

**PUB (MPI) 2-25**

<b>Volume:</b>	<b>II, INV.1.2</b>	<b>Page No.:</b>	<b>11</b>
<b>Topic:</b>	<b>Interest Rate Risk Forecasting</b>		
<b>Sub Topic:</b>			
<b>Issue:</b>	<b>IRFRF</b>		

**Preamble:** Historically, the Corporation has recognized consistently that it bears the onus of proof in the GRA process. It is assumed that the Corporation continues to so recognize.

**Question:**

- a) Please advise of whether the Corporation is aware of the use of an IRFRF in any other jurisdiction, and if so, please describe with reference to the jurisdiction.
- b) Please provide the Corporation's requested rate change incorporating the requested IRFRF, or in the alternative, how the Corporation expects the amount of the IRFRF to be resolved.

**Rationale for Question:**

To understand the rate impact of the requested IRFRF.

**RESPONSE:**

In response to the preamble, the Corporation does bear the burden of proof. It considers that the Application and information provided in response to information requests does make the case for the relief sought.

- a) The Corporation is currently not aware of any form of Interest Rate Forecast Risk Factor (IRFRF) employed in other jurisdictions. The requested relief is in response to the unique circumstances facing the Corporation. As summarized in the response to (b) below, those unique circumstances relate to the prescriptive nature of the Public Utilities Board (PUB) order from the last GRA. The Order required the Corporation to apply an interest rate forecast that the Corporation

has concluded departs significantly from a “best estimate”. The Corporation’s Basic rates are properly established using “best estimates”, which makes the adoption of the Standard Interest Rate Forecast (SIRF) an anomalous departure from the accepted practice of breakeven ratemaking.

The proposal to incorporate an IRFRF is intended to respect and comply with the PUB’s prior order, while allowing recognition of the risk associated with adopting that approach in the current circumstances. The Corporation views that this proposal is in the interest of Manitobans and is necessary to prevent potential rate shock. The amount of the IRFRF would ultimately reflect the PUB’s assessment, informed by input from the Corporation and other parties, of the extent of the risk and risk tolerance in the context of financial integrity and smooth and stable Basic insurance rates.

Please see also CAC (MPI) 1-94.

- b) The Corporation recommends deriving the proposed IRFRF using a 50/50 weighting of the SIRF and naïve forecasts. This response explains the context for Corporation's current recommendation regarding the magnitude of the IRFRF, the rationale for adopting the equal weighting approach, and its proposed implementation in rates.

### **Context**

For context, the Corporation's 2017 General Rate Application (GRA), requested among other relief, the following:

- A 2.0% overall Basic insurance rate change effective March 1, 2017
- and
- An Interest Rate Forecast Risk Factor (IRFRF), effective March 1, 2017, the form and magnitude of which will be developed through a collaborative process with the Public Utilities Board (PUB) and interveners.

The Corporation's 2017 GRA was prepared based on the Standard Interest Rate Forecast (SIRF) in compliance with Board Order 128/15 which stated:

- 10.14 MPI file next year's GRA on the basis of the interest rate forecasting methodology that it uses currently, as well as on the basis of an Olympic style average (i.e. excluding each of the highest and lowest values of the non-long term standard interest rate forecasts utilized), and utilizing at least one additional longer term forecast.

Applying the SIRF in compliance with the PUB Order would yield the 2% rate change (with no IRFRF), but would potentially have significant implications for the Corporation and future Basic rates. In the 2017 GRA the Corporation detailed the impact of the SIRF on the Basic Net Income, and requested the IRFRF to be implemented in addition to the requested 2% overall rate increase in an effort to mitigate the risk posed by the SIRF. The Corporation views that Basic's financial

health is significantly exposed to this risk, and that the solution detailed below is consistent with the high standard of financial responsibility expected by management and the public at large.

The Corporation proposed in the Application that the form and magnitude of the IRFRF would be developed collaboratively with the PUB and interveners through the rate application process.

