

Remarks by Jean-Claude Menard, Chief Actuary,  
Office of the Chief Actuary,  
Office of the Superintendent of Financial Institutions, Canada (OSFI)  
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## **The Canadian Approach to finance retirement: A diversified approach based on fairness, solidarity and responsibility**

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Good afternoon. Thank you for inviting me here today to talk about the Canadian approach to finance retirement, a diversified approach that is more and more seen as a model to follow by the other countries.

### **Presentation (*Slide 2*)**

Most industrialized countries around the world are wrestling with the challenge of supporting older people as their population age. Although Canada will age as many other countries, I will compare its aging with the aging of other countries. In May 2005, our office released a Canadian population projection study and a comparison with G8 countries. After discussing the Canadian retirement income system, I will talk to you about the funding of Canada's public pension plans, namely, the Old Age Security Pension (OAS), the Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP).

### **The mandate of the Office of the Chief Actuary (OCA) (*Slide 3*)**

Although the OCA is housed within the Office of the Superintendent of Financial Institutions (OSFI), it operates independently with a different mandate. Our primary role is to provide actuarial services to the federal and provincial governments who are Canada Pension Plan (CPP) stakeholders. The Office also conducts actuarial valuations of the Old Age Security Program, the Canada Student Loans Program and, pension and benefit plans covering the federal public sector employees. While I report to the Superintendent, I am solely responsible for the content and actuarial opinions in reports prepared by my office.

**The purpose of the Actuarial Report (*Slide 4*)** The Office of the Chief Actuary is required by law to produce an actuarial report on the Canada Pension Plan every three years. The report is one of the key items considered by federal and provincial finance ministers when reviewing and making recommendations on the CPP. The purpose of the report is to inform Plan members of the current and projected financial status. Another purpose is to calculate the steady-state contribution rate, which is the lowest rate sufficient to sustain the Plan without further increase.

**Demographic Assumptions (Slide 5)** The projections included in this report cover a long period of time- 75 years. The assumptions reflect our best judgement and are referred as the “best-estimate” assumptions. The actuarial report includes projections of revenues and expenses. To do so, it is necessary to make assumptions on demographic factors such as fertility, migration and mortality to project the Canadian population.

**Fertility (slide 6)** The first cause of the aging population is the large decline in the fertility rate over the last three decades, relative to the baby boom generation, born between the mid-1940s to the mid-1960s. It is assumed that the total fertility rate for Canada will increase slightly from its 2003 level of 1.5 to an ultimate level of 1.6 in 2016 and thereafter. An increase in fertility rates is expected because of continued trends in women giving birth to their first child at a later age.

**Migration (slide 7)** Net migration- the excess of immigration over emigration- is unlikely to materially reduce the continued aging of the population. Net migration to Canada 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.

**Mortality (slide 8)** 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 retirement benefits will be paid to the beneficiaries. Life expectancy at age 65 increased 24% for men between 1966 and 2001, rising from 14 to 17 years. For women, life expectancy at age 65 increased 23%, from 17 to 21 years over the same period. Life expectancies are expected to continue to increase in the future.

**(Slide 9)** The evolution of Canada’s total population and of the so-called working age population- that is the population between 20 and 64 years, is projected to continue growing, but at a slower pace than in the past. The Canadian population is expected to increase from 32 million in 2004 to 41 million people in 2050. While the average annual growth rate of the working age population surpassed that of the total population in the past 40 years ending in 2000, it is likely that the inverse phenomenon will occur in the future. By itself, the relative stagnation of the growth rate of the working age population will put

pressure on the labour market. Finally, it is forecasted that the growth in the population after 2025 will be attributed solely to net migration.

**Canadian Aging (Slide 10)** The aging of the Canadian population is most evident with persons over the age of 65. A significant increase of 150% in the size of this group is expected until 2050. This means that there will be more than 10 million people over the age of 65 in the year 2050 representing 25% of the total population. This level is expected to be lower than in France, Germany, Italy and Japan but higher than in Russia and United States.

**(Slide 11)** Those 80 and older represent one of the fastest growing segments of the population. In the past 30 years, it has increased from 400,000 to 1 million people. This group is expected to more than triple to reach 3.7 million people in 2050, which will represent 9% of the population at that time. In 2025, 5% of the Canadian population will be 80 and older compared to 11% in Japan and only 3% in Russia.

**Global aging (Slide 12)** When analyzing global aging, it is important to identify the indicators of aging. We need to look at three elements: the extent of aging, the speed of aging, and the change in the active population. As an indicator of the speed of aging, the next chart shows the number of years expected to pass for the population aged 65 and over to move from 12% to 24% of the total population. Japan will experience this shift very quickly, in just 25 years. The absence of the United States should be mentioned since, according to their projections, it will never achieve the 24% threshold, at least not between now and 2050. We can say with relative certainty that the United States is the industrialized nation that will be least affected by the aging of its population.

