of individuals who might have otherwise been recipients of the GIS benefit.

The number of Allowance beneficiaries is expected to decrease by 4.7% over the next thirteen years, going from 94,000 in 2007 to 89,500 by the end of 2020. The growth in the age group 60 to 64 (to which the Allowance applies) over the next thirteen years is offset by the assumption that the recipient rates for Allowance benefits will decrease by 36% over the same period. After 2020, the Allowance recipient rates continue to decrease while the growth in the population aged 60 to 64 stabilizes.

Table 5 Beneficiaries (Historical)

Year	Number of Beneficiaries			Recipient Rates*		
	OAS	GIS	Allowance	OAS	GIS	Allowance
	(thousands)	(thousands)	(thousands)	(%)	(%)	(%)
1966	1,199	-	-	98.1	-	-
1967	1,332	662	-	98.1	41.6	-
1968	1,470	760	-	97.7	46.6	-
1969	1,629	803	-	97.4	48.0	-
1970	1,689	816	-	98.4	47.6	-
1971	1,735	932	-	98.4	52.9	-
1972	1,780	998	-	98.5	55.2	-
1973	1,825	1,058	-	98.4	57.0	-
1974	1,874	1,069	-	98.4	56.1	-
1975	1,925	1,069	69	98.4	54.6	7.6
1976	1,975	1,084	70	97.6	53.6	7.7
1977	2,035	1,112	72	97.4	53.2	7.8
1978	2,098	1,127	73	97.3	52.3	7.8
1979	2,179	1,164	73	97.7	52.2	7.9
1980	2,259	1,191	74	98.0	51.7	7.8
1981	2,326	1,232	76	97.9	51.8	7.7
1982	2,389	1,228	79	97.8	50.3	7.7
1983	2,448	1,229	86	98.0	49.2	8.0
1984	2,511	1,246	89	97.9	48.6	8.0
1985	2,595	1,290	91	97.9	48.7	8.1
1986	2,683	1,316	139	98.0	48.1	12.2
1987	2,778	1,336	140	97.9	47.1	12.2
1988	2,862	1,342	135	97.8	45.8	11.6
1989	2,948	1,339	128	97.5	44.2	11.0
1990	3,036	1,325	121	97.3	42.5	10.3
1991	3,127	1,309	115	97.2	40.7	9.6
1992	3,210	1,300	110	97.4	39.5	9.2
1993	3,289	1,313	108	97.6	39.0	8.9
1994	3,367	1,340	109	97.9	39.0	9.0
1995	3,447	1,338	108	98.2	38.1	8.9
1996	3,524	1,341	101	98.5	37.5	8.3
1997	3,589	1,364	100	98.2	37.3	8.3
1998	3,656	1,368	97	98.2	36.7	8.0
1999	3,715	1,372	97	98.1	36.2	7.9
2000	3,781	1,363	95	98.1	35.4	7.6
2001	3,852	1,360	93	98.2	34.7	7.2
2002	3,923	1,404	92	98.2	35.2	6.9
2003	3,999	1,450	92	98.3	35.7	6.6
2004	4,078	1,483	93	98.5	35.8	6.4
2005	4,163	1,515	94	98.7	35.9	6.2
2006	4,261	1,546	94	98.8	35.8	5.9

* The overall historical basic OAS pension recipient rates and number of beneficiaries are on a gross basis (i.e. before application of the clawback provision). All recipient rates include benefits paid outside Canada and for this reason may exceed 100%.

Table 6 Beneficiaries (Projected)

Year	Number of Beneficiaries			Recipient Rates*		
	OAS	GIS	Allowance	OAS	GIS	Allowance
	(thousands)	(thousands)	(thousands)	(%)	(%)	(%)
2007	4,362	1,580	94	98.7	35.8	5.5
2008	4,494	1,620	95	99.0	35.7	5.3
2009	4,619	1,670	96	99.0	35.8	5.1
2010	4,757	1,713	97	99.2	35.7	4.9
2011	4,902	1,758	97	99.2	35.6	4.8
2012	5,100	1,814	94	99.3	35.3	4.6
2013	5,295	1,869	91	99.4	35.1	4.4
2014	5,483	1,919	90	99.5	34.8	4.2
2015	5,676	1,970	89	99.6	34.6	4.0
2016	5,872	2,020	89	99.6	34.3	3.9
2017	6,069	2,069	89	99.7	34.0	3.8
2018	6,279	2,118	90	99.8	33.7	3.7
2019	6,498	2,170	90	99.8	33.3	3.6
2020	6,731	2,226	89	99.9	33.0	3.6
2021	6,963	2,281	89	99.9	32.7	3.5
2022	7,205	2,337	89	100.0	32.4	3.4
2023	7,452	2,394	88	100.0	32.1	3.4
2024	7,696	2,449	88	100.1	31.9	3.3
2025	7,947	2,506	86	100.1	31.6	3.2
2026	8,197	2,563	84	100.2	31.3	3.2
2027	8,438	2,616	81	100.2	31.1	3.2
2028	8,684	2,669	77	100.3	30.8	3.1
2029	8,918	2,719	73	100.3	30.6	3.0
2030	9,125	2,763	69	100.3	30.4	2.9
2031	9,298	2,797	67	100.4	30.2	2.9
2032	9,438	2,824	66	100.4	30.1	2.8
2033	9,565	2,845	65	100.5	29.9	2.8
2034	9,686	2,862	63	100.5	29.7	2.7
2035	9,805	2,877	62	100.6	29.5	2.7
2036	9,916	2,890	60	100.6	29.3	2.6
2037	10,006	2,896	59	100.6	29.1	2.5
2038	10,082	2,899	59	100.6	28.9	2.5
2039	10,150	2,897	59	100.7	28.7	2.4
2040	10,220	2,895	58	100.7	28.5	2.4
2045	10,545	2,867	57	100.7	27.4	2.2
2050	10,909	2,838	53	100.6	26.2	2.0
2055	11,220	2,789	49	100.6	25.0	1.8
2060	11,556	2,738	44	100.7	23.9	1.7
2065	11,778	2,672	39	100.7	22.9	1.5
2070	11,902	2,590	37	100.8	21.9	1.4
2075	12,099	2,521	36	100.8	21.0	1.3

* The overall projected basic OAS pension recipient rates and number of beneficiaries are on a gross basis (i.e. before application of the clawback provision). All recipient rates include benefits paid outside Canada and for this reason may exceed 100%.

C. Expenditures and Average Annual Benefits

The historical and projected expenditures and average annual benefits by type are presented in Tables 7 and 8. The amounts of OAS basic pension benefits presented in Tables 7 and 8 are on a gross basis and do not account for the clawback provision, which reduces the benefit by 15 cents for each dollar of income above a minimum threshold. In 2006, there were about 8% of OAS pensioners affected by the clawback provision, resulting in the repayment of about 5% of the total amount of the basic pensions payable. Section IV of Appendix C presents more detailed information on the projected impact of the clawback provision (after the pension income split).

Total basic pension expenditures are projected to increase from $25 billion in 2007 to $87 billion by 2030. The projected average annual basic pension benefit of $5,665 in 2007 amounts to about 95% of the maximum annual OAS benefit for 2007. The average annual benefit is assumed to decrease to about 93% of the maximum or $9,528 by 2030. The existence of partial benefits (introduced in 1977 for those with less than 40 years of residence) is assumed to put downward pressure on the average annual OAS benefit.

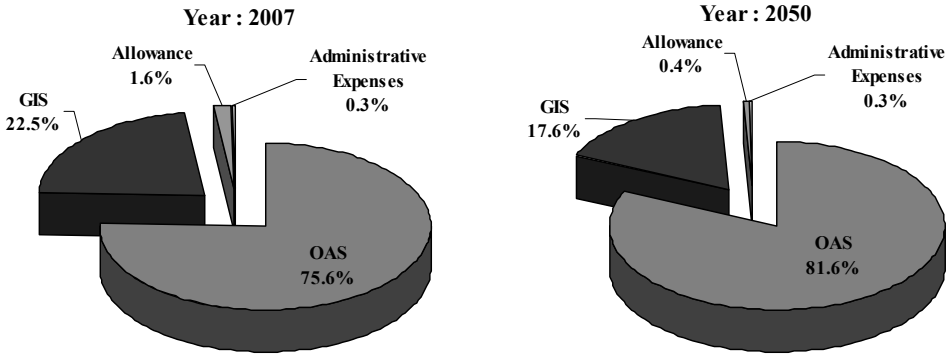
Total GIS expenditures are projected to increase from $7 billion in 2007 to $22 billion by 2030. The projected overall average annual GIS benefit is $4,648 in 2007, which is about 62% of the maximum annual GIS single rate for 2007. In contrast to the basic pension, the overall distribution of the number of beneficiaries by type and level of benefit is assumed to remain relatively stable over the projection period. For this reason, the average benefit remains at about 60% of the maximum GIS single rate throughout the projection period and reaches $7,815 by 2030.

Total Allowance expenditures are projected to increase from $513 million in 2007 to $634 million by 2030. The projected overall average annual Allowance benefit is $5,461 in 2007, which is about 50% of the maximum regular annual benefit for 2007. The distribution of the number of beneficiaries by type of benefit is assumed to remain relatively stable over the projection period. For this reason, the average benefit remains at about 50% of the maximum Allowance regular rate throughout the projection period and reaches $9,137 by 2030.

Total benefit expenditures are the product of the number of beneficiaries and the relevant average benefit by age, sex, and benefit type and level. Projected total annual expenditures for benefits and administrative expenses are $33 billion in 2007, rising to $38 billion in 2010 and $110 billion by 2030.

Finally, it is interesting to note the changing distribution of expenditures by type of benefit over the projection period, as shown in Chart 4 for 2007 and 2050. The basic pension benefits represent 76% of total expenditures in 2007 but by 2050 this share increases to 82% as the recipient rates for GIS and Allowance benefits decrease over the same period.

Chart 4 Analysis of Expenditures by Type



D. Cost Ratios

With the Program being financed through general revenues on a pay-as-you-go basis, it is useful to express its annual expenditures in relative terms rather than in absolute dollar terms. For this reason, the expenditures are presented as cost ratios using three different measurement bases. The three bases used are combined CPP/QPP contributory earnings, total employment earnings and Gross Domestic Product. The details regarding how these measurement bases were projected are included in Appendix C of this report.

The GDP basis was derived from projected total employment earnings using the historical relationship between the two. Tables 9 and 10 present the historical and projected annual expenditures as a percentage of GDP.

The combined CPP/QPP contributory earnings basis was derived from CPP contributory earnings as projected under the 23rd CPP Actuarial Report as at 31 December 2006 adjusted to take into account QPP contributory earnings, using the historical relationship between the two. This measurement basis facilitates a direct comparison of the cost of the Program with the costs of the CPP and QPP by using the same contributory basis. Tables 11 and 12 present the historical and projected annual expenditures as a percentage of CPP/QPP contributory earnings.

The total employment earnings basis was derived from the CPP total employment earnings as projected under the 23rd CPP Actuarial Report as at 31 December 2006 adjusted to account for Québec's total employment earnings. The adjustment is determined by using the historical relationship between total employment earnings as published by Statistics Canada and total employment earnings applicable to Canada less Québec for the purpose of the Canada Pension Plan. Tables 13 and 14 present the historical and projected annual expenditures as a percentage of total employment earnings.

Table 7 Expenditures and Average Annual Benefits (Historical)

	Expenditures* ($ million)					Average Annual Benefit* ($)		
Year	OAS	GIS	Allowance	Administrative Expenses	Total	OAS	GIS	Allowance
1966	1,007	-	-	5	1,012	840	-	-
1967	1,119	216	-	7	1,342	840	326	-
1968	1,260	242	-	7	1,509	857	318	-
1969	1,424	259	-	9	1,692	874	322	-
1970	1,611	274	-	9	1,894	954	336	-
1971	1,668	470	-	12	2,150	962	504	-
1972	1,761	697	-	9	2,467	989	698	-
1973	2,130	725	-	8	2,863	1,167	686	-
1974	2,519	819	-	9	3,347	1,344	766	-
1975	2,883	896	13	10	3,802	1,498	838	194
1976	3,249	1,001	95	19	4,364	1,645	924	1,353
1977	3,563	1,057	113	22	4,755	1,751	951	1,574
1978	4,009	1,155	122	25	5,311	1,911	1,025	1,679
1979	4,537	1,468	140	27	6,172	2,082	1,261	1,922
1980	5,147	1,772	169	34	7,123	2,279	1,488	2,292
1981	5,918	2,180	197	42	8,337	2,544	1,770	2,585
1982	6,804	2,376	217	45	9,442	2,848	1,935	2,733
1983	7,504	2,508	232	54	10,298	3,065	2,040	2,692
1984	8,077	2,792	245	56	11,170	3,217	2,241	2,751
1985	8,696	3,278	295	60	12,329	3,351	2,542	3,244
1986	9,346	3,419	468	59	13,292	3,484	2,598	3,356
1987	10,070	3,577	482	59	14,188	3,624	2,677	3,446
1988	10,774	3,725	476	56	15,031	3,764	2,776	3,521
1989	11,579	3,851	464	62	15,957	3,927	2,877	3,621
1990	12,484	3,954	452	67	16,957	4,112	2,985	3,732
1991	13,545	4,102	447	63	18,157	4,331	3,133	3,892
1992	14,292	4,227	438	77	19,034	4,452	3,252	3,964
1993	14,872	4,393	430	90	19,785	4,522	3,346	3,974
1994	15,403	4,587	431	91	20,512	4,574	3,423	3,967
1995	15,832	4,601	411	106	20,949	4,593	3,439	3,802
1996	16,433	4,636	398	104	21,571	4,663	3,458	3,956
1997	16,944	4,710	393	106	22,153	4,721	3,453	3,935
1998	17,470	4,810	386	109	22,775	4,779	3,517	3,964
1999	17,903	4,894	388	99	23,283	4,819	3,567	3,990
2000	18,669	5,019	389	89	24,166	4,937	3,682	4,087
2001	19,508	5,160	390	95	25,154	5,065	3,795	4,205
2002	20,318	5,417	397	99	26,231	5,179	3,858	4,326
2003	21,217	5,710	411	97	27,435	5,306	3,937	4,473
2004	21,923	5,954	453	104	28,434	5,376	4,015	4,885
2005	22,701	6,334	469	104	29,608	5,453	4,182	4,978
2006	23,737	6,800	497	97	31,131	5,570	4,399	5,287

* The historical basic OAS pension expenditures and average benefits are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

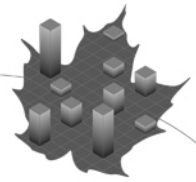


Table 8 Expenditures and Average Annual Benefits (Projected)

	Expenditures* ($ million)					Average Annual Benefit* ($)		
Year	OAS	GIS	Allowance	Administrative Expenses	Total	OAS	GIS	Allowance
2007	24,711	7,345	513	114	32,683	5,665	4,648	5,461
2008	25,953	7,624	530	119	34,226	5,775	4,707	5,585
2009	27,182	7,954	548	125	35,810	5,885	4,764	5,707
2010	28,531	8,300	562	131	37,524	5,998	4,844	5,803
2011	29,965	8,657	574	137	39,334	6,113	4,924	5,913
2012	31,800	9,101	568	145	41,615	6,235	5,017	6,061
2013	33,702	9,577	563	153	43,996	6,365	5,124	6,187
2014	35,659	10,040	566	162	46,427	6,503	5,231	6,317
2015	37,750	10,552	574	171	49,046	6,651	5,355	6,459
2016	39,975	11,080	585	181	51,822	6,808	5,486	6,608
2017	42,309	11,640	602	191	54,742	6,972	5,625	6,755
2018	44,825	12,222	620	202	57,870	7,139	5,770	6,908
2019	47,511	12,838	635	213	61,198	7,312	5,915	7,071
2020	50,406	13,509	648	226	64,789	7,489	6,068	7,237
2021	53,408	14,197	662	239	68,506	7,670	6,225	7,399
2022	56,608	14,925	674	253	72,459	7,856	6,385	7,573
2023	59,972	15,678	684	267	76,601	8,047	6,550	7,747
2024	63,440	16,453	694	282	80,869	8,243	6,717	7,925
2025	67,101	17,269	698	298	85,366	8,444	6,890	8,114
2026	70,903	18,107	695	314	90,019	8,650	7,066	8,304
2027	74,775	18,961	688	330	94,755	8,861	7,247	8,491
2028	78,839	19,838	672	348	99,697	9,078	7,432	8,700
2029	82,938	20,720	652	365	104,676	9,300	7,621	8,918
2030	86,939	21,592	634	382	109,547	9,528	7,815	9,137
2031	90,751	22,414	627	398	114,191	9,760	8,012	9,341
2032	94,361	23,195	629	414	118,599	9,998	8,215	9,544
2033	97,971	23,958	632	429	122,990	10,242	8,423	9,761
2034	101,643	24,715	633	444	127,435	10,493	8,636	9,991
2035	105,413	25,476	633	460	131,982	10,751	8,855	10,235
2036	109,235	26,235	632	476	136,579	11,016	9,079	10,490
2037	112,937	26,965	638	492	141,032	11,287	9,310	10,728
2038	116,603	27,671	647	507	145,428	11,565	9,546	10,975
2039	120,277	28,361	660	523	149,820	11,850	9,789	11,228
2040	124,113	29,060	672	538	154,384	12,144	10,038	11,503
2045	144,823	32,636	744	624	178,827	13,734	11,385	12,943
2050	169,558	36,648	774	724	207,705	15,543	12,916	14,590
2055	197,321	40,863	813	836	239,833	17,586	14,652	16,439
2060	229,888	45,519	809	967	277,183	19,894	16,624	18,548
2065	264,989	50,374	806	1,107	317,276	22,498	18,856	20,946
2070	302,841	55,394	874	1,257	360,365	25,445	21,387	23,635
2075	348,336	61,173	957	1,437	411,903	28,790	24,263	26,717

* The projected basic OAS pension expenditures and average benefit are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Table 9 Expenditures as Percentage of GDP (Historical)

Year	Gross Domestic Product	Expenditures as % of Gross Domestic Product*				
		OAS	GIS	Allowance	Administrative Expenses	Total
	($ billion)	(%)	(%)	(%)	(%)	(%)
1966	65	1.55	-	-	0.01	1.56
1967	70	1.61	0.31	-	0.01	1.93
1968	76	1.66	0.32	-	0.01	1.98
1969	84	1.70	0.31	-	0.01	2.02
1970	90	1.79	0.30	-	0.01	2.10
1971	98	1.69	0.48	-	0.01	2.18
1972	110	1.60	0.63	-	0.01	2.24
1973	129	1.65	0.56	-	0.01	2.22
1974	154	1.64	0.53	-	0.01	2.17
1975	174	1.66	0.52	0.01	0.01	2.19
1976	200	1.62	0.50	0.05	0.01	2.18
1977	221	1.61	0.48	0.05	0.01	2.15
1978	245	1.64	0.47	0.05	0.01	2.17
1979	280	1.62	0.53	0.05	0.01	2.21
1980	314	1.64	0.56	0.05	0.01	2.27
1981	360	1.64	0.60	0.05	0.01	2.31
1982	380	1.79	0.63	0.06	0.01	2.49
1983	411	1.82	0.61	0.06	0.01	2.50
1984	450	1.80	0.62	0.05	0.01	2.48
1985	486	1.79	0.67	0.06	0.01	2.54
1986	513	1.82	0.67	0.09	0.01	2.59
1987	559	1.80	0.64	0.09	0.01	2.54
1988	613	1.76	0.61	0.08	0.01	2.45
1989	658	1.76	0.59	0.07	0.01	2.43
1990	680	1.84	0.58	0.07	0.01	2.49
1991	685	1.98	0.60	0.07	0.01	2.65
1992	700	2.04	0.60	0.06	0.01	2.72
1993	727	2.05	0.60	0.06	0.01	2.72
1994	771	2.00	0.60	0.06	0.01	2.66
1995	810	1.95	0.57	0.05	0.01	2.58
1996	837	1.96	0.55	0.05	0.01	2.58
1997	883	1.92	0.53	0.04	0.01	2.51
1998	915	1.91	0.53	0.04	0.01	2.49
1999	982	1.82	0.50	0.04	0.01	2.37
2000	1,077	1.73	0.47	0.04	0.01	2.24
2001	1,108	1.76	0.47	0.04	0.01	2.27
2002	1,153	1.76	0.47	0.03	0.01	2.28
2003	1,213	1.75	0.47	0.03	0.01	2.26
2004	1,291	1.70	0.46	0.04	0.01	2.20
2005	1,375	1.65	0.46	0.03	0.01	2.15
2006	1,446	1.64	0.47	0.03	0.01	2.15

* The historical basic OAS pension expenditures are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Table 10 Expenditures as Percentage of GDP (Projected)

Year	Gross Domestic Product	Expenditures as % of Gross Domestic Product*				
		OAS	GIS	Allowance	Administrative Expenses	Total
	($ billion)	(%)	(%)	(%)	(%)	(%)
2007	1,485	1.66	0.49	0.03	0.01	2.20
2008	1,525	1.70	0.50	0.03	0.01	2.24
2009	1,569	1.73	0.51	0.03	0.01	2.28
2010	1,618	1.76	0.51	0.03	0.01	2.32
2011	1,667	1.80	0.52	0.03	0.01	2.36
2012	1,727	1.84	0.53	0.03	0.01	2.41
2013	1,791	1.88	0.53	0.03	0.01	2.46
2014	1,861	1.92	0.54	0.03	0.01	2.49
2015	1,937	1.95	0.54	0.03	0.01	2.53
2016	2,017	1.98	0.55	0.03	0.01	2.57
2017	2,099	2.02	0.55	0.03	0.01	2.61
2018	2,183	2.05	0.56	0.03	0.01	2.65
2019	2,269	2.09	0.57	0.03	0.01	2.70
2020	2,359	2.14	0.57	0.03	0.01	2.75
2021	2,451	2.18	0.58	0.03	0.01	2.79
2022	2,547	2.22	0.59	0.03	0.01	2.85
2023	2,646	2.27	0.59	0.03	0.01	2.90
2024	2,749	2.31	0.60	0.03	0.01	2.94
2025	2,857	2.35	0.60	0.02	0.01	2.99
2026	2,971	2.39	0.61	0.02	0.01	3.03
2027	3,091	2.42	0.61	0.02	0.01	3.07
2028	3,216	2.45	0.62	0.02	0.01	3.10
2029	3,347	2.48	0.62	0.02	0.01	3.13
2030	3,486	2.49	0.62	0.02	0.01	3.14
2031	3,627	2.50	0.62	0.02	0.01	3.15
2032	3,776	2.50	0.61	0.02	0.01	3.14
2033	3,932	2.49	0.61	0.02	0.01	3.13
2034	4,094	2.48	0.60	0.02	0.01	3.11
2035	4,263	2.47	0.60	0.01	0.01	3.10
2036	4,438	2.46	0.59	0.01	0.01	3.08
2037	4,622	2.44	0.58	0.01	0.01	3.05
2038	4,814	2.42	0.57	0.01	0.01	3.02
2039	5,013	2.40	0.57	0.01	0.01	2.99
2040	5,217	2.38	0.56	0.01	0.01	2.96
2045	6,354	2.28	0.51	0.01	0.01	2.81
2050	7,704	2.20	0.48	0.01	0.01	2.70
2055	9,342	2.11	0.44	0.01	0.01	2.57
2060	11,370	2.02	0.40	0.01	0.01	2.44
2065	13,917	1.90	0.36	0.01	0.01	2.28
2070	17,059	1.78	0.32	0.01	0.01	2.11
2075	20,846	1.67	0.29	0.00	0.01	1.98

* The projected basic OAS pension expenditures are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Table 11 Expenditures as Percentage of CPP/QPP Contributory Earnings (Historical)