At the Pre-hearing Conference, the Corporation proposed an approach and timetable for the collaborative process. It involved holding a Technical Conference to explore the possibility of reaching consensus on the form and magnitude of the IRFRF. In response to feedback from the PUB panel, the Corporation advanced the schedule for the Technical Conference to August 16, 2016.

At the Technical Conference, the Corporation re-iterated the case for an IRFRF as detailed in the 2017 GRA. As outlined in the presentation by CFO, Heather Reichert (*Exhibit MPI-6*), the IRFRF is required to address the negative impacts of poorly performing interest rate forecasts on net income. Ms. Reichert explained how “Interest Rate Risk” is not the same as “Interest Rate Forecasting Risk”; the latter of which is caused by the SIRF as a result of third party forecasts that have consistently overstated the interest rate forecast relative to actual results. As the Corporation had indicated in the 2017 GRA, a 7% overall rate increase (or 2% plus a 5% Interest Rate Forecast Risk Factor) would be required to break-even on Basic if the SIRF did not materialize and interest rates instead were to remain flat from where they are today (the naïve forecast).

Ms. Reichert also explained that the following would not be appropriate solutions to Interest Rate Forecasting Risk:

- Change Asset Liability Management approach
- Rely on Rate Stabilization Reserve
- Use Interest Rate Margin for Adverse Deviation

The Corporation also presented research prepared by Dr. Sean Cleary, CFA, which assessed the past performance of the SIRQ, and cautioned against relying too heavily on the SIRQ going forward. The key conclusions of Dr. Cleary's report are that over the period of analysis a simple naïve forecast has outperformed the SIRQ, and that due to a number of global economic factors, the SIRQ is unlikely to materialize in the near future. (Please see Exhibit MPI-7 and MPI-8)

The Chief Actuary, Luke Johnston presented possible options for the IRRF (please see Exhibit MPI-9), of which the recommended approach was a risk factor rate increase. The magnitude of the IRRF could be based on risk tolerance, an adjustment to the SIRQ, or based on historical context. Mr. Johnston presented multiple scenarios for the IRRF magnitude and the resulting IRRF rate increase of each of those scenarios. Mr. Johnston advised that the IRRF should be put in place to protect against the risk that rates are systematically deficient, as has occurred in past rating years based on the SIRQ.

Further, Mr. Johnston explained that the Corporation does not believe that the SIRQ is a "best estimate", a point to which Dr. Cleary agreed during the day's discussion. The Corporation, and Dr. Cleary, further made the point that determining a "best estimate", somewhere in the range between a naïve forecast and the SIRQ, would require judgment.

Dr. Cleary was asked by a conference participant for his view on the appropriate level of the best estimate interest rate forecast. His view is that a combination of the SIRQ and naïve forecast would be a reasonable estimate, over the longer run. This is because incorporating the starting point into the forecast will reduce the errors. Further, Dr. Cleary indicated that if the SIRQ forecasts were reasonable, then a weighting of "50/50" would form a reasonable compromise.

