

EXTERNAL REVIEW REPORT OF THE DCAT REPORT
ON
BASIC COMPULSORY AUTOMOBILE INSURANCE
OF THE
MANITOBA PUBLIC INSURANCE CORPORATION
AS OF FEBRUARY 28, 2013

Prepared by: Joe S. Cheng, F.C.I.A.

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Purpose of the Report

Manitoba Public Insurance Corporation (hereafter referred to as “MPI” or “the Corporation”) is a Crown Corporation. MPI provides basic compulsory automobile insurance to Manitoba motorists. The purpose of this engagement is to conduct an external actuarial review of its Chief Actuary’s Dynamic Capital Adequacy Testing (“DCAT”) report for Basic Compulsory Automobile Insurance (Basic Auto) for the fiscal year ending February 28, 2013 in accordance with standards published by the Actuarial Standards Board (“ASB”) in Canada.

J. S. Cheng & Partners Inc. (“JSCP”) was engaged by the Corporation to conduct the aforementioned external actuarial review. Mr. Joe S. Cheng, a Fellow of the Canadian Institute of Actuaries (“CIA”) is the appointed reviewer for this External Review Report.

This document constitutes the External Review Report. Any questions regarding this report should be directed to:

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Scope of the Report

The scope of this External Review Report includes a review of the Chief Actuary's DCAT Report for Basic Compulsory Automobile Insurance of the Corporation prepared by Mr. Luke Johnston, for the fiscal year ending February 28, 2013. The scope of this report is to:

1. Ascertain that the work of the Chief Actuary is within the range of accepted actuarial practice in Canada, as established by the ASB.
2. Review the appropriateness of the assumptions made and the methods employed.
3. Determine whether the DCAT Report accurately describes the assumptions and methodology employed by the Chief Actuary.
4. Review the adequacy of procedures, systems and the work of others relied on by the Chief Actuary. This includes checks on data integrity and checks on procedures and methodologies used to validate the calculations and results.

Findings And Recommendations

The DCAT report is very comprehensive containing many supporting exhibits. It is easy to follow and many of the assumptions are documented. All findings were reported to Mr. Luke Johnston in correspondence dated October 11, 2012. My major findings and recommendations are:

1. Many items on the statement of operations that affect the net income are calculated using figures found on the Statement of Financial Position. In the 2014 DCAT report, Statement of Financial Position and other schedules of financial statements should be included as part of the supporting exhibits to assist the reviewer in validation of the model outputs. We understand that MPI undertakes to do this next year.
2. The definition of satisfactory future financial condition for the Corporation states that “if throughout the forecast period it is able to meet all its future obligations under the base scenario and all plausible adverse scenarios”. I believe the threshold for failing this test should include monies available under the Accumulated Other Comprehensive Income section of Total Equity not just the Rate Stabilization Reserve (“RSR”). For the Corporation, this means any scenario involving changes in equity values should have the full impact accounted for in the first year either through realization of losses/gains or changes in the AOCI account.

MPI and their Regulator should consider AOCI when determining satisfactory financial condition and when deciding whether to issue rebates and or surcharges, and MPI should include forecasts of AOCI as part of its DCAT output.

3. We recommend immediately following the summary of findings,
 - a. Define “satisfactory expected future financial condition (on page 2),
 - b. Summarize in a table the retained earnings and RSR of the base and 3 adverse scenarios,

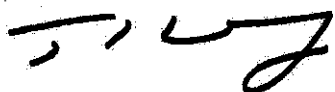
- c. Explain why you opine that the expected future financial condition of Basic is not satisfactory; and
- 4. You may want to remove the base scenario results in the executive summary because it is explained in length on page 17-18.

Opinion

I have reviewed the 2012 DCAT Report for Basic Compulsory Automobile Insurance on Manitoba Public Insurance Corporation as prepared by Mr. Luke Johnston in accordance with accepted actuarial standards of practice in Canada.

In my opinion:

1. The work of the Chief Actuary is within the range of accepted actuarial standards of practice in Canada.
2. The assumptions and methods employed are appropriate.
3. The DCAT Report accurately describes the assumptions and methodology employed by the Chief Actuary.
4. The procedures and systems relied on by the Chief Actuary are adequate and sufficient to ensure an appropriate level of data integrity and the accuracy of calculations and results.



Joe S. Cheng, F.C.I.A.

September 3, 2013

Date of Report

Data and Reliance

In the preparation of this report, I worked with Mr. Raul Martin, FCIA in our office.

In the preparation of this report, we have used the Corporation's annual financial statement and the draft DCAT Report for the fiscal year ending February 28, 2013 without an independent audit or verification. We received a copy of Mr. Johnston's draft DCAT Report on August 12, 2013.

Distribution and Use

This report is intended for the Management of the Corporation and its Regulator. Its sole purpose is to provide an external review of the work of the Chief Actuary's DCAT Report for Basic Compulsory Automobile Insurance as at February 28, 2013. This report should be read in conjunction with the aforementioned DCAT Report.

This report may be distributed to any regulator in a jurisdiction where the Corporation operates or intends to obtain a license. Furthermore, the Corporation may distribute this report to its external auditor. Anyone else should be considered as a third party.