Year	CPP/QPP Contributory Earnings	Expenditures as % of CPP/QPP Contributory Earnings*				
		OAS	GIS	Allowance	Administrative Expenses	Total
	($ billion)	(%)	(%)	(%)	(%)	(%)
1966	22	4.58	-	-	0.02	4.60
1967	24	4.68	0.90	-	0.03	5.61
1968	25	4.95	0.95	-	0.03	5.93
1969	28	5.16	0.94	-	0.03	6.13
1970	29	5.52	0.94	-	0.03	6.49
1971	31	5.35	1.51	-	0.04	6.89
1972	34	5.17	2.05	-	0.03	7.24
1973	38	5.60	1.91	-	0.02	7.53
1974	46	5.42	1.76	-	0.02	7.20
1975	54	5.32	1.65	0.02	0.02	7.01
1976	62	5.24	1.61	0.15	0.03	7.03
1977	69	5.15	1.53	0.16	0.03	6.87
1978	78	5.13	1.48	0.16	0.03	6.80
1979	89	5.08	1.64	0.16	0.03	6.91
1980	100	5.13	1.77	0.17	0.03	7.10
1981	116	5.12	1.89	0.17	0.04	7.22
1982	123	5.55	1.94	0.18	0.04	7.71
1983	131	5.72	1.91	0.18	0.04	7.85
1984	146	5.54	1.92	0.17	0.04	7.66
1985	160	5.42	2.04	0.18	0.04	7.68
1986	176	5.32	1.95	0.27	0.03	7.57
1987	187	5.38	1.91	0.26	0.03	7.57
1988	201	5.36	1.85	0.24	0.03	7.48
1989	217	5.34	1.78	0.21	0.03	7.36
1990	227	5.50	1.74	0.20	0.03	7.47
1991	230	5.90	1.79	0.19	0.03	7.91
1992	234	6.10	1.81	0.19	0.03	8.13
1993	239	6.21	1.83	0.18	0.04	8.26
1994	248	6.21	1.85	0.17	0.04	8.28
1995	256	6.18	1.80	0.16	0.04	8.18
1996	261	6.30	1.78	0.15	0.04	8.27
1997	269	6.31	1.75	0.15	0.04	8.25
1998	290	6.02	1.66	0.13	0.04	7.85
1999	306	5.86	1.60	0.13	0.03	7.62
2000	324	5.77	1.55	0.12	0.03	7.47
2001	337	5.78	1.53	0.12	0.03	7.46
2002	348	5.84	1.56	0.11	0.03	7.54
2003	360	5.89	1.59	0.11	0.03	7.62
2004	376	5.83	1.58	0.12	0.03	7.56
2005	392	5.79	1.62	0.12	0.03	7.56
2006	407	5.84	1.67	0.12	0.02	7.65

* The historical basic OAS pension expenditures are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Table 12 Expenditures as Percentage of CPP/QPP Contributory Earnings (Projected)

Year	CPP/QPP Contributory Earnings	Expenditures as % of CPP/QPP Contributory Earnings*				
		OAS	GIS	Allowance	Administrative Expenses	Total
	($ billion)	(%)	(%)	(%)	(%)	(%)
2007	426	5.81	1.73	0.12	0.03	7.68
2008	442	5.88	1.73	0.12	0.03	7.75
2009	459	5.93	1.73	0.12	0.03	7.81
2010	476	5.99	1.74	0.12	0.03	7.88
2011	496	6.05	1.75	0.12	0.03	7.94
2012	514	6.18	1.77	0.11	0.03	8.09
2013	535	6.30	1.79	0.11	0.03	8.23
2014	557	6.40	1.80	0.10	0.03	8.34
2015	581	6.50	1.82	0.10	0.03	8.45
2016	606	6.60	1.83	0.10	0.03	8.55
2017	633	6.68	1.84	0.10	0.03	8.64
2018	661	6.78	1.85	0.09	0.03	8.75
2019	690	6.89	1.86	0.09	0.03	8.87
2020	719	7.01	1.88	0.09	0.03	9.01
2021	750	7.12	1.89	0.09	0.03	9.14
2022	781	7.24	1.91	0.09	0.03	9.27
2023	814	7.37	1.93	0.08	0.03	9.41
2024	848	7.48	1.94	0.08	0.03	9.54
2025	884	7.59	1.95	0.08	0.03	9.66
2026	921	7.70	1.97	0.08	0.03	9.77
2027	961	7.78	1.97	0.07	0.03	9.86
2028	1,002	7.87	1.98	0.07	0.03	9.95
2029	1,046	7.93	1.98	0.06	0.03	10.01
2030	1,091	7.97	1.98	0.06	0.04	10.04
2031	1,137	7.98	1.97	0.06	0.03	10.04
2032	1,187	7.95	1.95	0.05	0.03	10.00
2033	1,238	7.91	1.94	0.05	0.03	9.93
2034	1,292	7.87	1.91	0.05	0.03	9.87
2035	1,348	7.82	1.89	0.05	0.03	9.79
2036	1,406	7.77	1.87	0.04	0.03	9.72
2037	1,466	7.70	1.84	0.04	0.03	9.62
2038	1,530	7.62	1.81	0.04	0.03	9.51
2039	1,595	7.54	1.78	0.04	0.03	9.39
2040	1,663	7.46	1.75	0.04	0.03	9.28
2045	2,038	7.11	1.60	0.04	0.03	8.78
2050	2,486	6.82	1.47	0.03	0.03	8.35
2055	3,030	6.51	1.35	0.03	0.03	7.92
2060	3,705	6.21	1.23	0.02	0.03	7.48
2065	4,553	5.82	1.11	0.02	0.02	6.97
2070	5,594	5.41	0.99	0.02	0.02	6.44
2075	6,848	5.09	0.89	0.01	0.02	6.01

* The projected basic OAS pension expenditures are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Table 13 Expenditures as Percentage of Total Employment Earnings (Historical)

Year	Total Employment Earnings	Expenditures as % of Total Employment Earnings*				
		OAS	GIS	Allowance	Administrative Expenses	Total
	($ billion)	(%)	(%)	(%)	(%)	(%)
1966	31	3.21	-	-	0.02	3.22
1967	35	3.22	0.62	-	0.02	3.86
1968	38	3.34	0.64	-	0.02	4.00
1969	42	3.38	0.61	-	0.02	4.01
1970	46	3.53	0.60	-	0.02	4.15
1971	50	3.33	0.94	-	0.02	4.30
1972	56	3.14	1.24	-	0.02	4.40
1973	65	3.30	1.12	-	0.01	4.44
1974	77	3.29	1.07	-	0.01	4.37
1975	89	3.24	1.01	0.01	0.01	4.27
1976	102	3.17	0.98	0.09	0.02	4.26
1977	113	3.15	0.93	0.10	0.02	4.20
1978	123	3.27	0.94	0.10	0.02	4.33
1979	138	3.29	1.06	0.10	0.02	4.47
1980	156	3.29	1.13	0.11	0.02	4.55
1981	180	3.29	1.21	0.11	0.02	4.64
1982	192	3.55	1.24	0.11	0.02	4.93
1983	200	3.75	1.25	0.12	0.03	5.15
1984	215	3.75	1.30	0.11	0.03	5.19
1985	232	3.75	1.41	0.13	0.03	5.32
1986	247	3.78	1.38	0.19	0.02	5.37
1987	269	3.75	1.33	0.18	0.02	5.28
1988	295	3.65	1.26	0.16	0.02	5.10
1989	319	3.63	1.21	0.15	0.02	5.01
1990	333	3.74	1.19	0.14	0.02	5.09
1991	339	4.00	1.21	0.13	0.02	5.36
1992	343	4.17	1.23	0.13	0.02	5.55
1993	347	4.28	1.27	0.12	0.03	5.70
1994	356	4.33	1.29	0.12	0.03	5.76
1995	366	4.32	1.26	0.11	0.03	5.72
1996	376	4.37	1.23	0.11	0.03	5.74
1997	398	4.26	1.18	0.10	0.03	5.57
1998	419	4.17	1.15	0.09	0.03	5.43
1999	445	4.02	1.10	0.09	0.02	5.23
2000	484	3.86	1.04	0.08	0.02	4.99
2001	505	3.86	1.02	0.08	0.02	4.98
2002	522	3.90	1.04	0.08	0.02	5.03
2003	542	3.92	1.05	0.08	0.02	5.06
2004	570	3.84	1.04	0.08	0.02	4.99
2005	605	3.75	1.05	0.08	0.02	4.90
2006	642	3.70	1.06	0.08	0.02	4.85

* The historical basic OAS pension expenditures are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Table 14 Expenditures as Percentage of Total Employment Earnings (Projected)

Year	Total Employment Earnings	Expenditures as % of Total Employment Earnings*				
		OAS	GIS	Administrative Allowance	Administrative Expenses	Total
	($ billion)	(%)	(%)	(%)	(%)	(%)
2007	659	3.75	1.11	0.08	0.02	4.96
2008	677	3.83	1.13	0.08	0.02	5.05
2009	697	3.90	1.14	0.08	0.02	5.13
2010	719	3.97	1.15	0.08	0.02	5.22
2011	742	4.04	1.17	0.08	0.02	5.30
2012	768	4.14	1.18	0.07	0.02	5.42
2013	797	4.23	1.20	0.07	0.02	5.52
2014	828	4.31	1.21	0.07	0.02	5.61
2015	861	4.38	1.22	0.07	0.02	5.69
2016	897	4.46	1.24	0.07	0.02	5.78
2017	933	4.53	1.25	0.06	0.02	5.86
2018	971	4.62	1.26	0.06	0.02	5.96
2019	1,009	4.71	1.27	0.06	0.02	6.06
2020	1,049	4.80	1.29	0.06	0.02	6.18
2021	1,090	4.90	1.30	0.06	0.02	6.28
2022	1,133	5.00	1.32	0.06	0.02	6.40
2023	1,177	5.10	1.33	0.06	0.02	6.51
2024	1,223	5.19	1.35	0.06	0.02	6.61
2025	1,271	5.28	1.36	0.05	0.02	6.72
2026	1,321	5.37	1.37	0.05	0.02	6.81
2027	1,375	5.44	1.38	0.05	0.02	6.89
2028	1,430	5.51	1.39	0.05	0.02	6.97
2029	1,489	5.57	1.39	0.04	0.02	7.03
2030	1,551	5.61	1.39	0.04	0.02	7.06
2031	1,613	5.63	1.39	0.04	0.02	7.08
2032	1,680	5.62	1.38	0.04	0.02	7.06
2033	1,749	5.60	1.37	0.04	0.02	7.03
2034	1,821	5.58	1.36	0.03	0.02	7.00
2035	1,896	5.56	1.34	0.03	0.02	6.96
2036	1,974	5.53	1.33	0.03	0.02	6.92
2037	2,056	5.49	1.31	0.03	0.02	6.86
2038	2,141	5.44	1.29	0.03	0.02	6.79
2039	2,230	5.39	1.27	0.03	0.02	6.72
2040	2,321	5.35	1.25	0.03	0.02	6.65
2045	2,826	5.12	1.15	0.03	0.02	6.33
2050	3,427	4.95	1.07	0.02	0.02	6.06
2055	4,155	4.75	0.98	0.02	0.02	5.77
2060	5,058	4.55	0.90	0.02	0.02	5.48
2065	6,191	4.28	0.81	0.01	0.02	5.13
2070	7,588	3.99	0.73	0.01	0.02	4.75
2075	9,273	3.76	0.66	0.01	0.02	4.44

* The projected basic OAS pension expenditures are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

V. Reconciliation with Previous Report

A. Introduction

The results presented in this report differ from those presented in the previous report for a variety of reasons. Differences between the actual experience from 2004 through 2006 and that projected in the 7th Actuarial Report are addressed in subsection B below. Since historical results provide the starting point for the projections shown in this report, these historical differences also have an effect on the projections. Detailed reconciliations of the projected expenditures are presented in Appendix B.

B. Financial Results – 2004 to 2006

The components of change in the Program expenditures from 2004 to 2006 are summarized in Table 15.

Table 15 Financial Results - 2004 to 2006
($ million)

	Actual	Expected	Difference	Ratio
Expenditures:				
OAS	68,361	68,539	(178)	1.00
GIS	19,088	18,851	237	1.01
Allowance	1,419	1,355	64	1.05
Administrative Expenses	305	329	(24)	0.93
Total Expenditures	**89,173**	**89,074**	**99**	**1.00**
Gross Domestic Product	**4,112,215**	**3,875,939**	**236,276**	**1.06**
Expenditures as % of GDP	**2.17%**	**2.30%**	**(0.13)%**	

OAS expenditures during the period were $178 million lower than projected. For the most part, this is because the slightly higher number of OAS beneficiaries was offset by a lower average benefit than projected. GIS and Allowance expenditures were $301 million higher than anticipated mainly due to higher than expected average benefits. Administrative expenses were $24 million or 7% lower than expected over the period.

Total GDP over the period was 6% higher than projected, due to the higher-than-projected growth in the economy. As a result, overall expenditures in relation to GDP were about 6% lower than projected, being 2.17% of GDP instead of 2.30%.

C. Changes in Expenditures as a percentage of the GDP

Table 16 presents the main elements of changes in the expenditures expressed as a percentage of the gross domestic product since the previous report. The rates are reduced at first mainly due to better economic experience between 2004 and 2006. Over the projection period the effect of the higher recipient rates and higher life expectancies is partially offset by the higher increases in wages.

Table 16 Reconciliation of Expenditures as a % of GDP

	As Percentage of GDP		
	2007	**2025**	**2050**
OAS 7th Rates	**2.38**	**3.04**	**2.73**
Changes in Methods	0.01	0.00	0.00
Experience 2004 to 2006	-0.18	-0.17	-0.12
Changes in Demographic Assumptions	0.00	0.05	0.08
Changes in Benefit Assumptions	0.01	0.04	0.08
Changes in Economic Assumptions	-0.02	0.02	-0.07
Amendments (Part 10 of Bill C-50)	0.00	0.01	0.00
OAS 8th Rates	**2.20**	**2.99**	**2.70**

VI. Uncertainty of Results

The future expenditures of the Old Age Security Program depend on many demographic and economic factors, including fertility, mortality, migration, the labour force, average earnings, inflation, recipient rates and indexation of benefits. The expenditures will depend on how these factors affect the size and composition of the beneficiary population and the general level of benefits. The cost measurement bases which expenditures are measured relative to, namely combined CPP and QPP contributory earnings, total employment earnings and the GDP, will depend on how the factors affect the size and composition of the working-age population and the level and distribution of earnings.

The projected long-term financial status of the Program is based on best-estimate assumptions; the objective of this section is to present alternative scenarios. The alternatives presented are in the form of individual sensitivity tests that illustrate the sensitivity of the long-term financial position of the Program to changes in the future demographic and economic outlook.

In previous reports, all individual sensitivity tests were based on a deterministic approach. Historical trends and judgement were used to determine an appropriate range of outcomes for each assumption, which were then tested. However, these tests provided no indication of the probability that the actual future experience would be inside or outside the assumed range of these estimates. For the first time, in this report, many of the individual assumption sensitivity tests are determined based on stochastic modeling techniques that estimate the probability distribution of the outcome for each of the assumptions.

The probability distributions are used to quantify a range of possible outcomes for each of the selected assumptions. The fluctuation in each variable is projected by using standard time-series modeling, a method designed to make inferences based on historical data. Generally, each variable is modeled by an equation that captures a relationship between current and prior years' values of the assumption and introduces year-by-year random variation, consistent with the variation observed in the historical period. For some

assumptions, the equations additionally reflect interrelationships with other assumptions. Parameters for the equations are estimated using historical data for periods that range between 48 and 79 years, depending on the data available. Each time-series equation is designed such that, in the absence of random variation, the value of the variable is equal to the value assumed under the best-estimated assumption.

For each assumption for which a stochastic process was used, a minimum of 1,000 outcomes are generated for each year in the projection period. Next, a 95% confidence interval is calculated for each assumption to determine with 95% probability, the range of possible outcomes. The upper and lower values of this 95% confidence interval are used as the low-cost and high-cost assumptions for the individual sensitivity tests. These stochastically-generated values represent the range of the average outcome for the indicated variable over the entire 75-year projection period. Although the yearly outcome of each variable will fluctuate, it is the average outcome over the projection period that will determine the financial status of the Program. If a shorter projection period were considered, such as ten years, one could expect the average 95% confidence interval to be wider since the outcomes would not have had enough time to stabilize.

The results should be interpreted with caution and a full understanding of the inherent limitations of stochastic time-series modeling. Results are very sensitive to equation specifications, degrees of interdependence among variables and the historical periods used for the estimates. For some variables, using the variations exhibited in a relatively recent historical period may not provide a realistic representation of the potential variation for the future. In addition, results would differ if random variations had been applied to additional variables other than those mentioned above (such as labour force participation rates and recipient rates). Furthermore, additional variability could result from incorporating statistical approaches that would more fully model changes in the long-range central tendencies of the variables. The historical period available for most variables is relatively homogeneous and does not reflect substantial shifts. The time-series modeling reflects what occurred in the historical period. As a result, the variation indicated in this section should be viewed as the minimum plausible variation for the future. Structural shifts, as predicted by many experts and as seen in prior centuries, are not reflected in the current models. Rather, the projection models or time series are adjusted to reflect our best judgement over a long period.

The sensitivity tests were performed by varying each of the key assumptions individually in a manner, where applicable, consistent with the results of the stochastic analysis and by keeping the remaining assumptions at their best-estimate levels. Each of these sensitivity tests was categorized as either a low-cost scenario or a high-cost scenario. In the low-cost scenarios, the alternative assumptions have the effect of reducing the ratios of expenditures to GDP. Conversely, in the high-cost scenarios, the assumptions would increase the cost ratios.

The alternative assumptions selected based on stochastic modelling are intended to cover a 95% confidence interval and represent a wide range of potential long-term experience. However, each individual result cannot simply be combined with others because a change in any one particular assumption may have an impact on other assumptions to various degrees.

Table 17 below summarises the alternative assumptions used in the individual sensitivity tests. It is followed by a brief discussion of each assumption and the impact its variation has on the results.

Table 17 Sensitivity-Test Assumptions

		Low-Cost	Best-Estimate	High-Cost
1	Total fertility rate	2.1	1.6	1.1
2	Mortality:			
	Canadian life expectancy at age 65 in 2050	Males 17.8 Females 18.6	Males 21.9 Females 24.2	Males 25.1 Females 27.9
3	Net migration rate	0.59%	0.54%	0.48%
4	Participation rate (age group 15-69)*	81% (2030)	74% (2030)	71% (2030)
	Unemployment rate*	4.3%	6.3%	8.3%
5	Rate of increase in prices	3.4%	2.5%	1.3%
6	Real-wage differential	1.9%	1.3%	0.5%
7	Recipient rates* (GIS and Allowance)	2050 GIS: 21.0% Allowance: 1.6%	2050 GIS: 26.2% Allowance: 2.0%	2050 GIS: 31.4% Allowance: 2.4%
8	Benefit indexation*	CPI less 1%	CPI	CPI plus 60% of the real-wage differential

* For these tests a deterministic instead of a stochastic approach was used to derive the low- and high-cost estimates.

1. Fertility Rate

The best-estimate assumption is that the total fertility rate for Canada will increase slightly from its 2005 level of 1.53 to an ultimate level of 1.60 in 2010. Based on fertility experience of the last 65 years (1941 to 2005), a stochastic approach was used to generate the low- and high-cost scenarios over the 75-year projection period. It was projected that the average total fertility rate throughout the projection period will be in the range of 1.1 to 2.1 with 95% probability. Instead, if a 10-year projection period is considered, then the average total fertility rate will be in the range of 0.9 to 2.3.

The low-cost assumption has the fertility rate increasing to an ultimate level of 2.1 in 2010, which is equivalent to the national population replacement rate. Under this scenario, the population grows to a level in 2050 that is 17.3% higher than under the best-estimate assumption. In addition, a higher ultimate fertility rate leads to a younger population. Under this scenario, the dependency ratio of those aged 65 and over to the working-age population (20-64) is 0.41 (or approximately 2.4 workers per retiree) in 2050 compared to a dependency ratio of 0.47 (or approximately 2.1 workers per retiree) under the best-estimate assumption.

The high-cost assumption has the fertility rate decreasing to an ultimate level of 1.1 in 2010. Under this scenario, the population grows much more slowly, to a level in 2050 that is 15.4% lower than under the best-estimate assumption. A lower ultimate fertility rate leads to an older population. In this scenario, the dependency ratio increases from the best-estimate value of 0.47 (or 2.1 workers per retiree) in 2050 to 0.54 (1.9 workers per retiree).

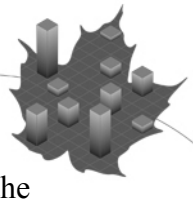
2. Mortality rates

Mortality improvements are expected to continue in the future. The best-estimate ultimate rates of mortality improvement were established based on trends in Canadian experience over the last 30 years by age and sex. For the first five years of projection (2005 to 2009) rates of mortality improvement are assumed to correspond to the experience over the last 15 years (1989 to 2004). These rates are then graded down to their ultimate values by 2029.

Based on the mortality experience by age and sex of the last 79 years (1926 to 2004), a stochastic approach was used to generate the low- and high-cost scenarios over the 75-year projection period. It was projected that, on average, the life expectancy of a male aged 65 in 2050 will be in the range of 17.8 to 25.1 years with 95% probability. For a female aged 65 in 2050, life expectancy is projected to be in the range of 18.6 to 27.9 years.

For the low-cost scenario, mortality is assumed to improve less rapidly in order to obtain the lower targeted life expectancies in 2050. Under this scenario, the population grows to a level in 2050 that is 5.4% lower than under the best-estimate assumption.

For the high-cost scenario, mortality is assumed to improve more rapidly, especially at the older ages, in order to obtain the higher targeted life expectancies in 2050. Under



this scenario, the population grows to a level in 2050 that is 1.9% higher than under the best-estimate assumption. Table 18 presents the life expectancies that would result in 2050 from the different rates of improvement.

Table 18 Life Expectancy in 2050 Under Alternative Assumptions*

		Low-Cost	Best-Estimate	High-Cost
At Birth	Males	77.9	87.4	91.3
	Females	78.0	90.2	94.6
At Age 65	Males	17.8	21.9	25.1
	Females	18.6	24.2	27.9

*Life expectancies shown are calculated taking into consideration future improvements in mortality.

3. Net Migration Rate

An ultimate best-estimate assumption of 0.54% of the population has been established for 2020 and thereafter. This level is reached in two steps: first, a level of 0.50% is kept constant from 2007 until 2015, then the ultimate level of 0.54% is gradually reached in 2020. This is consistent with experience over the last 30 years.

Based on the net migration experience of the last 48 years (1959 to 2006), a stochastic approach was used to generate the low- and high-cost scenarios over the 75-year projection period. It is projected that average net migration throughout the entire projection period will be in the range of 0.48% to 0.59% of the population with 95% probability. Instead, if a 10-year projection period is considered, then average net migration will be in the range of 0.30% to 0.69% of the population.

The low-cost assumption has net migration reaching a level of 0.59% of the population in 2007 and remaining constant thereafter. Under this scenario, the population grows to a level in 2050 that is 3.6% higher than under the best-estimate assumption. As well, the dependency ratio of those aged 65 and over to the working-age population (20-64) is 0.46 (or approximately 2.2 workers per retiree) in 2050 compared to a dependency ratio of 0.47 (or approximately 2.1 workers per retiree) under the best-estimate assumption. The dependency ratio improves only slightly compared to the best-estimate since the impact of a higher net migration rate depends on the age distributions of immigrants and emigrants. If both groups, those above age 65 and those between ages 20 and 64, are affected similarly by net migration, then one would expect very little change in the dependency ratio.

The high-cost assumption has net migration reaching a level of 0.48% of the population in 2007 and remaining constant thereafter. Under this scenario, the population grows more slowly, to a level in 2050 that is 2.8% lower than under the best-estimate assumption. As well, the dependency ratio is 0.48 (or approximately 2.1 workers per retiree). There is very little difference in the dependency ratio compared to the best-estimate.

