



**Manitoba  
Public Insurance**

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# MANITOBA PUBLIC INSURANCE

## Rebuttal Evidence

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October 17, 2014

## INTRODUCTION

The Corporation requests the Board adopt the results of the 2014 DCAT report for calculating the size of the Rate Stabilization Reserve for a proposed minimum (lower) RSR target of \$194 million in retained earnings (or \$213 million in total equity) and an upper range based on a 100% MCT value.

Consensus between the Corporation and the Board is possible, and we believe has been reached with the filing of the 2014 DCAT.

Based upon the evidence filed by Professor Simpson, the Consumers Association of Canada witness, it is doubtful, unfortunately, that consensus between the Corporation, Board, and the Consumers Association of Canada can be reached.

## PURPOSE OF THE RSR

The Board and the Corporation have been in agreement on the purpose of the RSR for more than a decade.

The stated purpose of the Rate Stabilization Reserve is to protect motorists from rate increases made necessary by unexpected events and losses arising from nonrecurring events or factors. (Order 151/13)

The outstanding issue has been the methodology to calculate the size of the RSR.

## METHODOLOGIES TO CALCULATE THE RSR

The first reference to the concept of an RSR is in the 1989 Kopstein Report. At the time, an adequate capital reserve for private sector insurers was often set at 1/3 of annual net written premiums. To address concerns related to the differences between private sector insurers and public insurers Kopstein recommended a RSR of approximately 15% of annual premiums, half of what was the industry practice for private sector insurers. This approach was the consensus methodology until 2001.

From 2001 until 2009, the Board used Risk Analysis/Value at Risk as the methodology for establishing the size of the RSR. The Corporation, as the proponent of this new methodology, worked collaboratively with the Board and Interveners between 1998 and 2001 to build consensus on the use of RA/VaR.

In 2005, the Corporation proposed using the Minimum Capital Test (MCT) as the RSR target setting methodology. MCT was established by the Office of the Superintendent of Financial Institutions (OSFI) to measure the financial strength of private insurers utilizing a comparison of available capital to risk-adjusted required capital.

The parties to the GRA process unsuccessfully attempted to resolve differences over the use of MCT. Finally, in 2008, the Board stated:

The Board finds the divergence of views between the Board and MPI (as to what should be the RSR range) not to be in the public interest, and will attempt to bring about a consensus on an RSR range that can be accepted by all parties (Board, MPI and interveners).... **While the Board will make the final call on the matter, it nonetheless prefers a consensus on this important issue.** [emphasis added] (Order 157/08)

## DCAT

In 2009, the Corporation noted the stated purpose of the RSR is to protect motorist from certain risks and therefore the size of the RSR should be based upon the future risks facing the Corporation. The Corporation has continued, since that date, to prefer the actuarial model of DCAT.

“The Purpose of DCAT is to identify plausible threats to satisfactory financial conditions, actions that would lessen the likelihood of those threats, and actions that would mitigate a threat if it materialized.” (page 15, 2014 DCAT Report).

## DIFFERING PHILOSOPHIES: ACTUARIAL ASSESSMENT OF RISK VS ECONOMIC THEORY OF TAXATION UPON DEMAND

At the October 2009 hearing, a fundamental difference in approach to determining the size of the RSR began to emerge. CAS/MSOS took a position based upon economic theory.

“Drs. Hum and Simpson opined that the setting aside of “excess” reserves (RSR balances higher than required), for events very unlikely to happen, is both publicly and socially wasteful.” (Order 161/09)

This position continued three years later,

“Professor Wayne Simpson appeared on behalf of CAC and testified that the RSR carries significant costs with it, including opportunity costs for consumers, and CAC states that money in the hand of consumers today is worth more than the same money in the hand of consumers in the future.” (Order 157/12)

And at this Hearing, the economic theory continues to be put forward:

“The only difference in the two cases is that motorists must pay higher rates initially to establish the RSR of \$200 million in the first case and have less money

for personal consumption and investment decisions, which seems like a poor arrangement for both motorist and the economy.” (Simpson Report 2014)”

