



**Presentation at the Pensions, benefits and social security colloquium,  
Guidelines for social security actuaries  
Strengthening actuarial reporting accountability process  
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Good morning, thank you for inviting me here today to speak about the guidelines for social security actuaries.

**Presentation –Strengthening actuarial reporting accountability process (*Slide 1*)**

This presentation is intended to provide a Canadian perspective on how to strengthen the actuarial reporting accountability process. I will begin with a brief history of the Canada Pension Plan (CPP) reform. I will then follow by describing four critical elements of the reform that strengthen the actuarial reporting accountability process of the CPP, and I will conclude this presentation by providing a short description of ISSA Good Governance Guidelines applicable to social security programs. Three of the four critical elements of the reform which I will discuss are linked to the IAA guidelines just discussed by my colleague Rob Brown.

**History – In 1996, the CPP was considered unsustainable over the long term (*Slide 2*)**

The CPP was created in 1966 as a pay-as-you-go career adjusted earnings contributory DB plan. At that time, pay-as-you-go made sense since there was rapid growth in productivity and labour force combined with high fertility rates and few elderly. By 1996, conditions had changed substantially. There was a decline in productivity and labour force growth combined with low fertility rates and ever more people aged 65 and over. In summary, the CPP was not sustainable and the contribution rate was projected to increase from 5.85% to 14.2%.

Following extensive country-wide consultations, the governments agreed to be guided by nine principles to restore the sustainability of the Plan. In particular, they believed that:

- The government must tighten administration to control the costs;
- The government must monitor changing economic, demographic, and other circumstances which can affect the CPP, and act to respond to these changing conditions; and
- The CPP must be affordable, sustainable and fair across generations and between men and women.



The contribution rate was increased over a short period of seven years, the future growth of benefits was reduced, the financing method was changed, and the Canada Pension Plan Investment Board (CPPIB) was created. The frequency of valuations and financial reviews was increased from one every five years to one every three years. As part of the assumption development process for the actuarial valuations, consultations with experts were introduced. Regular independent peer reviews of actuarial reports were established and finally, self-adjustment mechanisms were introduced. The remainder of this presentation will focus on the last four points.

### **Increase frequency of actuarial reports (*Slide 3*)**

An actuarial report is now produced every three years instead of five years. This shorter review process was put in place to ensure governments monitor changing economic, demographic and other circumstances and act promptly on those changes.

An important feature of the reform is that the finance ministers' review of the CPP is aligned with the actuarial report. The first year of the review cycle is used to prepare the actuarial report. During the second year, finance ministers review the CPP and make recommendations based on the valuation report. They can decide that everything is fine and nothing needs to be done or they can announce changes to either contributions, benefits or both. Finally, the third year is used to implement changes on any recommendations.

If finance ministers introduce a Bill to amend the CPP, a supplemental actuarial report is prepared to evaluate the impact of the amendment on the CPP.

There are two main advantages with this review process. First, with the valuation report being prepared at the start of the review, it ensures that decision makers have the most up to date information on hands before making any decisions. Second, with a review every three years, it increases the likelihood that actions needed to maintain the sustainability of the CPP are taken promptly.

### **Consultations with experts on assumptions (*ISAP 3.1.2*) – Improve assumptions setting (*Slide 4*)**

While preparing for the actuarial valuation, the Office of the Chief Actuary (OCA) conducts a CPP interdisciplinary seminar and attends the QPP seminar. Both seminars include presentations made by experts in their field and have the main purpose to improve staff knowledge on demographic, economic and investment perspectives for Canada and Québec.

In addition to these seminars, OCA staff review researches, surveys and forecasts from external sources and consult sources such as Statistics Canada, Finance Canada, Human Resources and Skills Development Canada and CPPIB. All of this is done with the objective of improving the methodology and the reasonableness of assumptions used in the actuarial report.

