Intelligence MEMOS

From: Alexandre Laurin and William Robson

To: Participants in the Canada Pension Plan

Date: September 7, 2017

Re: **INVESTMENT RISKS IN AN EXPANDED CPP**

Our report in April, Bigger CPP, Bigger Risks, highlighted the possibility that disappointing investment returns in the expanded Canada Pension Plan (CPP2) will force younger Canadians to bail the plan out, and urged provisions to protect them. It got widespread attention and prompted several questions from readers. Here are some of the most salient, and here are some answers.

Q. You simulated 20,000 outcomes in the expanded plan using an average annual return on investment of 3.55 percent – the same as Canada's Chief Actuary used in his projections. Yet while the Chief Actuary says CPP2 will be able to cover all its benefits, your results show it covering at more modest target – only 90 percent of targeted benefits – just 54 percent of the time. Why so pessimistic?

A. As savvy investors know, fluctuations around an average matter for long-term returns. Our simulations use an average annual return of 3.55 percent, but the standard deviation of the returns – for which we also use numbers from the Chief Actuary – varies with the composition of the CPP2 portfolio. When compounding returns over 75 years, large fluctuations mean large occasional losses, which even occasional large gains cannot offset. Many of our 20,000 simulations yield less than the required minimum rate of return.

Q. The Chief Actuary's report states that CPP2 assets will be approximately $2.4 trillion in 2060, about 40 years from inception. How can there possibly be a concern about benefits when this amount is in the fund?

A. The Chief Actuary's projection is a deterministic one. But in an uncertain world, a better way to think about a pension plan's reliability is to simulate a large number of outcomes following a stochastic – randomly determined - process, and see how often the outcomes surpass, or fall short of, the deterministic projection. When the government makes a promise, we want a high level of confidence that the outcome will be equal to, or better than, the deterministic projection.

Q. The CPP Investment Board has achieved a return on investments greater than seven percent for the last 12 years. Why wouldn't it be able to achieve the returns the Chief Actuary says the plan needs?

A. As every prospectus is supposed to warn its readers, past performance is no guarantee of future returns (as this report shows for Canadian pensions particularly). Economic growth in the years ahead is likely to be slower than historical growth, and valuations are currently high. If anything, good recent returns should make us *more* cautious about the future.

Q. Why should we worry about benefit cuts or contribution increases that, even if they happen, will be years from now?

A. Failures of pension plans to pay their promises are unfortunately common, and typically follow periods when problems were evident, but sponsors and participants ignored them. A recent happier experience is that of target-benefit pension plans in the Netherlands – although the benefit adjustments they had to make following the 2008-09 crisis were unwelcome, participants knew the potential risks ahead of time, which helped them adjust. The legislation creating CPP2 does not specify how the plan will deal with adverse circumstances. We owe it to participants to be honest about that possibility, and to ensure that the plan is flexible so that all the burden of an adjustment does not fall where it otherwise will: on the young. That is why our paper urged Canada's finance ministers to limit potential contribution-rate increases that would unfairly affect younger Canadians, and clarify that that CPP2 benefits above a basic level are contingent, not guaranteed.

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