Quarterly Update on Estimated Solvency Funded Status of Defined Benefit Plans in Ontario - as of June 30, 2017

Update as at June 30, 2017

- **The median solvency ratio is 89% (compared to 93% as at March 31, 2017)**
- **51.0% of plans had a solvency ratio between 85% and 100%**
- **14.5% of plans had a solvency ratio greater than 100%**

DB pension plans surrendered some of their late 2016 increases as solvency ratios declined to 89% at June 30, 2017 from 93% at March 31, 2017. This was primarily due to a 40 basis point drop in commuted value interest rates in the second quarter (against which solvency liabilities are highly negatively correlated). While FTSE TMX Universe bond returns were 1.1% due to the bond yield decrease, and MSCI World equity returns were positive at 1.3%, portfolio returns were dragged down by weak S&P/TSX domestic equity returns of -1.6%. The resulting median Q2 net after-expense plan return was approximately 0.1%, which contributed slightly to the Q2 solvency drop.

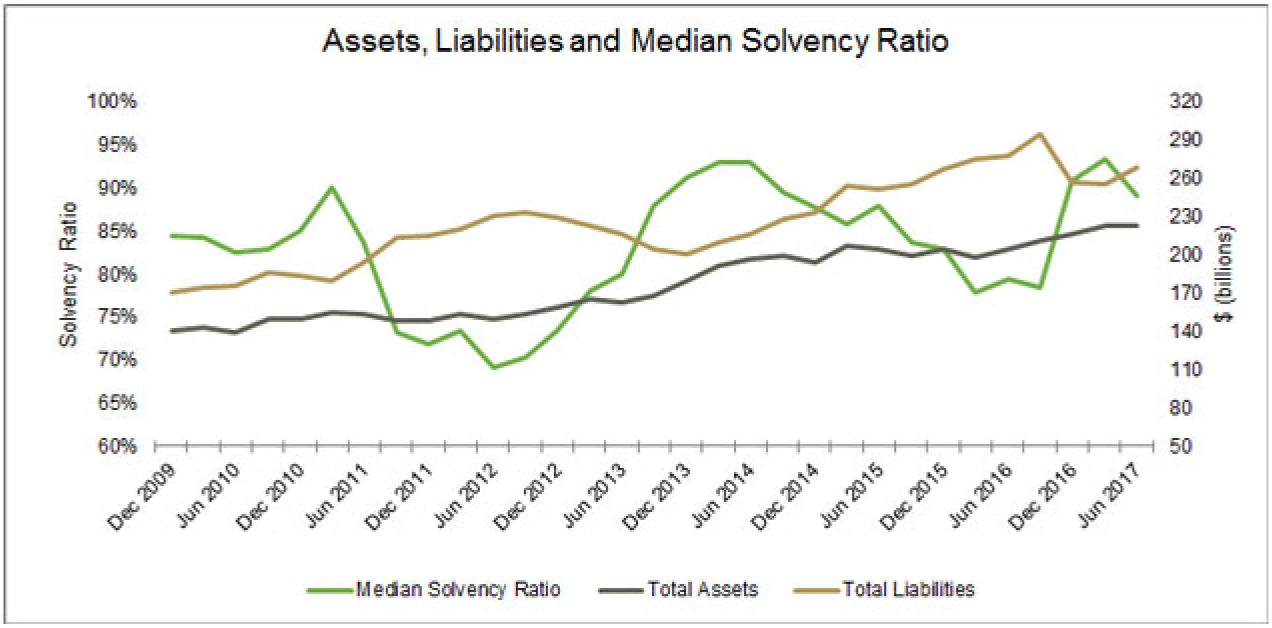
The Ontario government released a new solvency framework for DB pension plans in the second quarter. Highlights include:

- funding on an enhanced going concern basis;
- provision for adverse deviation (PfAD) within the going concern basis; and
- funding on a solvency basis if the plan's funded status falls below 85%.

These changes are aimed at balancing the need for retirement income security for workers and retirees while keeping workplace pension plans affordable and allowing Ontario businesses to grow and compete. In light of the new framework, plan sponsors may re-consider previous de-risking decisions. As always, they should ensure they fully understand the major characteristics of their plan's liability exposure and the risk/return profile of the asset portfolio from which plan benefits will ultimately be paid.