Another significant indicator that especially affects the working population is the median age of the population, that is, the age that divides the population into two equal groups, with one half being younger and the other half older than this age. Over the next 20 years (by 2025), the median age in Canada will rise from 38 to 43 years—a considerable increase. Projections show that, of the G8 countries, the United States will have the lowest median age, at 38 years, and Italy the highest, at 51.

**Future Labour shortage? (Slide 13)** The next chart presents a demographic indicator of the expected labour shortage. It shows the ratio between people aged 60 to 64 years (those who reduce their hours of work or who are leaving the workforce) and those aged 20 to 24 years (those who are entering the workforce). While the ratio was below 50% until the end of the 80s, it rose to

60% by the year 2000. This means that for every 6 people who leave, 10 people enter the workforce. Supply exceeds demand, expressed in economic terms. It is expected that this ratio will equal 1 around 2015. Moreover, as early as 2025, it is predicted that for every 13 people who leave, only 10 people will enter the workforce. Note as well the rapid growth in this ratio. The trend is the same for the United States, our main trading partner, although less pronounced.

**(Slide 14)** This chart shows the evolution of the working age population of some industrialized countries. Canada and U.S. are the only countries that could experience an increase in the working age population. Based on the belief that a shrinking and aging population may bring economic decline, GDP growth could slow significantly in Japan and Continental Europe. If the rates of labour force participation among older populations do not rise over time, every developed country could face shrinking labour markets that could significantly constrain their potential for economic growth.

### **Funding of the Canadian retirement income security system (Slide 15)**

At retirement, most Canadians will receive an income from one or both of the following pension schemes. The Old Age Security (OAS) Program is financed on a pay-as-you-go basis. The Canada Pension Plan, similar to the Québec Pension Plan, is financed through contributions paid in equal parts by the employer and employees. The contribution rate of 9.9% in 2005 and thereafter will provide Plan's assets equal to approximately 25% of the Plan's liability within about 15 years. Lastly, private pension plans and RRSPs are fully funded.

Given these three main sources of retirement income, it is reasonable to say that the Canadian system is funded at 40% to 45% of future liabilities. A diversified funding approach allows Canada's retirement income system to adapt rapidly to changing demographic and economic conditions, including the aging of its population. In addition, the Canadian approach based on a mix of public and private pensions is an effective way to provide for retirement income needs, according to international organizations.

**Public pension income-replacement rates (Slide 16)** This graph shows the percentage of earnings replaced at retirement by public pension plans. For a worker earning \$20,000 a year before retirement, the combined total of the OAS, GIS and C/QPP replaces over 70% of pre-retirement earnings, or approximately \$14,700, if the worker lives alone. For earnings of \$60,000 a year, only about 30% is replaced, so private sources of retirement savings are needed. The graph shows that public pension plans replace at least 70% of pre-retirement earnings for about 38% of workers (those earning less than \$20,000 a year). The higher the pre-retirement earnings, the more necessary it is to rely on some

form of private retirement savings, whether it be an employer retirement plan or an individual or group RRSP.

### **Comparison of Income Replacement Rates with United States (Slide 17)**

The following graph compares the public pensions provided by Canada and United States. At 50% of average earnings, the Canadian public pension plans are more generous than the social security of the United States. The replacement rates for both countries are about the same for workers with an income equal to average earnings. However, for high-income earners, the social security system of the United States is more generous than the Canadian public pension plans.

**The Cost of Old Age Security (Slide 18)** Total annual expenditures are expected to increase by 31% over the next six years, from \$28 billion in 2004 to \$37 billion in 2010 and to \$110 billion by 2030. The ratio of expenditures to gross domestic product increases from 2.4% in 2010 to a high of 3.2% in 2030, driven largely by the retirement of the baby boom generation.

**Old Age Security Financing (Slide 19)** How do we position ourselves for the future aging of the Canadian population knowing that the cost of the Public Pension Plans (OAS/ CPP/ QPP) is expected to increase from the current 5% of the GDP to 7% in 2030? Canada has shown the largest budgetary improvements of any of the other G-7 countries over the past decade. Balancing the budget and taking steps to put the debt as a proportion of gross domestic product on a downward track are effective ways to ensure sustainable financing of Old Age Security funded from the government's Consolidated Revenue Fund.

**Canada Pension Plan Funding (Slide 20)** The same question could be asked for the Canada Pension Plan: "How do we position ourselves for the future aging of the population?" When it was introduced in 1966, the CPP was designed as a pay-as-you-go plan, with a small reserve. Continuing to finance the Plan on a pay-as-you-go basis would have meant imposing a heavy financial burden on Canadians in the workforce after 2020, which was deemed unacceptable by governments. Following extensive consultations across Canada in 1996, governments agreed on these principles: fairness, affordability, sustainability, investing in the best interest of members and more funding.

**(Slide 21)** Therefore, in 1997, the provincial and federal government agreed to change the funding approach of the Plan to a hybrid of pay-as-you-go and full funding, called "steady-state funding" or partial funding. Moving to a full-funding approach would have created unfairness across generations. During the transition, contributors of some generations would have paid higher contributions

than others – they would have had to pay for the benefits of current retirees while simultaneously saving for their own retirement. A pure pay-as-you-go approach would also have been unfair, as it would have meant a sharp increase in the contribution rate over the coming decades. The contributions were increased, the future growth of benefits was reduced and the CPP Investment Board was created to invest the funds not required by the CPP to pay current benefits.