4. Unemployment Rate – Participation Rates

Employment levels are reflected in the actuarial projection model through the assumptions made regarding the level of the labour force participation and job creation rates by year, age and sex. These rates vary not only with the rate of unemployment, but also reflect trends in increased workforce participation by women, longer periods of formal education among young adults and the trends in retirement patterns of older workers. The ultimate level of unemployment assumed to apply in 2007 and thereafter is 6.3%.

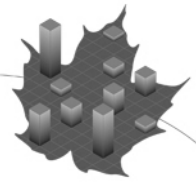
A deterministic model (instead of a stochastic model) was used to generate the low- and high-cost scenarios for these assumptions since a stochastic model would not accurately reflect the assumed future trends in labour force participation and unemployment. The expected future labour shortage caused by the retirement of the baby-boom generation is unlike any labour situation experience in the past and thus, the historical data do not reflect any substantial shifts like the one being projected. Therefore, it was decided to use judgement in determining the low- and high-cost assumptions for participation rates and unemployment.

For the low-cost scenario, the job creation rates are assumed to increase more rapidly, which results in an unemployment rate of 4.3% in 2007 and thereafter. For the high-cost scenario, the job creation rates are assumed to increase more slowly, which results in an unemployment rate of 8.3% in 2007 and thereafter.

Participation rates are used to estimate the active population. The best-estimate scenario divides the projection period into two periods, i.e. 2007 to 2015 and 2015 to 2030. During the period 2007 to 2015, the assumed increase in labour force participation rates for those aged 50 and over will not be sufficient to counteract the decrease in the overall participation rate due to the demographic shift. For this reason, participation rates for people under the age of 55, especially for those aged 20 to 40, were increased somewhat. Thus, the labour force participation rate for the age group 15 to 69 decreases slightly from approximately 74.8% in 2006 to 73.7% in 2015.

From 2015 to 2030, baby boomers born between 1955 and 1965 will be reaching the ages of 60 to 75, while the first generation of boomers (1945 to 1955) will have already retired, thus creating downward pressure on the overall participation rate. It was thus assumed that those reaching ages 55 to 64 during this period will participate more because of the increased employment opportunities due to the expected labour shortage. As well, it was assumed that participation rates for those below age 55 will increase. Thus, the labour force participation rate for the age group 15 to 69 is projected to increase slightly to 74.2% in 2030.

For the low cost scenario, male participation rates are assumed to reach their highest historical level by 2030 and female participation rates are assumed over the same period to reach the level of males. This results in an overall participation rate of 81% for the age group 15 to 69 in 2030.



For the high cost scenario, male and female participation rates are assumed to remain constant at their 2006 levels. This results in an overall participation rate of 71% for the age group 15 to 69 in 2030.

5. Price Increases

An ultimate annual rate of price increase of 2.5% has been assumed for the best-estimate projections. The rate of price increase is assumed at 2.0% from 2007 to 2011 and is then assumed to increase uniformly to its ultimate level of 2.5% in 2016.

Based on the overall inflation rate experience of the last 69 years (1938 to 2006), a stochastic approach was used to generate the low- and high-cost scenarios over the 75-year projection period. It was projected that the average annual rate of price increase during the 75-year projection period will be in the range of 1.3% to 3.4% with 95% probability. Instead, if a 10-year projection period is considered, then the average annual rate of price increase will be in the range of -1.0% to 5.2%.

For the low-cost scenario, the annual rate of price increase is assumed to rise to an ultimate level of 3.4% in 2016. This level of inflation is comparable to the average over the last 25 years. Although a higher rate of increase in prices results in higher OAS expenditures, it also results in higher combined CPP/QPP contributory earnings, total employment earnings and GDP (this is because the same real-wage differential is added to a higher base of inflation, producing a higher nominal rate of wage increase). The net effect is a decrease in the cost ratios.

For the high-cost scenario, the annual rate of price increase is assumed to be 1.3% for years 2007 and thereafter. This level of inflation is comparable to that of the early 1960s and the mid-to-late 1990s.

6. Real-wage Differential

Wage increases affect the financial balance of the Old Age Security Program in two ways. In the short term, an increase in the average wage translates into higher combined CPP/QPP contributory earnings, total employment earnings and GDP, with little immediate impact on benefits. Accordingly, this will result in lower cost ratios relative to these measurement bases. Over the longer term, higher average earnings may be expected to result in higher incomes among the retiree population and reduce the amounts of income-tested benefits. The long-term projected financial position of the Old Age Security Program is more dependent on the differential between the assumed annual rates of wage increase and price increase (the real-wage differential) than on the absolute level of wage increases assumed.

An ultimate real-wage differential of 1.3% has been assumed in years 2015 and thereafter for the best-estimate projections. Combined with the best-estimate price increase assumption of 2.5%, this results in assumed nominal annual increases in wages of 3.8% in 2016 and thereafter. During the initial years of the projection period, the real-wage differential is assumed to increase gradually from 0.2% in 2007 to its ultimate level.

Based on the overall real-wage experience of the last 64 years (1943 to 2006), a stochastic approach was used to generate the low- and high-cost scenarios over the 75-year projection period. It was projected that the average real-wage differential throughout the 75-year projection period will be in the range of 0.5% to 1.9% with 95% probability. Instead, if a 10-year projection period is considered, then the average real-wage differential will be in the range of -1.4% to 3.1%.

For the low-cost scenario, the assumed real-wage differential increases to an ultimate level of 1.9% in 2015. For the high-cost scenario, the assumed real-wage differential increases to an ultimate level of 0.5% in 2009.

7. Recipient Rates

The best-estimate projection uses a formula described in Appendix C to project GIS and Allowance recipient rates. For the low-cost scenario, the same formula is used except that a 20% reduction is applied to the resulting recipient rates for GIS and Allowance. The reduction is phased in over three years and is maintained thereafter. It results in total GIS and Allowance benefits that are about 20% lower than in the best-estimate scenario.

For the high-cost scenario, the same formula is used except that a 20% increase is applied to the resulting recipient rates for total GIS and Allowance benefits. The increase is phased in over three years and is maintained thereafter. It results in total GIS and Allowance benefits that are about 20% higher than in the best-estimate scenario.

8. Benefit Indexation

The best-estimate projections are based on the Program provision for benefit rates to be indexed quarterly in accordance with price increases. Over time, indexing benefit rates more slowly than the rate of growth in average employment earnings means that benefits will replace a decreasing share of individuals' pre-retirement earnings. In the past, this issue has been addressed through occasional legislation providing ad hoc increases in the benefit rates.

For the low-cost scenario, the benefit indexation is assumed at CPI minus 1%.

For the high-cost scenario, the benefit rates are increased to partially reflect the growth in real wages. The assumption made for this test is that benefit rates would be indexed at rates equal to the assumed rate of growth in prices plus 60% of the assumed real-wage differential. Accordingly, the ultimate annual benefit indexation rate is assumed to be 3.3% instead of 2.5% under the best-estimate assumptions. Over the medium term, about 30 years, the overall impact of this indexation formula on costs is roughly comparable to the indexation basis inherent in the CPP and QPP, which provide benefits based on wage increases prior to retirement and price increases thereafter.

9. Results

Table 19 summarizes the projected impact on the expenditures-to-GDP cost ratio under each of the alternative sets of assumptions.

Table 19 Sensitivity-Test Results

			Expenditures as a Percentage of GDP			
	Assumption	**Scenario**	**2010**	**2025**	**2050**	**2075**
		Best-Estimate	2.32	2.99	2.70	1.98
I.	Fertility rate	Low-Cost	2.32	2.96	2.35	1.50
		High-Cost	2.32	3.01	3.15	2.77
II.	Mortality rates	Low-Cost	2.32	2.83	2.27	1.51
		High-Cost	2.32	3.08	2.93	2.21
III.	Migration rates	Low-Cost	2.31	2.94	2.64	1.94
		High-Cost	2.32	3.01	2.76	2.02
IV.	Unemployment and Participation rates	Low-Cost	2.27	2.73	2.42	1.78
		High-Cost	2.35	3.14	2.86	2.10
V.	Price increases	Low-Cost	2.32	2.98	2.70	1.98
		High-Cost	2.34	3.01	2.70	1.97
VI.	Real-wage differential	Low-Cost	2.32	2.72	2.07	1.29
		High-Cost	2.33	3.36	3.73	3.35
VII.	Recipient rates (GIS and Allowance)	Low-Cost	2.25	2.86	2.60	1.92
		High-Cost	2.39	3.11	2.79	2.04
VIII.	Benefit indexation	Low-Cost	2.24	2.45	1.69	0.96
		High-Cost	2.35	3.41	3.81	3.44

VII. Conclusion

The retirement of the baby boomers over the next 25 years will increase the expenditures of the Program. For this reason, total annual expenditures expressed as a percentage of the Gross Domestic Product are expected to grow from 2.2% in 2007 to a high of 3.1% in 2030. As each successive cohort of new retirees is assumed to be wealthier than the preceding one, recipient rates for GIS and Allowance benefits will continue to decrease over the projection period. Combined with the fact that benefits are indexed to inflation as opposed to wages, the costs of the Program are projected to go down in the long term, with the result that annual expenditures are expected to fall to 2.7% of GDP by 2050.

A more costly demographic outlook due to the continuing increases in longevity combined with assumed higher recipient rates offset in part better-than-anticipated economic experience, especially regarding labour force participation and employment experience over the period 2004 to 2006. In addition, lower inflation and higher real wage expectations act to reduce the costs of the Program. Due to these offsetting effects, the results presented in this report are somewhat similar to the ones presented in the previous triennial report.

To measure the sensitivity of the long-term financial status of the Program to future changes in the demographic and economic environment, individual sensitivity tests were performed. These tests focused on varying the key assumptions individually in order to measure the impact on the cost ratio of Program expenditures to GDP. These tests show that the cost ratio could deviate significantly from its projected best-estimate values if other than best-estimate assumptions were to be realized. For example, if life expectancies at age 65 were to increase by three more years than the best-estimate of this report, then the ratio in 2050 would increase from 2.70% to 2.93%. As another example, if recipient rates for the GIS and Allowance benefits were to increase by 20%, then the ratio in 2050 would increase from 2.70% to 2.79%.

The projected financial status of the Old Age Security Program presented in this report is based on the assumed demographic and economic outlook over the long term. Therefore, it remains important to review the Program's long-term financial status on a regular basis by producing periodic actuarial reports. For this purpose, as required by the *Public Pensions Reporting Act*, the next such review will be as at 31 December 2009.

VIII. Actuarial Opinion

In our opinion, considering that this 8th Actuarial Report was prepared pursuant to the *Public Pensions Reporting Act*:

- the data on which this report is based are sufficient and reliable;
- the methodology employed is appropriate and consistent with sound actuarial principles; and
- the assumptions used are, in aggregate, reasonable and appropriate.

This report has been prepared, and our opinions given, in accordance with the general standards of practice of the Canadian Institute of Actuaries and the Guidelines of Actuarial Practice for Social Security Programs of the International Actuarial Association.

Michel Montambeault, F.S.A., F.C.I.A.
Senior Actuary

Jean-Claude Ménard, F.S.A., F.C.I.A.
Chief Actuary

Ottawa, Canada
9 May 2008

Appendix A – Summary of Plan Provisions

I. Introduction

The *Old Age Security Act* came into force in December 1951. Since that time, it has been amended several times, the most recent occasion as a result of Part 10 of Bill C-50 (increase in GIS and Allowance employment income exemption) which was tabled in the House of Commons on 14 March 2008. The impact of Part 10 of Bill C-50 is included in the financial projections of this report. Part 1 of Bill C-50 dealing with Tax Free Savings Accounts has not been taken into account but will be considered in future reports.

Benefits provided under the *Old Age Security Act* include the basic pension, the Guaranteed Income Supplement (GIS) and the Allowance, which started being paid in 1952, 1967, and 1975, respectively. The Allowance for the survivor benefit started in 1985.

II. Financing

All benefits provided under the *Old Age Security Act* are currently financed from federal general tax revenues.

III. Basic Pension

The basic OAS pension is a monthly benefit available, on application, to anyone age 65 or over who meets the residence and legal status requirements specified in the *Old Age Security Act*.

A. Eligibility Conditions

To qualify for a basic OAS pension, a person must be 65 years of age or over, and

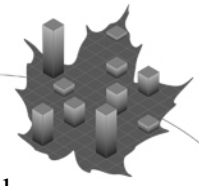
- must be a Canadian citizen or a legal resident of Canada on the day preceding the approval of his or her application; or
- if the person no longer lives in Canada, must have been a Canadian citizen or a legal resident of Canada on the day preceding the day he or she stopped living in Canada.

A minimum of 10 years of residence in Canada after reaching age 18 is required to receive a basic OAS pension in Canada. To receive the OAS pension outside the country, a person must have lived in Canada for a minimum of 20 years after reaching age 18. An international social security agreement may assist a person to meet the 10- and 20-year requirements.

B. Amount of Benefits

The amount of a person's pension is determined by how long he or she has lived in Canada, according to the following rules:

- A person who has lived in Canada, after reaching age 18, for periods that total at least 40 years may qualify for a full OAS pension.



- A person who has not lived in Canada for 40 years after reaching age 18 may still qualify for a full pension if, on 1 July 1977, he or she was 25 years of age or over, and

  - lived in Canada on that date, or
  - had lived in Canada before that date and after reaching age 18, or
  - possessed a valid immigration visa on that date.

  In such cases, the individual must have lived in Canada for the 10 years immediately prior to the approval of the application for the pension. Absences during this 10-year period may be offset if, after reaching age 18, the applicant was present in Canada before those 10 years for a total period that was at least three times the length of absence. In this instance, however, the applicant must also have lived in Canada for at least one year immediately prior to the date of the approval of the application. For example, an absence of two years between the ages of 60 and 62 could be offset by six years of presence in Canada after age 18 and before reaching age 55.

- A person who cannot meet the requirements for the full OAS pension may qualify for a partial pension. A partial pension is earned at the rate of $1/40^{th}$ of the full monthly pension for each complete year of residence in Canada after reaching age 18. Once a partial pension has been approved, it may not be increased as a result of additional years of residence in Canada. As an example, an individual with 20 complete years of residence in Canada at the time of application for the OAS pension would be entitled to 50% (or 20/40) of the maximum monthly OAS pension for the remainder of his/her lifetime.

The basic OAS pension is subject to income tax. The maximum monthly pension was $502.31 during the first quarter of 2008. This rate is adjusted quarterly, as described in section VI below.

The amount of pension paid to persons with high incomes is reduced through a provision of the *Income Tax Act* often referred to as the "clawback" provision. For 2008, the reduction applies to persons whose total net annual income (after pension income split if that option is elected by married OAS beneficiaries) exceeds $64,718 in 2008. OAS recovery tax deductions at source were introduced on 1 July 1996 and they are recalculated in July of each year based on the OAS recipient's previous year's net income (after pension income split). Since 2000, the income threshold is indexed upward in accordance with increases in the Consumer Price Index; prior to 2000 it was indexed at CPI less 3%. For every dollar of income above this limit, the amount of basic pension is reduced by 15 cents.

As an example, an OAS recipient with a net annual income (after pension income split) of $66,718 in 2008 would incur an annual reduction of $300. The full 2008 annual basic OAS pension is thus eliminated when a pensioner's net annual income (after pension income split) is $104,903 (estimated as of the first quarter of 2008 based on annualized OAS benefits of $6,027.72) or above in 2008.

IV. Guaranteed Income Supplement

The GIS is a monthly benefit paid to residents of Canada who receive a basic OAS pension (either the full amount or a partial amount) and who have little or no other income.

Payment of the GIS may begin in the same month as payment of the basic pension. The amount of the benefit varies according to income (see below). Since 1999, most of those receiving the GIS can continue to do so by filing their income tax returns, rather than making a new application each year. The amount of monthly payments may increase or decrease according to reported changes in a person's yearly income. Unlike the basic OAS pension, GIS is not subject to income tax. GIS is not payable outside Canada beyond a period of six months following the month of departure from Canada, regardless of how long the person previously lived in Canada.

A. Eligibility Conditions

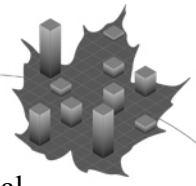
To receive the GIS, a person must be receiving an OAS pension. Eligibility for GIS is redetermined every year based on the previous year's income. Starting 1 July 1999, income (as defined for purposes of the GIS and Allowance benefits under the *Old Age Security Act*) received in the previous year is used to calculate the amount of benefits paid during the period starting on 1 July of a calendar year and ending on 30 June of the following calendar year. However, if an individual or spouse or common law partner has retired or has suffered a loss of pension income, an estimate of income may be substituted for the income of the preceding year.

In general, income includes any other sources of revenues which a person receives, such as a retirement pension from the Canada or Québec Pension Plan or a private (occupational) pension plan, a foreign pension, interest, dividends, rents, wages or net income from self-employment. Exclusions from income are any payments received under the OAS, GIS, Allowance, Veteran's Disability, provincial or municipal supplement programs, or the Goods and Services Tax Credit.

Certain deductions are allowed in calculating income used to determine the level of GIS benefit to be received. One example is the employment income deduction. For example, prior to July 2008 an employment income deduction of 20% of total employment earnings up to a maximum of $500 was allowed. Effective 1 July 2008, as a result of Part 10 of Bill C-50, the employment income deduction will be changed to $3,500. Alimony allowances paid, contributions to the CPP/QPP and Unemployment Insurance premiums are also allowed deductions.

The resulting estimated income of the person (or, the combined income of the person and his or her spouse or common-law partner) cannot exceed certain limits as will be described later.

Persons admitted to Canada as sponsored immigrants after 6 March 1996 and persons qualifying for benefits from 2001 onward are not eligible, generally speaking, to receive the GIS for the duration of the sponsorship, up to a maximum of ten years. Exceptions are made, however, if an immigrant's sponsor dies, is incarcerated for a period of more



than six months, is convicted of a criminal offence relating to the sponsored individual, or undergoes personal bankruptcy.

B. Amount of Benefits

The amount of the GIS to which a person is entitled depends on his or her length of residence in Canada, marital status and income. If the person is married or living in a common-law relationship, the combined income of the person and his or her spouse or common-law partner is taken into consideration when the amount of GIS benefit is calculated.

To be entitled to a full benefit, persons admitted to Canada after 6 March 1996 and persons qualifying for benefits from 2001 onward must have resided in Canada for at least 10 years after reaching age 18. If a person to whom either of these conditions applies has less than 10 years of residence, a partial benefit is payable provided, as noted in the previous section, that the person is not a sponsored immigrant who is still in the period of sponsorship. The partial benefit is calculated at the rate of $1/10^{th}$ of the amount of the full benefit for each complete year of residence in Canada after age 18. The proportion payable is recalculated each year, taking into account additional residence in Canada during the previous year, building gradually to a full benefit after 10 years. The 10-year requirement for entitlement to a full benefit does not apply to persons who qualify for benefits before the year 2001 and who were permanent residents of Canada on or before 6 March 1996.

There are two rates of payment for a maximum GIS. The single rate applies to single individuals – including widowed, divorced or separated persons as well as individuals who have never married – and to persons for whom their spouse or common law partner do not receive either the OAS pension or the Allowance. During the first quarter of 2008 the maximum monthly GIS single benefit is $634.02.

The married rate applies both to legally married couples and to couples living in common-law relationships, where either both spouses are OAS pensioners or where one spouse is eligible for the Allowance benefit. During the first quarter of 2008 the maximum monthly GIS married benefit is $418.69.

The single rate is higher than the married rate reflecting the higher cost of living alone. However, each spouse in a couple or common law partner relationship is entitled to his or her own benefit, so the combined benefits for a couple are higher than those for a single person. These rates are adjusted quarterly, as described in section VI.

A special provision applies to persons who receive a partial OAS pension. In this case, the supplement is increased by the difference between the full OAS pension and the partial OAS pension in order to provide the same combined monthly pension and supplement to beneficiaries with the same level of income.

As an example, during the first quarter of 2008, a single person with no income who is entitled to a partial pension of $125.58 (25% of the maximum monthly OAS pension of

$502.31) would be entitled to an additional supplement of $376.73 for a total supplement of $1,010.75 (i.e. $634.02 plus $376.73).

For a single, widowed, divorced or separated person, the maximum monthly GIS benefit is reduced by 50 cents for every dollar of monthly income (i.e. annual income divided by 12). For example, a monthly income of $600 would reduce the maximum monthly GIS payable by $300 to $334.02 in the first quarter of 2008. In this case, the maximum allowable annual income before GIS stops being paid is $15,240 in the first quarter of 2008.

If both spouses or common-law partners are receiving the basic OAS pension, the maximum monthly GIS of each person is reduced by 25 cents for every dollar of other combined monthly income (i.e. annual income divided by 12). For example, a couple with a monthly income of $1,200 would reduce the maximum monthly GIS benefit payable by $300 for each spouse to $118.69 in the first quarter of 2008. In this case, the maximum allowable annual income before GIS stops being paid is $20,112 in the first quarter of 2008.

A special provision applies in the case of a couple in which only one spouse is a pensioner and the other is not eligible for either the OAS pension or the Allowance. In this instance, the pensioner can receive the GIS at the higher rate paid to those who are single. Moreover, the maximum monthly GIS is reduced by 25 cents for every dollar of the couple's combined monthly income (i.e. annual income divided by 12), and the first reduction of 25 cents is made only when the combined monthly income of the couple reaches the maximum monthly OAS pension plus $4 (i.e. $506 in the first quarter of 2008). As an example, a couple with a monthly income of $1,706 would see their maximum monthly GIS benefit reduced by $300 to $334.02 in the last quarter of 2007. In this case, the maximum allowable annual income before GIS stops being paid is $36,528 in the first quarter of 2008.

In the case of a couple in which only one spouse is a pensioner and the other is eligible for the Allowance, the pensioner can receive the GIS at the rate paid to those who are married and the maximum monthly GIS is reduced at a reduction rate of 25 cents for every dollar of the couple's combined monthly income (i.e. annual income divided by 12). The first reduction of 25 cents is made only when the combined monthly income of the couple reaches four times the monthly OAS pension divided by three plus $4 (i.e. income above $674 in the first quarter of 2008). As an example, a couple with a monthly income of $1,474 would see their maximum monthly GIS benefit reduced by $200 for each spouse to $218.69 in the first quarter of 2008. In this case, for the first quarter of 2008, the maximum allowable annual income before GIS stops being paid is $36,528.

V. Allowance

The Allowance monthly benefit is designed to recognize the difficult circumstances faced by couples living on the pension of only one spouse as well as by many widowed persons. Since 1999, most of those receiving Allowance can continue to do so by filing their income tax returns, rather than making a new application each year. Starting 1 July 1999, income (as defined for purposes of the GIS and the Allowance benefits under the *Old Age Security Act*) received in the previous calendar year is used to calculate the amount of benefits paid during the period starting on 1 July of a calendar year and ending on 30 June of the following calendar year. Allowance benefits are not considered as income for income tax purposes. Similar to the GIS benefit, Allowance benefits are not payable outside Canada beyond a period of six months following the month of departure from Canada, regardless of how long the person previously lived in Canada.

A. Eligibility Conditions

The Allowance may be paid to the spouse or common-law partner of a senior receiving OAS and GIS benefits, or to a survivor, who is between the ages of 60 and 64 and who has lived in Canada for at least 10 years after reaching age 18. An applicant must also be a Canadian citizen or a legal resident of Canada on the day preceding the approval of the application. To qualify for a benefit, the combined yearly income of the applicant and the spouse or common-law partner, or the annual income of the survivor, cannot exceed certain limits. For a couple, the basic pension and GIS benefits are not included in their combined yearly income.

The Allowance stops being paid when the person becomes eligible for a basic pension at age 65, leaves Canada for more than six months, or dies. For a couple, the Allowance stops being paid if the older spouse or common-law partner ceases to be eligible for the GIS or if the spouses separate or divorce or dissolve their common-law partnership. In addition, in the case of survivors, the Allowance ceases if the person remarries. Sponsored immigrants are subject to the same conditions regarding eligibility as are described in the preceding section concerning the GIS.

