

**Does the RSR Need to be so Large?**

**Manitoba Public Insurance  
2018/19 GRA**

**Consumers' Association of Canada (Manitoba)  
Submitted by the Public Interest Law Centre  
Co-Authored by Dr. Wayne Simpson  
and Ms Andrea Sherry**

**September 18, 2017**

## Does the RSR Need to be so Large?

MPI has requested a minimum (lower) Risk Stabilization Reserve (RSR) “target” of \$201 million and a maximum (upper) “target” of \$438 million for 2018/19 in its 2018 General Rate Application filed July 13, 2017 (RSR.2, p.4). These “targets” represent increases of 13.8% and 8.4%, respectively, to the lower target of \$181M and upper target of \$404M requested in the 2017 GRA one year ago. It also represents a larger 26.4% increase in the PUB approved lower RSR “target” of \$159M. Since price inflation in Canada is currently quite low at 1.2% according to the Bank of Canada<sup>1</sup> and is expected to settle around the target rate of 2% in the future,<sup>2</sup> and since the requested Basic vehicle premium rate increase is 2.7%, these requested increases in the RSR are very large in comparison. Have the risks facing the Corporation risen that much in one year?

The purpose of the RSR is “to protect motorists from rate increases that would otherwise have been necessary due to unexpected variances from forecasted results and due to events and losses arising from non-recurring events or factors.” The expression “due to unexpected variances from forecasted results” has been added with the approval of the PUB as it “more accurately reflects how RSR balances are affected in practice” (PUB Order No. 162/16, p.60). The essential notion, however, is that the RSR is to protect motorists when something happens to affect rates that is “unexpected” and therefore “non-recurring,” since any events or factors that are expected should be built into the premium rate request and unexpected events should not be recurring (or they should be anticipated).

The important point is that this notion of unexpected, non-recurring events ties into the standard statistical notion of risk or uncertainty arising from a set of outcomes with assigned probabilities of occurrence, resulting in an expected outcome and a set of unexpected outcomes (favourable and unfavourable) with specified probabilities. This provides a solid foundation for the assessment of risk and determination of the RSR based on historical evidence that allows the assignment (estimation) of probabilities for different outcomes. Since assessment of unfavourable outcomes in probabilistic terms is also a foundation of the Dynamic Capital Adequacy Test (DCAT), a consensus appeared to have emerged among MPI, the PUB and stakeholders to use the DCAT to identify the risks of unexpected, non-recurring events and quantify their probabilities of occurrence from available data as the basis for setting the RSR. The focus of a technical conference held on April 19, 2017 was the use of the DCAT to establish upper and lower “thresholds” for the RSR.<sup>3</sup>

---

<sup>1</sup> <http://www.bankofcanada.ca/rates/related/inflation-calculator/>

<sup>2</sup> <http://www.bankofcanada.ca/core-functions/monetary-policy/inflation/>

<sup>3</sup> “Thresholds” is the term used in the PUB technical conference agenda. It is preferable to the term “targets” used by MPI, since it is impossible to aim at more than one target at one time. Rather, the thresholds denote upper and lower bounds for the RSR, while an approximate target might be the midpoint of the range.

From this background and perspective there are a number of concerns with the DCAT report and RSR thresholds requested in the MPI GRA. In the collaborative spirit that was fostered by previous PUB hearings and the technical conference, this report reviews three major concerns with the current report: (1) the use of the Minimum Capital Test (MCT) ratio to set the upper threshold for the RSR, (2) the determination of the Base Scenario in the DCAT, and (3) the formulation of the interest rate decline and combined scenarios in the DCAT.

## **1. Use of the MCT to Set the Upper Threshold of the RSR**

MPI continues to argue for the use of the 100% MCT criterion to set the upper threshold for the RSR. They argue that “the MCT is a standardized test used by the Property and Casualty Insurance industry and its regulators” (RSR 4.5.2.1, p.18) although MPI, as a crown monopoly insurer, is in a quite distinct position from private property and casualty insurers who operate in a competitive market with the real possibility of bankruptcy. They also argue that “it is a risk-based approach that better reflects the riskiness of individual Property and Casual insurers (RSR 4.5.2.1, p.18).” “Better” than what? The risk-based DCAT analysis which is also an industry standard? The DCAT analysis that has been accepted for determination of the lower threshold by the PUB and its stakeholders?