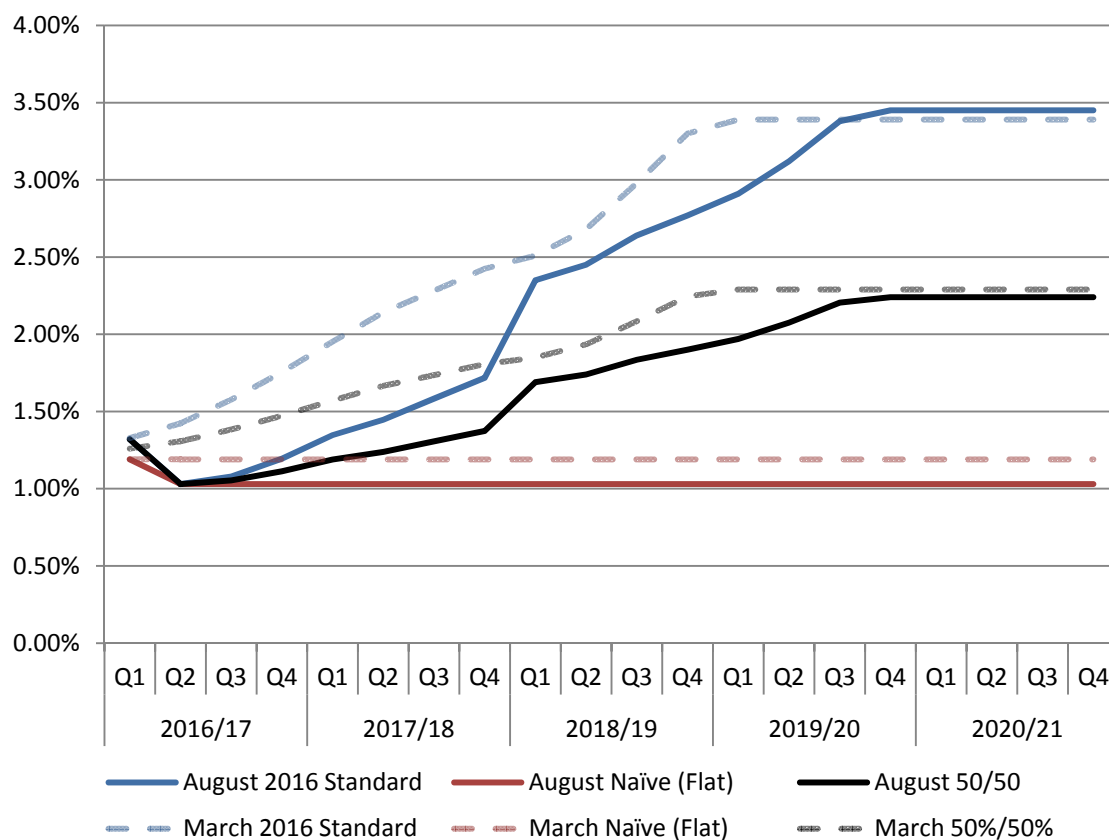
The Corporation has considered the discussions that took place at the technical conference, Dr. Cleary's assessment, and the Corporation's own assessment of what would constitute a "best estimate" in the circumstances. The Corporation considers that it would be appropriate to proceed on the basis of a 50/50 interest rate forecast, taken as the simple average on a quarterly basis, of the SIRQ and

the naïve forecast, using the most current data available (currently August 2016 figures, but a new forecast will be available by the time the hearing commences). The implication of the simple averaging is that equal weighting is being given to the SIRF and the naïve forecast.

### ***Application of a 50/50 Weighting Approach***

The Corporation views the 50/50 interest rate forecast as a “best estimate”. To illustrate the composition of the 50/50 forecast, the chart below presents the most current SIRF, naïve, and 50/50 forecasts as at August 2016, and the equivalent forecasts from March 2016.

**Figure 1 “50/50” Interest Rate Forecast**



Using the most current 50/50 interest rate forecast, the Corporation has calculated a risk factor rate increase of 2.3% over and above the base 2.0% rate increase reflecting the use of the SIRF alone.

The following table presents the Net Income and projected Rate Stabilization Reserve (RSR) balance under the 50/50 forecast (August 2016) as compared to the SIRF prior to any remedy for interest rate risk being applied.

**Table 1 Standard and 50/50 Interest Rate Forecast:  
Net income and RSR**

Scenario (\$millions)		2016/17	2017/18	2018/19	Rating Years
<b>GRA Standard Forecast</b>	Net Income	(\$18.1)	(\$8.4)	\$7.3	(\$0.6)
<b>2% Rate Increase</b>	RSR	\$217.1	\$220.5	\$236.4	
<b>August 50/50 Scenario</b>	Net Income	(\$34.7)	(\$25.2)	\$24.7	\$0.3
<b>4.3% Rate Increase</b>	RSR	\$196.3	\$194.2	\$213.1	