“The table below gives the amount of taxpayers' money that the Corporation would hold prior to the adverse event in year 8 (\$114.4 million), given this hypothetical scenario. In the Corporation's opinion is it appropriate for a Crown Corporation to hold this amount in order to protect itself from an event that may or may not occur once in 20 years or once in 40 years?” (CAC (MPI) Pre-Ask 1)

In 2009, CAC/MSOS had Professors Hum and Simpson present their opinions on the RSR and the various methodologies for determining its size. The Board noted in Order 161/09:

“Drs. Hum and Simpson provided their interpretation of the differences in the objectives, scope, tools employed, and informational requirements of DCAT and RA/VAR. Both professors preferred the continued use of RA/VaR, rather than DCAT, for the determination of the RSR target range....

Drs. Hum and Simpson opined that the setting aside of “excess” reserves (RSR balances higher than required), for events very unlikely to happen, is both publicly and socially wasteful. Despite his criticism of DCAT and the adverse scenarios modeled in MPI's recent DCAT, Dr. Hum noted that he hoped MPI would continue to use DCAT, but that its use should be more refined. He suggested that DCAT is “as good a tool as any”....

The Board noted CAC/MSOS position on the RSR was to use the RA/VaR approach but to modify the VaR inputs to further reduce the size of the RSR.

## **FINE TUNING OF THE DCAT AND ADVERSE SCENARIOS**

Since 2009, the Corporation has revised the DCAT and its adverse scenarios based upon questions and positions taken in the hearing, exchanges at the technical conferences and directly between the actuaries, and, of course, in Board Orders. In Order 161/09, the Board expressed concerns over some of the adverse scenarios in the DCAT, and noted MPI rejected the RA/VaR-based range. The consensus that the Board anticipated in the previous year's order did not occur. The Board varied Kopstein approach and concluded that an RSR range of 10% to 20% of net written premiums, (vehicle and driver premiums), represents an adequate and “working basis” for establishing MPI's RSR target range.

From 2009 to 2011 consensus was still not reached. The Board ordered a review of the various methodologies and in 2012 concluded:

**The Board believes that the DCAT methodology is an improved approach for determining the target for the RSR over the current methodology,** however, further analysis and discussion is needed, particularly in relation to the adverse scenarios used in the DCAT and the methodology construct, before such an approach should be utilized for rate-setting purposes. ...

**The Board is pleased that the Corporation is willing to be more consensus based in preparing the DCAT, and that it is receptive to aspects of the adverse scenarios being discussed and revised.** [emphasis added] (Order 157/12)

In Order 157/12 the Board noted the position of CAC:

“CAC does not state that the DCAT cannot be adopted, and notes the evidence of Professor Simpson that he thought it could be a very useful tool if bounded by appropriate risk tolerances based upon assumption of appropriate management action and based upon relevant, reliable evidence...”

CAC suggests that use of the DCAT methodology by MPI is somewhat simplistic. CAC advises that it is seeking an improved DCAT model that takes into account changes in equity spreads; in other words, more sophisticated model than that currently undertaken by MPI. ...

CAC suggests that until the DCAT is finalized, the Risk Analysis and the Kopstein method should be presented annually as a check.”

The Board ordered a DCAT Technical Conference to allow for further analysis and discussion.

In 2013, the first DCAT technical conference was held. Below is a list of the areas addressed. Professor Simpson and CAC actuarial adviser, Ms. Andrea Sherry were present. At the GRA hearing in October 2013, the Interveners chose not to present evidence on DCAT.