MPI’s argument to use the 100% MCT criterion to establish the upper threshold for the RSR has been made before and rejected quite sensibly by the PUB in the last GRA:

“For purposes of setting the upper threshold of the Basic target capital range, the Board withdraws its support of the use of the MCT and a threshold MCT ratio of 100%. The Board is concerned that the degree of conservatism implied by the Corporation’s proposal may be excessive based on the Corporation’s scenario testing at the more extreme percentile levels of possible outcomes, potentially giving rise to a risk of moral hazard” (PUB Order No. 162/16, p.60).

Moreover, a recent report by Ernst & Young for the Insurance Corporation of British Columbia (ICBC) provides further support for this position in the context of a crown insurer advocating the use of the MCT criterion:

“As a government-owned monopoly insurer of the Basic product, ICBC is not required to adhere to OSFI’s MCT guidelines. Reasons government-owned monopoly insurers would consider having lower capital target levels than would be required for private insurers include the following:

- Capital surplus above target levels may be put to better use by the government for the broader benefit of the Province rather than being tied-up in investment assets of the insurer.
- Whereas a sole private insurer would face bankruptcy in the event of insufficient capital, leaving policyholders and claimants at risk of not being

fully indemnified for their losses, a government insurer is implicitly backed by the government, meaning this risk is minimal in comparison.

- Increased capital levels require higher premiums auto owners need to pay, and it can be argued that in light of the above two points there is no need to have higher premiums. . .

Consideration should also be given to whether the OSFI MCT ratio is the appropriate framework for setting capital for the Basic product.” (Ernst&Young, 2017, pp.85-86).

MPI continues to advocate for the 100% MCT to set the upper threshold “in the absence of an approved methodology” (RSR 4.4, p.10). While falling short perhaps of outright approval of an alternative methodology to the 100% MCT, the latest PUB ruling suggests quite clearly that the appropriate methodology resides in the use of the DCAT in a comparable fashion to the methodology used to establish the lower threshold for the RSR:

“With respect to the setting of the upper threshold of the Basic target capital range, the Board believes the question that still needs to be answered is this: *beyond what percentile level is it no longer reasonable and appropriate for the Corporation to hold funds against possible adverse circumstances, instead of rebating these excess funds back to the ratepayers.* The Board . . . directs that the next Application will include the appropriate scenarios in support of the proposed upper threshold for the Basic target capital range. This includes . . . testing of at least 99th and 99.5th percentile outcomes” (PUB Order No. 162/16, p.61).

This directive corresponds to the case we made at the last GRA on behalf of CAC Manitoba (Sherry & Simpson, 2016). In that report we illustrated how the DCAT could be used consistently to develop both the lower and upper thresholds for the RSR, using narrow and wide range examples. The wide range would use percentile levels of risk tolerance of 1-in-10 and 1-in-200, while the narrow range would use levels of 1-in-20 and 1-in-100, in each case bounding a midpoint target level of 1-in-40 that has been approved by the PUB (Order No. 162/16, p.60). Based on results from CAC(MPI) 2-45, the wide range yielded [\$152M, \$268M] and the narrow range yielded [\$185M, \$249M], quite reasonable results in view of the existing lower threshold of \$181M but far below the recommended upper threshold of \$404M based on the 100% MCT criterion.

For its part, MPI acknowledges the role that the DCAT can play but subjugates it to the MCT criterion:

“That said, if the PUB wishes to use DCAT to establish the higher range of the RSR, MPI would not object, if it is done in the following manner – that the DCAT calculated target would also be expressed in terms of an MCT percentage, that the goal would be a target close to 100% MCT, that if it was lower than 100% MCT there would be a process whereby the Minister of Finance acknowledges acceptance of the risk of setting a target in a

manner that is unique in Canada and not in accordance with OSFI guidelines for establishing capital reserves targets” (RSR 4.5.2.3, p.21).

In our view, the conditions set on the use of the DCAT to establish the upper threshold for the RSR (but not the lower threshold) are both inconsistent and contrary to the PUB directive and do not attempt to collaboratively establish a methodology for the RSR. We would note that MPI has confirmed that it continues to support the collaborative process to develop a methodology for the upper RSR threshold (DCAT 1.7.4, p.15).