B. Amount of Benefits

The Allowance is an income-tested benefit. Like the GIS, if the recipient is married or living in a common-law relationship, the combined income of the recipient and his or her spouse or common-law partner is taken into account in determining the amount of the Allowance. In addition, to be entitled to the full Allowance, persons admitted to Canada after 6 March 1996 and persons qualifying for benefits from 2001 onward must have resided in Canada for at least 10 years after reaching age 18. If a person to whom either of these conditions applies has less than 10 years of residence, a partial Allowance is payable, calculated at the rate of $1/10^{th}$ of the amount of the full Allowance for each complete year of residence in Canada after age 18. The proportion payable is recalculated each year, taking into account additional residence in Canada during the previous year, building gradually to a full Allowance after 10 years. The 10-year requirement for entitlement to a full Allowance does not apply to persons who qualify

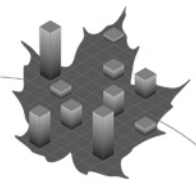
for benefits before the year 2001 and who were permanent residents of Canada on or before 6 March 1996.

The maximum amount payable to the spouse of a pensioner under the regular Allowance benefit is equal to the combination of a full OAS pension and the maximum GIS at the married rate. This amount was $921 during the first quarter of 2008. Since July 1984, the maximum amount payable under the survivor Allowance benefit is higher than under the regular Allowance benefit recognizing the higher cost of living alone. The maximum monthly survivor Allowance amount was $1,020.91 during the first quarter of 2008.

In the first quarter of 2008, the OAS-equivalent portion of the maximum monthly Allowance benefit is reduced at a rate of 75 cents for every dollar of the person's or couple's monthly income (i.e. annual income divided by 12) until this portion is reduced to zero when monthly income reaches $670. Up to this level of income the GIS portion remains payable at the maximum. Under the regular Allowance benefit, both the GIS-equivalent portion of the Allowance and the pensioner's GIS are then reduced by 25 cents for every additional dollar of the couple's combined monthly income, i.e., in this case no Allowance benefit becomes payable if the annual income exceeds $28,176 in the first quarter of 2008. For the survivor Allowance benefit, the GIS-equivalent portion is then reduced by 50 cents for every additional dollar of monthly income, i.e., in this case, for the first quarter of 2008, no survivor Allowance benefit becomes payable if annual income exceeds $20,520.

VI. Inflation Adjustments

All maximum benefit amounts under the *Old Age Security Act* are adjusted at the beginning of each calendar quarter in line with changes in the Consumer Price Index (CPI). However, if the CPI decreases, benefit amounts do not decrease, but are held constant until the CPI resumes increasing.



Appendix B – Detailed Reconciliations with Previous Report

The results presented in this report differ from those previously projected for a variety of reasons. Differences between the actual experience from 2004 through 2006 and that projected in the 7th Actuarial Report for the same period were addressed in Section V of the report. Since historical results provide the starting point for the projections shown in this report, these historical differences also have an effect on the projections. The impact of the experience update and other factors that have significantly changed the projected results are addressed in this section.

The ratio of expenditures to GDP in a given year is an important measure of the cost of the Program. One way of understanding the differences between the best-estimate projections in this report and those presented in the 7th Actuarial Report is by looking at the effects of various factors on this cost ratio. The most significant effects are identified in the reconciliation presented in Table 20 and the discussion below.

The methodology described in Appendix C reflects a number of improvements from that used in previous reports. Overall, these refinements had no impact on the cost ratios.

Overall, the experience update had the effect of reducing the cost ratio by about 0.18% in 2007 and ultimately by about 0.08% in 2075, mostly as a result of the better than anticipated economic experience over that period.

Key assumptions and changes made from the previous report are outlined in Section III of this report. The effects of these changes are summarized as follows:

- The more rapid realization of the ultimate fertility rate decreases the long-term cost ratios because its effect in accelerating the growth in GDP outweighs the ultimate increase in expenditures.

- The revised mortality assumption increases the cost ratios since individuals are expected to live longer than in the previous report.

- The increase in the assumed proportions of earners in the population decreases the cost ratios since it results in higher levels of projected GDP.

- The change in the real-wage assumption increases the cost ratios in the short term due to somewhat lower expectations over that period as compared to the previous report. On the other hand, the cost ratios decrease in the long term due to the higher ultimate real wage assumption.

- The reduction in the assumed rate of price increases diminishes the cost ratios, although lower expenditures result from lower benefit indexation. A reduction in inflation also results in an even slower increase in GDP from the combination of the real-wage differential and a lower base of inflation.

- Changes to the recipient rates assumptions have increased the ultimate cost ratios.

Some other less significant assumptions, which are described in Appendix C, were also changed. For example, the experience adjustment factors applied in the projection of earnings and GDP were revised to reflect more recent experience. Overall, the changes in these other assumptions had a small impact on projected cost ratios.

Table 20 Reconciliation of Costs as a Percentage of GDP
(OAS, GIS and Allowance combined)

	2007	2025	2050	2075
7th Report Rates	**2.38**	**3.04**	**2.73**	**2.01**
I. Improvements in Methodology	**0.01**	**0.00**	**0.00**	**0.00**
II. Experience Update (2004-2006)				
Demographic	(0.02)	(0.02)	0.01	0.01
Economic	(0.15)	(0.16)	(0.13)	(0.09)
Benefits	(0.01)	0.01	0.00	0.00
Subtotal:	**(0.18)**	**(0.17)**	**(0.12)**	**(0.08)**
III. Changes in Assumptions				
Fertility	0.00	0.00	(0.02)	(0.01)
Mortality	0.00	0.06	0.10	0.10
Migration	0.00	(0.01)	0.00	0.00
Unemployment and Participation	0.00	0.01	(0.01)	(0.01)
Price increases	0.00	0.00	0.00	0.00
Real-wage differential	(0.01)	0.02	(0.06)	(0.10)
Recipient rates	0.01	0.04	0.08	0.07
Other assumptions	(0.01)	(0.01)	0.00	0.00
Subtotal:	**(0.01)**	**0.11**	**0.09**	**0.05**
IV. Amendments (Part 10 of Bill C-50)	**0.00**	**0.01**	**0.00**	**0.00**
Total of I to IV	**(0.18)**	**(0.05)**	**(0.03)**	**(0.03)**
8th Report Rates	**2.20**	**2.99**	**2.70**	**1.98**

Appendix C – Assumptions and Methods

I. Introduction

This section describes the assumptions and methods underlying the financial projections in Section IV of this report.

Future expenditures and cost ratios are projected over a long period of time, i.e. up to the year 2075 and depend on assumptions such as fertility, mortality, migration, labour force participation, job creation, unemployment rates, inflation and employment earnings. These assumptions form the basis for the projections of future expenditures of the Program and cost measurement bases.

Although the demographic and economic assumptions have been developed using the best available information, the resulting estimates should be interpreted with caution. These estimates are not intended to be predictions but rather projections of the future financial status of the Program. To the extent applicable, these assumptions are consistent with the best-estimate assumptions used in the 23rd Actuarial Report on the Canada Pension Plan as at 31 December 2006.

II. Demographic Projections

Both the historical and projected populations of Canada are required for the calculation of future benefits. The population of Canada as at 1 July 2006 is used as a starting point. The population is then projected by age and sex from one year to the next by adding births and net migrants and subtracting deaths. Applying the fertility, mortality and migration assumptions to the starting population develops the annual numbers of births, deaths and net migrants.

A. Initial Population as at 1 July 2006

The starting point for the demographic projections is the most recent Statistics Canada population estimates as at 1 July 2006 for Canada, by age and sex. The estimates are based on the 2001 census and are adjusted for the census undercount. They are adjusted to ungroup ages 90 and over into individual ages based on the observed distribution of OAS beneficiaries by age for ages 90 and over.

B. Fertility Rates

The fertility rate for a given age and year is the average number of live births per female of that age during that year. The total fertility rate for a year is the average number of children that would be born to a woman in her lifetime if she experienced the age-specific fertility rates observed in, or assumed for, that year.

Total fertility rates have declined significantly over the last 50 years, from a high of about 4.0 in the late 1950s to recent lows of about 1.5 in the late 1990s. The total

fertility rate increased briefly during the early 1990s to reach a level of about 1.70. Although, the total fertility rate averaged about 1.60 for Canada over the last two decades, in 2004 it stood at 1.53. These variations in the total fertility rate have resulted from changes in many factors, including social attitudes and economic conditions.

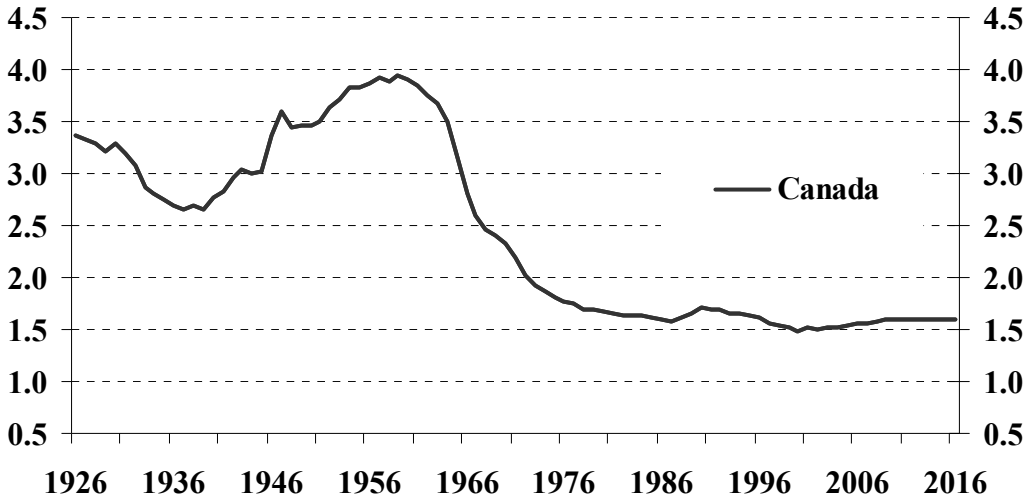
In this report, it was assumed that the total fertility rate from 2010 onward would be 1.60 for Canada. This assumed ultimate rate reflects historical trends in fertility by age group over the last 30 years. It is slightly higher than the most recently observed rate. A small increase in the total fertility rate is expected over the medium-term horizon because of continued trends in women having their first child at a later age due to increased labour force participation, later marriages and longer stays in the education system. Moderate economic growth is assumed over the projection period and this could help families plan for additional children.

Finally, in accordance with the experience over the last 25 years, the assumed ratio of male to female newborns was slightly lower at 1.054 compared to 1.056 assumed in the 7th OAS Report. This is due to lower male to female newborn ratios for years 2002 to 2005. Table 21 and Chart 5 below show the historical and projected age-specific and total fertility rates.

Table 21 Total Fertility Rates
(Canada)

	Annual Fertility Rates by Age Group (per 1,000 women)							Total Fertility Rate
Year	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**Per Woman**
2007	11.8	47.5	97.3	103.5	44.4	7.7	0.3	1.56
2008	11.2	46.5	97.1	106.1	45.6	8.0	0.3	1.57
2009	10.7	45.5	97.2	108.9	46.8	8.2	0.3	1.59
2010+	10.2	44.5	97.2	111.7	47.8	8.3	0.3	1.60

Chart 5 Historical and Assumed Total Fertility Rate for Canada



C. Mortality

The starting point for mortality rate projections for this report is the mortality rates from the Statistics Canada publication "Life Tables, Canada, provinces and territories, 2000-2002". According to these tables, life expectancies at birth for males and females in Canada were 76.9 and 82.0 years, respectively.

To reflect anticipated sustained improvements in life expectancy, the 2000 to 2002 mortality rates were projected to 2004 using the actual improvements in mortality experienced between 2001 and 2004. This approach produced life expectancies at birth of 77.8 years for males and 82.6 years for females in 2004. The life expectancies at age 65 are 17.7 years and 21.0 years for males and females, respectively. This compares well with figures published by Statistics Canada for 2004. Mortality rates thus obtained for 2004 were then projected to the end of the projection period using the following annual rates of mortality improvement.

For 2005 to 2009, the annual rates of mortality improvement, varying by age and sex, were set equal to the average annual improvement rates experienced in Canada over the period 1989 to 2004. Improvement rates for years 2010 to 2028 were obtained by linear interpolation between:

- the improvement rates of year 2009, and
- the fixed improvement rates described below in respect of the period 2029 and thereafter.

For years 2029 and thereafter, the ultimate annual rates of mortality improvement vary by age only and not sex or calendar year. These ultimate rates were derived from an analysis of trends in Canadian experience over the period 1974 to 2004. The ultimate improvement rates for females were derived by using the ratio of the average annual improvement rates for females over the period 1989 to 2004 (1.31%) to the average annual rates for the period 1974 to 1989 (1.80%). The data derived from the last thirty years show a clear deceleration of female improvement rates in Canada. Based on that information, an ultimate improvement rate of 0.7% has been set for females below age 85. Male ultimate improvement rates are then set equal to those for females at all ages. Male improvement rates are thus assumed to continue to exceed female rates over the next 25 years. For ages over 85, the ultimate improvement rates have been reduced between 0.6% and 0.4% to reflect past experience for those ages. Table 22 shows the initial (2005 to 2009), intermediate (2010-2028) and ultimate (2029+) assumed annual mortality improvement rates.

Table 22 Annual Mortality Improvement Rates for Canada

	Males			Females		
Age	**2005-2009**	**2010-2028**	**2029+**	**2005-2009**	**2010-2028**	**2029+**
	%	%	%	%	%	%
0	2.3	1.5	0.7	1.8	1.2	0.7
1-14	3.7	2.2	0.7	3.8	2.3	0.7
15-44	2.8	1.7	0.7	1.6	1.1	0.7
45-64	2.0	1.4	0.7	1.4	1.0	0.7
65-84	2.0	1.4	0.7	1.2	0.9	0.7
85-99	0.8	0.7	0.6	0.5	0.6	0.6
90-94	0.5	0.4	0.4	0.3	0.3	0.4
95+	0.0	0.2	0.4	0.0	0.2	0.4

The projected mortality rates in Table 23 indicate a continuous decrease of mortality rates over the long term. For example, the mortality rate at age 65 for males is expected to reduce from 13.5 per thousand in 2007 to 6.8 per thousand by 2075. The gap in mortality rates between males and females is also expected to decrease over the projection period.

For 2007 to 2075, Canadian life expectancy at birth (with assumed future mortality improvements) is projected to grow from 84.5 to 88.8 years for males and from 87.7 to 91.5 years for females. A narrowing of the gap between male and female life expectancies has been observed over the last 20 to 25 years in Canada. The yearly increase in life expectancies in the early years of the projection reflects the significant increase observed over the last 25 years. Thereafter, there is a projected slowdown in the increase in life expectancies consistent with the low rate of improvement in mortality assumed for years 2029 and thereafter.

Table 23 Mortality Rates
(annual deaths per 1,000 people)

	Males				Females			
Age	**2007**	**2025**	**2050**	**2075**	**2007**	**2025**	**2050**	**2075**
0	5.09	3.76	3.14	2.63	4.26	3.33	2.79	2.34
10	0.08	0.05	0.04	0.04	0.08	0.05	0.04	0.03
20	0.71	0.49	0.41	0.35	0.31	0.25	0.21	0.18
30	0.75	0.50	0.41	0.35	0.35	0.27	0.23	0.19
40	1.35	1.02	0.85	0.71	0.85	0.71	0.59	0.50
50	3.21	2.48	2.08	1.74	2.11	1.70	1.43	1.20
60	8.66	6.41	5.35	4.49	5.42	4.44	3.72	3.12
65	13.46	9.75	8.14	6.83	8.42	6.95	5.82	4.88
70	21.65	15.82	13.20	11.08	13.49	11.17	9.36	7.85
75	35.56	26.74	22.33	18.74	22.29	18.46	15.46	12.97
80	59.17	46.56	38.94	32.67	38.49	32.42	27.16	22.79
85	98.15	83.49	71.02	60.49	71.25	63.04	53.69	45.72
90	155.79	141.72	128.13	115.91	121.91	114.07	103.21	93.37
100	353.25	343.76	311.36	281.68	295.71	287.76	260.64	235.79

Chart 6 shows the changes in life expectancy at age 65 between 1966 and 2075. Table 24 shows the resulting Canadian life expectancies at various ages for the specified calendar years, assuming that the mortality rates of each such year will remain unchanged thereafter (i.e. without future improvements). Table 25 is similar to Table 24, the only difference being that it takes into account the assumed mortality improvement after the specified calendar year (with future improvements). Given the continuing trend to greater longevity, Table 25 is considered to be more realistic than Table 24.

Chart 6 Trend in Life Expectancy at Age 65
(Canada)

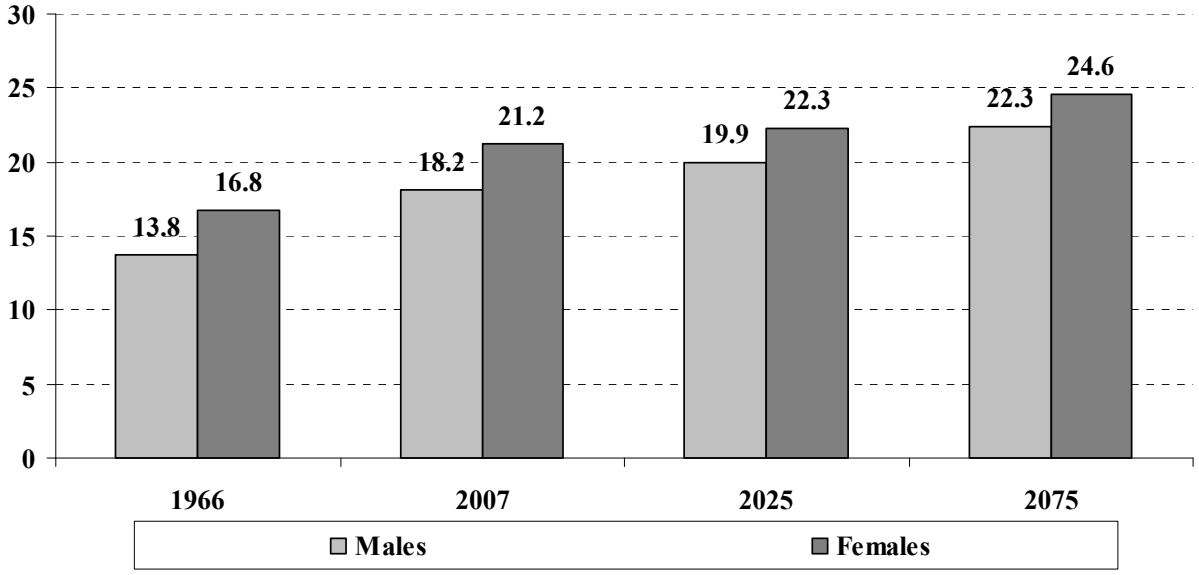


Table 24 Life Expectancies for Canada, without improvements after the year shown*

	Males				Females			
Age	**2007**	**2025**	**2050**	**2075**	**2007**	**2025**	**2050**	**2075**
0	78.5	81.3	83.0	84.6	82.9	84.5	86.1	87.5
10	69.0	71.6	73.3	74.8	73.4	74.9	76.4	77.8
20	59.2	61.8	63.4	64.9	63.5	65.0	66.5	67.8
30	49.6	52.1	53.7	55.2	53.7	55.1	56.6	58.0
40	40.0	42.4	43.9	45.4	43.9	45.4	46.8	48.1
50	30.7	33.0	34.4	35.8	34.5	35.8	37.1	38.4
60	22.1	24.1	25.4	26.7	25.4	26.6	27.9	29.1
65	18.2	19.9	21.1	22.3	21.2	22.3	23.4	24.6
70	14.5	16.0	17.1	18.2	17.2	18.1	19.2	20.3
75	11.2	12.4	13.3	14.3	13.5	14.2	15.2	16.1
80	8.4	9.2	10.0	10.8	10.1	10.7	11.5	12.3
85	6.1	6.5	7.1	7.7	7.3	7.6	8.2	8.9
90	4.3	4.6	4.9	5.3	5.2	5.3	5.8	6.2
100	2.1	2.1	2.4	2.6	2.5	2.5	2.8	3.1

* These are calendar year life expectancies based on the mortality rates of the given attained year.

Table 25 Life Expectancies for Canada, with improvements*

	Males				Females			
Age	**2007**	**2025**	**2050**	**2075**	**2007**	**2025**	**2050**	**2075**
0	84.5	85.8	87.4	88.8	87.7	88.8	90.2	91.5
10	74.3	75.5	77.1	78.6	77.5	78.6	80.0	81.3
20	63.8	65.1	66.6	68.1	67.1	68.1	69.5	70.9
30	53.5	54.7	56.3	57.7	56.6	57.7	59.1	60.5
40	43.2	44.4	45.9	47.4	46.3	47.4	48.8	50.1
50	33.2	34.4	35.9	37.3	36.2	37.3	38.6	39.9
60	23.7	25.0	26.3	27.6	26.6	27.6	28.9	30.1
65	19.3	20.6	21.9	23.1	22.0	23.0	24.2	25.4
70	15.3	16.5	17.6	18.7	17.8	18.7	19.8	20.8
75	11.7	12.7	13.7	14.7	13.8	14.6	15.6	16.5
80	8.6	9.4	10.2	11.0	10.3	10.9	11.7	12.6
85	6.2	6.6	7.2	7.8	7.4	7.8	8.4	9.0
90	4.3	4.6	5.0	5.4	5.2	5.4	5.8	6.3
100	2.1	2.1	2.4	2.6	2.5	2.5	2.8	3.1

* These are cohort life expectancies that take into account future improvements in mortality and therefore differ from calendar year life expectancies, which are based on the mortality rates of the given attained year.

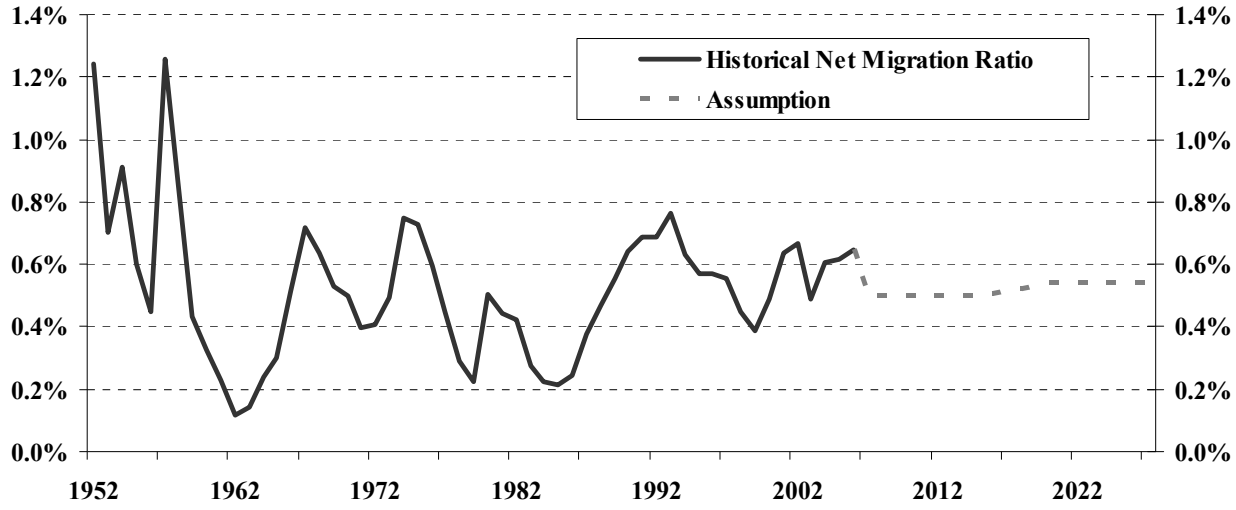
D. Migration

Immigration and emigration are generally recognized to be volatile parameters of future population growth, since they are subject to a variety of demographic, economic, social and political factors. During the period from 1972 to 2006, annual immigration to Canada varied from 84,000 to 267,000, annual emigration from Canada is estimated to have fluctuated between 36,000 and 84,000, and the annual numbers of returning Canadians have fluctuated between 14,000 and 39,000. Chart 7 below shows the net migration experience of the last half-century.