**Areas of Agreement from the 2013 DCAT Technical Conference**

<p>MPI will prepare the DCAT in accordance with the Actuarial Standards of Practice and will file this in the GRA. The PUB may order a variation therefrom for the purpose of setting the RSR target.</p>	<p><b>Result: The 2013 DCAT report prepared in accordance with Canadian Institute of Actuaries Standards of Practice.</b></p>
<p>MPI will include a balance sheet forecast in future GRAs, likely commencing in the 2015 GRA.</p>	<p><b>Result: Balance sheets included in the 2014 DCAT report.</b></p>
<p>MPI will add a section to the DCAT disclosing changes from the previous year to enhance transparency.</p>	<p><b>Result: For each adverse scenario, the 2014 DCAT includes an explanation of the changes from the previous DCAT report.</b></p>
<p>MPI will run adverse scenarios and risk tolerance levels as requested by the PUB and interveners, subject to the requests being very limited in numbers, recognizing the extensive work required. The process and timing is yet to be established.</p>	<p><b>Result: The 2014 DCAT report provides estimated impacts to Retained Earnings and Total Equity for each adverse scenario at three risk tolerance levels (1-in-100, 1-in-40, 1-in-20).</b></p>
<p>MPI will provide more disclosure in the DCAT, including reconciliation.</p>	<p><b>Result: The 2014 DCAT report includes detailed exhibits for investments and claims incurred.</b></p>
<p>MPI will provide more disclosure explaining how investment income is derived.</p>	<p><b>Result: MPI built a new financial model in 2012/13 fiscal year, which provides a more detailed and transparent calculation of investment income. The 2014 DCAT report provides detailed investment exhibits for each adverse scenario.</b></p>
<p>MPI will, for purposes of calculating the actuarial liabilities, incorporate the projected interest rates from the investment model (rather than assuming no change).</p>	<p><b>Result: MPI's base forecast and the 2014 DCAT adverse scenarios include the impact of projected interest rate changes.</b></p>
<p>The purpose here is to put the DCAT framework in place to allow the PUB to establish an appropriate risk tolerance level for the RSR.</p>	<p><b>Result: PUB has not yet adopted DCAT for this purpose.</b></p>

<p>The DCAT should be run in a pure form first without inclusion of either management or regulator action, since these are unknown. Then the DCAT should be run including both management and regulator action.</p>	<p><b>Result: Each adverse scenario in the 2014 DCAT report includes results with and without management action.</b></p>
<p>The weighting of historical data (such as equity returns since 1919 or inflation returns) is permissible and is the judgment of the actuary in the DCAT. That judgment is yet to be determined.</p>	<p><b>Result: The adverse scenarios in the 2014 DCAT report include a detailed discussion on how historical data is used to build the various models.</b></p>
<p>DCAT will provide a description of terms and statistical methods utilized in the analysis.</p>	<p><b>Result: The 2014 DCAT report is written in a relatively easy to understand format and provides the reader with adequate explanations and details of the methodologies and assumptions utilized.</b></p>

Although progress was made in building consensus in 2013, the Board required more work to be done. The Board noted in Order 151/13:

In Order 157/12, the Board ordered that a Technical Conference take place to discuss, as between the parties to the GRA, the adverse scenarios and methodology construct being utilized currently by the Corporation within the DCAT, with a view to refining the adverse scenarios and gaining a better understanding of the DCAT modeling process. As reflected above, that process has begun but is not yet complete, and all parties, including MPI, remain willing to complete it. It is the view of the Board that a continued Technical Conference would assist the Board in deciding whether it wishes to review alternate plausible adverse scenarios at the next GRA. The Board also notes that the interveners' experts have not tested the combined scenario approach, and that the relationship between low, sustained interest rates and low equity returns may not be consistent.

In addition, the Board finds that there remains a lack of transparency within the model including with reference to how plausible adverse scenarios are developed and how the model handles changes in assumptions.

On the basis of the foregoing, it is the view of the Board that it is premature to adopt the DCAT approach for the purposes of setting the RSR target or target range. The Board therefore orders that the Technical Conference continue, on the following terms, unless otherwise agreed to by the Board:

- Updated modeling, inclusive of balance sheet and AOCI, per the recommendation of MPI’s external actuary, Mr. Joe Cheng, be provided by MPI on or before January 24, 2014. To the extent that MPI needs to engage an outside consultant(s) to complete that work by that date, it should do so;
- Continuation of Technical Conference to be completed by February 28, 2014; and
- Revised DCAT, including changes discussed at the Technical Conference, to be filed by July 15, 2014.

The 2014 DCAT Technical Conference held on April 24, 2014; as per Order 151/13 the conference was held prior to the filing of the DCAT for this GRA.

