



Government
Actuary's
Department

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Dear Assia

Review of the peer review of the 30th Actuarial Report on the CPP

The Office of the Superintendent of Financial Institutions Canada (OSFI) has commissioned an external peer review of its 30th Actuarial Report on the Canada Pension Plan (CPP) as at 31 December 2018 (AR30). The peer review is intended to ensure that the Office of the Chief Actuary (OCA) is providing sound and relevant actuarial advice to Members of the Canadian Parliament and to the Canadian population.

Under the contract dated 6 May 2019, the OSFI asked the Government Actuary's Department (GAD) of the United Kingdom to:

1. Select, on the basis of the comparative qualifications of the applicants, the independent actuaries who will perform the peer review, and
2. Provide an opinion on the work done by the reviewers once the peer review is completed

The objective for GAD's role is to ensure impartiality and to enhance the credibility of the peer review.

1. GAD's role

- 1.1 GAD fulfilled the first part of the OSFI's request, advising on the selection of the independent actuaries, in July 2019. GAD received nine applications directly from individuals wishing to be appointed as peer reviewers and assessed their applications using weighted selection criteria. These criteria included the level of experience of the applicants in social insurance, pensions and investment and risk management, as well as the applicants' qualifications, status in the actuarial profession and previous experience as a CPP reviewer. GAD provided the Chief Actuary with a schedule setting out the results of our assessment, with a ranking of the nine candidates. The Chief Actuary successfully entered into an agreement with three of the candidates to undertake the peer review.
- 1.2 This letter addresses the second part of the OSFI's request, providing our comments and opinion on the work done by the peer reviewers as detailed in the report, "Review of the 30th Actuarial Report on the Canada Pension Plan" ('the Peer Review') dated 18 March 2020 prepared by Sam Gutterman, Pierre Plamondon and Jill Wagman.



2. Peer Review Terms of Reference

2.1 The terms of reference for the Peer Review were:

“The peer reviewers will review the work performed by the Chief Actuary in completing the 30th Actuarial Report on the Canada Pension Plan as at 31 December 2018. Following their review, they will provide a report to the Chief Actuary and the UK Government Actuary’s Department (GAD). GAD will then provide its opinion of the peer review to the Chief Actuary.

The review report should contain opinions on the following questions:

1. *Is the professional experience of the Chief Actuary and the staff who worked on the report adequate for carrying out the work required?*
2. *Has the work been completed in compliance with the relevant professional standards of practice and statutory requirements?*
3. *Did the Chief Actuary have access to the information required to perform the valuation, and were relevant tests and analysis on the data completed as might be expected?*
4. *Were the actuarial methods and assumptions used in completing the report reasonable?*
5. *Does the 30th Actuarial Report fairly communicate the results of the work performed by the Chief Actuary and his staff?*

In providing opinions on the questions listed above, the peer reviewers will also provide such recommendations as the peer reviewers deem appropriate with respect to future actuarial reports on the Canada Pension Plan prepared by the Office of the Chief Actuary.”

3. Summary of the Peer Review

- 3.1 The approach taken to the Peer Review would appear appropriate and reasonable, and sufficiently detailed, given the terms of reference for the Peer Review.
- 3.2 The Peer Review addressed all of the items listed in the terms of reference and the peer reviewers were able to answer all five of the questions in the affirmative. We note that the three peer reviewers reached agreement on all of the opinions and recommendations set out in the report.
- 3.3 The report is very clear about the remit of the peer reviewers, noting that their focus was on the actuarial work done, with particular attention to the data used, the major methodology issues, the key actuarial assumptions and the quality of the reporting. It highlights that the peer review does not provide a detailed audit of the data nor verification of the accuracy of the models. Similarly, the peer reviewers have not made a detailed evaluation of the appropriateness of the response of the Chief Actuary to the findings of the previous peer review of the 27th Actuarial Report on the CPP.
- 3.4 In the report, the peer reviewers acknowledge the difficulties in determining “best-estimate” assumptions, given that the assumptions are not amenable to precise prediction and there will be differing points of view. They note that there is a range of assumptions that would be

considered reasonable. They also comment that the range of reasonable assumptions is wide, which means that there is also a wide range of reasonable valuation results.

- 3.5 In the executive summary, the peer reviewers have complimented the Chief Actuary and her staff on their competence, commitment and professionalism, mentioning that they were unfailingly helpful in clarifying issues and in providing additional information. The peer reviewers have offered nine recommendations which they considered would enhance future actuarial reports.

4. GAD's opinion on the peer reviewers' work and report

- 4.1 There is nothing in the Peer Review that gives us any cause for concern or indicates that the peer reviewers have not carried out a sufficiently thorough review of the AR30. We consider that the opinions of the peer reviewers adequately cover all the main issues and that it is reasonable, based on the contents of their report, for them to answer in the affirmative all five of the questions listed in the terms of reference.
- 4.2 We are also content that the terms of reference of the Peer Review are sufficient to enable the peer reviewers to address all of the relevant issues they need to in order to perform a detailed review of the actuarial work underlying the AR30 and the contents of the report itself.
- 4.3 We have not carried out an independent assessment of the nine recommendations made by the peer reviewers and therefore do not specifically agree or disagree with any of them. Generally, the nature and scope of the recommendations made by the reviewers appear to be reasonable.
- 4.4 Recommendation 3 relates to the data, specifically removing the upper limit of \$99,999 in employment earnings data and audit confirmation of the data. We note from the previous peer review that the OCA is well aware of the issue around the limit on employment earnings and that this can only be resolved when Service Canada has the resources to address the issue. Also, although audit of some of the data might provide further assurance on data quality, it is clearly dependent on the ability to engage a suitable auditor for this purpose.
- 4.5 In recommendation 4, the peer reviewers recommend considering two additional scenarios: one on Japanese-style financial conditions and another on a wider demographic/economic/investment scenario "such as those experienced with the COVID-19 pandemic". Clearly, in practice, COVID-19 could not have been anticipated at the time of preparing the AR30. Specifying such a scenario would be difficult given that the next crisis is unlikely to be the same as any previous crisis, but that does not mean that such an approach does not have value. Another approach might be to use reverse stress testing to see how much assumptions would need to change in order for the system to "break".
- 4.6 Recommendation 5 (on seeking expert input in setting assumptions) is very similar to a recommendation made at the previous peer review. The peer reviewers acknowledge that the Chief Actuary does already gather expert opinion about the key assumptions. We note that the peer reviewers have made a number of suggestions for how the assumption setting process might be enhanced for future reports, although they did not form part of their formal recommendations.
- 4.7 Recommendation 6 covers a number of aspects relating to the investment return assumptions, in particular to "improve the degree of sophistication of its investment model to more closely match the CPPIB investment portfolio". Any improvements to the modelling and

choice of assumptions may be useful. We would note, however, that, given the high degree of uncertainty over future investment conditions, it will remain important to consider how alternative investment scenarios would affect the results, regardless of the sophistication of the investment model.

- 4.8 There is an additional recommendation on page 2 of the Peer Review. This is that “once the implications [of the COVID-19 pandemic] are more apparent, we recommend that the OCA review its assumptions and, if appropriate, consider updating its projections”. We agree that this is a reasonable suggestion although it is likely to be some time before the ultimate impact of the virus crisis will be known with any certainty.

I hope that you find these comments helpful. Please contact me if you would like to discuss them further.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Matt Wood', written in a cursive style.

Matt Wood

Head of Specialist Actuarial