For 2007 to 2015, net migration is assumed at a level of 0.50% of the population, which is the average experienced over the last 30 years. For 2015 to 2020, the ratio is gradually increased from 0.50% to 0.54% to take into account the expected labour shortage and then remains at that level thereafter. The ultimate level of 0.54% remains lower than the actual average over the last 20 years.

The distributions of immigrants, emigrants and returning Canadians by age and sex used for the demographic projections were taken from Statistics Canada data averaged over the period 2001 to 2005.

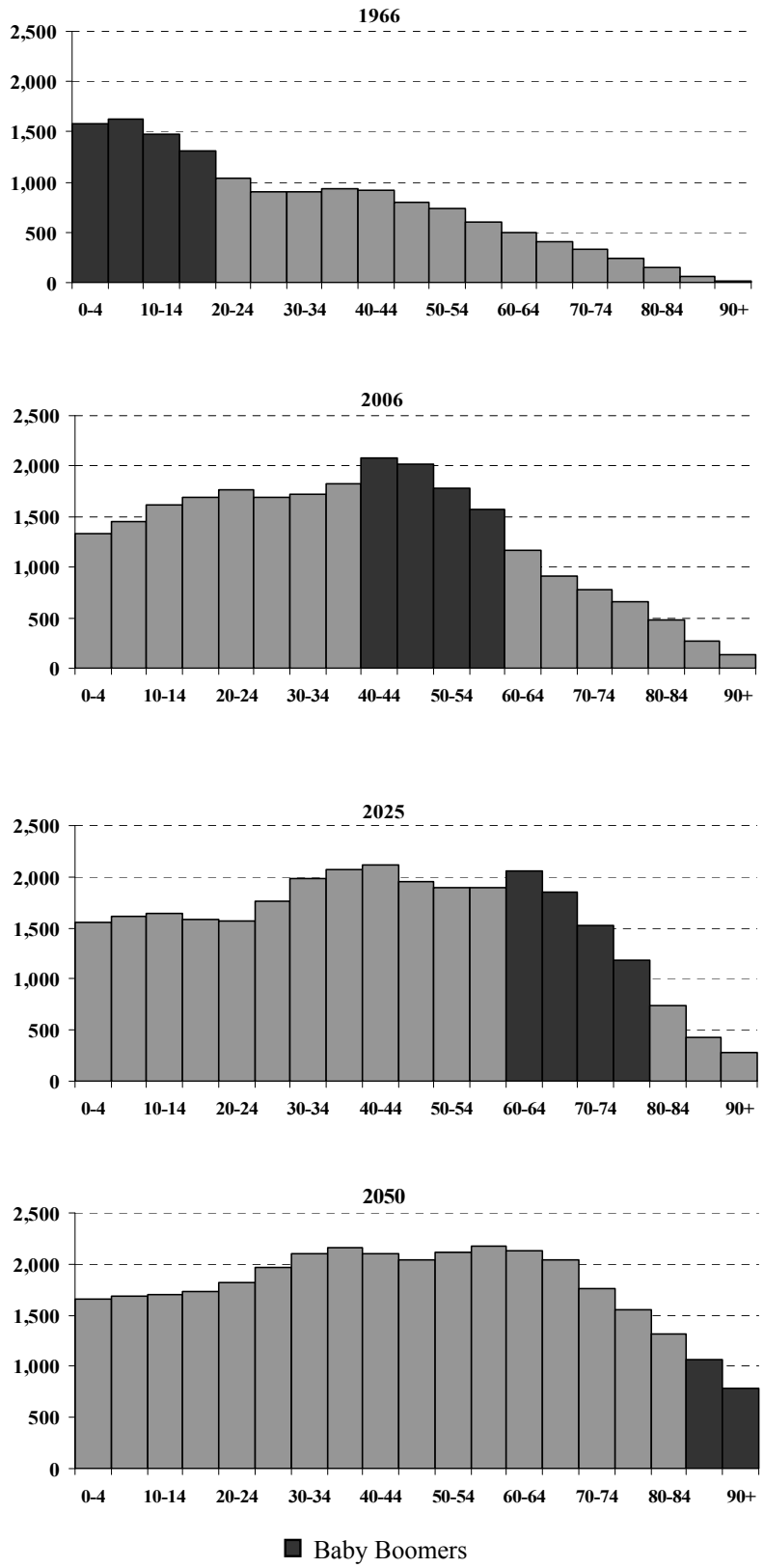
Chart 7 Net Migration as % of Population



E. Projected Population and its Characteristics

Chart 8 shows the evolution of the Canadian population age distribution since 1966. One can easily observe that the triangular shape of the 1970s is becoming more rectangular, thus leading to an older population on average. The effects of the baby boom and baby bust can be seen. The chart also reveals that the population aged 85 and over is expected to increase dramatically over the next 50 years.

Chart 8 Population Distribution of Canada
(thousands)



The population of Canada as at 1 July 2006 is 32.6 million. Table 26 presents the projected population of Canada as at 1 July for selected years. The population reaching age 65 in any given year is representative of the expected number of new OAS beneficiaries coming into pay each year and this population is expected to almost double over the next 18 years growing from 282,000 in 2007 to 515,000 in 2025. Chart 9 shows the evolution of the total population for Canada and of those aged 20 to 64 from 1975 to 2075.

Table 27 shows the variations in the relative size of various age groups throughout the projection period. The proportion of people aged 65 and over is expected to double from 13% to 26% over the projection period. The number of people aged 65 and over as a proportion of people aged 20 to 64 more than doubles over the same period, from 21% to 49%. This proportion significantly affects the ratio of benefits to GDP.

Table 28 shows the components of population growth, namely the projected number of births plus net migrants less the expected number of deaths from 2007 to 2075. Chart 10 presents these figures graphically for the next 50 years. Over the period 2006 to 2020, the population of Canada is projected to grow at about 0.8% per year. The annual growth slows to about 0.6% between 2020 and 2040 and to 0.3% thereafter. The population of Canada is expected to reach 45.7 million by 2075.

Table 26 Population of Canada by Age
(thousands)

Year	0-17	18-69	70+	0-19	20-64	65+	Total	Reaching Age 65
2007	6,919	22,840	3,146	7,777	20,707	4,420	32,904	282
2008	6,874	23,107	3,209	7,756	20,892	4,540	33,189	301
2009	6,836	23,365	3,275	7,731	21,081	4,665	33,477	310
2010	6,809	23,613	3,344	7,697	21,276	4,794	33,767	317
2011	6,795	23,839	3,423	7,670	21,448	4,939	34,058	339
2012	6,789	24,051	3,509	7,651	21,562	5,135	34,348	393
2015	6,808	24,586	3,819	7,643	21,870	5,701	35,213	400
2020	7,044	25,004	4,607	7,804	22,110	6,741	36,655	467
2025	7,284	25,226	5,510	8,078	22,005	7,937	38,021	515
2030	7,351	25,338	6,527	8,206	21,913	9,097	39,215	513
2040	7,306	25,851	7,888	8,192	22,701	10,152	41,045	466
2050	7,528	26,616	8,276	8,394	23,184	10,842	42,420	528
2075	8,022	28,249	9,433	8,968	24,727	12,009	45,704	535

Chart 9 Population of Canada
(millions)

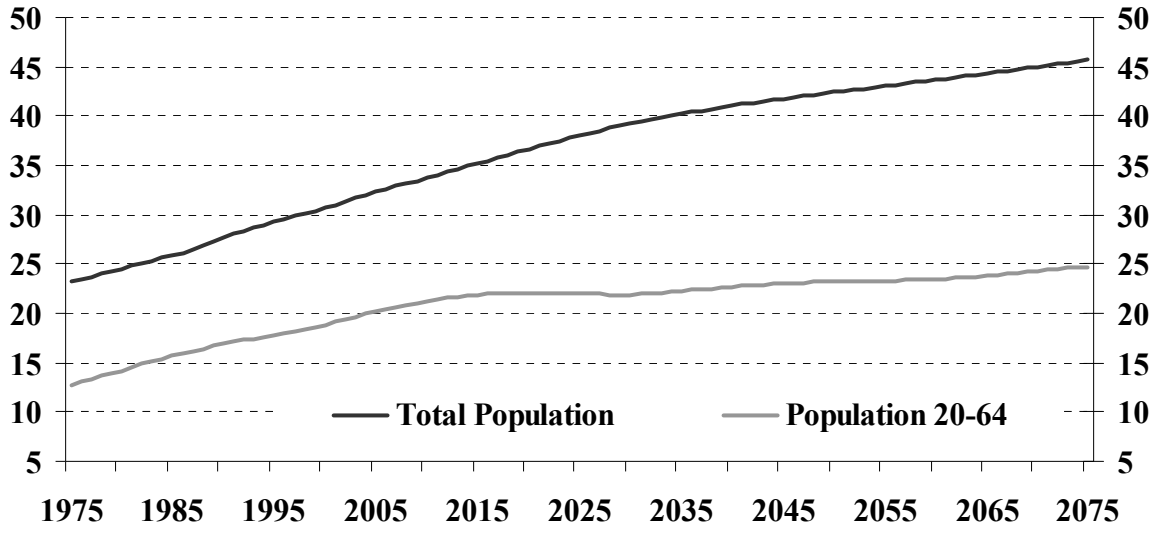


Table 27 Analysis of Population of Canada

Year	% of Total Population			% of Total Population			Ages 65+ as % of Age 20-64
	Ages 0-17	Ages 18-69	Ages 70+	Ages 0-19	Ages 20-64	Ages 65+	
2007	21.0	69.4	9.6	23.6	62.9	13.4	21.3
2008	20.7	69.6	9.7	23.4	62.9	13.7	21.7
2009	20.4	69.8	9.8	23.1	63.0	13.9	22.1
2010	20.2	69.9	9.9	22.8	63.0	14.2	22.5
2011	20.0	70.0	10.1	22.5	63.0	14.5	23.0
2012	19.8	70.0	10.2	22.3	62.8	14.9	23.8
2015	19.3	69.8	10.8	21.7	62.1	16.2	26.1
2020	19.2	68.2	12.6	21.3	60.3	18.4	30.5
2025	19.2	66.3	14.5	21.2	57.9	20.9	36.1
2030	18.7	64.6	16.6	20.9	55.9	23.2	41.5
2040	17.8	63.0	19.2	20.0	55.3	24.7	44.7
2050	17.7	62.7	19.5	19.8	54.7	25.6	46.8
2075	17.6	61.8	20.6	19.6	54.1	26.3	48.6

Chart 10 Components of Population Growth for Canada
(thousands)

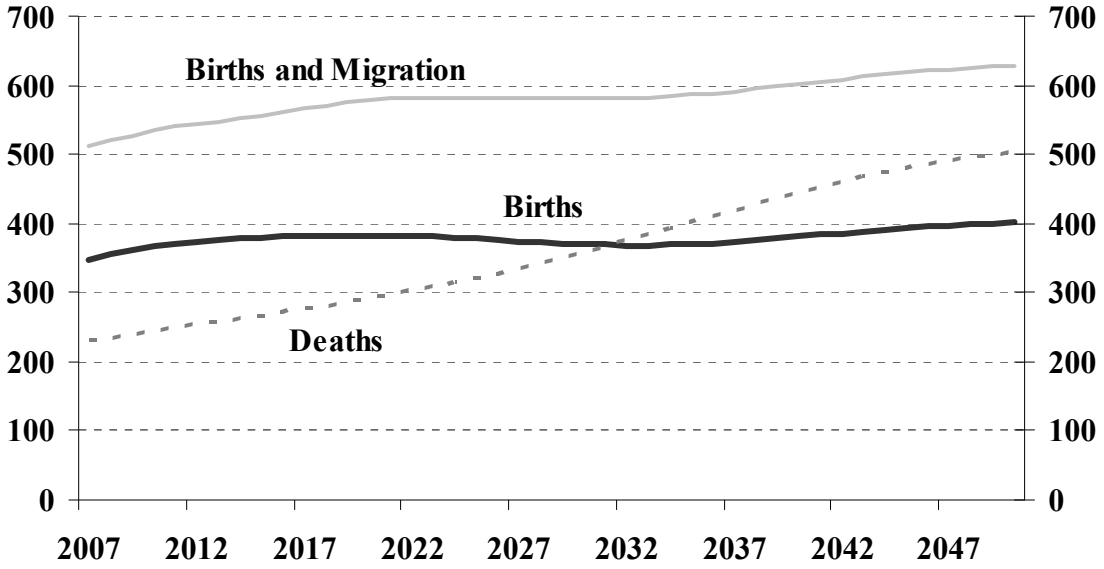
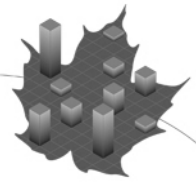


Table 28 Births, Net Migrants and Deaths for Canada
(thousands)

Year	Population 1st July	Births	Net Migrants	Deaths	Change in Population	Annual Percentage Change 20-64	65+	Total
						(%)	(%)	(%)
2007	32,904	356	165	236	285	0.9	2.7	0.9
2008	33,189	361	166	240	287	0.9	2.8	0.9
2009	33,477	367	168	245	290	0.9	2.7	0.9
2010	33,767	371	169	249	291	0.8	3.0	0.9
2011	34,058	373	171	254	290	0.5	4.0	0.9
2012	34,348	376	172	258	290	0.5	3.7	0.8
2015	35,213	381	179	272	288	0.4	3.4	0.8
2020	36,655	382	198	297	284	0.0	3.4	0.8
2025	38,021	376	206	327	254	(0.2)	3.1	0.7
2030	39,215	369	212	366	215	0.2	1.8	0.5
2040	41,045	383	222	453	152	0.4	0.6	0.4
2050	42,420	402	229	505	125	0.1	0.6	0.3
2075	45,704	423	247	530	139	0.3	0.4	0.3



III. Economic Projections

The list of assumptions required to project the various economic indices, benefit expenditures and cost measurement bases is quite extensive. The following sections cover the more important assumptions.

The economic outlook rests on the assumed evolution of the labour market, that is, labour force participation, employment, unemployment rates, inflation and the increase in average employment earnings as well as the increase in GDP. All these factors must be considered together and form part of an overall economic perspective.

Projected expenditures presented in this report are also expressed as cost ratios relative to three different measurement bases, namely total employment earnings, combined CPP/QPP contributory earnings and GDP. For this purpose, average employment earnings, the proportion of persons with earnings and the proportion of CPP contributors are required and were assumed exactly as under the 23rd CPP Report. For calculation purposes, these measures were assumed to apply to Canada as opposed to Canada less Québec. Adjustments were then made in the projection of total employment earnings, combined CPP/QPP contributory earnings and GDP to reflect historical differences between Québec and the rest of Canada.

A. Economic Perspective

The future expenditures and cost measurement bases depend on many demographic and economic factors. It is important to define the economic assumptions in the context of a long-term overall economic perspective. For this report, a moderate but sustainable growth in the economy is assumed to persist throughout the projection period.

The actuarial examination of the Program involves the projection of expenditures and cost measurement bases over a long period of time. Our best judgement regarding future economic trends was used but does not take into account all of the social or technological changes that may occur over the projection period. There will always exist a certain degree of uncertainty. The projected aging of the population combined with the retirement of the baby boom generation over the next few decades will certainly create significant social and economic changes. It is possible that the evolution of the working-age population, especially the active population, will be quite different than what has been historically observed.

B. Annual Increase in Prices (Inflation Rate)

The inflation rate assumption is needed to determine the Pension Index for any given calendar year. It is also used in the determination of the annual nominal increase in average employment earnings. Price increases, as measured by changes in the Consumer Price Index (CPI), tend to fluctuate from year to year. Over the last 50 years, the trend was generally upward through the early 1980s and downward since then. For example, the average annual increase in the CPI for the 50, 20 and 10-year periods

ending in 2006 were 4.1%, 2.6% and 2.1%, respectively. Going forward, the Bank of Canada has reaffirmed its objective of keeping the inflation rate within a target range of 1% to 3% until the end of 2011.

For 2007 to 2011, it is assumed that the Bank of Canada will maintain its inflation target policy, so the assumption was set at 2.0%. This corresponds to the average forecast from various economists and falls in the middle of the Bank of Canada target range. On the other hand, the ultimate assumption for price increases for 2016 and thereafter has been set at 2.5%. This is higher than has been experienced over the last decade and is in the upper range of the current Bank of Canada target range. The main reasons for the choice of an ultimate assumption of 2.5% are as follows:

- The Bank of Canada's long-term monetary policy is known only until the end of 2011. Compared to the 75-year projection period of the Program, the monetary policy of the Bank of Canada could be viewed as short-term.

- The expected upward pressure on real wages due to the labour shortage may create upward pressure on prices.

- There is uncertainty about future energy costs.

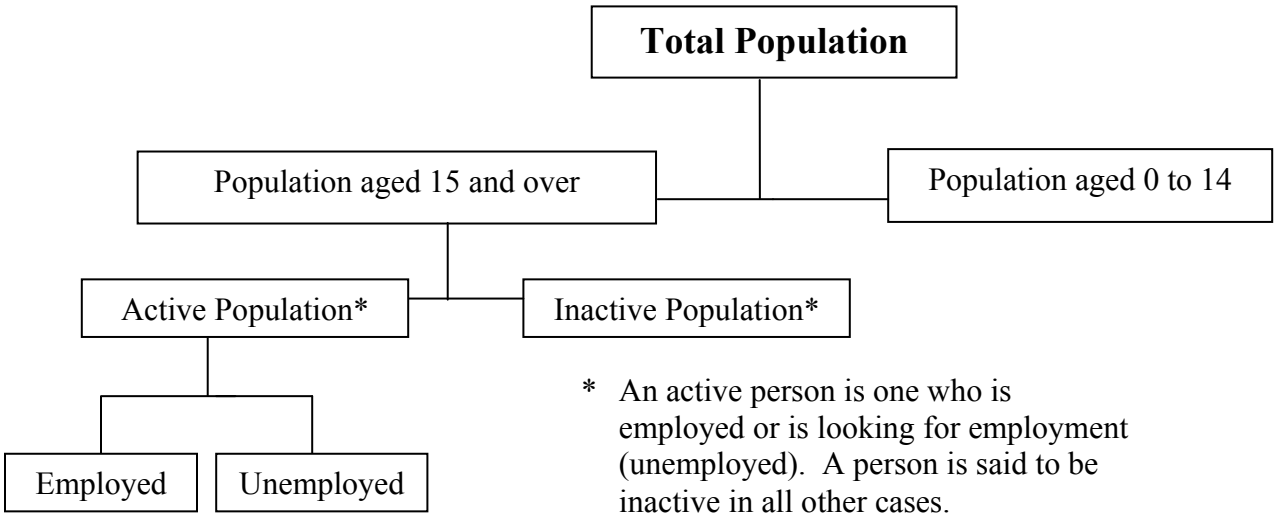
- In Canada, the longest consecutive periods in the 20th century with an inflation rate of about 2% are the 1900s, 1920s, 1930s, mid-1950s to mid-1960s, and from 1992 to 2006.

Finally, for years 2012 to 2016 the inflation rate is assumed to increase gradually from 2.0% to 2.5% by increments of 0.1% each year.

C. Labour Market

Chart 11 shows the main components of the labour market that are used to determine the number of earners to calculate the total employment earnings shown in Table 14. The number of earners is defined as the number of persons who had earnings during a given calendar year.

Chart 11 Components of the Labour Market



1. Active Population

The overall labour force participation rates in Canada (the active population expressed as a proportion of the population aged 15 and over) from 1976 to 2006 clearly show a narrowing of the gap between male and female rates. The increase in the participation rates of females aged 15 to 69 has been significant over recent years. For males, the increase in participation rates has been significant for the younger and older age groups, that is, for those aged 15 to 24 and those aged 50 to 69.

In 1976, overall male participation was at 77.7% versus only 45.7% for females, a gap of 32%. This gap has narrowed to 10.4% in 2006 with male and female participation at 72.5% and 62.1%, respectively. It is assumed that females will continue to narrow the gap in participation rates but at a slower pace, with the gap gradually reducing to about 8.5% by 2030 and further reducing to about 8.2% by the end of the projection period. Tables 29 to 31 show the projected active population and labour force participation rates for Canada. Over the near term, it is assumed that females aged 50 and over will continue to increase their overall labour force participation compared to previous cohorts.

Table 29 Active Population (Canada, ages 15 and over)

Year	Population*			Active Population			Average Employed		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	(thousands)			(thousands)			(thousands)		
2007	13,045	13,458	26,503	9,437	8,337	17,774	8,818	7,836	16,654
2008	13,200	13,609	26,809	9,521	8,409	17,930	8,897	7,904	16,800
2009	13,351	13,755	27,105	9,603	8,478	18,081	8,974	7,968	16,942
2010	13,500	13,899	27,399	9,685	8,545	18,230	9,050	8,031	17,081
2011	13,645	14,039	27,684	9,760	8,607	18,366	9,120	8,089	17,209
2012	13,781	14,170	27,951	9,820	8,655	18,475	9,177	8,134	17,311
2015	14,154	14,529	28,683	9,965	8,769	18,734	9,313	8,241	17,554
2020	14,716	15,068	29,785	10,130	8,913	19,043	9,467	8,376	17,843
2025	15,292	15,619	30,911	10,265	9,060	19,325	9,592	8,516	18,108
2030	15,842	16,162	32,004	10,439	9,278	19,718	9,753	8,723	18,475
2040	16,702	17,065	33,767	10,768	9,584	20,352	10,060	9,010	19,070
2050	17,223	17,622	34,844	10,977	9,764	20,741	10,255	9,180	19,435

* Adjusted to the basis used by Statistics Canada in their labour force survey.

Table 30 Labour Force Participation Rates (Canada, ages 15 and over)

Year	Labour Force Participation Rate			Employment Rate			Unemployment Rate		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
	(%)			(%)			(%)		
2007	72.3	62.0	67.1	67.6	58.2	62.8	6.6	6.0	6.3
2008	72.1	61.8	66.9	67.4	58.1	62.7	6.6	6.0	6.3
2009	71.9	61.6	66.7	67.2	57.9	62.5	6.6	6.0	6.3
2010	71.7	61.5	66.5	67.0	57.8	62.3	6.6	6.0	6.3
2011	71.5	61.3	66.3	66.8	57.6	62.2	6.6	6.0	6.3
2012	71.3	61.1	66.1	66.6	57.4	61.9	6.5	6.0	6.3
2015	70.4	60.4	65.3	65.8	56.7	61.2	6.5	6.0	6.3
2020	68.8	59.2	63.9	64.3	55.6	59.9	6.5	6.0	6.3
2025	67.1	58.0	62.5	62.7	54.5	58.6	6.6	6.0	6.3
2030	65.9	57.4	61.6	61.6	54.0	57.7	6.6	6.0	6.3
2040	64.5	56.2	60.3	60.2	52.8	56.5	6.6	6.0	6.3
2050	63.7	55.4	59.5	59.5	52.1	55.8	6.6	6.0	6.3

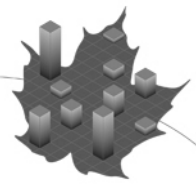


Table 31 Labour Force Participation Rates by Age Group (Canada)

	Males			Females		
Age Group	**2007**	**2015**	**2030**	**2007**	**2015**	**2030**
	(%)	(%)	(%)	(%)	(%)	(%)
15-19	52.4	53.0	55.0	55.2	56.0	57.0
20-24	80.1	81.0	83.0	77.2	78.0	81.0
25-29	90.2	91.0	93.0	81.9	82.0	85.0
30-34	92.7	93.0	94.0	80.6	81.0	84.0
35-39	93.1	93.0	94.0	81.7	83.0	86.0
40-44	92.3	93.0	94.0	83.0	84.0	87.0
45-49	90.9	92.0	94.0	82.7	84.0	87.0
50-54	87.9	89.0	91.0	78.3	80.0	83.0
55-59	76.2	77.0	79.0	62.4	64.0	66.0
60-64	53.4	54.0	56.0	37.3	39.0	41.0
65-69	23.4	24.0	25.0	12.7	13.0	14.0
70 and Over	6.8	7.0	8.0	2.3	3.0	5.0
15-69	79.2	78.3	78.3	70.1	69.0	70.1
15 and Over	**72.3**	**70.4**	**65.9**	**62.0**	**60.4**	**57.4**

The aging of the population exerts downward pressure on the overall labour force participation rate in Canada. The overall participation rate from Table 30 would fall from 67.1% in 2007 to 56.8% compared to 59.5% in 2050 if the 2006 participation rates by age and sex were to apply throughout the projection period. This can be explained by the projected increase in the proportion of people aged 55 to 69 outweighing the recent increase in participation in this age group, as well as the increase in the proportion of people aged 70 and over. A reduction in the overall participation rates is inevitable under these circumstances. To recognize this particular demographic trend, the projection period for purposes of projecting the participation rates has been divided into two periods: 2007 to 2015 and 2015 to 2030.

