Report on Use of the DCAT to Set the RSR Target Range

Manitoba Public Insurance
2017/18 GRA

CAC Manitoba
Submitted by the Public Interest Law Centre
Co-Authored by Ms. Andrea Sherry
and Dr. Wayne Simpson

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Terms of Retainer

The Consumers' Association of Canada, Manitoba Inc. (CAC Manitoba), through the Public Interest Law Centre has retained our services to provide evidence regarding the Manitoba Public Insurance (MPI) 2017 Rate Application. In particular, we have been asked to provide expert analysis on issues associated with the DCAT report and the appropriate target for MPI's Rate Stabilization Reserve (RSR).

The evidence was prepared by us and we are responsible for the analysis and conclusions.

Declaration of Impartiality

As stated in our terms of retainer, it is our duty to provide evidence that:
- is fair, objective and non-partisan;
- is related only to matters that are within our areas of expertise; and
- provides such additional assistance as the Public Utilities Board ("PUB") may reasonably require to determine an issue.

We understand that our duty in providing assistance and giving evidence is to help the PUB. This duty overrides any obligation to CAC Manitoba.

Qualifications of Andrea Sherry

Andrea Sherry is a Fellow of the Casualty Actuarial Society, a Fellow of the Canadian Institute of Actuaries, a Certified Management Accountant and a Fellow Chartered Insurance Professional. She is currently the Vice President, Insurance Solutions at The Wawanesa Mutual Insurance Company. She has worked there since January of 2011. Prior to that she worked for Aviva Canada Inc. in the areas of Capital and Solvency. She was also the Appointed Actuary for one of the Aviva companies, and before that was the Assistant Vice-President and Corporate Actuary at Saskatchewan Government Insurance until 2008. She has worked in Property & Casualty insurance since 1990 when she started work for MPI.

Ms. Sherry's curriculum vitae is filed separately.

Qualifications of Dr. Wayne Simpson

Wayne Simpson has a PhD from the London School of Economics (1977) and is a Full Professor in the Department of Economics at the University of Manitoba, where he has taught since 1979. His areas of academic expertise include labour economics, applied econometrics, applied microeconomics, and economic and social policy analysis. He has authored or co-authored three books and more than fifty peer-reviewed articles on these and related topics, including two papers on the impact of risk on the behaviour of the firm. He is currently on the editorial board of *Canadian Public Policy*, Canada's foremost peer-reviewed academic journal for economic and social policy, and the executive council of the Canadian Economics Association. He was a 2014 recipient of the McCracken award for the development and analysis of economic statistics from the Canadian Economics Association.

In addition to his academic career, Dr. Simpson has worked at the Bank of Canada, the federal Department of Labour, and the Economic Council of Canada. He has also served as a consultant to the private sector and government, primarily in the areas of labour economics and policy evaluation. In recent years, he has served as an expert advisor to Prairie Research Associates (PRA) Inc. and Human Resources and Skill Development Canada as well as to CAC Manitoba through the Public Interest Law Centre. He has provided expert opinion to the Public Utilities Board on behalf of CAC Manitoba at the 2007 Hearing to Cap Payday Loan Fees, at the 2007, 2010, 2013 and 2014 Manitoba Public Insurance Rate Applications on the Rate Stabilization Reserve and investment strategy, and at the 2014 Needs for and Alternatives to Review of Manitoba Hydro's Preferred Development Plan.

His professional expertise in applied microeconomics and applied econometrics[1] provides a foundation for the analysis of issues related to the management of risk by firms and to the assessment of risk using modern economic and statistical techniques. His expertise also provides a framework to assess the contributions of equities, bonds and interest rates to investment risk.

Dr. Simpsons's curriculum vitae is filed separately.

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1 Applied microeconomics is the study of the behavior of individual agents (e.g., firms and households) in the market using modern theory and empirical methods. It seeks to apply the analysis to practical problems such as risk management and investment strategies. Applied econometrics uses specific statistical techniques, particularly regression methods, to analyze and predict economic behavior and apply it to practical social problems.

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MPI has determined the "target" or "target minimum" of the RSR based on the DCAT methodology for a specified adverse scenario (the two-year combined scenario) at a 1-in-40 probability level. In contrast, the maximum is determined by the total equity necessary to establish a Minimum Capital Test (MCT) ratio of 100% despite the fact that the maximum does not arise from a specified DCAT adverse scenario and probability level. Indeed, the probability level associated with this methodology for setting the RSR maximum is unknown, illustrating its inconsistency with the methodology used for setting the RSR target.

The 1-in-40 probability level is an established risk level for the target level of the RSR in the DCAT exercise. A target, however, should reflect a mid-point, not a minimum, around which the range of the RSR is built on a consistent basis using specified risk tolerance levels. For this reason, CAC(MPI) 2-45 asked MPI to provide the DCAT results for each scenario (three individual scenarios and one combined scenario) for risk tolerances varying from 1-in-10 to 1-in-200. For the two-year combined scenario, which was used to set the RSR target for 2017/18 at the 1-in-40 probability level, the results from CAC(MPI) 2-45 are:

Table 4 Combined Scenario Total Equity (in millions)

Probability	Return Period	2017/18	2018/19	2019/20	2020/21
1-in-200	2 year	$99	($51)	($80)	($111)
1-in-100	2 year	$112	($32)	($56)	($79)
1-in-40	2 year	$86	($3)	($44)	($68)
1-in-20	2 year	$117	$32	$4	($13)
1-in-10	2 year	$141	$65	$31	$19

From these results the implied RSR target values would be the differences in 2018/19 from the 2016/17 base forecast of $217M, which would be:

Probability	
1-in-200	$268M
1-in-100	$249M
1-in-40	$220M
1-in-20	$185M
1-in-10	$152M

These results imply that the RSR range around the 1-in-40 target level might be either a wide or narrow range:

	Probability Range	Values Range
Wide Range:	[1-in-10, 1-in-200]	[$152M, $268M]
Narrow Range:	[1-in-20, 1-in-100]	[$185M, $249M]

Note, in particular, that these RSR maximum ranges at risk tolerance levels of 1% and 0.5% are far below the maximum associated with a 100% MCT ($404M).