In the spirit of the PUB directive of “testing of at least 99th and 99.5th percentile outcomes” CAC (MPI) 1-5(c) asked for “upper threshold calculations for the RSR corresponding to 99% (1-in-100) probability and 99.5% (1-in-200) probability events.” MPI’s response to this question was to question the entire exercise:

“The question is implying that ‘Total Equity > 0’ is the appropriate threshold for setting the upper RSR target. The Corporation does not agree with this approach. The upper RSR target should be used for the establishment of an appropriate operating range above the DCAT calculated minimum RSR target.

For the purposes of answering the specific question posed by CAC, MPI has assumed that this question is requesting a DCAT-based RSR target (using the current methodology to calculate the minimum target) that would be required if the risk tolerance was changed to 1-in-100 and 1-in-200. MPI has also assumed that the analysis is *before* management and regulatory action . . .

Based on these assumptions, the requested information is provided below for 2, 3, and 4 year outlook periods. The figures in the table below demonstrate why the ‘Total Equity >0’ methodology proposed in this question is inappropriate for calculating the upper RSR target. For example, using a 2-year, 1-in-100 scenario would result in an upper RSR target of \$255 million, which would produce an RSR range of \$201 million to \$255 million. Such an RSR range would be inappropriately narrow (i.e. \$54 million) for which to serve the purpose of the RSR. Further, as per Figure 1 in part b), an upper RSR target of \$255 million would be expected to fall below the lower RSR target (37% MCT) almost 50% of the time over a given 4 year period, which would not serve the purpose of the RSR.”

The argument seems to be that the narrow range, based on the 1-in-100 scenario, is too narrow at [\$201M, \$255M], but there is no discussion of the wide range we suggested precisely to counter this concern. That range of [\$201M, \$310M] based on a two-year combined scenario provides a much wider range of \$109M but, of course, is far below the 100% MCT criterion of \$438M. The reference to a “4 year period” seems inconsistent with the exercise and requires some further discussion in section 3 below, since the two-year combined scenario is the standard used in the previous DCAT. But these figures are based on the current DCAT, and we have significant concerns about

both the Base Scenario and the adverse events that are used to calculate the RSR lower or upper threshold.

## **2. Determination of the Base Scenario in the DCAT**

The base scenario reflects “a realistic set of assumptions used to forecast the insurer’s financial position over the forecast period. Normally, the base scenario would be consistent with the insurer’s business plan.” (DCAT 4.3, 25). These assumptions include volume growth, vehicle upgrades, inflation, interest rates and investment returns, and changes in premium deficiency and write-down of deferred policy acquisition costs. We focus here on the assumptions concerning interest rates and inflation.

### **2.1 Interest Rates**

The assumption for interest rates reflects a revised methodology. For many years MPI used a consensus forecast of interest rates (the Standard Interest Rate Forecast or SIRF) that, in the current uniquely low interest rate environment, proved to be an inaccurate assessment of the increase in interest rates during the DCAT horizon. Last year, the DCAT used a “50-50” forecast which simply averaged the SIRF and a “naïve forecast” of the Government of Canada 10 year bond rate. The naïve forecast simply assumes that “the existing interest rate held constant for the entire interest rate forecast” (DCAT 4.4, p.26, n1). Thus, the Government of Canada 10 year bond rate forecast is 1.64%, based on the rate as of February 28, 2017.

The immediate concern is that this change in interest rate forecasting was not a product of the collaborative process. Although interest rate forecasting was discussed at length at the April technical conference, the discussion did not result in a consensus that the naïve forecast is “realistic” because respected forecasters and the Bank of Canada continued to project that interest rates would eventually begin to rise once economic conditions warranted. And that, indeed, is exactly what has happened. The Bank of Canada has announced increases in the overnight or policy interest rate at consecutive meetings from 0.5% to 0.75% on July 12, 2017<sup>4</sup> and from 0.75% to 1.00% on September 6, 2017.<sup>5</sup> This action was followed immediately by corresponding increases in interest rates at Canadian banks<sup>6</sup> followed by increases in bond rates. The GoC 10 year bond rate rose to 2.06% at the close of July trading before settling at 1.85% at the close of August. It has now risen again to 2.07% as of September 14, 2017 in response to the second Bank of Canada rate increase, an increase of 0.43% (or just about the same as the policy rate increase of 0.5%) over the naïve forecast used in the DCAT.<sup>7</sup> There is a clear upward pattern to interest rates since June.