A complete set of proformas for the 50/50 forecast (August 2016) reflecting a 2.3% risk factor rate increase and the base 2% rate increase have been included in Attachment A. In light of the large range of potential interest rate outcomes referenced above, and the significant risk posed to the Corporation and policyholders by interest rates forecasts, the Corporation submits that an IRFRF calculated based on a 50/50 weighting is reasonable and in the long term best interests of the Corporation and policyholders. The Corporation believes it is necessary to correct the systemic undercollection of premium in past years that has resulted from third party interest rate forecasts that have failed to materialize. The Corporation is both mindful and concerned about rate increase impacts on customers and proposes a specific and targeted measure for relief below that we believe is in the best interest of ratepayers by preventing rate shock. Additionally, the Corporation has successfully reduced operating costs in recent years, eliminating costs equivalent to approximately a 2% rate increase.

***Implementation***

The two rate increase components, the base 2% rate increase, and the 2.3% risk factor rate increase should be implemented as a combined 4.3% rate increase. In order to ensure that the combined rate increase is implemented in an appropriate and actuarially sound manner, the Corporation has re-run the rate model to properly reflect the impact of the interest rate forecast across the major classes.

The application of the 50/50 methodology generally produces single year major class rate increases of a reasonable magnitude. The one exception is the rates for the motorcycle major class, which are very sensitive to changes in interest rates because of the large percentage of long tail injury claims in this class. Using the 50/50 interest rate methodology would result in the rate indication changing from -2.1% (GRA as filed) to +8.8%. To mitigate this impact, the Corporation proposes a one-time only adjustment to the motorcycle ratemaking methodology. As shown in CMMG (MPI) 2-2, motorcycles use 10 years of historical experience to determine their indicated rates. However, the 2006 year (i.e. the 10<sup>th</sup> year of the historical period) has an abnormally high level of PIPP losses. The Corporation proposes that for the 2017 GRA only motorcycle rates be calculated based on the 9 year historical average for Accident Benefits – Other and Income Replacement Indemnity. This change in methodology would cause the initial +8.8% rate indication for motorcycles to fall to +2.4%. The Corporation notes that in any event the 2006 experience would have been omitted from the 10 year average calculation in the 2018 GRA.

The practical effect of this one time only change in methodology for motorcycles is to significantly reduce the impact of the “best estimate” interest rate forecast on the motorcycle major class, while preserving the overall effect on Basic Net Income. The Corporation views this one-time adjustment as being consistent with sound ratemaking principles, and necessary to achieve the desirable outcome of limiting rate shock to the motorcycle major class. The Corporation notes this is consistent with the approach to ratemaking articulated in PUB (MPI) 1-47(b). Notwithstanding this one time only change, the Corporation continues to support and rely on its general methodology as outlined in Volume II RM page 31.



Table 2 presents the impact to major classes of adopting the 50/50 best estimate interest rate forecast, before and after the adjustment to the Motorcycle major class.

**Table 2 50/50 Interest Rate Forecast:  
Impact to major Classes**

<b>Major Class</b>	<b>2% Overall Rate Increase</b>	<b>4.3% Combined Rate Increase</b>	<b>4.3% Combined Rate Increase (with Motorcycle Adjustment)</b>
<b>Private Passenger</b>	1.7%	3.9%	4.0%
<b>Commercial</b>	5.9%	10.2%	10.3%
<b>Public</b>	3.7%	6.4%	6.5%
<b>Motorcycles</b>	-2.1%	8.8%	2.4%
<b>Trailers</b>	13.4%	11.4%	11.4%
<b>ORVs</b>	-31.4%	-31.3%	-31.3%
<b>Overall</b>	2.0%	4.3%	4.3%

### ***Impact on RSR Targets***

The 50/50 scenario for deriving the proposed IRFRF has implications for the minimum and maximum RSR levels, which are summarized below.

