Long-Term Economic Challenges: Perception or Reality?
- Changing Demographics: Are We Ready?
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Office of the Chief Actuary, Office of the Superintendent of Financial Institutions

Good afternoon. Thank you for inviting me here to today to talk about the long-term economic challenges of changing demographics.

The Mandate of the Office of the Chief Actuary *(Slide 2)*
Let me start by saying a few words about my organization. The role of the Office of the chief Actuary is to provide actuarial services to the federal and provincial governments who are Canada Pension Plan stakeholders. The Office also conducts actuarial evaluations of the Old Age Security Program and public sector pension plans.

Canadian Retirement Income Security System – Funding *(Slide 3)*
At retirement, most Canadians will receive an income from one of the following pension schemes. The Old Age Security (OAS) Program is financed on a pay-as-you-go basis, which means that there is no fund. The Canada Pension Plan (CPP), which is 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 2008 and thereafter will provide Plan assets equal to approximately 25% of the Plan's liability within about 15 years. Finally, our retirement system allows employers and individuals to participate in private pension plans and RRSPs, which are fully funded. Given these three main sources of 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 be less vulnerable to changes in economic and demographic conditions than systems in countries that use a single funding approach. In addition, according to international organizations, the Canadian approach based on a mix of public and private pensions is an effective way to provide for retirement income needs.

Income Replacement Rates of Public Pension Plans (*Slide 4)*
The following graph compares the public pensions provided by Canada and the 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.

Provision of Retirement Income Security – What is Required? ***(Slide 5)***
Society needs a strong public retirement system that is built on three key principles: intergenerational equity, solidarity and responsibility. Intergenerational equity is fairness between generations such that each generation pays fair contribution rates to sustain the plan over the long term. Intergenerational equity ensures that successive generations do not face significantly higher rates than current generations.

The principle of solidarity refers to society protecting all individuals by collectively ensuring a basic level of assistance or standard of living for low-income retirees. Solidarity also implies that current retirees are not penalized for benefits already earned. Solidarity should supplement, but not take the place of individual responsibility, for retirement income.

Retirement income security is a shared responsibility between the government, the society, the employers and the individuals. Individuals must save for retirement and employers should help their employees to do so. The role of the governments is to implement the required systems to support public and employer-sponsored pension plans and personal savings plans. Incentives to remain in the labour force build on these principles and help to provide a secure retirement.

Aging of the Canadian Population ***(Slide 6)***
Why should society encourage workers to remain in the labour force longer? The main reason is the aging of the Canadian population and the expected labour shortage. Many factors contribute to the aging of the population such as, the aging of the baby boomers, a low fertility rate, and increased life expectancies. Although migration slows down the aging of the population, it is not expected to offset it entirely. The size of the Canadian population over age 65 is expected to more than double, increasing from about 4.5 to 11 million by 2050.

Global aging ***(Slide 7)***
When analysing global aging, it is important to examine 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, this 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.

Working Age Population ***(Slide 8)***
This chart shows the evolution of the working age population of some industrialized countries. Canada, the U.S. and the UK 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.

CPP Financing ***(Slide 9)***
The amendments to the CPP in 1997 brought significant changes to the Plan's financing provisions. The goal of steady-state funding is to build a reserve of assets equivalent to about five and a half years of expenditures or about 25 per cent of Plan liabilities. Investment earnings on this pool of assets would then help stabilize the contribution rate. As regards incremental full funding, it requires that increased or new benefits be fully funded. This means that their costs will be paid as the benefit is earned and any costs associated with benefits that are paid but have not been earned will be amortized and paid for over a defined period of time consistent with common actuarial practice. The minimum contribution rate is now equal to the sum of the steady-state and incremental rates. Both of these funding principles were introduced to improve fairness and equity across generations.

CPP Evolution of Asset/Expenditure Ratio ***(Slide 10)***
The Asset/Expenditure ratio is an important measure of the Plan's funding status – it is the ratio of assets at the end of one year to the expenditures of the next year. With a legislated contribution rate of 9.9%, it is expected that contributions will exceed benefits until 2019. Funds not required to pay benefits are transferred to the CPP Investment Board for investment. Over time, this will create a large enough reserve to help pay the anticipated growing costs as baby boomers collect their retirement pension. Since the legislated rate (9.9%) is higher than the minimum contribution rate (9.82%), the funding status of the Plan will improve over time, and the greater the difference between these two rates, the greater the improvement.

C/QPP Evolution of Asset/Expenditure Ratios ***(Slide 11)***
In comparison with the QPP we can consider two periods: between 1990 and 2002, the QPP was in a better financial position than the CPP, while after 2002 the inverse has occurred. Two main factors have contributed to this change. Firstly, Québec had a younger population than the rest of Canada when the plans were created in 1966. Today, the opposite is true. Québec is aging faster than the rest of Canada. Secondly, since its inception, the QPP's assets were invested with the Caisse de dépôt et placement du Québec. This allowed the plan's assets to be invested in a diversified

way, providing a higher return compared to the CPP, which was invested in non-marketable provincial bonds. Since 1997, CPP assets are invested in public and private financial markets.