---

<sup>4</sup> <http://www.bankofcanada.ca/2017/07/fad-press-release-2017-07-12/>

<sup>5</sup> <http://www.bankofcanada.ca/2017/09/fad-press-release-2017-09-06/>

<sup>6</sup> <http://www.cbc.ca/news/business/prime-interest-rate-increases-1.4201403> ;  
<http://www.cbc.ca/news/business/rate-hike-impact-1.4276931>

<sup>7</sup> <http://www.bankofcanada.ca/rates/interest-rates/lookup-bond-yields/>

There is also good reason to believe that interest rates will rise further in the autumn, as the SIRF predicted would eventually occur. Canadian GDP expanded at a 4.5% annual rate in the second quarter of 2017, following an almost equally impressive 3.7% increase in the first quarter. This is the best growth in the first half of the year in 15 years and likely accounts for the latest Bank of Canada rate increase, but it has also fueled speculation by respected sources of further interest rate increases this fall.<sup>8</sup> Updates to the naïve forecast and the DCAT should reflect rising interest rates. In response to CAC (MPI) 1-92(a), MPI appears to agree: “If there is a change in interest rates that results in a material impact to the DCAT base scenario, the applied for rate indication, and indicated DCAT-based lower RSR target, then it would be appropriate for the Corporation to update the DCAT figure based on the latest information.”

The question remains, however, as to the justification for the naïve forecast in the Base Scenario as interest rates begin to rise. While hindsight provided evidence that the SIRF forecast had been performing poorly (DCAT 5.5, pp.45-46), is there now useful information in the SIRF about the expected trajectory of interest rates that should now be incorporated in the Base Scenario? Would even an up-to-date naïve forecast now be expected to perform as well as the SIRF, produced from a consensus of interest rate forecasting experts, over the four-year time horizon of the DCAT? These are all questions raised at the GRA last year that require even more careful consideration in light of recent events.<sup>9</sup> While pro forma financial statements have been prepared using a modified SIRF and a 50-50 (average of SIRF and naïve) forecast (INV Appendix 10), only the naïve forecast appears to have been considered in the preparation of the DCAT report and the determination of the RSR thresholds.

The interest rate decline scenario (to be discussed further below) implies that lower interest rates present a financial risk in the form of lower total equity, all else the same. Indeed, MPI argues that “forecasted interest rates did not materialize and resulted in \$163 million in premiums deficiencies” that presented “significant financial challenges” (OV.1.1, p.3). Hence, we would expect that rising interest rates will improve total equity in the Base Scenario and affect the determination of the RSR thresholds in the DCAT in a fashion that requires new DCAT calculations.

## **2.2 Inflation**

In an era of relatively stable expectations about inflation, it seems curious why no inflation factor has been built into rates. The inflation assumption of 2% in the Base Scenario is based on the consensus forecast from various banks and economic forecasting firms” (DCAT.4.4, p.26) and is consistent with the Bank of Canada’s longstanding inflation target. Consumers are now anchored to expect price increases in the order of 2%. In response to CAC (MPI) 1-89, which asks why it is a “realistic assumption” to build no rate increases into the Base Scenario beyond the 2.7% requested in 2018/19, MPI replied that

---

<sup>8</sup> <http://business.financialpost.com/news/economy/bank-of-canada-hikes-rate-to-one-per-cent>

<sup>9</sup> The relative merits of the naïve interest rate forecast, the SIRF, and the 50-50 forecast were the subject of evidence filed at the last GRA on behalf of CAC Manitoba (Simpson, 2016).

“The Corporation experiences natural revenue growth of approximately 4% per year as a result of volume growth (approximately 1.50% per year) and vehicle upgrade (approximately 2.50%). Therefore, it is not necessarily true that rate increases equal to inflation will be required in future years. The Corporation is showing small net losses of approximately \$7.5M per year in 2019/20 and 2020/21.”