The Corporation is re-running the DCAT model to establish the appropriate minimum RSR level based on a 50/50 scenario. The revised lower RSR target based on the DCAT is expected to decrease materially as a result of both the higher assumed rate increase (4.3% vs. 2.0%) and the less aggressive base interest rate forecast. The DCAT will respond to changes in the Corporation's risk profile, and both the rate increase and the revised interest rate forecast reduce the risk of adverse financial outcomes for Basic over the forecast period. As a result of the expected magnitude of the change, Actuarial standards require that a full revised DCAT report be produced, so the supporting calculations will be provided when the DCAT is complete. The Corporation will file a revised DCAT as soon as it is completed, which is estimated to take approximately two weeks.

The upper RSR target is based on an MCT ratio of 100%. Although the MCT is less impacted by forecasting risk, the 100% MCT target will also change because the revised interest rate forecast changes the Corporation's *forecasted* financial position at the start of 2017/18 rating year. The revised maximum RSR target has increased from \$404 million to \$411 million as a result of the best estimate 50/50 interest rate forecast. Changes to base forecast have been reflected in the MCT calculation in Attachment B.

As is customary in advance of the oral hearing, the Corporation anticipates providing the PUB with updated rate indication and RSR targets once the most recent data is available to update the 50/50 interest rate forecast.

## PF.1

## STATEMENT OF OPERATIONS

**Manitoba Public Insurance**  
**Multi-year - Statement of Operations**

*2017 GRA - 4.30% Basic Rate Change with August 50/50 Interest rate forecast*

*(C\$ 000s, rounding may affect totals)*

	For the Years Ended February,					
	2016A	2017B	2018F	2019F	2020F	2021F
<b>BASIC</b>						
Motor Vehicles	854,170	893,420	976,257	1,020,825	1,068,003	1,117,494
Drivers	46,618	50,393	52,908	55,180	57,424	59,626
Reinsurance Ceded	(12,423)	(11,632)	(11,876)	(12,114)	(12,356)	(12,603)
<b>Total Net Premiums Written</b>	<b>888,365</b>	<b>932,181</b>	<b>1,017,289</b>	<b>1,063,891</b>	<b>1,113,071</b>	<b>1,164,517</b>
<b>Net Premiums Earned</b>						
Motor Vehicles	827,701	875,348	938,038	1,000,262	1,046,236	1,094,659
Drivers	45,787	48,478	51,645	54,039	56,298	58,521
Reinsurance Ceded	(12,423)	(11,632)	(11,876)	(12,114)	(12,356)	(12,603)
<b>Total Net Premiums Earned</b>	<b>861,065</b>	<b>912,194</b>	<b>977,807</b>	<b>1,042,187</b>	<b>1,090,178</b>	<b>1,140,577</b>
Service Fees & Other Revenues	20,351	21,557	23,227	25,122	27,097	29,022
<b>Total Earned Revenues</b>	<b>881,416</b>	<b>933,751</b>	<b>1,001,034</b>	<b>1,067,309</b>	<b>1,117,275</b>	<b>1,169,599</b>
<b>Net Claims Incurred</b>	742,664	767,126	790,682	842,119	876,488	918,505
(a) Claims Incurred - Interest Rate Impact	(75,300)	9,654	(33,622)	(78,787)	(42,361)	(2,335)
<b>Total Claims Incurred</b>	<b>666,404</b>	<b>776,780</b>	<b>757,060</b>	<b>763,332</b>	<b>834,127</b>	<b>916,170</b>
Claims Expense	118,614	125,191	128,708	133,420	141,159	148,283
Road Safety/Loss Prevention	13,027	13,318	13,251	14,145	14,135	14,260
<b>Total Claims Costs</b>	<b>798,045</b>	<b>915,289</b>	<b>899,019</b>	<b>910,897</b>	<b>989,421</b>	<b>1,078,713</b>
<b>Expenses</b>						
Operating	71,641	76,908	78,242	82,683	83,608	88,347
Commissions	33,862	35,616	37,683	40,125	41,908	43,779
Premium Taxes	26,205	27,715	29,690	31,629	33,076	34,595
Regulatory/Appeal	3,675	3,421	3,494	3,567	3,641	3,719
<b>Total Expenses</b>	<b>135,383</b>	<b>143,660</b>	<b>149,109</b>	<b>158,004</b>	<b>162,233</b>	<b>170,440</b>
<b>Underwriting Income (Loss)</b>	<b>(52,012)</b>	<b>(125,198)</b>	<b>(47,094)</b>	<b>(1,592)</b>	<b>(34,379)</b>	<b>(79,554)</b>
<b>Investment Income</b>	48,477	79,410	67,893	86,030	80,108	87,231
(b) Investment Income - Interest Rate Impact	(52,515)	11,391	(31,565)	(60,365)	(37,449)	(0)
<b>Net Investment Income</b>	<b>(4,038)</b>	<b>90,801</b>	<b>36,328</b>	<b>25,665</b>	<b>42,659</b>	<b>87,231</b>
<b>Net Income (Loss) from Operations for Rate Setting</b>	<b>(71,009)</b>	<b>(34,690)</b>	<b>(25,217)</b>	<b>24,697</b>	<b>4,965</b>	<b>4,970</b>
Add: DPAC / Premium Deficiency adjustment	(14,959)	(293)	(14,451)	624	(3,316)	(2,708)
<b>Net Income (Loss)</b>	<b>(56,050)</b>	<b>(34,397)</b>	<b>(10,766)</b>	<b>24,073</b>	<b>8,280</b>	<b>7,677</b>
Total net Impact due to interest rate change (b) - (a)	22,785	1,737	2,057	18,422	4,913	2,335