Individuals of the baby boom generation who were born between 1945 and 1955 and are presently active will be aged 55 to 65 within this decade. This highly active cohort will continue to put upward pressure on the participation rate for the age group 55 to 64. It is projected that by 2015 the labour force participation rate of this age group (55 to 64) will increase slightly from its current level. During the period 2007 to 2015, a balance between gains in participation rates and productivity increases through the increase in average employment earnings of workers will likely result. Nonetheless, the assumed increase in labour force participation rates for those aged 50 and over is not sufficient to counteract the decrease in the overall participation rate due to the demographic shift. For this reason, participation rates for people under the age of 55, especially for those aged 20 to 40, were increased somewhat. This results in labour force participation rates for those aged 15 to 69 of 78.3% and 69.0% for males and females, respectively in 2015.

From 2015 to 2030, the baby boomers born between 1955 and 1965, who are more numerous than the previous baby boomers, will be reaching the ages of 60 to 75. The first generation of boomers (1945 to 1955) will have already retired and will have created downward pressure on the overall participation rate. It was thus assumed that those aged 55 to 64 during this period would be participating more because of increased employment opportunities due to the expected labour shortage. This change in work patterns might be expected since this generation of workers is more adaptable, flexible and better educated to prolong their work life. Since the early 1990s, young individuals under the age of 35 have entered the labour force later mainly due to longer schooling. For this reason, we might expect a later exit from the labour force. It was thus assumed that participation rates for those less than age 55 would increase. Again, as for the previous period, we expect a balance between gains in participation and productivity. This results in labour force participation rates for those aged 15 to 69 of 78.3% and 70.1% for males and females, respectively in 2030.

For 2031 and thereafter, the participation rates are kept constant. This combined with a slow growth in the working-age population results in a low rate of growth of approximately 0.3% for the active population.

2. Employment

In Canada, the annual average job creation rate has been about 1.8% since 1976. However, this rate has varied, having averaged 1.9% from 1976 to 1991 but only 1.7% from 1992 to 2006. It is assumed that the job creation rate will be 1.0% in 2007, based on the most recent experience and various economic forecasts. Thereafter, the job creation rate is assumed to be above 0.8% until 2010 and then decrease gradually to average 0.3% over the long term as the increase in the active population reduces the pressure on the unemployment rate. Table 32 shows the projected number of employed persons for Canada.

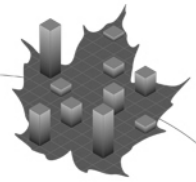


Table 32 Employment of Population (Canada, ages 18 to 69)

Year	Population		Average Employed		Employment Rate	
	Males	Females	Males	Females	Males	Females
	(thousands)		(thousands)		(%)	
2007	11,430	11,410	8,503	7,554	74.4	66.2
2008	11,563	11,543	8,578	7,618	74.2	66.0
2009	11,693	11,672	8,653	7,681	74.0	65.8
2010	11,817	11,796	8,729	7,745	73.9	65.7
2011	11,930	11,909	8,799	7,803	73.8	65.5
2012	12,036	12,014	8,856	7,850	73.6	65.3
2015	12,304	12,282	8,994	7,960	73.1	64.8
2020	12,516	12,488	9,127	8,084	72.9	64.7
2025	12,638	12,589	9,194	8,175	72.8	64.9
2030	12,707	12,631	9,293	8,323	73.1	65.9
2040	12,965	12,886	9,548	8,572	73.6	66.5
2050	13,333	13,283	9,736	8,739	73.0	65.8

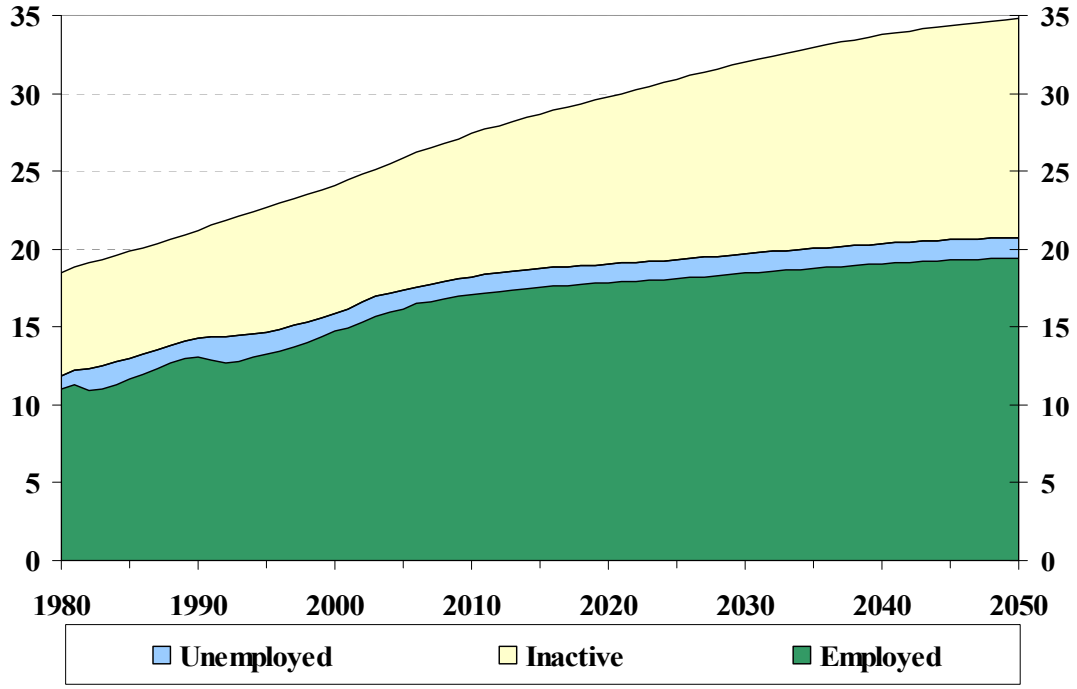
If the job creation rate remained constant at the current level throughout the projection period, it would result in the elimination of unemployment in the context of the projected demographic situation. The unemployment rate is not expected to fall below the natural rate of unemployment without creating inflationary pressures. In this report, it is assumed that the unemployment rate will be 6.3% for 2007 and thereafter.

As shown in Chart 12, the number of employed persons aged 15 and over increases from about 11.0 million in 1980 to 19.4 million by 2050. At the start of the projection period in 2007, employment is set to reach 16.7 million. As annual employment growth is projected to decline gradually to about 0.2%, the average annual increase in employment from 2007 to 2050 reduces to 0.4%. The number of unemployed persons who are age 15 and over increases from approximately 0.9 million in 1980 to 1.3 million in 2050.

The labour force or the active population (that is, total employed and unemployed populations) thus increases from 11.9 million in 1980 to 17.8 million in 2007 and then to 20.7 million in 2050, which gives an average annual increase of 0.4% from 2007 to 2050. Correspondingly, the inactive population (those not in the labour force) aged 15 and over increases from 6.6 million in 1980 to 8.7 million in 2007 and then to 14.1 million in 2050, which gives an average annual increase of 1.1% from 2007 to 2050.

The combined impact of a decrease in the labour force participation rate and a gradual increase in the population aged 15 and over leads to an overall moderate increase in the labour force. The labour force grows at a slower rate than the population and the overall participation rate decreases because of the aging of the population, as shown in Chart 12.

Chart 12 Distribution of the Canadian Population Aged 15 and Over
(millions)



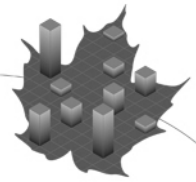
3. Number of Earners

The number of earners for any given year, namely anyone who had employment earnings during the year, is always more than the employed population, sometimes even close to the labour force because it includes all individuals who had earnings at any time during the year. The projected number of earners is obtained by a regression based on a highly correlated historical relationship between the number of employed persons and the number of earners over the period 1976 to 2004.

D. Rate of Increase in Average Annual Earnings

The assumed increase in average annual earnings (AAE) is used to project the average annual earnings from one year to the next while the average weekly earnings are used to project the Year's Maximum Pensionable Earnings (YMPE) which serves to determine the CPP/QPP contributory earnings basis. The real-wage differential is measured by the difference between the increase in average weekly earnings and the CPI.

Historically, the real-wage differential has fluctuated significantly from year to year. The 10-year average real-wage differential was 0.6% for the period ending in 1996 while it was zero for the period ending in 2006. The annual real-wage differential averaged 1.1% for the last 50-year period ending in 2006. Many factors influence real



wage increases including general productivity, labour demand, the move to a service economy and decreases in the average number of hours worked. More specifically, labour demand has significant impact on real-wage increases. Real wages are subject to downward pressure as the demand for workers decreases. On the other hand, one could expect upward pressure on wages if the size of the labour force fails to keep up with a growing economy. The real increase in AAE takes into account the expected upward pressure on real wages due to the expected labour shortage. The assumption is based on the expected labour shortage starting this decade, as moderated by higher participation rates at older ages and productivity gains. Table 33 below shows the assumptions regarding the annual increases in prices and average annual earnings. The real increase in AAE is assumed to gradually increase from 0.2% in 2007 to 1.3% by 2015.

Table 33 Inflation and Real Average Annual Earnings Increases

Year	Price Increases	Average Annual Earnings
	(%)	(%)
2007	2.0	0.2
2008	2.0	0.4
2009	2.0	0.6
2010	2.0	0.8
2011	2.0	0.9
2012	2.1	1.0
2013	2.2	1.1
2014	2.3	1.2
2015	2.4	1.3
2016+	2.5	1.3

E. Total Employment Earnings

Total employment earnings were obtained by applying the Canada less Québec proportion of earners and average employment earnings (both as determined under the 23rd CPP Report) to the entire population of Canada. Total employment earnings estimated were compared with historical statistics from Statistics Canada of total employment earnings for Canada. The estimates are on average for 2002 to 2006 about 0.1% lower than the corresponding experience data. For this reason projected employment earnings for Canada have been multiplied by an experience adjustment factor, which is graded from its 2006 actual-to-expected ratio to the ultimate level over five years. The ultimate factor of 100.1% corresponds to the actual-to-expected ratio over the most recent five years.

F. Combined CPP and QPP Contributory Earnings

Combined CPP and QPP contributory earnings were obtained by applying the CPP proportion of contributors and average contributory earnings (both as determined under the 23rd CPP Report) to the entire population of Canada. Total contributory earnings were then compared to actual combined CPP and QPP contributory earnings for 1966 to 2006. Such validation reveals that, on average, this approach produces combined contributory earnings about 1% higher than the actual figures. For this reason, projected contributory earnings for Canada have been multiplied by an experience adjustment factor, which is graded from the 2006 actual-to-expected ratio to the ultimate level over five years. The ultimate factor of 99.1% corresponds to the actual-to-expected ratio over the most recent five years.

G. Gross Domestic Product (GDP)

Gross domestic Product is perhaps the most suitable basis for comparison of costs since benefits are financed through general revenues and not on the basis of employment earnings. Historical GDP was compared to historical total employment earnings from 1966 to 2006 and was found to be about 2.0 times as much. For this reason GDP was projected as total employment earnings multiplied by an experience adjustment factor, which is graded from its 2006 level to the ultimate level over five years. The ultimate factor of 2.2 corresponds to the ratio over the most recent five years.

IV. Recipient Rates and Distribution by Level of Benefit

Since benefits are computed for age-sex cohorts of persons as opposed to individual persons, recipient rates by age, sex, type and level of benefit are required. Data from Human Resources and Social Development Canada (HRSDC) for each type of benefit consist of the number of beneficiaries as at June of each year (1983 to 2007) by sex, age and six levels of benefit as a percentage of the maximum benefit (0-19%, 20-39%, 40-59%, 60-79%, 80-99%, and 100% and over). HRSDC also provided statistics on individual beneficiaries as at 31 December for each year from 1998 to 2006 and as at 31 July for 2007 . The actual recipient rates in each of the cells described above are obtained by dividing the number of beneficiaries in each cell by the relevant population of Canada. The data include benefits paid outside Canada.

A. Basic Pension

The historical recipient rates of sex-distinct cohorts for the basic pension were studied to determine the best-estimate assumption. The ultimate basic pension recipient rates are set equal to the projected recipient rates for the cohort reaching age 65 in 2008. The assumed evolution of recipient rates from age 65 to ages 90 and over for the cohort aged 65 in 2008 is based on historical trends in the increase in recipient rates from one age to the next as observed for cohorts that have reached age 65 prior to 2008. Each cohort reaching age 65 after 2008 is assumed to experience the same recipient rates by age as those assumed for the cohort aged 65 in 2008.

Recipient rates for cohorts aged 66 and over in 2008 are projected from their 2008 adjusted values up to ages 90 and over using the same age-to-age increases. Recipient rates for cohorts aged 82 and over in 2008 were further adjusted to be equal to their historical maximum value. This approach produces basic pension recipient rates that increase from one age to the next for any given cohort.

The ultimate recipient rates for cohorts reaching age 65 in 2008 and thereafter are assumed to increase from 93.0% at age 65 to 102.5% at ages 90 and over for males and from 94.0% at age 65 to 101.8% at ages 90 and over for females. It is worth noting that basic pension recipient rates may exceed 100% due to benefits paid outside Canada. For example, the recipient rates for the basic pension benefit paid outside of Canada were about 2.2% for males and 1.1% for females in 2006. These percentages are expected to increase over the projection period. Table 34 presents the projected basic pension recipient rates by age and sex for cohorts reaching age 65 in 2008 and thereafter.

Table 34 Basic Pension Recipient Rates by Age (%)

	Cohort Reaching Age 65 in 2008 and Thereafter	
Age	**Males**	**Females**
65	93.0	94.0
66	96.9	96.7
67	98.4	97.7
68	99.2	98.3
69	99.8	98.8
70	100.4	99.3
75	102.1	100.7
80	102.4	101.6
85	102.5	101.8
90+	102.5	101.8

The basic pension recipient rates by age and sex were further broken down by level of benefit using distributions of recipient rates by level of benefit, expressed as a percentage of the maximum benefit (based on number of years of residence in Canada). The historical distributions by level of benefit were derived based on individual OAS beneficiary data as at 31 December of each year over the period 1998 to 2006.

The distribution by level of benefit at age 65 is projected from its actual value in 2006 to year 2017 using historical trends by years of residence over the period 1998 to 2006. The projected distribution takes into account the introduction of partial benefits in 1977, which are to take full effect in 2017. The age 65 distribution projected to 2017 is assumed to apply thereafter.

For any given cohort reaching age 65 on or after 2017, the distributions by level of benefit for ages 66 and over are projected based on historical data that reveal that for any given cohort there is a large proportion of beneficiaries coming into pay after age 65 that has only a small number of years of residence and thus receive partial benefits. As a result, as a cohort progresses in age the proportion of beneficiaries receiving a full

pension is assumed to decrease while the proportion of beneficiaries receiving a partial benefit is assumed to increase. Finally, the distributions for cohorts aged 66 and over in 2007 are linearly interpolated from their actual values in 2006 to their ultimate values. Table 35 and Charts 13 and 14 show the evolution of male and female recipient rates by level of benefit.

Table 35 Basic Pension Recipient Rates by Age, Sex and Level of Benefit (%)

	Cohort Reaching Age 65 in								
	2007			2025			2050		
Age	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
Males									
65	5.1	87.9	93.0	8.4	84.6	93.0	8.4	84.6	93.0
70	10.4	90.0	100.4	14.1	86.3	100.4	14.1	86.3	100.4
75	12.0	90.1	102.1	15.2	86.9	102.1	15.2	86.9	102.1
80	13.4	89.0	102.4	16.3	86.1	102.4	16.3	86.1	102.4
85	14.3	88.2	102.5	17.1	85.4	102.5	17.1	85.4	102.5
90+	14.5	88.0	102.5	17.1	85.4	102.5	17.1	85.4	102.5
All Ages	11.6	89.3	100.9	14.9	86.1	101.0	15.0	86.1	101.0
Females									
65	5.6	88.4	94.0	9.0	85.0	94.0	9.0	85.0	94.0
70	10.1	89.2	99.3	13.5	85.8	99.3	13.5	85.8	99.3
75	11.6	89.1	100.7	14.9	85.8	100.7	14.9	85.8	100.7
80	12.9	88.8	101.6	16.0	85.6	101.6	16.0	85.6	101.6
85	13.1	88.7	101.8	16.3	85.5	101.8	16.3	85.5	101.8
90+	13.6	88.2	101.8	16.6	85.2	101.8	16.6	85.2	101.8
All Ages	11.4	88.8	100.2	14.7	85.5	100.2	14.8	85.5	100.3

Chart 13 Beneficiaries by Level of Benefit (Basic Pension – Males Aged 65+)

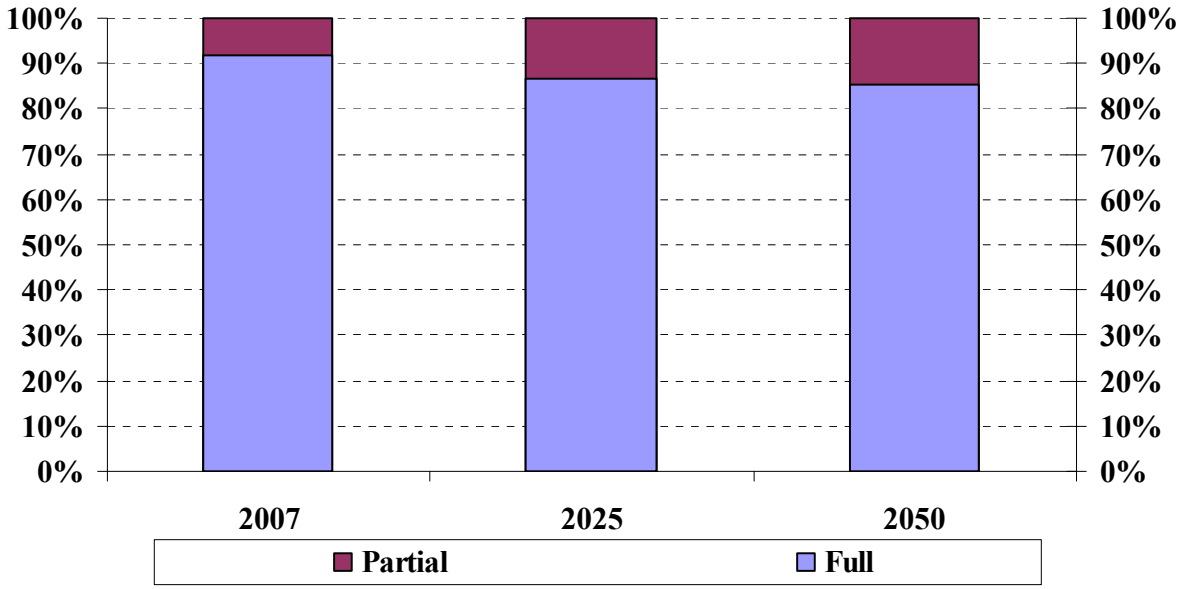
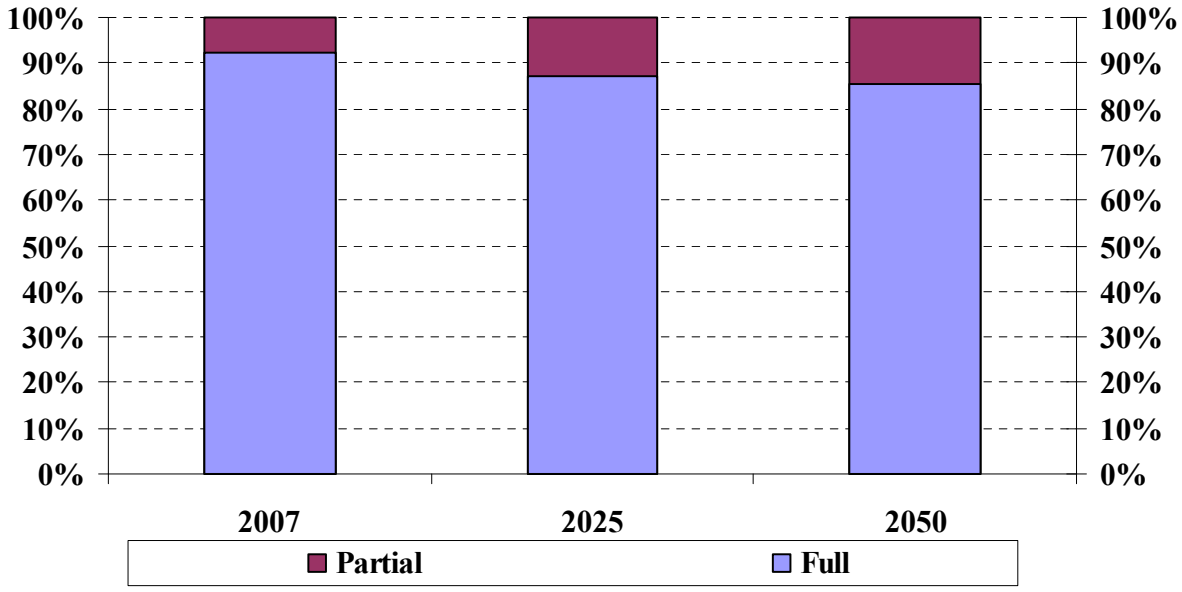


Chart 14 Beneficiaries by Level of Benefit (Basic Pension – Females Aged 65+)



The effect of the OAS clawback provision (see Section III of Appendix A), which reduces the amount payable for high-income pensioners, is estimated in this report. The 7th Actuarial Report on the Old Age Security Program gave such estimates for the first time. Additional experience data since the 7th report have provided a means of validating the initial estimates and improving upon them. Nonetheless, the amount of historical data remains limited and as such, the results presented in Tables 36 and 37 should be interpreted with caution. Over time it is expected that these estimates will be further improved upon as more data become available.

The numbers of beneficiaries who are fully or partially affected by the clawback provision were estimated from Canada Revenue Agency (CRA) historical data over the period 2001 to 2006. The actual proportions of beneficiaries affected (fully or partially) by the clawback in 2006 were projected by assuming that each subsequent cohort would be somewhat wealthier than the preceding one. To simulate this, a formula was developed that is a function of each cohort's average career employment earnings (over the ages of 18 to 65) and the inflation rate. The link with inflation is required since the clawback income limit has moved in line with inflation since the year 2000.

In 2006, the Minister of Finance introduced the Tax Fairness Plan which was subsequently implemented in the 2007 Federal Budget. This Plan included income splitting for pensioners, which took effect in 2007. The provision allows for up to 50% of eligible pension income of a (higher income) pensioner to be transferred to his or her (lower income) spouse or common-law partner thereby allowing for an overall income tax reduction amongst couples. Eligible pension income is dependent on whether the transferor is aged 65 or over at the end of the year. Depending on age, eligible pension income includes annuity and other payments from registered plans. Old Age Security benefits do not qualify as eligible pension income; however, splitting of other pension income that is eligible may impact the extent to which the clawback is applied to the basic pension of either spouse.