This response is inadequate because it ignores the cost side of MPI’s operations. Volume growth and vehicle upgrades are associated with increased claims and claim costs that, in the current environment, might be expected to be about 2% and should be reflected as a “reasonable assumption” about future rate increase requirements. This assumption would produce net revenue gains, rather than small losses, in 2019/20 and 2020/21. It would also affect the RSR calculation based on a 2% premium increase in 2019/20, as the remainder of MPI’s response to CAC (MPI) 1-89 admits:

“In terms of the sensitivity of the lower Rate Stabilization Reserve (RSR) target, the adverse scenario underlying the lower RSR target is the two-year combined scenario (2018/19 and 2019/20). As a result, any assumed rate increases in 2020/21 and 2021/22 will not change the indicated lower RSR target. If a 1% rate increase is assumed in 2019/20, then the indicated lower RSR target would fall from \$201 million to \$191 million.”

Thus, the assumption of a 2% rate increase in 2019/20 in the Base Scenario would reduce the RSR lower threshold to approximately \$181M, in line with MPI’s revised request in the 2017 GRA. The combination of rising interest rates and premium rate increases in line with forecast inflation would produce a significantly superior bottom line for the Base Scenario in 2018/19 and beyond and should also significantly reduce the RSR lower and upper thresholds in the DCAT.

### **3. Determination of the Interest Rate and Combined Scenarios**

In recent years, historically low interest rates have posed a challenge to forecasters and to MPI, as interest rates have remained below forecast levels and adversely affected MPI’s financial position in terms of operations and investment yields. An interest rate decline scenario has been developed for the DCAT to attempt to capture this risk. In a previous GRA we criticized the methodology as lacking basis in historical fact and probabilistic methodology:

“The interest rate decline scenario is inconsistent with the methodology used for the high loss and equity decline scenarios and is simply not credible. The interest rate decline scenario does not rely completely on historical evidence because the historical evidence does not contain a sustained low interest rate period such as we are experiencing now. The removal of the “stagflation period” interest rates, as CAC Manitoba suggested last year, slightly alleviates the exaggeration of interest rate declines that might occur in our current environment but does not in any



sense solve this problem. The proposed solution in this year's (and last year's) report is to arbitrarily impose an interest rate floor based on the lowest monthly Government of Canada 10-year bond yield from 1989 to the present. Since the DCAT calculations apply to fiscal years, not months, it is unclear why the lowest monthly yield is used since it also exaggerates the lowest annual yield and the estimated impact of the scenario.

One illustration of the inconsistency of the interest rate decline scenario with the DCAT methodology used in the other scenarios is the lack of response of the interest rate decline scenario to different probability levels. One can expect, as in the equity decline scenario that is fully based on the historical evidence . . . , that more risky scenarios associated with a lower probability of occurrence lead to more adverse outcomes or lower total equity. This does not occur for the interest rate scenario because of the presence of the *ad hoc* interest rate floor assumption which constrains interest rates immediately in 2016/17 and dominates the scenario calculations thereafter . . .

The interest rate decline scenario produces virtually identical total equity results regardless of the specified risk, i.e. for 1-in-200, 1-in-100, 1-in-40 and 1-in-20 probabilities. The probability level, which plays an important part in other scenarios and in the purported advantages of using the DCAT methodology, simply does not matter in the presence of the floor that is applied to interest rate declines.

As a scenario based on appropriate historical evidence, in the spirit of the high loss and equity decline scenarios for example, the interest rate decline scenario is not credible and its results, as well as its contribution to the combined scenario, should be heavily discounted." (Sherry & Simpson, 2015, pp.9-10)

Although interest rates are now rising, the methodology of the interest rate decline scenario has not changed in the current DCAT report and our serious concerns about its validity and value remain. As the combined scenario includes the interest rate decline scenario as an important component, our concerns extend directly to that adverse scenario. Using the combined scenario to establish the lower threshold for the RSR builds in the problems associated with the interest rate decline scenario's *ad hoc* methodology. Thus, CAC (MPI) 1-92(b) asks for confirmation "that rising interest rates will improve the financial position of the Corporation as reflected in the base scenario and will affect the lower threshold calculation for the RSR." MPI's response is that these assumed effects cannot be confirmed:

"It is true that, all else equal, an increase in interest rates would improve the forecasted financial position of Basic and lower the applied for rate indication (assuming a compliance filing methodology is accepted by the PUB). However, the indicated DCAT lower RSR target would increase as

interest rates rise. Currently, interest rates are at historically low levels. As a result, interest rate risk is capped by the assumption of an interest rate floor (i.e. interest rates can't fall significantly if they are already at near record lows). If interest rates increased significantly, there would be increased risk of a decline in interest rates, creating the need for additional RSR."