**PF.2 STATEMENT OF FINANCIAL POSITION****Manitoba Public Insurance  
Multi-year - Statement of Financial Position***2017 GRA - 4.30% Basic Rate Change with August 50/50 Interest rate forecast**(C\$ 000s, rounding may affect totals)*

	<i>For the Years Ended February,</i>					
	2016A	2017B	2018F	2019F	2020F	2021F
<b>BASIC</b>						
<b>Assets</b>						
Cash and cash equivalents	29,114	10,749	9,619	10,839	11,097	13,665
Investments	2,083,349	2,216,050	2,259,583	2,288,205	2,347,870	2,462,543
Investment property	35,789	40,424	40,996	41,266	41,813	42,960
Due from other insurance companies	25	-	-	-	-	-
Accounts receivable	375,262	302,393	326,221	339,760	354,071	369,015
Deferred policy acquisition costs	4,782	2,434	19,268	19,927	24,600	28,732
Reinsurers' share of unpaid claims	998	-	-	-	-	-
Property and equipment	88,740	86,248	88,863	90,183	90,345	91,720
Deferred development costs	65,414	70,462	77,341	79,991	81,701	64,385
	<b>2,683,473</b>	<b>2,728,760</b>	<b>2,821,891</b>	<b>2,870,171</b>	<b>2,951,497</b>	<b>3,073,020</b>
<b>Liabilities</b>						
Due to other insurance companies	152	113	113	113	113	113
Accounts payable and accrued liabilities	38,861	29,447	30,993	31,499	32,418	33,959
Financing lease obligation	3,278	2,968	2,899	2,825	2,752	2,678
Unearned premiums and fees	453,389	475,671	518,329	543,475	570,100	598,083
Provision for employee current benefits	16,871	16,527	16,880	17,244	17,616	17,999
Provision for employee future benefits	281,209	286,836	302,414	319,313	336,739	354,910
Provision for unpaid claims	1,658,713	1,720,912	1,756,088	1,742,599	1,761,852	1,817,919
	<b>2,452,473</b>	<b>2,532,474</b>	<b>2,627,716</b>	<b>2,657,068</b>	<b>2,721,590</b>	<b>2,825,661</b>
<b>Equity</b>						
Retained earnings	194,496	160,099	149,334	173,407	181,687	189,363
Basic Insurance Retained Earnings	-	-	-	-	-	-
Accumulated Other Comprehensive Income	36,504	36,187	44,841	39,696	48,220	57,996
<b>Total Equity</b>	<b>231,000</b>	<b>196,286</b>	<b>194,175</b>	<b>213,103</b>	<b>229,907</b>	<b>247,359</b>
<b>Total Liabilities &amp; Equity</b>	<b>2,683,473</b>	<b>2,728,760</b>	<b>2,821,891</b>	<b>2,870,171</b>	<b>2,951,497</b>	<b>3,073,020</b>