This report is neither intended nor necessarily suitable for any other use. Distribution beyond the parties mentioned in paragraph two is permitted provided that prior written consent is given by the Corporation.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. JSCP accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Third party agrees to keep this report confidential.

Limitations

In evaluating whether the future financial condition of an insurance enterprise is satisfactory, it is necessary to project future losses, operating expenses and investment income. It is certain that actual future losses, expenses and investment income will not develop exactly as projected and may, in fact, vary significantly from the projections.

Since actuarial estimates are subject to uncertainty with respect to future events, actual results may vary from the amount projected in the Statement of Financial Position. No warranty is expressed or implied that such variance will not occur.

It should be noted that forecasts deal with the inherent uncertainty of future contingent events. While I believe the actuarial projections made by the Chief Actuary represent a reasonable forecast based on the appropriate application of actuarial techniques to the available data, there can be no guarantee that the actual future results will not differ from the forecast stated in the DCAT Report.

My report was limited to a review of assumptions and methodologies underlying the DCAT Report of the Corporation as of February 28, 2013 including any tests of the calculations, as I considered necessary. I did not analyze the validity of any assets used to derive investment income on the income statement.

Materiality

The standard of materiality is discussed in the DCAT Report. The Chief Actuary has selected a standard of materiality of \$10 million based on a 200%, twice the Basic Appointed Actuary's Report materiality and the greater uncertainty associated with the DCAT projections. I believe this is a reasonable selection.

Definition of Satisfactory Future Financial Condition

The Public Utilities Board (PUB) in Manitoba sets the minimum and maximum levels of Basic retained earnings for the Corporation. The Basic retained earnings, net of any special appropriations are defined as the Rate Stabilization Reserve (RSR).

The Corporation has a satisfactory future financial condition if:

1. It meets the minimum regulatory capital requirement under the base scenario;
and
2. It is able to meet all its future obligations under the base scenario and all plausible adverse scenarios.

Base Scenario

The base scenario assumptions are documented in supporting exhibits that are part of the DCAT Report. Only exhibits pertaining to the change in retained earnings and Rate Stability Reserve (RSR), and investment income are included as part of the financial statement supporting exhibits. The Corporation undertakes to provide balance sheets available for the 2014 DCAT report. The Corporation's base scenario is consistent with its experience and is reasonable.

Adverse Scenarios

The DCAT Report identifies three scenarios posing the greatest risk to satisfactory financial condition. The one- to four-year cumulative impacts were reviewed for each of the 99th, 97.5th and 95th percentile events before selecting the four-year 97.5th percentile event as the testing event. In addition, the report indicates that there are no other scenarios that would cause the Corporation to fall below the minimum regulatory capital requirement. The three scenarios identified as posing the greatest risk to satisfactory financial condition are:

1. Combined Scenario (Interest Rate, Equity Decline and High Loss Ratio)

This scenario assumes a sustained low interest rate environment (current level of interest rates) will continue throughout the forecast period and the Corporation experiences adverse equity and claims experience. The revised interest rate forecast is assumed to be independent of the simulated equity decline and claims incurred scenarios. The selected four-year scenario at a 1-in-40 year probability level recognizes that the probability of this scenario would decrease when all three events occur. The reduction of base forecast interest rates increases claim reserves estimates through a reduction in discounting rate and an increase in discounted claim reserves. This scenario is reasonable.

2. High Loss Ratio

This scenario assumes a four-year scenario at the 1-in-40 year probability level resulting in an increase of \$60 million to the base incurred losses in 2014/15 (includes all actuarial adjustments, claims provisions and cost allocation changes). The \$60 million reduction in retained earnings in the first year grows to \$164 million by 2017/18 (before management and regulatory action). This year's model incorporated assumed forecasted loss development instead of simulating it in the model. Claim frequency was simulated annually instead of daily and claim severities greater than \$1,500 were modeled using selected fitted distribution while claims less than or equal to \$1,500 used the actual historical distribution. Injury claims are now split by major coverages. These changes from the previous model were made to improve performance and statistical accuracy. The estimated impact of premium deficiency/DPAC write-down was included in the simulated results. This scenario is reasonable.

3. Sustained Low Interest Rates

This scenario assumes a sustained low interest rate environment (current level of interest rates) will continue throughout the forecast period. This year's base forecast incorporates increasing interest rates, whereas last year's base forecast was a sustained low interest rate environment. The reduction of base forecast interest rates increases claim reserves estimates through a reduction in discounting rate and an increase in discounted claim reserves. This scenario is reasonable.

The methodology and assumptions employed by the Chief Actuary are appropriate.

Description Of Assumptions And Methodology

The DCAT Report accurately describes the assumptions and methodology employed by the Chief Actuary.

DCAT Model

The DCAT Report relies on a model to do the required DCAT investigation. The model is very detailed. The scope of my work excludes a detailed validation of the financial model. However, I did some testing of the model and believe the model is producing reasonable results.

Adequacy Of Procedures, Systems And The Work Of Others Relied On By The Chief Actuary

I have detected no material issues to be reported on.

Conclusion

The report is prepared in accordance with accepted actuarial standards of practice in Canada, as established by the ASB.