For years 2007 and thereafter, the effects of pension income splitting on the number of beneficiaries affected by the clawback and the corresponding change in their basic pensions have been estimated and included in determining the overall impact of the clawback provision.

The proportion of beneficiaries affected by the clawback provision is projected to increase from 7.2% in 2007 (3.1% full and 4.1% partial) to 9.6% (4.1% full and 5.5% partial) by 2050. Table 36 presents the projected number and percentage of OAS beneficiaries affected by the clawback provision, which include the impact of pension income splitting. If it was not for pension income splitting in 2007, there would have been 366,000 individuals instead of 314,000 affected by the clawback provision. For 2007, pension income splitting has the effect of reducing the number of individuals subject to the full clawback by 12,400 or 8.5% and of reducing the number of individuals being partially clawed back by 40,200 or 18%. Nearly 70% of those who are affected by a full clawback would have otherwise received a maximum pension.

Table 36 OAS Beneficiaries Affected by the Clawback Provision*
(in thousands)

	Full Clawback		Partial Clawback		Total	
Year	Numbers	% Affected	Numbers	% Affected	Numbers	% Affected
2007	133.9	3.1	180.5	4.1	314.4	7.2
2008	140.3	3.1	188.1	4.2	328.4	7.3
2009	146.2	3.2	196.0	4.2	342.2	7.4
2010	152.3	3.2	204.4	4.3	356.7	7.5
2011	159.4	3.3	213.2	4.3	372.6	7.6
2012	169.4	3.3	224.4	4.4	393.8	7.7
2015	193.4	3.4	259.4	4.6	452.8	8.0
2020	238.7	3.5	322.7	4.8	561.4	8.3
2025	289.4	3.6	394.1	5.0	683.5	8.6
2030	337.9	3.7	464.6	5.1	802.5	8.8
2040	391.4	3.8	539.7	5.3	931.1	9.1
2050	441.0	4.1	602.2	5.5	1,043.2	9.6

* After taking into account the effect of pension income splitting.

To estimate the total amount of clawback, the number of beneficiaries affected by a full clawback reduction was further broken down between beneficiaries receiving a full basic pension benefit (98%) and those receiving a partial basic pension benefit (2%). This was also done for beneficiaries affected by a partial clawback reduction and, in this case, 99.2% of beneficiaries receive a full basic pension while 0.8% of beneficiaries receive a partial basic pension.

The impact of the clawback provision on total benefits payable is obtained using the projected number of beneficiaries who are affected and the assumed reduction in their average benefit (100% reduction for those with a full clawback reduction and a 40% reduction in benefit for those with a partial clawback reduction). It is estimated that in 2007, the clawback provision will have the effect of reducing the total amount of basic pension benefits payable by about $1 billion or 4.1%. Table 37 presents the projected clawback amounts after taking into account the effect of pension income splitting. Income splitting is estimated to reduce the total amount of the clawback by $156 million in 2007.

Table 37 Financial Impact of Basic Pension Clawback*

Year	Clawback Amount for those with Full Reductions		Clawback Amount for those with Partial Reductions		Total Clawback Amount	
	Amount ($ million)	% of Total Benefits	Amount ($ million)	% of Total Benefits	Amount ($ million)	% of Total Benefits
2007	682	2.8	322	1.3	1,004	4.1
2008	729	2.8	343	1.3	1,072	4.1
2009	775	2.9	364	1.3	1,139	4.2
2010	824	2.9	387	1.4	1,211	4.2
2011	880	2.9	412	1.4	1,292	4.3
2012	955	3.0	443	1.4	1,398	4.4
2015	1,167	3.1	548	1.5	1,715	4.5
2020	1,629	3.2	771	1.5	2,400	4.8
2025	2,236	3.3	1,065	1.6	3,301	4.9
2030	2,954	3.4	1,420	1.6	4,374	5.0
2040	4,380	3.5	2,110	1.7	6,490	5.2
2050	6,318	3.7	3,013	1.8	9,331	5.5

* After taking into account the effect of pension income splitting.

B. GIS and Allowance

The actual 2007 recipient rates for the GIS and Allowance benefits for each age, sex, type and level of benefit are used as the starting point for determining the best-estimate assumption. The formula used in the projection of GIS and Allowance recipient rates takes into account the assumption that each new cohort of beneficiaries will be somewhat wealthier than the preceding one and thus a smaller percentage of OAS beneficiaries are expected to become GIS or Allowance beneficiaries over the projection period. For this report, the experience adjustment factors used in the projection formula were developed to adjust the formula so that characteristics and trends of historical recipient rates by age, sex, type and level of benefit observed over the last ten years would be reproduced more closely. The factors were used for the first ten years of the projection period. Given the additive nature of the experience adjustment factors, minimum values of recipient rates were set in order to eliminate the possibility of negative recipient rates. Minimum recipient rates were set by type of benefit in relation to the lowest prevailing recipient rates in the year 2007 at the benefit level category for a given type of benefit.

The change in the assumed distribution by level of benefit is also automatically taken into account by the formula as is the increasing pattern of recipient rates by age. Table 38 presents the projected GIS and Allowance recipient rates for cohorts reaching ages 60 and 65 by sex, type and level of benefit. Charts 15 through 18 present recipient rates by

year of birth. Charts 19 and 20 present the distribution of recipient rates by level of benefit for years 2007, 2025 and 2050.

Table 38 GIS and Allowance Recipient Rates (%)

	Cohort Reaching Age 65 in								
	2007			2025			2050		
Age	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
GIS - Males									
65	17.0	4.4	21.4	14.1	4.3	18.5	11.3	3.6	14.9
70	24.3	5.5	29.8	20.9	5.2	26.1	16.7	4.3	21.0
75	26.3	5.5	31.9	22.1	4.9	27.0	17.3	3.9	21.3
80	24.9	5.1	29.9	20.7	4.4	25.1	16.0	3.5	19.5
85	23.2	4.6	27.8	19.2	3.9	23.1	14.7	3.1	17.7
90+	26.4	3.9	30.3	21.7	3.3	25.0	16.4	2.6	19.0
All Ages	**24.1**	**5.1**	**29.2**	**20.3**	**4.6**	**24.9**	**15.9**	**3.7**	**19.5**
GIS – Females									
65	21.1	5.0	26.1	18.0	4.8	22.9	14.4	3.9	18.3
70	28.1	6.6	34.7	24.1	5.8	29.9	19.3	4.6	23.9
75	31.1	7.3	38.5	26.2	6.2	32.3	20.7	4.9	25.6
80	32.7	6.9	39.7	27.3	5.8	33.2	21.4	4.6	26.0
85	36.6	6.2	42.8	30.6	5.2	35.9	24.0	4.2	28.2
90+	46.8	5.6	52.3	40.1	4.7	44.9	32.4	3.8	36.2
All Ages	**32.3**	**6.5**	**38.8**	**27.6**	**5.6**	**33.2**	**22.2**	**4.4**	**26.6**

	Cohort Reaching Age 60 in								
	2007			2025			2050		
Allowance - Males	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
60	0.3	0.1	0.4	0.2	0.0	0.3	0.2	0.0	0.2
61	0.6	0.1	0.7	0.4	0.0	0.4	0.3	0.0	0.3
62	0.9	0.1	0.9	0.5	0.0	0.6	0.3	0.0	0.3
63	1.1	0.1	1.2	0.7	0.0	0.7	0.4	0.0	0.4
64	1.6	0.1	1.7	1.0	0.1	1.1	0.6	0.0	0.7
All Ages	**0.9**	**0.1**	**1.0**	**0.6**	**0.0**	**0.6**	**0.4**	**0.0**	**0.4**
Allowance - Females									
60	4.4	0.4	4.8	2.1	0.1	2.2	1.4	0.1	1.5
61	7.0	0.5	7.5	3.8	0.3	4.1	2.5	0.2	2.6
62	8.7	0.5	9.3	5.1	0.3	5.4	3.2	0.2	3.4
63	10.8	0.6	11.4	6.7	0.3	7.0	4.1	0.2	4.3
64	12.8	0.7	13.5	8.2	0.4	8.7	5.1	0.2	5.3
All Ages	**8.7**	**0.6**	**9.3**	**5.2**	**0.3**	**5.5**	**3.2**	**0.2**	**3.4**

Chart 15 GIS Single Recipient Rates (Males)

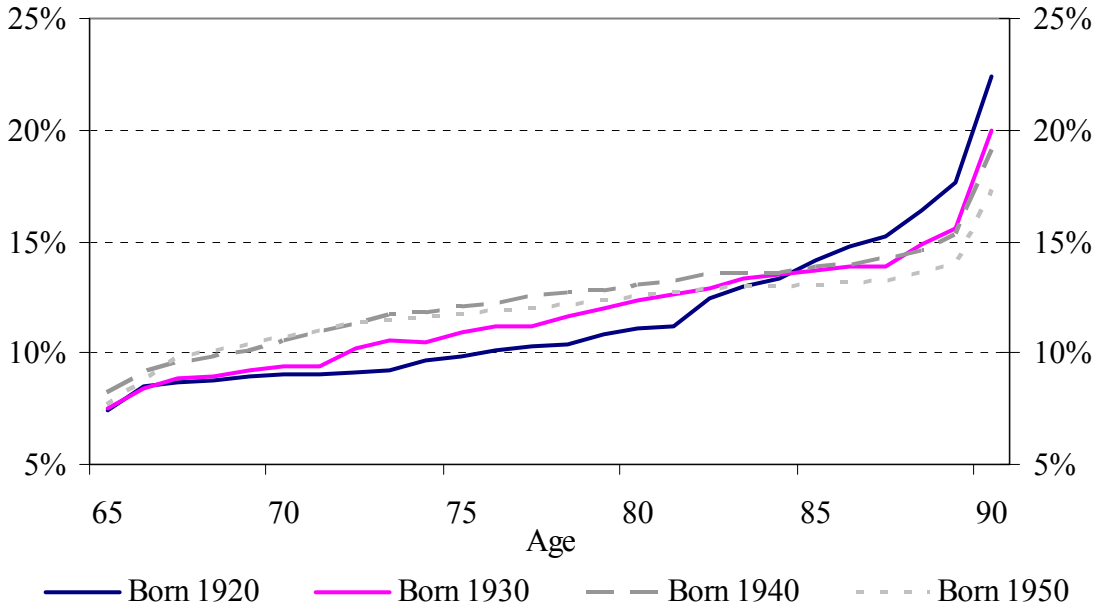


Chart 16 GIS Single Recipient Rates (Females)

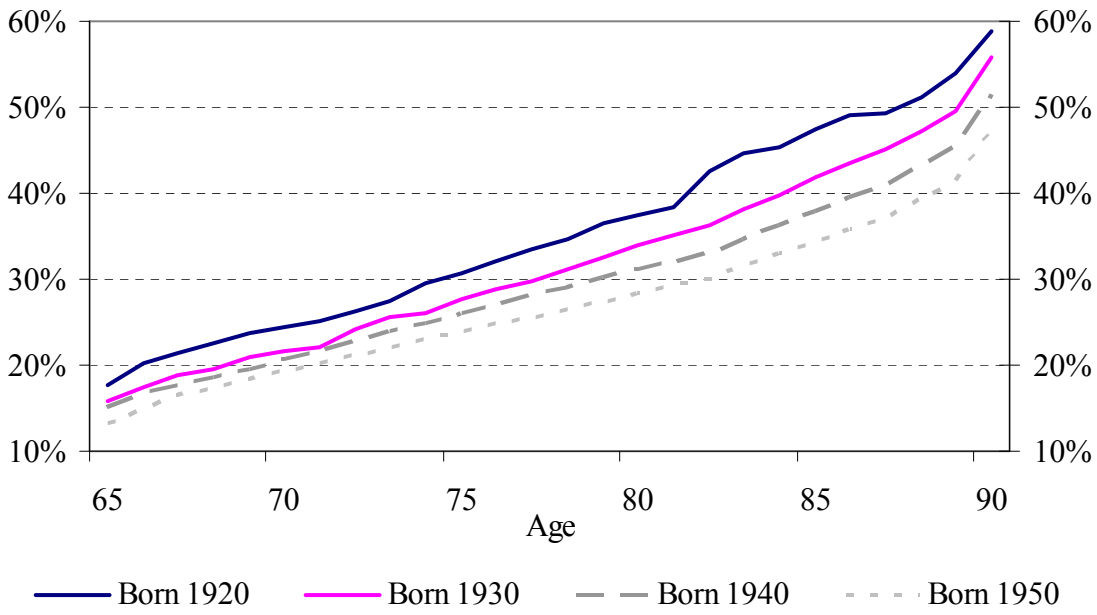


Chart 17 Allowance Recipient Rates (Males)

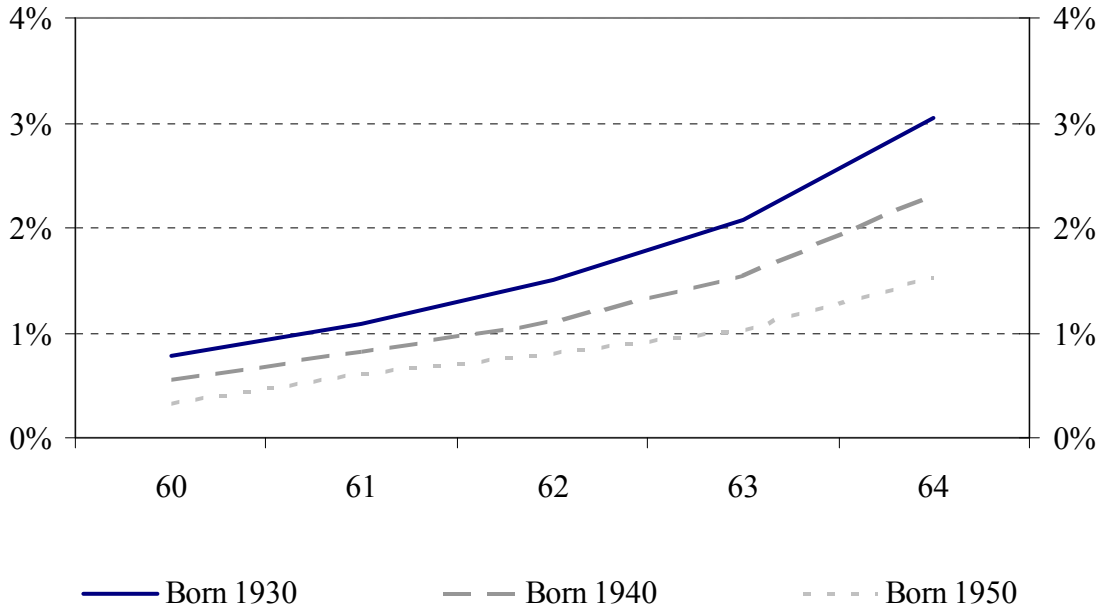


Chart 18 Allowance Recipient Rates (Females)

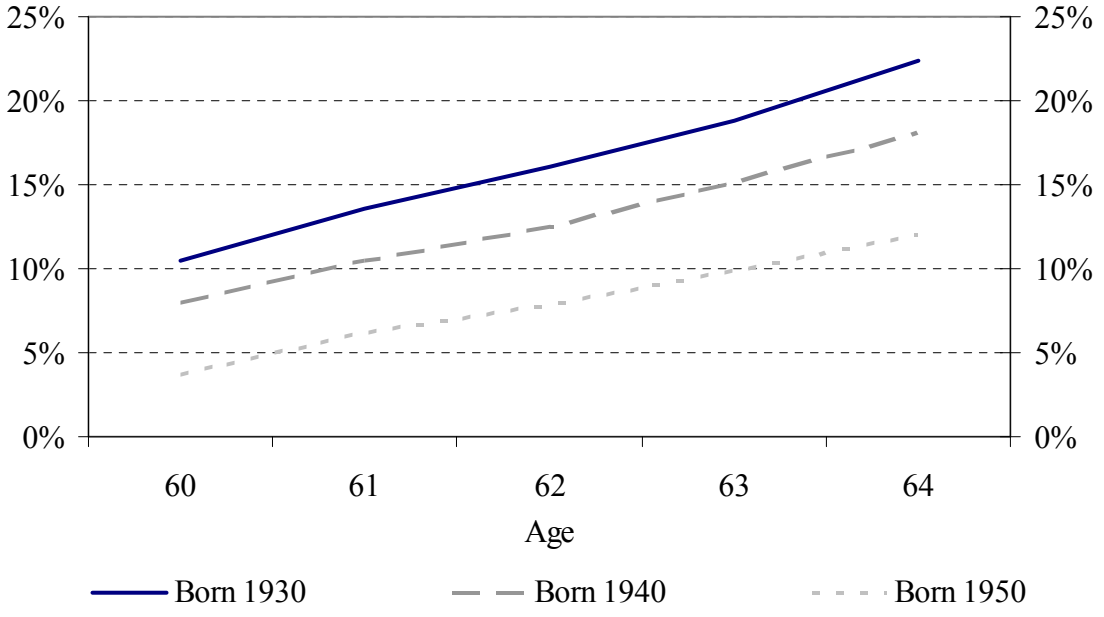


Chart 19 GIS Recipient Rates by Level of Benefit

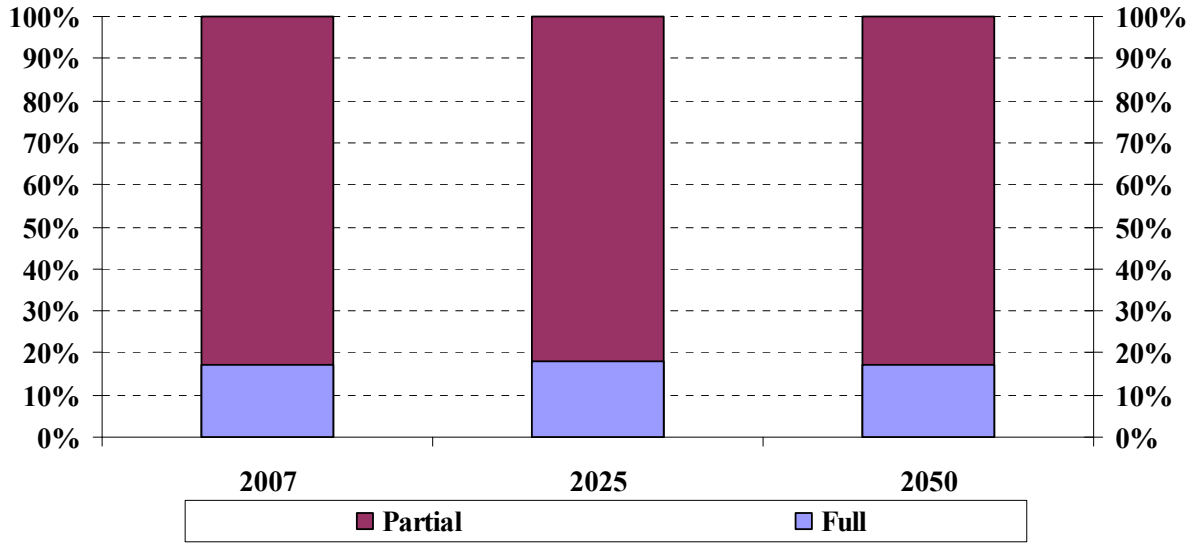
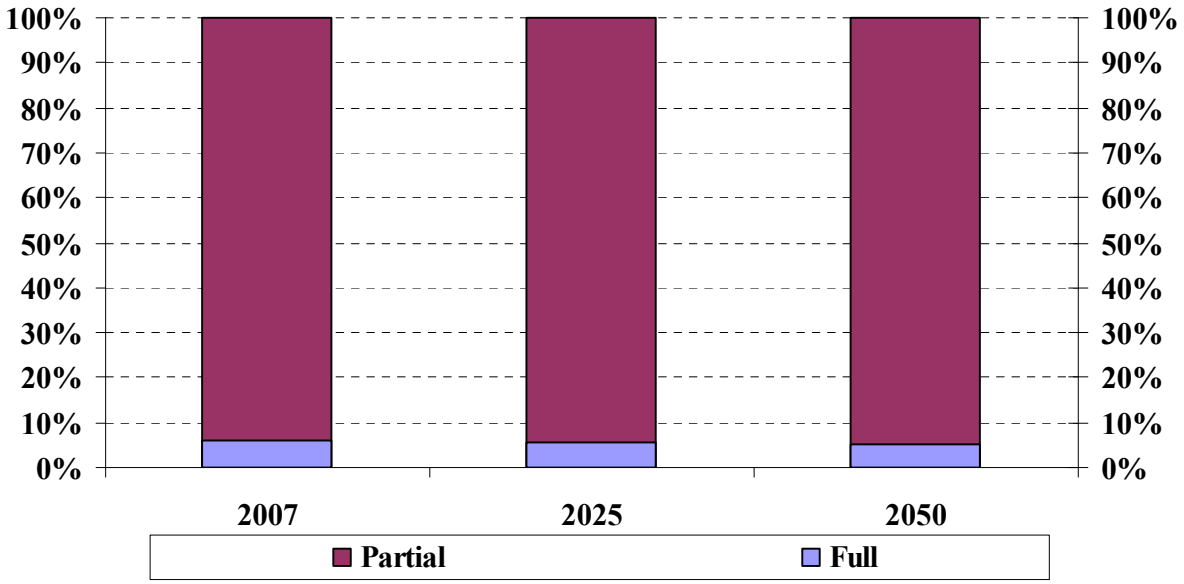


Chart 20 Allowance Recipient Rates by Level of Benefit



C. Average Benefits in Relation to Maximum Benefits

For each cell, determined by age group, sex, type of benefit and amount category, the average benefit paid was compared to the maximum benefit rate. In most cases, the averages were close to the midpoint of the amount category and did not vary significantly from year to year. Table 39 presents the projected maximum benefits by type.

Therefore, except for the "100% and over" category for GIS, it was assumed that these averages would remain constant in future years in accordance with their average levels over the most recent five-year period. Table 40 presents the assumed benefit as a percentage of the maximum by level and type of benefit.

For the GIS it is possible for a beneficiary to receive more than 100% of the maximum benefit if he or she is receiving a partial basic pension. In these cases, the maximum GIS benefit is increased by the difference between the full and partial basic pension. For this purpose, it was assumed that the average benefit as a percentage of the maximum would be kept at the 2003-2007 levels throughout the projection period.

Table 39 Projected Maximum Monthly Benefits

		GIS		Allowance	
Year	OAS	Single	Married	Regular	Survivor
(1 July)	($)	($)	($)	($)	($)
2007	497.83	628.36	414.96	912.79	1,011.80
2008	507.79	640.93	423.26	931.05	1,032.04
2009	517.94	653.75	431.72	949.67	1,052.68
2010	528.30	666.82	440.36	968.66	1,073.73
2011	538.87	680.16	449.17	988.03	1,095.20
2012	550.01	694.22	458.45	1,008.46	1,117.84
2015	588.27	742.51	490.34	1,078.61	1,195.60
2020	665.35	839.81	554.60	1,219.95	1,352.28
2025	752.79	950.17	627.48	1,380.26	1,529.98
2030	851.71	1,075.03	709.93	1,561.64	1,731.03
2040	1,090.26	1,376.12	908.77	1,999.03	2,215.87
2050	1,395.62	1,761.55	1,163.31	2,558.93	2,836.50

Table 40 Average Benefits as Percentage of Maximum Rates

	Males					
	0-19%	**20-39%**	**40-59%**	**60-79%**	**80-99%**	**100%***
OAS	10.1	27.1	49.4	67.6	89.0	100.0
GIS-Single	10.9	30.8	50.1	69.9	90.4	124.7
GIS-Spouse as a pensioner	10.9	30.1	49.8	68.8	89.2	169.8
GIS-Spouse not a pensioner	10.9	28.6	50.0	69.5	89.9	122.6
GIS-Spouse with Allowance	0.0	0.0	45.2	69.9	89.9	128.4
Allowance-Regular	10.2	30.1	47.4	69.8	91.0	100.0
Allowance-Survivor	9.5	31.2	48.6	69.4	90.1	100.0
	Females					
	0-19%	**20-39%**	**40-59%**	**60-79%**	**80-99%**	**100%***
OAS	9.7	27.0	49.2	67.5	88.8	100.0
GIS-Single	11.0	30.6	50.6	69.7	90.5	127.7
GIS-Spouse as a pensioner	10.9	30.1	49.7	68.8	89.2	167.2
GIS-Spouse not a pensioner	10.9	29.1	50.8	70.3	91.8	117.8
GIS-Spouse with Allowance	0.0	0.0	45.1	70.2	89.6	116.1
Allowance-Regular	10.6	30.0	47.3	69.4	91.0	100.0
Allowance-Survivor	9.0	31.0	48.8	69.6	90.5	100.0

* The proportion exceeds 100% for GIS benefits because the GIS maximum is raised for individuals receiving a partial OAS pension, to the extent that such pension falls short of a full OAS pension.