**PF.3 STATEMENT OF CHANGES IN EQUITY****Manitoba Public Insurance  
Multi-year - Statement of Changes in Equity***2017 GRA - 4.30% Basic Rate Change with August 50/50 Interest rate forecast**(C\$ 000s, rounding may affect totals)*

	For the Years Ended February,					
	2016A	2017B	2018F	2019F	2020F	2021F
<b>BASIC</b>						
<b>Retained Earnings</b>						
Beginning Balance	177,817	194,496	160,100	149,334	173,407	181,687
Net Income (Loss) from annual operations	(56,050)	(34,397)	(10,766)	24,073	8,280	7,677
Premium Rebate	0	0	0	0	0	0
Transfer (to) / from Non-Basic Retained Earnings	72,729	0	0	0	0	0
<b>Total Retained Earnings</b>	<b>194,496</b>	<b>160,099</b>	<b>149,334</b>	<b>173,407</b>	<b>181,687</b>	<b>189,363</b>
<b>Retained Earnings</b>						
Equity Reserve	194,496	160,099	149,334	173,407	181,687	189,363
Excess Retained Earnings	0	0	0	0	0	0
<b>Total Retained Earnings</b>	<b>194,496</b>	<b>160,099</b>	<b>149,334</b>	<b>173,407</b>	<b>181,687</b>	<b>189,363</b>
<b>Total Accumulated Other Comprehensive Income</b>						
Beginning Balance	35,262	36,504	36,187	44,841	39,696	48,220
Other Comprehensive Income for the Year	1,242	(317)	8,654	(5,145)	8,524	9,776
<b>Total Accumulated Other Comprehensive Income</b>	<b>36,504</b>	<b>36,187</b>	<b>44,841</b>	<b>39,696</b>	<b>48,220</b>	<b>57,996</b>
<b>Total Equity Balance</b>	<b>231,000</b>	<b>196,286</b>	<b>194,175</b>	<b>213,103</b>	<b>229,907</b>	<b>247,359</b>
<b>RESERVE TARGETS</b>						
DCAT Total Equity Target	213,000	231,000	181,000*	181,000*	181,000*	181,000*
MCT Total Equity Target	325,000	366,000	411,000	411,000	411,000	411,000

\* Based on Initial DCAT Report, to be updated with re-filed DCAT report

**Forecasted MCT Results**

As a result of a revised Interest rate forecast, the Corporation has revised its *forecasted* 100% MCT ratio as of the *beginning* of the 2017/18 fiscal year (i.e. March 1, 2017) which is to be utilized as the Corporation's upper RSR target. The table below shows the restated revised base scenario such that the beginning 2017/18 Total Equity is adjusted to achieve the 100% MCT target. The indicated 2017/18 100% MCT capital target based on these results is \$411 million. The full supporting calculations for this scenario are provided below.

**Modeled 100% MCT Requirement for March 1, 2017 (in millions)**

	<b>March 1, 2017</b>
Minimum Capital Required	\$340
Add: Assets requiring 100% Capital	\$71
<b>100% MCT Target</b>	<b>\$411</b>
Base Scenario Total Equity Forecast	\$196
Additional Total Equity required for 100% MCT Target	<b>\$215</b>

The table below provides the projected 100% MCT ratios for the fiscal year's beginning in 2018/19 through 2020/21. The supporting calculations for these figures are provided below.