**Canada Pension Plan Steady-State Funding (Slide 22)** The steady-state funding requires that the contribution rate be set no lower than the lowest rate expected to ensure the long-term financial stability of the Plan without recourse to further rate increases. Therefore, in 1998, the contribution rate was scheduled to increase to 9.9% in 2003, and to remain at this level thereafter.

**Assets to Expenditures Ratio (Slide 23)** With a legislated contribution rate of 9.9%, it is expected that contributions will exceed benefits until 2021. Funds not required to pay benefits are transferred to the CPP Investment Board for investment. As a result, the assets will cover an increasing number of years of expenditures over this period, reaching more than 5 years after 2020. Over time, this will create a large enough reserve to help pay the growing costs that are expected as more and more baby boomers begin to collect a retirement pension. CPP and QPP assets are projected to represent 17% of the GDP by 2020.

**(Slide 24)** At the time of the amendments and according to the actuarial report produced in September 1997, the steady-state contribution rate was deemed to be 9.9% in 2003 and to remain at that level for the years thereafter. As a result, the legislated contribution rate is 9.9%. Under the last actuarial report, the steady-state rate now stands at 9.8%. As the legislated rate is higher than the steady-state rate, the funding status of the Plan will improve over time, and the greater this difference, the greater the improvement.

**(Slide 25)** This leads me to the other side of the coin. What could happen if, in future actuarial reports, the calculated steady-state contribution rate is higher than 9.9%? The default provisions in the *Canada Pension Plan Act* may result in adjustments being made to the contribution rate and, perhaps, benefits in payment if the federal and provincial governments reach no agreement in response to the actuarial determination of the steady-state contribution rate. If the new steady-state rate is 10.1%, one half of the excess of the new steady-state rate over the 9.9%, that is 0.1%, will apply to an increase in the contribution rate and the other half will apply to non-indexation of benefits in payment in order to keep the steady-state rate at 10.0%. In other words, the contributors and the

beneficiaries would equally support the additional cost shown in the actuarial report.

**Risk/Return of Asset Classes (Slide 26)** To achieve higher returns than bonds, the CPP Investment Board must acquire assets that have greater risk. The most logical choice of the CPPIB, at least initially, was publicly traded equities. History indicates that, over the long term and despite greater volatility including short-term periods of negative performance, equities should provide higher returns than bonds to compensate for the greater risk assumed. The diversification of CPP assets remains a continuing priority to spread portfolio risk among more asset classes.

**CPP Diversified Investments (Slide 27)** CPP Assets are invested in two broad categories: variable-income securities and fixed-income securities. The information shown in the most recent annual report of the CPP Investment Board is used to derive our assumption of the projected asset mix. Therefore, our projected asset mix is 65% variable and 35% fixed up until 2020, which is the period where the net cash flows are expected to be positive. It is expected that contributions will be higher than benefits paid for each year until 2021. We expect a transition period that will see a decrease in Canadian equities and an increase in marketable bonds because the annual net cash flows are expected to become negative. Our ultimate asset mix is therefore 55% variable-income securities and 45% fixed-income securities.

**CPP Diversified Investments (Slide 28)** If the CPP reserve fund was invested solely in long-term federal bonds, the steady-state rate would be 10.5%. This illustrates the need to diversify the CPP investments into different asset classes in order to earn a higher return. Using our anticipated asset mix of 65% variable income securities and 35% fixed income securities, a steady-state rate of 9.8% results.

### **Framework of an efficient retirement system (Slide 29)**

I would like to conclude with the proposed following framework. It could be used to measure and compare the efficiency of a national retirement income system with others. Although a national pension system could always be improved, the Canadian retirement income system meets

- the diversification of sources of retirement income. Our mix of public and private pensions represents an effective way to provide retirement income;
- the diversification of funding approaches: pay-as-you go funding, partial funding and full funding;

- the reasonableness of the cost of public pensions. The cost of public pensions is expected to increase from 5% of the GDP in 2005 to 7% in 2030, which is considered reasonable compared to other countries;
- the reduction of poverty among seniors. The combination of the Old Age Security, the Guaranteed Income Supplement and the compulsory contributory pension plans (C/QPP) has contributed significantly to reducing poverty among seniors over the past three decades. The percentage of low-income seniors decreased from about 21% in 1980 to 7% in 2003. The OECD considers Canada to be the country which has the least difficulty ensuring the economic well-being of retirees and protecting vulnerable groups in society;
- the reduction of income inequalities. Netherlands and Sweden are performing better than Canada in that regard; and,
- the maintenance of the standard of living at retirement.

I hope that I've been able to provide you with a greater understanding of Canadian retirement income system and its financing and would be pleased to answer any questions. Thank you.