V. Expenditures

A. Benefits

The expenditure for each year for a given type of benefit was computed as the sum, over all relevant population cells, of the product of:

- the population as at 1 July (by age and sex);
- the recipient rates (varies by type of benefit, level of benefit, age, sex and calendar year);
- the average benefit of those in the level-of-benefit cell as a percentage of the maximum benefit (varies by type of benefit, age, sex and calendar year); and
- 12 times the maximum benefit as at 1 July.

As part of the methodology validation process, the number of beneficiaries and amounts of total annual benefits computed as above were compared to the actual results for 1983 through 2007 by type of benefit. Based on these comparisons, as described below, adjustments were made to the projected results.

Therefore, the numbers of beneficiaries projected as described above were multiplied by experience adjustment factors. Furthermore, after adjusting the projected numbers of beneficiaries, the calculated total annual benefits tended to be lower than the actual expenditures. Therefore, the projected amounts of benefits were also multiplied by experience adjustment factors.

The resulting experience adjustment factors by type of benefit are presented in Table 41 and correspond to the ratio needed to reflect as closely as possible actual results for 2007. Detailed tables for the projected number of beneficiaries and total expenditures by sex, type and level of benefits are presented in Appendix D.

Table 41 Experience Adjustment Factors

		GIS				Allowance	
	OAS	Single	Spouse a Pensioner	Spouse not a Pensioner	Spouse has Allowance	Regular	Survivor
Beneficiaries	1.001	0.974	0.959	0.959	0.978	0.978	0.966
Benefits	1.001	1.035	1.047	1.052	1.040	1.047	1.035

B. Administrative Expenses

Based on experience over the last five years, annual administrative expenses have averaged about 0.35% of total annual benefit payments. This has been assumed to continue throughout the projection period.

Appendix D – Detailed Projections of Beneficiaries and Expenditures

Table 42 Beneficiaries (Basic Pension, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	156	1,762	1,918	188	2,257	2,445	344	4,019	4,362
2008	171	1,815	1,986	204	2,304	2,508	375	4,119	4,494
2009	183	1,868	2,051	217	2,350	2,567	400	4,218	4,619
2010	196	1,925	2,122	231	2,404	2,635	427	4,329	4,757
2011	210	1,986	2,196	246	2,460	2,706	456	4,446	4,902
2012	227	2,070	2,296	263	2,541	2,804	490	4,610	5,100
2015	281	2,306	2,586	321	2,769	3,090	602	5,074	5,676
2020	384	2,724	3,108	432	3,191	3,623	816	5,915	6,731
2025	493	3,212	3,706	551	3,690	4,241	1,044	6,902	7,947
2050	755	4,380	5,136	845	4,928	5,774	1,601	9,309	10,909

Table 43 Expenditures (Basic Pension, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	306	10,538	10,844	366	13,501	13,867	672	24,039	24,711
2008	376	11,076	11,453	446	14,055	14,501	822	25,131	25,953
2009	427	11,626	12,052	503	14,627	15,130	929	26,253	27,182
2010	483	12,222	12,705	565	15,261	15,826	1,048	27,483	28,531
2011	544	12,861	13,406	633	15,927	16,560	1,177	28,788	29,965
2012	618	13,678	14,295	714	16,791	17,505	1,332	30,469	31,800
2015	882	16,298	17,179	1,001	19,569	20,571	1,883	35,867	37,750
2020	1,471	21,781	23,252	1,646	25,508	27,154	3,117	47,289	50,406
2025	2,213	29,054	31,267	2,457	33,377	35,834	4,670	62,432	67,101
2050	6,377	73,457	79,834	7,082	82,642	89,724	13,459	156,099	169,558

Table 44 GIS Beneficiaries (Total, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	476	98	574	831	175	1,006	1,308	273	1,580
2008	489	103	593	850	177	1,027	1,339	281	1,620
2009	509	108	617	872	181	1,053	1,381	289	1,670
2010	524	113	637	892	184	1,076	1,416	298	1,713
2011	540	118	658	912	188	1,100	1,452	306	1,758
2012	560	124	684	937	194	1,130	1,497	318	1,814
2015	617	141	758	1,003	209	1,212	1,620	351	1,970
2020	715	165	879	1,113	234	1,347	1,828	398	2,226
2025	818	189	1,006	1,238	262	1,500	2,056	451	2,506
2050	909	207	1,116	1,439	283	1,722	2,347	490	2,838

Table 45 GIS Expenditures (Total, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	1,563	861	2,424	3,233	1,688	4,921	4,796	2,548	7,345
2008	1,626	929	2,555	3,330	1,739	5,068	4,956	2,668	7,624
2009	1,712	992	2,704	3,447	1,803	5,250	5,158	2,796	7,954
2010	1,798	1,056	2,855	3,570	1,876	5,446	5,368	2,932	8,300
2011	1,889	1,123	3,012	3,700	1,945	5,645	5,589	3,068	8,657
2012	2,003	1,200	3,203	3,855	2,043	5,898	5,858	3,243	9,101
2015	2,370	1,463	3,832	4,367	2,352	6,719	6,737	3,815	10,552
2020	3,141	1,927	5,068	5,467	2,975	8,441	8,608	4,902	13,509
2025	4,099	2,502	6,601	6,885	3,783	10,668	10,983	6,286	17,269
2050	8,599	5,159	13,758	15,269	7,621	22,890	23,868	12,780	36,648

Table 46 GIS Beneficiaries (Single, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	187	29	216	610	129	739	797	158	955
2008	194	31	225	623	130	752	816	161	977
2009	202	32	234	637	130	767	838	162	1,000
2010	211	33	244	650	132	782	861	165	1,026
2011	220	34	254	664	133	797	884	166	1,051
2012	231	35	266	680	136	816	911	171	1,082
2015	261	41	302	724	144	868	985	185	1,170
2020	310	49	359	800	159	959	1,110	209	1,318
2025	361	58	420	892	180	1,072	1,253	238	1,491
2050	442	72	514	1,122	209	1,331	1,565	281	1,845

Table 47 GIS Expenditures (Single, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	817	281	1,097	2,687	1,290	3,977	3,504	1,571	5,075
2008	856	311	1,167	2,762	1,318	4,080	3,619	1,629	5,248
2009	906	323	1,229	2,852	1,350	4,202	3,759	1,673	5,431
2010	966	339	1,305	2,952	1,392	4,343	3,918	1,730	5,649
2011	1,027	357	1,384	3,056	1,428	4,485	4,084	1,785	5,869
2012	1,103	378	1,481	3,178	1,490	4,668	4,281	1,868	6,149
2015	1,339	471	1,809	3,585	1,687	5,272	4,924	2,157	7,082
2020	1,819	638	2,457	4,475	2,119	6,594	6,293	2,757	9,051
2025	2,416	854	3,270	5,641	2,710	8,351	8,057	3,564	11,621
2050	5,455	1,981	7,436	13,098	5,815	18,913	18,554	7,796	26,349

Table 48 GIS Beneficiaries (Spouse as a Pensioner, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	201	38	239	201	39	240	402	77	479
2008	202	40	242	205	40	245	407	80	487
2009	208	43	250	212	43	255	420	86	505
2010	212	45	257	218	45	263	430	90	520
2011	216	47	264	223	48	271	440	95	535
2012	221	49	271	231	50	281	452	100	552
2015	238	56	294	251	57	309	489	113	602
2020	272	64	336	282	65	348	554	130	684
2025	309	73	382	312	72	384	621	145	766
2050	327	80	407	278	64	341	605	143	748

Table 49 GIS Expenditures (Spouse as a Pensioner, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	451	338	790	452	338	790	904	676	1,579
2008	458	361	819	466	359	825	924	720	1,644
2009	476	392	868	487	390	878	963	782	1,745
2010	491	422	913	507	420	926	997	842	1,839
2011	507	453	960	528	451	978	1,035	903	1,938
2012	526	484	1,009	555	485	1,039	1,080	968	2,049
2015	597	582	1,179	641	588	1,229	1,238	1,170	2,408
2020	770	758	1,529	813	758	1,571	1,583	1,516	3,099
2025	989	978	1,967	1,014	949	1,963	2,003	1,927	3,930
2050	1,917	1,986	3,902	1,666	1,556	3,222	3,583	3,541	7,124

Table 50 GIS Beneficiaries (Spouse Not a Pensioner, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	49	12	60	16	5	21	65	17	82
2008	55	13	68	18	5	23	73	18	91
2009	60	13	73	19	5	24	79	18	97
2010	61	14	75	19	5	24	81	19	99
2011	63	15	77	20	5	25	83	19	102
2012	65	15	81	21	5	26	86	20	106
2015	71	17	88	22	5	27	93	22	115
2020	78	19	97	25	6	30	103	24	127
2025	85	21	105	28	6	34	113	27	139
2050	74	18	92	32	7	39	106	25	131

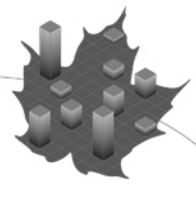


Table 51 GIS Expenditures (Spouse Not a Pensioner, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	174	113	287	82	48	130	256	161	418
2008	190	125	314	88	48	136	277	173	450
2009	203	136	339	93	49	141	296	184	480
2010	209	144	353	97	49	146	306	193	499
2011	217	152	369	101	50	151	318	202	520
2012	228	164	392	106	51	157	334	215	549
2015	261	195	456	122	56	178	383	251	634
2020	325	245	570	155	70	224	480	315	795
2025	401	302	703	199	89	288	600	391	991
2050	665	488	1,153	449	188	637	1,114	676	1,790

Table 52 GIS Beneficiaries (Spouse with Allowance, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	39	19	58	4	2	6	43	21	64
2008	39	19	58	4	2	7	43	22	65
2009	39	21	60	4	2	7	44	23	66
2010	40	21	61	4	2	7	44	24	68
2011	41	22	63	5	3	7	45	25	70
2012	43	24	66	5	3	8	47	26	74
2015	47	27	75	5	3	8	53	30	83
2020	55	32	87	6	3	10	61	36	96
2025	62	37	99	7	4	11	69	40	110
2050	65	38	103	7	4	10	72	41	113

Table 53 GIS Expenditures (Spouse with Allowance, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	121	129	250	12	12	24	133	140	273
2008	122	132	254	14	14	27	136	146	282
2009	127	142	269	14	15	29	141	157	298
2010	132	151	283	14	15	30	146	167	313
2011	138	162	299	15	16	32	153	178	331
2012	146	175	321	16	18	34	162	192	355
2015	173	215	389	19	22	41	192	237	429
2020	227	285	512	25	28	52	251	313	564
2025	293	368	661	31	35	66	323	403	726
2050	563	704	1,266	56	62	118	618	766	1,384

Table 54 Allowance Beneficiaries (Total, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	8	1	9	80	5	85	88	6	94
2008	8	1	9	81	5	86	89	6	95
2009	8	1	9	82	5	87	90	6	96
2010	9	1	9	83	5	88	91	6	97
2011	9	1	9	83	5	88	91	6	97
2012	8	1	9	80	5	85	88	6	94
2015	8	1	9	76	5	80	84	5	89
2020	8	1	9	76	5	81	84	5	89
2025	8	1	9	73	4	77	81	5	86
2050	5	0	5	45	2	48	50	3	53

Table 55 Allowance Expenditures (Total, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	41	8	49	400	65	464	441	72	513
2008	43	8	51	413	66	479	456	74	530
2009	45	8	53	427	68	495	472	76	548
2010	47	9	55	439	69	507	485	77	562
2011	48	9	57	448	69	517	496	78	574
2012	48	9	57	443	68	511	491	77	568
2015	49	9	58	449	67	516	498	76	574
2020	56	10	66	507	74	581	563	84	648
2025	62	11	72	547	78	626	609	89	698
2050	69	12	81	611	82	693	680	94	774

Table 56 Allowance Beneficiaries (Regular, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	5	0	6	56	2	58	62	2	64
2008	6	0	6	58	2	60	64	2	66
2009	6	0	6	60	2	63	66	3	69
2010	6	0	6	62	2	64	68	3	71
2011	6	0	6	63	3	66	69	3	72
2012	6	0	6	62	3	65	68	3	71
2015	6	0	6	61	3	64	67	3	70
2020	6	0	6	63	3	66	69	3	72
2025	6	0	6	62	3	65	68	3	71
2050	4	0	4	41	2	43	45	2	47

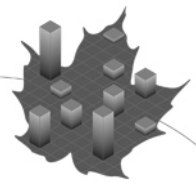


Table 57 Allowance Expenditures (Regular, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	24	3	27	246	23	269	270	26	296
2008	26	3	29	262	26	288	288	29	317
2009	27	3	30	279	29	308	306	32	338
2010	28	3	32	294	31	325	322	34	357
2011	30	3	33	308	33	341	337	37	374
2012	30	3	33	311	34	345	340	38	378
2015	31	4	34	331	39	370	362	42	404
2020	36	4	41	390	46	436	426	50	476
2025	41	5	46	433	51	483	473	56	529
2050	50	6	56	530	62	592	580	68	648

Table 58 Allowance Beneficiaries (Survivor, thousands)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	2	0	3	24	3	27	26	4	30
2008	3	0	3	23	3	26	25	3	29
2009	3	0	3	21	3	24	24	3	27
2010	3	0	3	21	3	23	23	3	26
2011	3	0	3	20	3	22	22	3	25
2012	2	0	3	18	2	20	20	3	23
2015	2	0	3	15	2	17	17	2	19
2020	2	0	3	13	2	15	15	2	17
2025	2	0	2	11	1	13	13	2	15
2050	1	0	1	4	1	5	5	1	6

Table 59 Allowance Expenditures (Survivor, $ million)

	Males			Females			Both Sexes		
Year	Partial	Full	Total	Partial	Full	Total	Partial	Full	Total
2007	17	5	22	154	41	195	171	46	217
2008	17	5	22	151	41	190	168	45	213
2009	18	5	23	148	39	187	166	44	210
2010	18	5	23	144	37	182	163	42	205
2011	19	5	24	141	36	177	159	41	200
2012	19	5	23	132	33	166	151	39	189
2015	19	5	23	117	29	146	136	34	169
2020	20	5	25	118	28	146	137	34	171
2025	21	5	26	115	27	142	136	34	169
2050	20	5	26	81	19	101	100	25	126

Appendix E – Financial Results Excluding Part 10 of Bill C-50

Table 60 Beneficiaries (Excluding Part 10 of Bill C-50)

	Number of Beneficiaries			Recipient Rates*		
Year	**OAS**	**GIS**	**Allowance**	**OAS**	**GIS**	**Allowance**
	(thousands)	(thousands)	(thousands)	(%)	(%)	(%)
2007	4,362	1,580	94	98.7	35.8	5.5
2008	4,494	1,611	94	99.0	35.5	5.2
2009	4,619	1,651	94	99.0	35.4	5.0
2010	4,757	1,695	95	99.2	35.4	4.9
2011	4,902	1,739	95	99.2	35.2	4.7
2012	5,100	1,794	92	99.3	35.0	4.5
2013	5,295	1,849	89	99.4	34.7	4.3
2014	5,483	1,899	88	99.5	34.4	4.1
2015	5,676	1,950	87	99.6	34.2	3.9
2016	5,872	1,999	87	99.6	33.9	3.8
2017	6,069	2,048	87	99.7	33.6	3.7
2018	6,279	2,097	88	99.8	33.3	3.6
2019	6,498	2,149	88	99.8	33.0	3.6
2020	6,731	2,205	88	99.9	32.7	3.5
2021	6,963	2,259	88	99.9	32.4	3.4
2022	7,205	2,316	87	100.0	32.1	3.4
2023	7,452	2,372	87	100.0	31.8	3.3
2024	7,696	2,428	86	100.1	31.6	3.2
2025	7,947	2,485	84	100.1	31.3	3.2
2026	8,197	2,541	82	100.2	31.1	3.1
2027	8,438	2,595	80	100.2	30.8	3.1
2028	8,684	2,648	76	100.3	30.6	3.1
2029	8,918	2,698	72	100.3	30.3	3.0
2030	9,125	2,743	68	100.3	30.2	2.9
2031	9,298	2,778	66	100.4	30.0	2.8
2032	9,438	2,804	65	100.4	29.9	2.8
2033	9,565	2,826	64	100.5	29.7	2.7
2034	9,686	2,844	62	100.5	29.5	2.7
2035	9,805	2,860	61	100.6	29.3	2.6
2036	9,916	2,873	59	100.6	29.1	2.5
2037	10,006	2,880	58	100.6	29.0	2.5
2038	10,082	2,883	58	100.6	28.8	2.4
2039	10,150	2,882	58	100.7	28.6	2.4
2040	10,220	2,880	57	100.7	28.4	2.3
2045	10,545	2,854	57	100.7	27.2	2.1
2050	10,909	2,825	52	100.6	26.1	2.0

* The overall projected basic OAS pension recipient rates and number of beneficiaries are on a gross basis (i.e. before application of the clawback provision). All recipient rates include benefits paid outside Canada and for this reason may exceed 100%.

Table 61 Expenditures and Average Annual Benefits (Excluding Part 10 of Bill C-50)

	Expenditures* ($ million)					Average Annual Benefit* ($)		
Year	OAS	GIS	Allowance	Administrative Expenses	Total	OAS	GIS	Allowance
2007	24,711	7,345	513	114	32,683	5,665	4,648	5,461
2008	25,953	7,596	523	119	34,192	5,775	4,716	5,566
2009	27,182	7,897	535	125	35,739	5,885	4,783	5,674
2010	28,531	8,241	549	131	37,452	5,998	4,863	5,774
2011	29,965	8,597	561	137	39,259	6,113	4,943	5,887
2012	31,800	9,037	555	145	41,537	6,235	5,037	6,040
2013	33,702	9,511	551	153	43,917	6,365	5,144	6,171
2014	35,659	9,971	553	162	46,345	6,503	5,252	6,306
2015	37,750	10,481	561	171	48,962	6,651	5,376	6,452
2016	39,975	11,007	573	180	51,736	6,808	5,507	6,605
2017	42,309	11,566	589	191	54,654	6,972	5,647	6,754
2018	44,825	12,147	608	202	57,781	7,139	5,792	6,909
2019	47,511	12,760	623	213	61,107	7,312	5,937	7,074
2020	50,406	13,430	635	226	64,697	7,489	6,091	7,242
2021	53,408	14,116	649	239	68,412	7,670	6,248	7,406
2022	56,608	14,842	661	252	72,363	7,856	6,409	7,582
2023	59,972	15,593	671	267	76,503	8,047	6,574	7,759
2024	63,440	16,367	681	282	80,770	8,243	6,741	7,938
2025	67,101	17,182	686	297	85,266	8,444	6,914	8,129
2026	70,903	18,019	683	314	89,918	8,650	7,091	8,321
2027	74,775	18,872	677	330	94,654	8,861	7,272	8,507
2028	78,839	19,748	661	347	99,595	9,078	7,457	8,720
2029	82,938	20,629	641	365	104,574	9,300	7,645	8,940
2030	86,939	21,501	624	382	109,446	9,528	7,839	9,164
2031	90,751	22,324	617	398	114,090	9,760	8,037	9,371
2032	94,361	23,107	619	413	118,500	9,998	8,239	9,576
2033	97,971	23,871	622	429	122,893	10,242	8,446	9,795
2034	101,643	24,629	624	444	127,340	10,493	8,659	10,026
2035	105,413	25,392	624	460	131,889	10,751	8,878	10,274
2036	109,235	26,152	623	476	136,487	11,016	9,103	10,532
2037	112,937	26,883	629	492	140,940	11,287	9,333	10,773
2038	116,603	27,590	638	507	145,338	11,565	9,570	11,023
2039	120,277	28,281	651	522	149,732	11,850	9,813	11,278
2040	124,113	28,981	663	538	154,296	12,144	10,062	11,556
2045	144,823	32,560	735	623	178,742	13,734	11,410	13,008
2050	169,558	36,571	766	724	207,619	15,543	12,943	14,668

* The projected basic OAS pension expenditures and average benefit are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Table 62 Expenditures as Percentage of GDP (Excluding Part 10 of Bill C-50)

Year	Gross Domestic Product	Expenditures as % of Gross Domestic Product*				
		OAS	GIS	Allowance	Administrative Expenses	Total
	($ billion)	(%)	(%)	(%)	(%)	(%)
2007	1,485	1.66	0.49	0.03	0.01	2.20
2008	1,525	1.70	0.50	0.03	0.01	2.24
2009	1,569	1.73	0.50	0.03	0.01	2.28
2010	1,618	1.76	0.51	0.03	0.01	2.32
2011	1,667	1.80	0.52	0.03	0.01	2.35
2012	1,727	1.84	0.52	0.03	0.01	2.40
2013	1,791	1.88	0.53	0.03	0.01	2.45
2014	1,861	1.92	0.54	0.03	0.01	2.49
2015	1,937	1.95	0.54	0.03	0.01	2.53
2016	2,017	1.98	0.55	0.03	0.01	2.57
2017	2,099	2.02	0.55	0.03	0.01	2.60
2018	2,183	2.05	0.56	0.03	0.01	2.65
2019	2,269	2.09	0.56	0.03	0.01	2.69
2020	2,359	2.14	0.57	0.03	0.01	2.74
2021	2,451	2.18	0.58	0.03	0.01	2.79
2022	2,547	2.22	0.58	0.03	0.01	2.84
2023	2,646	2.27	0.59	0.03	0.01	2.89
2024	2,749	2.31	0.60	0.02	0.01	2.94
2025	2,857	2.35	0.60	0.02	0.01	2.98
2026	2,971	2.39	0.61	0.02	0.01	3.03
2027	3,091	2.42	0.61	0.02	0.01	3.06
2028	3,216	2.45	0.61	0.02	0.01	3.10
2029	3,347	2.48	0.62	0.02	0.01	3.12
2030	3,486	2.49	0.62	0.02	0.01	3.14
2031	3,627	2.50	0.62	0.02	0.01	3.15
2032	3,776	2.50	0.61	0.02	0.01	3.14
2033	3,932	2.49	0.61	0.02	0.01	3.13
2034	4,094	2.48	0.60	0.02	0.01	3.11
2035	4,263	2.47	0.60	0.01	0.01	3.09
2036	4,438	2.46	0.59	0.01	0.01	3.08
2037	4,622	2.44	0.58	0.01	0.01	3.05
2038	4,814	2.42	0.57	0.01	0.01	3.02
2039	5,013	2.40	0.56	0.01	0.01	2.99
2040	5,217	2.38	0.56	0.01	0.01	2.96
2045	6,354	2.28	0.51	0.01	0.01	2.81
2050	7,704	2.20	0.47	0.01	0.01	2.69

* The projected basic OAS pension expenditures are on a gross basis (i.e. before application of the clawback provision). All expenditures include benefits paid outside Canada.

Appendix F – Acknowledgements

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