**Modeled 100% MCT Requirement for the Base Forecast (in millions)**

	<b>Fiscal Year Beginning March 1, 20XX</b>		
	<b>2018</b>	<b>2019</b>	<b>2020</b>
Minimum Capital Required	\$366	\$359	\$386
Add: Assets requiring 100% Capital	\$77	\$80	\$82
<b>100% MCT Target</b>	<b>\$443</b>	<b>\$439</b>	<b>\$468</b>
Total Equity: Base Forecast	\$194	\$213	\$230
Additional Total Equity required for 100% MCT Target	<b>\$249</b>	<b>\$226</b>	<b>\$238</b>

**Revised Forecasted MCT Upper RSR Targets****Minimum Capital Test***(All figures in \$000s)*

		2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020
		Current Period (01)	Current Year (01)	Forecast Year (02)	Forecast Year (03)	Forecast Year (04)
<b>Capital Available:</b>						
Capital available (from page 30.62 - capital available)	01	339,652	340,308	365,931	359,302	386,089
Phase-in of capital available	03	0	0	0	0	0
<b>Total Capital Available</b>	<b>09</b>	339,652	340,308	365,931	359,302	386,089
<b>Assets Available:</b>						
Net Assets Available (from page 30.92 - net assets available)	11	0	0	0	0	0
Phase-in of net assets available	13	0	0	0	0	0
<b>Total Net Assets Available</b>	<b>19</b>	0	0	0	0	0

## Minimum Capital Test: 100% Modeled Capital (Margin) Required

(All figures in \$000s)

		2015 - 2016	2016 - 2017	2017 - 2018	2018 - 2019	2019 - 2020
		Current Period (01)	Current Year (01)	Forecast Year (02)	Forecast Year (03)	Forecast Year (04)
<b>Capital (Margin) Required at Target:</b>						
Insurance Risk:						
Premium liabilities	20	78,100	81,838	89,225	93,284	97,567
Unpaid claims	22	172,822	180,736	184,670	183,794	186,252
Catastrophes	24	0	0	0	0	0
Margin required for reinsurance ceded to unregistered insurers	26	0	0	0	0	0
Subtotal: Insurance risk margin	29	250,922	262,574	273,895	277,078	283,819
Market Risk:						
Interest rate risk	30	29,112	1,385	2,935	0	2,060
Foreign exchange risk	32	17,191	20,262	22,235	19,540	22,489
Equity risk	34	141,854	151,771	168,856	156,872	182,321
Real estate risk	36	53,983	60,546	63,993	65,905	68,501
Other market risk exposures	38	0	0	0	0	0
Subtotal: Market risk margin	39	242,140	233,964	258,019	242,317	275,371
Credit Risk:						
Counterparty default risk for balance sheet assets	40	19,266	15,657	18,505	19,278	20,469
Counterparty default risk for off-balance sheet exposures	42	0	0	0	0	0
Counterparty default risk for unregistered reinsurance collateral and SIRs	44	0	0	0	0	0
Subtotal: Credit risk margin	49	19,266	15,657	18,505	19,278	20,469
Operational risk margin	50	65,757	66,841	72,218	72,384	77,098
Less: Diversification credit	52	68,608	68,574	73,740	72,104	77,624
<b>Total Capital (Margin) Required at Target</b>	<b>59</b>	<b>509,477</b>	<b>510,462</b>	<b>548,897</b>	<b>538,953</b>	<b>579,133</b>
Minimum Capital (Margin) Required (line 59 / 1.5)	60	339,652	340,308	365,931	359,302	386,089
Phase-in of Capital (Margin) Required	62	0	0	0	0	0
<b>Total Minimum Capital (Margin) Required</b>	<b>69</b>	<b>339,652</b>	<b>340,308</b>	<b>365,931</b>	<b>359,302</b>	<b>386,089</b>
<b>Excess Capital (Net Assets Available) over Minimum Capital (Margin) Required</b>	<b>79</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>MCT (BAAT) Ratio (Line 09 or line 19 as a % of line 69)</b>	<b>90</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>