The response is that rising interest rates would automatically raise the risk of interest rate decline and raise the RSR lower threshold. This only makes sense in the context of an *ad hoc* interest rate decline scenario that is driven by an interest rate floor that is arbitrarily anchored to the lowest monthly Government of Canada 10-year bond yield from 1989 to the present and lacks any probabilistic assessment of adverse events. A more sensible scenario would reflect a fall in the risk of interest rate decline to this floor as interest rates begin to rise, but the methodology in the current DCAT cannot do so and should be correspondingly discounted.

The combined scenario has also introduced a new risk, corporate bond default (DCAT.5.6, p.55). MPI has responded in CAC (MPI) 1-90 that, although the risk of corporate bond default is not a top 3 risk, "the assumed allocation to corporate bonds is a material change in the risk profile of the Corporation's asset portfolio . . . the addition of corporate bonds creates additional risk (all else equal), and therefore, should be modeled in this scenario." Not only is this a change in the combined scenario that has not been discussed, it is not clear how this risk should be independently introduced into the scenario. This issue requires further consideration and collaborative consultation.

#### **4. Recommendations**

- 1) That the DCAT analysis, as the best vehicle to assess the risks facing MPI, be used consistently and collaboratively to determine the lower and upper thresholds for the RSR.
- 2) That the use of the MCT criterion to set the upper threshold for the RSR be again rejected
- 3) That the appropriate methodology for setting the upper RSR threshold resides in the use of the DCAT in a comparable fashion to the methodology used to establish the lower threshold for the RSR, involving testing of at least 99th and 99.5th percentile outcomes
- 4) That the strict use of the naïve forecast in the DCAT be replaced with the 50-50 forecast used previously
- 5) That MPI undertake to assess the 50-50 forecast in light of rising interest rates
- 6) That the DCAT Base Scenario assume 2% rate increases in 2019/20, 2020/21 and 2021/22 as a reasonable assumption about expected future cost and price inflation
- 7) That the results for the interest rate decline and combined scenarios in the DCAT continue to be discounted because of the *ad hoc* nature of the interest rate decline scenario

- 8) That MPI consider revising the interest rate decline scenario in future DCAT reports to reflect rising interest rates
- 9) That the inclusion of the risk of corporate bond default risk in the combined scenario be reviewed.

## References

Ernst&Young (2017) *ICBC: Affordable and effective auto insurance – A new road forward for British Columbia*, July 10

Sherry, Andrea and Wayne Simpson (2015) *Report on Use of the DCAT to Set the RSR Target Range*, report on behalf of CAC Manitoba for the MPI 2017/18 GRA, September 25

Sherry, Andrea and Wayne Simpson (2016) *Report on Use of the DCAT to Set the RSR Target Range*, report on behalf of CAC Manitoba for the MPI 2017/18 GRA, September 26

Simpson, Wayne (2016) *A Note on an Interest Rate Forecast Risk Factor (IRFRF) and the RSR Target Established by the Dynamic Capital Asset Test (DCAT)*, report on behalf of CAC Manitoba for the MPI 2017/18 GRA, September 26

## **Appendix A:**

### **Statement of Qualification and Duties – Dr. Wayne Simpson**

#### **Qualifications**

Dr. 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, quantitative methods, and economic and social policy analysis.<sup>10</sup> He has authored or co-authored three books and more than sixty 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 served on 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.

Dr. Simpson's expertise in applied microeconomics and econometrics are especially relevant to this hearing on Manitoba Public Insurance ("MPI") rates. 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.

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.