**Areas of Agreement from the 2014 DCAT Technical Conference**

<p>The PUB actuary will work with the MPI actuary to ensure a standardization of the financial model information required in support of each DCAT scenario.</p>	<p><b>Result: The MPI actuary and the PUB actuary agreed on the layout of the DCAT financial output.</b></p>
<p>The actuaries from MPI, PUB, and CAC will meet to further discuss the actuarial models used in the appointed actuary’s report and the claims incurred section of the rate application. The MPI actuary will provide actual numbers to enable reconciliation of the actuarial models with the financial model.</p>	<p><b>Result: The Corporation provided a high-level reconciliation of the material in the Appointed Actuary’s Report and the Claims Incurred (CI) section of the rate application to the PUB and CAC actuary in May 2014.</b></p>
<p>The 2014 MCT calculation will be included in the 2015 GRA.</p>	<p><b>Result: The actual 2013/14 MCT ratio has been filed in the 2015 GRA.</b></p>
<p>The nature and rationale for any differences between the GRA forecasts and the concurrent DCAT approach base scenario can be provided after the second quarter results have been provided and other significant changes have occurred that will impact the forecast.</p>	<p><b>Result: No significant financial events occurred, no action required.</b></p>

<p>Improved understanding of the adverse scenarios for this DCAT approach.</p>	<p><b>Result: Understanding was substantially achieved at Technical Conference</b></p>
<p>MPI actuary will re-consider the treatment of AOCI for the purposes of his opinion (as per the opinion of the MPI external actuary).</p>	<p><b>Results: The conditions required to achieve satisfactory financial condition were revised in the 2014 DCAT to more accurately reflect actuarial standards of practice.</b></p>
<p>MPI will include a determination and calculation of the derivation of the management action in the DCAT</p>	<p><b>Result: The 2014 DCAT includes a description of how management and regulatory action assumptions are derived and applied to the adverse scenarios.</b></p>

At the Technical Conferences, the Corporation has been respectful and open to suggestions. The Corporation has not been intransigent in its positions. When the PUB and CAC actuaries asked for specific incorporations into the DCAT model these were done. When the PUB actuary requested an adjustment of the risk tolerance to 1 in 40 year event this was done. In addition to the DCAT Technical Conferences, the Corporation has maintained an open door policy of working with the PUB and CAC actuaries.

At last year’s GRA, the Board expressed concerns about a lack of transparency. In addition to having an open door to answer any questions from the PUB and CAC actuaries, the Corporation filed over 3000 pages of information on the DCAT at this hearing.

The response of the CAC witness has been to criticize DCAT for setting a RSR *target* instead of a *range* and the manner in which the DCAT scenarios are constructed. The first criticism is disingenuous since the DCAT is the minimum (lower) range of the RSR as per the Corporation’s application. The second criticism appears to be based upon not having the actual DCAT model at the Technical Conference to review. The Corporation notes that the Board specifically ordered (Order 151/13) that the conference take place prior to the filing of the 2014 DCAT model.

**DIFFERING THEORETICAL APPROACHES TO DCAT**

The evidence submitted by CAC reflects the underlying differences in philosophy to the RSR that prevents consensus from occurring between the Corporation and the Interveners.

The Corporation relies upon a risk model developed by actuarial science and used throughout the insurance industry. The CAC submits evidence that reflects an

economist perspective emphasizing issues other than risk. The differences in the two purported methods for determining the size of the RSR is evident in the chart below:

**How Best to Protect Motorists from the risks of unexpected events and losses**

	DCAT 2014	Percentage of Premiums*
Best Method to Identify Risks	Yes	No
Best Method to Quantify Risks	Yes	No
Arbitrary for RSR setting	No	Yes
Yields the Lowest RSR	No	Yes

\*Actuarial tools such as DCAT and MCT were not available in 1989

**ROLE OF DCAT IN ACHIEVING RATE PREDICTABILITY AND STABILITY**

At the end of the day, when unexpected events and losses occur, those costs have to be paid by Manitoba ratepayers. The questions are when and how much do they pay? The Corporation has emphasized rate predictability and stability. This occurs when the RSR is of sufficient size to absorb the costs when the unexpected nonrecurring events arise. The experts for the CAC espouse the economic theory of taxation upon demand. This is evident in the answer to MPI Information Request MPI (CAC) 9.

