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## Executive Summary

### Introduction

The Pension Benefits Guarantee Fund (PBGF) provides protection to Ontario members and beneficiaries of privately sponsored single-employer defined benefit pension plans in the event of plan sponsor insolvency. It is the only fund of its kind in Canada and is administered by the Superintendent of Financial Services for the Financial Services Commission of Ontario (FSCO).

The PBGF is intended to be self financing through annual premiums based on per-member and partially risk-related fees. Participation in the PBGF is mandatory for most defined benefit pension plans registered in Ontario.

The PBGF currently guarantees specified benefits up to \$1,000 per month for members who meet certain age and service criteria for service while employed in Ontario, with some exclusions.

This study was commissioned by the Ministry of Finance, consistent with the recommendation of the Expert Commission on Pensions (ECOP) in its 2008 report - *A Fine Balance: Safe Pensions, Affordable Plans, Fair Rules*. The primary objective of the study is to evaluate the sustainability of the PBGF under its current structure.

This study was completed in March 2010, in advance of the release of the 2010 Ontario Budget. As a result, it does not address the impact of any changes to the PBGF that may have been introduced in the Budget.

### Data

For the purposes of the study, the Ministry of Finance and the Financial Services Commission of Ontario (FSCO) provided data on the 1,580 plans covered by the PBGF. The Ministry of Finance specified 52 “main plans” that collectively represent 70% of the current claims exposure to the PBGF. The main plans were those plans where the employer was the sponsor of at least one plan that could have a very large impact on the PBGF (either \$500 million in PBGF liabilities, or \$50 million in PBGF assessment base). Sufficient data was provided to model the main plans individually. More limited data was provided on the remaining plans covered by the PBGF. Modelling for these plans was therefore based on representative sample plans.

Having individual member data would produce more credible results for the study. However, in our opinion, the data available was sufficient and reliable for the purposes of the study.

In addition, having access to the plan documents would enable a more complete valuation of the plan benefits and would produce more credible results for the study. However, in our opinion, the plan provision information available was sufficient and reliable for the purposes of the study.



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## Demographics

Approximately 49% of covered plans have between 100 and 999 members, and 36% have less than 100 members. Less than 1% of covered plans have 10,000+ members.

The PBGF covers over 1.1 million plan members. Of these, approximately 48% are active members, 36% are in receipt of a pension, and 16% are deferred pensioners.

Final average plans represent 39% of the plan universe, hybrid plans 21%, flat benefit plans 19%, career average plans 13%, and other plans 8%. The majority (73%) of the main plans remain open to new members.

There is a significant concentration in the manufacturing sector, which represents 59% of all plans, 54% of plan members and 87% of the current claims exposure to the PBGF.

## Current Funding

The data provided by the Ministry of Finance and FSCO was projected, where necessary, to January 1, 2008 to arrive at estimates of the average and aggregate funded position of the plan universe. The General Motors plans were treated separately from the others due to their magnitude and the special provisions established for them in 2009. So as not to distort results, they have been included in the plan universe using a measurement date of January 1, 2010.

These projections estimate that more than 73% of the plan universe was in a deficit position on a solvency basis. The total deficit for plans in a deficit position was \$9.6 billion and their average funding level was 87%. Plans with 10,000+ members accounted for \$4.6 billion of the \$9.6 billion deficit. The highest concentration is in the manufacturing sector, contributing \$6.1 billion to the deficit.

The 52 main plans had an average funding level of 96% and a total deficit for plans in a deficit position of \$5.7 billion, representing 59% of the total deficit. Projecting the main plans to January 1, 2010 showed a dramatic worsening of their funded status – the total deficit for plans in a deficit position increased to \$7.9 billion and the average funding level dropped to 90%.

The concentration of significant deficits spread between a few large plans speaks to the kind of low-frequency, high-severity claims that have impacted the PBGF in recent years. The failure of even one of these very large, underfunded plans could have a significant impact on the sustainability of the PBGF well into the future.