OAS Program Financing *(Slide 12)*
How do we position ourselves for the future aging of the Canadian population knowing that the cost of the public pension plans is expected to increase? On one hand, the ratio of OAS expenditures to GDP is expected to increase from 2.4% to 3.2% between 2010 and 2030, driven largely by the retirement of the baby boomers. The number of OAS beneficiaries is expected to more than double by 2030. On the other hand, Canada has shown the largest budgetary improvements of any of the other G7 countries over the past decade. It is important to rigorously monitor expenses and to continue to reduce the ratio of debt to gross domestic product in order to ensure sustainable financing of the OAS Program.

Gov't Net Financial Liabilities as % GDP (G7 Countries) *(Slide 13)*
According to the OECD, Canada's debt is noticeably declining in terms of the GDP. Government net financial liabilities, as defined by the OECD, are the debts and other liabilities of a government sector less its financial assets. Since 2004, Canada has been in the best financial position compared to the other G7 countries and its financial spending is projected to continue its downward trend. In the last years, the other countries have generally maintained or increased their debt relative to the GDP.

OECD Countries – Increases in Normal Retirement Age *(Slide 14)*
As population aging has affected many countries, social program costs have been or are anticipated to rise. State pensions constitute a major government expenditure. OECD countries have taken measures to counter the strain on their public pension plans by implementing an increase in the normal retirement ages. Here and in the next slide we see a summary of revisions taken by a number of countries. Note that transition periods are generally over a substantial number of years.

OECD Countries – Increases in Normal Retirement Age *(Slide 15)*
In many cases, there is a trend to increase retirement ages of women to match those of men. This is the case for countries such as Austria, Belgium, Czech Republic and the UK. It is interesting to note that of all the 30 OECD countries 7 currently have or will have normal retirement ages above 65 (Denmark, Germany, Iceland, Ireland, Norway, the UK, and the U.S.), while most of the others remain at 65. Countries with retirement ages below 65 include France and the Slovak Republic.

OECD Countries – Life Expectancy at Average Exit Age from Labour Force *(Slide 16)*

Even though pension reforms are in place in many countries, there is still the tendency among the working population to retire early. Coupled with increasing life expectancies, this leads to both longevity risks to the individual and added pressure on state health and pension plan expenditures. As social expenditures rise, governments may need to rely more heavily on employer plans to supplement social security. This slide illustrates how an individual retiring can face at least twenty years in retirement. In France, this is especially pronounced. France has one of the highest life expectancies in Europe and also one of the lowest effective retirement ages. An individual there leaving the workforce at 59 has an expected remaining lifetime of about 25.5 years.

OECD Countries – Incidence of Low Income Among Seniors vs. Public Pension Plan Expenditures (% GDP) *(Slide 17)*

As the population ages and more elderly rely on social security programs, it is interesting to observe the relationship between poverty among seniors and public expenditures. This chart provides a comparison of this relationship between OECD countries. Canada fares very well with both a low incidence of poverty among seniors and low old age program expenditures. In comparison, the U.S. also has relatively low expenditures but a much higher poverty incidence rate among its elderly. Some countries fare better than Canada regarding the poverty rate, notably the Netherland, Norway, Finland and Denmark, but have higher relative expenditures.

OECD Countries – Net Replacement Rates at Different Earnings Levels (% individual pre-retirement earnings) *(Slide 18)*

In addition to alleviating poverty in old age through income distribution, state pension also aims to maintain a certain standard of living in retirement. How does Canada compare to the other OECD countries regarding their replacement rates? In Canada, low income earners receive generous benefits compared to their pre-retirement earnings on a net or after-tax basis, while the replacement rate falls for those earning at and above the average. Canada's public pension system is clearly geared in providing a basic level of income and a decent standard of living at retirement, especially in relation to other countries.

Efficient Retirement System *(Slide 19)*

In conclusion, how may we define an efficient retirement system?
It is one that provides the following:

- the diversification of sources of retirement income. Canada's mix of public and private pensions is an effective way to provide retirement income;

- the diversification of funding approaches. This allows Canada’s system to adapt rapidly to changing demographic and economic conditions;
- the reasonable cost of public pensions. The cost of public pensions is expected to increase from 5% of the GDP in 2005 to less than 7% in 2030, way below Germany, Italy and France but slightly higher than the U.S. and the U.K.;
- the decrease in poverty among seniors. The combination of 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 6% in 2005;
- the decrease in income inequalities. The Canadian system is oriented toward a decrease in poverty, although more in the form of increasing the income of poorer people, rather than decreasing income inequalities; and,
- the maintenance of a decent standard of living at retirement.

Although a national pension system could always be improved, the Canadian retirement income system meets these conditions for efficiency.

Thank you.