**MPI (CAC) 9**

Does Professor Simpson agree that MPI and the PUB should be striving towards the goals of rate predictability and stability which can be accomplished partially through a range for the RSR?

**Response:**

Yes, but we should recognize that the rate stability provided by the establishment of an RSR comes at a cost to motorists in terms of higher rates than would be necessary in the absence of an RSR. Hence, the benefits of the RSR have to be balanced against the costs like other economic questions.

If the Corporation operated with “the absence of an RSR”, the unprecedented loss of \$140 million, as occurred over the past two years, would have to be recovered within a short period of time. Assuming that an extra \$8 million is generated from each 1% increase, a rate shock of 17.5% would be required to recover those losses. When and how the \$140 million is to be collected from motorists will be a decision for the Board. The rates set by the Board are designed to break even. The recovery of the \$140 million can only happen through a surcharge.

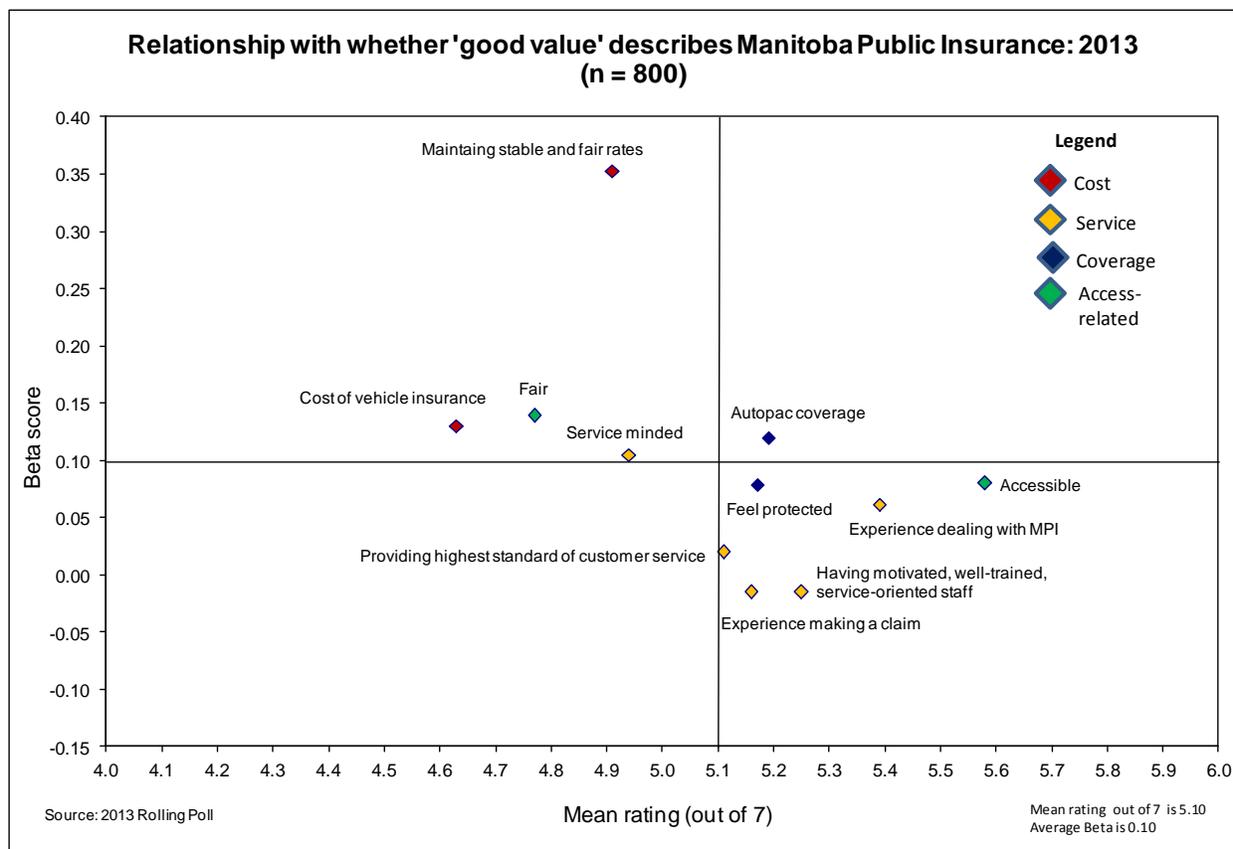
An RSR range established to address risks and the losses that occur from those risks can absorb and be rebuilt over a longer period of time because there is not the same necessity to replace the losses as quickly.