### **Independent external peer review of reports and processes (ISAP 3.2) – Overview (Slide 5)**

One of the key elements that came out of the reform is the introduction of regular independent external peer review of reports and processes. The external peer review process has been in place for over ten years and has generated a number of valuable recommendations which helped improve the quality and transparency of the actuarial reports. Starting with the 1997 report, the OCA commissions an independent external peer review of each CPP actuarial report. The peer reviews are endorsed by federal, provincial and territorial finance ministers.

The last time, the external peer reviewers were three actuaries enrolled with the Canadian Institute of Actuaries (CIA) and fellows of the Society of Actuaries. Several measures contribute to enhance the credibility of the review process. The United Kingdom Government Actuary's Department (GAD) – recognized for its expertise in the field of social security – selects the panel members and provides an independent opinion on the work done by the reviewers.

The OCA provides the documentation to reviewers which then meet with the Chief Actuary, OCA staff and experts before submitting their report.

### **Independent peer review of reports and processes (ISAP 3.2) – Terms of reference / mandate (Slide 6)**

The terms of reference stipulates that the peer review panel should provide opinions on:

- The professional experience of the Chief Actuary and staff;
- The compliance with professional standards and statutory requirements;
- The accessibility to information required to perform the valuation;
- The reasonableness of actuarial methods and assumptions; and
- The communication of results through actuarial report.

One of the major benefits of the peer review process is that in addition to provide opinions on the items listed above, the Canadian peer reviewers also provide such recommendations as they deem appropriate with respect to future actuarial reports on the CPP.

### **Independent peer review of reports and processes (ISAP 3.2) – Benefits (Slide 7)**

Other benefits include that having an independent peer review process in place enhance the independence of the Chief Actuary. It also enhances stakeholders' and decision makers' confidence. In particular, independent peer reviews increase the credibility of actuarial reports and therefore the general public, the auditor, and the

decision makers can be confident that the actuarial report fairly presents the results. In addition, parliamentarians can be confident that the report is objective and exempt of bias.

A secondary benefit of the external independent peer review is that it motivates the Chief Actuary and its team to continually improve the process, keep up to date with demographic and economic trends, and question themselves rather than relying and being comfortable with what was done in the past.

**Independent peer review (ISAP 3.2) – Example of recommendations and OCA actions (Slide 8)**

Over the next few slides, I will briefly highlight some notable recommendations of previous independent peer review panels and the actions that were taken as a response.

In the independent peer review of the 31 December 2000 report, the peer review panel recommended to continue research on technical and feasibility aspects of applying stochastic processes. As a response to this recommendation, the OCA used stochastic processes to produce individual sensitivity analyses for migration, inflation, real wage increase, and real rates of return assumptions.

**Independent peer review (ISAP 3.2) – Example of recommendations and OCA actions (Slide 9)**

For the independent peer review of the 31 December 2003 report, it was recommended to apply more extensive and sophisticated stochastic analysis, and to develop more plausible and consistent sensitivity tests for key assumptions. As a result, the OCA introduced a major methodological change in the subsequent report related to the use of stochastic processes to assist in developing more objective criteria for the selection of the sensitivity tests for key assumptions. The OCA also introduced stochastic sensitivity tests for mortality and fertility.

**Independent peer review (ISAP 3.2) – Example of recommendations and OCA actions (Slide 10)**

One important point to remember is that although the independent peer reviewers make recommendations for the next report, it is ultimately the Chief Actuary who determines whether each recommendations should be implemented or not.

For example, in the fourth independent peer review, one recommendation was that “point-in-time” funded status updates be minimized or eliminated from the report. The Chief Actuary considered this recommendation, but since some stakeholders prefer to keep this information directly in the report, “point-in-time” funded status updates are still shown in the report. However, the OCA prepared an actuarial study,

referred as Actuarial Study #8 (available on OSFI's website<sup>1</sup>), showing alternative means of evaluating the financial position of the Plan, with the open group basis as the preferred method. Therefore, in addition to "point-in-time" funded status (closed group), a balance sheet under the open group approach is shown in the latest CPP report.