Wayne Simpson has provided expert evidence at the Public Utilities Board including at the 2014 Needs for and Alternatives to Review of Manitoba Hydro's Preferred Development Plan, the 2007-2008 and 2016 hearings to determine maximum fees for payday loans and the 2007, 2010, 2013, 2014 and 2016 Manitoba Public Insurance Rate Applications on the Rate Stabilization Reserve and investment strategy. He also provided written evidence in the 2013 payday loan review.

---

<sup>10</sup> His professional expertise in applied microeconomics and applied econometrics 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.

Wayne Simpson relies on his expertise in applied econometrics, applied microeconomics, and social policy application and analysis in this proceeding.

Dr. Simpson's curriculum vitae was filed with the Manitoba Branch of the Consumers' Association of Canada's application to intervene in this proceeding.

### **Duties**

The following duties were assigned to Dr. Simpson in the MPI General Rate Application. The Public Interest Law Centre retained Dr. Simpson's services to assist the Manitoba Branch of the Consumers' Association of Canada with its participation in the Public Utilities Board review of MPI's Application on issues related to ratemaking and interest rates.

Dr. Simpson's duties include:

- Attending and preparing for the Technical Workshops;
- Reviewing the Application related to risk, DCAT and interest rates;
- Preparing first round of Information Requests;
- Reviewing responses to first round Information Requests and preparing second round of Information Requests;
- Preparing memos to client and legal counsel;
- Preparing written evidence; and
- Preparing for and attending the hearing.

Dr. Simpson's retainer letter includes that he is to provide evidence that:

- is fair, objective and non-partisan;
- is related only to matters that are within his area of expertise; and
- to provide such additional assistance as the Public Utilities Board may reasonably require to determine an issue.

Dr. Simpson's retainer letter also includes that his duty in providing assistance and giving evidence is to help the Public Utilities Board. This duty overrides any obligation to the Manitoba Branch of the Consumers' Association of Canada.

## **Appendix B:**

### **Statement of Qualification and Duties – Ms. Andrea Sherry**

#### **Qualifications**

Andrea Sherry received her Bachelor of Commerce (Honors) in December 1990 from the University of Manitoba with a major in Actuarial mathematics. She became a Fellow of the Casualty Actuarial Society and Fellow of the Canadian Institute of Actuaries in 2000. She became a Fellow Chartered Insurance Professional and received her Canadian Risk Management designation in 2005. She became a Certified Management Accountant in 2008 and is now a Chartered Professional Accountant, Certified Management Accountant. Andrea Sherry is currently Vice President, Insurance Solutions at The Wawanesa Mutual Insurance Company in Winnipeg. In her current role, she is responsible for the company's actuarial pricing, product development and maintenance, as well as head office personal lines underwriting. Prior roles include work in solvency and capital, enterprise risk management and investments. She has had appointed actuary and valuation actuary roles prior to joining Wawanesa. She has worked on Dynamic Capital Adequacy Testing and internal models to satisfy the regulatory requirements in the United Kingdom (where internal models to determine capital adequacy are used by larger companies). She has also been involved in the preparation of an Own Risk Solvency Assessment.

Andrea has worked in the Property & Casualty insurance industry for over 25 years and will rely on all of the expertise she has gained, with particular emphasis on her expertise in actuarial work and investments.

Ms Sherry's curriculum vitae was filed with the Manitoba Branch of the Consumers' Association of Canada's application to intervene in this proceeding.

#### **Duties**

The following duties were assigned to Ms. Sherry in the MPI General Rate Application.

The Public Interest Law Centre retained Ms. Sherry's services to assist the Manitoba Branch of the Consumers' Association of Canada with its participation in the Public Utilities Board review of MPI's Application on issues related to actuarial ratemaking.

Ms. Sherry's duties include:

- Attending and preparing for the Technical Workshops;
- Conducting preliminary DCAT and actuarial ratemaking work;
- Reviewing the General Rate Application in its entirety;
- Preparing first round of Information Requests;
- Reviewing first round Information Requests responses;
- Preparing second round of Information Requests and memo;
- Preparing written evidence; and

- Preparing for and attending the hearing.

Ms. Sherry's retainer letter includes that she is to provide evidence that:

- is fair, objective and non-partisan;
- is related only to matters that are within her area of expertise; and
- to provide such additional assistance as the Public Utilities Board may reasonably require to determine an issue.