**MANITOBANS VALUE RATE PREDICTABILITY AND STABILITY**

In 2005, the Corporation developed its Value Equation whereby:



The Corporation regularly surveys Manitobans on the various issues related to the Value Equation. A regression analysis (see below) was conducted to test the validity of the value equation and that maintaining fair and stable rates is a contributing factor to Manitoban’s belief that they receive good value from the Corporation.



How to interpret the chart

- The Beta score (vertical axis) is the amount of impact an independent variable has on Manitobans’ rating of good value as a descriptor of the Corporation. The higher a variable appears in the chart (vertically) the greater the impact that attribute has on ratings of good value as a descriptor of the Corporation.
- The placement of the horizontal quadrant line is determined by averaging the Betas of the variables in the chart; and the placement of the vertical quadrant line is determined by averaging the mean scores of all variables in the chart.
- Notes for interpreting variables in each of the four quadrants:
  - Items in the top right quadrant have greater than average influence on the conclusion the Corporation is providing good value and also receive more positive ratings from the public (compared to the average scores for all attributes in the chart)
  - Items in the top left quadrant have greater than average influence on the conclusion the Corporation is providing good value and receive lower than the average ratings from the public (compared to the average scores for all attributes in the chart)

- Items in the bottom left quadrant have less than average influence on the conclusion the Corporation is providing good value and also receive lower than the average ratings from the public (compared to the average scores for all attributes in the chart)
- Items in the bottom right quadrant have less than average influence on the conclusion the Corporation is providing good value and receive more positive ratings from the public (compared to the average scores for all attributes in the chart)

Maintaining stable and fair rates has consistently been the strongest driver of good value as a descriptor of Manitoba Public Insurance. Each of the six years this regression analysis has been conducted on the value equation, this variable has had the greatest impact on ratings of good value. Impressions of the cost of vehicle insurance have also been a consistent driver of perceptions of value over time.

Although some may argue there is a cost associated with rate predictability and stability, it is tremendously valued by Manitobans.

## CONCLUSION

There is consensus on the purpose of the RSR. The remaining issue is how best to determine the range of the RSR.

The purpose of the RSR should determine the range of the RSR.

If the Board wishes to protect ratepayers from the rate increases made necessary by unexpected events and losses arising from nonrecurring events or factors, the Board must establish an RSR range that is adequate to meet the costs of those risks.

It is within the Board's jurisdiction to approve what Manitoba ratepayers want - predictable and stable rates. An RSR range established using the 2014 DCAT as a minimum and 100% MCT as an upper limit will ensure predictable and stable rates. Six years ago the Board stated:

"The Board finds the divergence of views between the Board and MPI (as to what should be the RSR range) not to be in the public interest, and will attempt to bring about a consensus on an RSR range that can be accepted by all parties (Board, MPI and interveners)... **While the Board will make the final call on the matter, it nonetheless prefers a consensus on this important issue**". [emphasis added] (Order 157/08)

The Corporation respectfully submits that that after six years of working on the DCAT through annual hearings, two technical conferences, and numerous direct communications and exchanges of information between the actuaries, that consensus has been reached between the Board and MPIC. Unfortunately, based on a different

viewpoint held by CAC based on the economic theory of taxation on demand, the consensus hoped for by the Board, will not be achieved. It is respectfully submitted that the Board “make the final call on the matter” in this hearing and approve an RSR range calculated using the 2014 DCAT as a minimum and 100% MCT as an upper limit.