**Results of the most recent review – applicable to the 31 December 2009 report (Slide 11)**

The last independent peer review was completed earlier this year and the main conclusions were that:

- The professional experience of the Chief Actuary and the staff was adequate;
- The work complies with relevant professional standards of practice and statutory requirements;
- The Chief Actuary had access to the data required and performed relevant tests and analysis on the data as might be expected;
- The actuarial methods are reasonable and the assumptions are, in aggregate, reasonable, but toward the low-cost side of the reasonable range; and
- The report fairly communicates the results.

One interesting result of this review, which highlights the importance of regular independent peer reviews and of having a different panel each time, is that conclusions and recommendations from one review to the next are not necessarily the same and the reviewers do not have biases based on the prior opinions provided by previous panels.

For example, the first four reviews concluded that the real wage increase and the real rate of return assumptions were within the reasonable range, but towards the low side of the range. This time, the panel concluded that the real wage increase and the real rate of return assumptions were within the reasonable range, but towards the high side of the range.

This also highlights the fact that when working with long-term assumptions, even experts do not always agree on best estimate assumptions.

**Results of the most recent review – applicable to the 31 December 2009 report (Slide 12)**

In the last independent peer review, 15 recommendations were made including putting in place a formal procedure for effective two-way communications between the OCA and the CPPIB. The OCA already started discussions with the CPPIB to

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<sup>1</sup> Technical Aspect of the Financing of the CPP: Actuarial Study No. 8.  
[http://www.osfi-bsif.gc.ca/osfi/index\\_e.aspx?ArticleID=497](http://www.osfi-bsif.gc.ca/osfi/index_e.aspx?ArticleID=497)

have regular meetings and information sharing. Other recommendations include specific improvements to some sections of the report and to prepare a research report on migration.

**Introduction of self-adjustment mechanisms – CPP insufficient rates provisions (ISAP 4.1.3) (Slide 13)**

The last element of the reform that I would like to share with you today is the introduction of self-adjustment mechanisms, referred to as the CPP insufficient rates provisions.

The insufficient rates provisions of the Canada Pension Plan are a means to safeguard the Plan in the event an increase in contribution rate is required and the finance ministers cannot reach an agreement on the solution. This design provides the Plan with a safety net without diminishing politicians' responsibility for the Plan's future. The insufficient rates provisions provide the way to automatically increase the contribution rate and freeze the benefits. The combination of these two measures allows for a cost sharing between contributors and beneficiaries.

**Self-adjustment mechanism: if there is no political agreement, CPP insufficient rates provisions apply (Slide 14)**

When a statutory actuarial report shows that the contribution rate is insufficient, the insufficient rates provisions apply unless the finance ministers recommend that the contribution rate be increased or the finance ministers explicitly recommend that the contribution rate remains the same.

There are mainly two reasons that warrant the need for self-adjustment mechanisms. First, if there is no agreement or recommendation made by the finance ministers, the insufficient rates provisions act as a safeguard for the long-term sustainability of the Plan. Second, insufficient rates provisions ensure something is done promptly to correct the situation and to restore the financial sustainability of the Plan.

**ISSA Good Governance Guidelines for Social Security Institutions – Actuarial Soundness (Slide 15)**

Good governance is an important objective for social security organizations and is a key principle of the International Social Security Association (ISSA). To provide ISSA member organizations with a basic framework on good governance, the ISSA Good Governance Guidelines for Social Security Institutions was produced and presented at the World Social Security Forum in December 2010.

The Actuarial Soundness Guidelines represent a subset of the Good Governance Guidelines applicable to social security programs developed by ISSA. I would encourage each of you to get familiar with those Guidelines as they could certainly assist you in improving the governance structure of your own program.

**Conclusion – Guidelines exist to better serve the public interest (*Slide 16*)**

In conclusion, if there's only one element that I would like you to remember today, is that guidelines exist for one reason which is to serve the public interest. They are not only important to standardize the way actuaries do their work, but they are also very important to better serve the population.

To make adequate and timely decisions on any social security schemes, actuarial reports should be produced frequently and political reviews should be aligned with actuarial reporting.

Thank you for your attention and I will be happy to answer any question you might have.