## Methods and Assumptions

In order to model the PBGF, the following modules were utilized:

- a Plan Projection Module, which consists of:
  - a Plan Data Projector, and
  - a Stochastic Asset and Liability Pension Plan Projector;
- an Economic Scenario Generator;
- an Insurance Model; and
- an Insolvency Projection Module.

The assets, liabilities and PBGF claims exposures of the 52 main plans were modelled individually, using plan provision and membership information derived from the most recent actuarial reports provided to us by the Ministry of Finance. Two plans from these 52 main plans were selected as representative sample plans and were used to extrapolate results for each of the remaining plans, starting from the plan-specific funded positions.

An Economic Scenario Generator was used to stochastically generate 500 random economic scenarios. These scenarios were used to estimate the projected funded positions and maximum PBGF claims of the plan universe over a 10-year period, beginning on January 1, 2010.

The Insolvency Projection Module used Ontario-specific historic economic data to stochastically model estimated future insolvency rates relevant to sponsors of plans covered under the PBGF. These rates and the projected PBGF exposures were then stochastically modelled in the Insurance Model, generating a stochastic distribution of future expected claims and assessments.

In our opinion, the methods and assumptions used in this study are, in aggregate, appropriate for the purposes of the study.

### Results

At March 31, 2009, the PBGF had assets of \$146 million on a cash basis and a deficit of \$47 million on an accrual basis.

For the purposes of assessing the sustainability of the PBGF, we considered the fund on both an actuarial present value and a projected cash flow basis.

The PBGF currently has insufficient funds to cover new claims anticipated by the Ministry of Finance in 2010. In the absence of external funding, the PBGF funds will be depleted and unable to cover these anticipated 2010 claims.

On an actuarial present value basis, if treated as a private insurer, the PBGF would require an up-front reserve net of current claims at January 1, 2010 of between \$680 million and \$1.023 billion to cover expected future claims, depending on the desired level of margin for adverse deviation.

With immediate one-time external funding to cover the anticipated 2010 claims, assessments would be sufficient to cover most expected future claims, but would not be sufficient to cover a future catastrophic claim. Hence, current assessments would be insufficient for the PBGF to be sustainable over the long-run due to the volatile nature of future catastrophic claims.

In addition to one-time external funding to cover anticipated 2010 claims, an increase in overall assessments in the order of 450% could be sufficient over the long-run to cover existing funding loan repayments and expected future claims plus expenses at the present coverage level of \$1,000. If coverage was increased to \$2,500, a 650% increase in assessments would be required.

In the absence of any future external funding, and at the present coverage level of \$1,000, an increase in overall assessments in the order of 800% would be required to ensure the sustainability of the PBGF with a high degree of certainty. If coverage was increased to \$2,500, a 1000% increase in assessments would be required.



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Securing external financing on all future claims above a pre-defined catastrophic threshold, in combination with an increase in assessments and/or a reduction in coverage, could achieve PBGF sustainability.

## Looking Ahead

Currently, the PBGF has insufficient funds to cover the anticipated 2010 claims. If continued, the PBGF will either need to build up reserves and/or secure future external funding to cover future catastrophic claims. The amount of reserves or funding required will depend on future assessment levels and the desired degree of confidence with which future claims will be covered by assessments.

Other strategies for improving the PBGF's viability include:

- restructuring the assessment rate model;
- amending coverage; and/or
- modifying the payment structure to better accommodate catastrophic claims.

If the PBGF is continued, regular reviews should be conducted to monitor the appropriateness of the assessment levels and address the impact of changing risks.

This report has been prepared, and our opinions given, in accordance with accepted actuarial practice.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jill Wagman".

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Jill Wagman, FSA, FCIA

A handwritten signature in blue ink, appearing to read "Sylvain Goulet".

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Sylvain Goulet, FSA, FCIA, MAAA

Eckler Ltd.  
June 2010