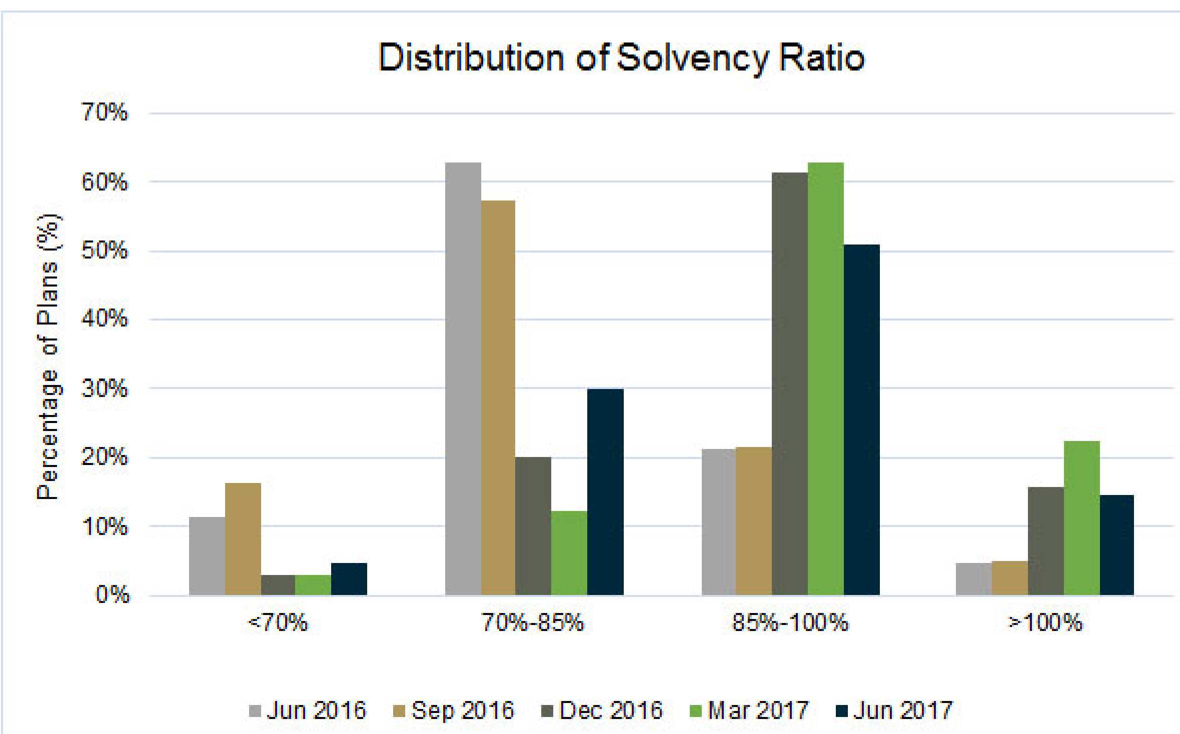
Starting with this update, we have enhanced our methodology of developing the solvency status estimates. In place of an assumed fixed pension fund model portfolio, each plan's unique projection period investment returns were determined based on the asset allocation information from filed Investment Information Summaries (IIS), when available. The *Methodology and Assumptions* section below provides additional revised asset return calculation information and pension fund rate of return statistics.

Assets, Liabilities and Median Solvency Ratio



View accessible description of Assets, Liabilities, and Median Solvency Ratio Line Chart

Distribution of Solvency Ratio



View accessible description of Distribution of Solvency Ratio Bar Chart

Methodology and Assumptions:

1. The results reported in the last filed actuarial valuation reports (assets and liabilities) were projected to June 30, 2017 based on these assumptions:
   - sponsors would use all available funding excess and prior year credit balance for contribution holidays, subject to any statutory restrictions;
   - sponsors would make the normal cost contributions and special payments, if required, at the statutory minimum level;
   - the amounts of cash outflow would equal the pension amounts payable to retired members as reported in the last filed valuation report. Plan administration costs were not directly reflected in cash outflows, but were indirectly reflected through reduced net after-expense investment earnings.

2. In place of singular model 2014 and 2015 pension fund rates of return, each plan's unique 2014 and 2015 annual after-expense rates of return were calculated based on filed IIS information. Individual plan 2014 and 2015 rate of return statistics are summarized as follows:

	1st Quartile	2nd Quartile	3rd Quartile
2015 Gross Investment Return:	7.0%	5.5%	4.1%
2015 Net After-Expense Return:	6.2%	4.7%	3.1%
2014 Gross Investment Return:	13.8%	11.7%	10.1%
2014 Net After-Expense Return:	12.9%	10.7%	8.9%

3. Assumed quarterly asset class returns for 2016 and 2017 are shown in the table below. In place of a single model pension fund return, each plan's unique 2016 annual and 2017 first and second quarter returns were estimated based on each plan's most recently filed IIS asset allocation, in combination with 2016 and 2017 market index returns. This was then offset by a 22.5 basis point quarterly expense charge. Median estimated plan net after expense returns are as follows:

   Annual 2016 Median Net After-Expense Investment Return: 7.25%
   1st Quarter 2017 Median Net After-Expense Investment Return: 2.6%;
   2nd Quarter 2017 Median Net After-Expense Investment Return: 0.1%

   All 2016 and 2017 investment rates of return were calculated based on each plan's most recently filed IIS asset allocation. The following table summarizes most recent average IIS plan asset allocations by major asset class:

Cash	Canadian Equities	Foreign Equities	Fixed Income	Real Estate
2.5%	29.0%	24.5%	43.5%	0.5%

Market index returns on the major assets classes have been as follows:

	Canadian Equities	Foreign Equities	Fixed Income
2016	15.8%	-0.1%	5.3%
Q1 2017	2.4%	5.8%	1.2%
Q2 2017	-1.6%	1.3%	1.1%

4. Estimated solvency liabilities were calculated based on the Canadian Institute of Actuaries Standards of Practice and the Canadian Institute of Actuaries Educational Notes, with these key assumptions:

Valuation Date	Commuted Value Basis	Annuity Purchase Basis 1
March 31, 2017	Interest: 2.30% for 10 years 3.90% thereafter Mortality: CPM2014 generational	Interest: 3.07% Mortality: CPM2014 generational
June 30, 2017	Interest: 2.00% for 10 years, 3.40% thereafter Mortality: CPM2014 generational	Interest: 3.07% Mortality: CPM2014 generational

1 based on a medium duration illustrative block