

October 26, 2021

2022 GENERAL RATE APPLICATION
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Undertaking #40

MPI to provide surplus volatility statistics for the shadow portfolios, as compared to the policy portfolios, from inception until the most current date available on a monthly basis, including both the calculation and underlying data for the calculations. This data would include the monthly time series of returns of shadow policy and liability benchmark portfolios. (UNDER ADVISEMENT)

RESPONSE:

Please see the *Appendix 1 Surplus Volatility*, updated as at September 30, 2021.

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2022 GENERAL RATE APPLICATION
Undertaking #40 Appendix 1

Surplus Volatility-Basic Claims Portfolio

	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
Assets-Basic Claims Portfolio																															
Actual (*)	2.24%	-0.08%	1.70%	0.98%	0.80%	1.57%	-0.52%	-0.13%	0.70%	-1.02%	2.93%	0.23%	-3.21%	4.21%	0.33%	1.98%	1.39%	-0.80%	0.37%	-0.82%	1.33%	0.61%	-1.01%	-2.38%	-1.93%	0.29%	0.87%	1.57%	1.15%	0.01%	-1.68%
Policy-Passive	3.20%	-0.21%	2.28%	1.42%	0.32%	2.41%	-1.06%	-0.39%	0.86%	-1.68%	3.80%	0.57%	-3.67%	5.67%	0.32%	2.38%	1.71%	-1.56%	0.37%	-1.10%	1.50%	0.59%	-1.60%	-3.16%	-2.37%	0.24%	0.87%	1.30%	1.37%	-0.18%	-1.71%
P1 Basic	3.22%	-0.04%	2.05%	1.31%	0.35%	2.13%	-0.98%	-0.55%	0.76%	-1.51%	3.74%	0.69%	-3.89%	4.97%	0.35%	2.30%	2.07%	-0.79%	0.25%	-0.92%	1.64%	0.55%	-1.59%	-3.40%	-1.93%	-0.23%	1.46%	1.18%	1.41%	-0.19%	-1.52%
P2 Basic	2.83%	0.48%	1.06%	1.17%	0.32%	1.47%	-0.61%	-0.73%	0.88%	-0.92%	3.03%	-0.04%	-6.29%	5.71%	1.00%	2.43%	3.03%	0.50%	-0.21%	-1.08%	3.56%	0.82%	-1.43%	-2.06%	-0.77%	-0.21%	2.75%	1.46%	1.44%	-0.06%	-0.26%

Liabilities-Minimum Risk Portfolios

Basic Claims Nominal	3.15%	-0.34%	2.30%	1.35%	0.21%	2.40%	-0.99%	-0.36%	0.87%	-1.75%	3.50%	0.61%	-2.76%	5.11%	0.22%	2.12%	1.46%	-1.74%	0.40%	-1.07%	1.31%	0.37%	-1.76%	-2.28%	-2.68%	0.10%	1.02%	1.50%	1.18%	-0.26%	-1.80%
Basic Claims Real	2.83%	0.16%	1.42%	0.94%	0.33%	1.33%	-0.59%	-0.78%	0.55%	-1.04%	2.90%	0.81%	-3.18%	2.56%	0.28%	1.66%	2.27%	0.53%	0.02%	-0.49%	1.55%	0.20%	-1.61%	-2.60%	-1.10%	-1.23%	2.51%	1.10%	1.12%	-0.28%	-1.07%

Surplus
Nominal MRP

Actual-Nominal MRP	-0.91%	0.26%	-0.60%	-0.37%	0.59%	-0.83%	0.47%	0.22%	-0.17%	0.72%	-0.57%	-0.38%	-0.45%	-0.89%	0.12%	-0.13%	-0.06%	0.94%	-0.03%	0.25%	0.01%	0.24%	0.74%	-0.10%	0.75%	0.19%	-0.15%	0.07%	-0.04%	0.27%	0.11%
Policy-Nominal MRP	0.05%	0.13%	-0.02%	0.07%	0.11%	0.01%	-0.07%	-0.03%	-0.01%	0.06%	0.30%	-0.04%	-0.92%	0.56%	0.10%	0.26%	0.26%	0.18%	-0.03%	-0.02%	0.19%	0.22%	0.16%	-0.87%	0.31%	0.14%	-0.14%	-0.20%	0.19%	0.08%	0.09%
P1 Basic-Nominal MRP	0.07%	0.30%	-0.25%	-0.04%	0.14%	-0.27%	0.01%	-0.19%	-0.11%	0.24%	0.24%	0.08%	-1.13%	-0.13%	0.14%	0.19%	0.61%	0.95%	-0.14%	0.15%	0.32%	0.18%	0.16%	-1.12%	0.75%	-0.33%	0.44%	-0.31%	0.23%	0.07%	0.27%
P2 Basic-Nominal MRP	-0.31%	0.82%	-1.24%	-0.18%	0.11%	-0.93%	0.38%	-0.38%	0.01%	0.83%	-0.47%	-0.65%	-3.54%	0.60%	0.78%	0.31%	1.58%	2.24%	-0.60%	-0.01%	2.24%	0.45%	0.33%	0.23%	1.91%	-0.31%	1.73%	-0.04%	0.26%	0.21%	1.54%

Real MRP

Actual-Real MRP	-0.59%	-0.24%	0.28%	0.04%	0.46%	0.24%	0.07%	0.64%	0.15%	0.02%	0.03%	-0.59%	-0.03%	1.66%	0.05%	0.32%	-0.88%	-1.33%	0.35%	-0.33%	-0.22%	0.41%	0.60%	0.22%	-0.83%	1.53%	-1.64%	0.47%	0.03%	0.29%	-0.62%
Policy-Real MRP	0.37%	-0.37%	0.86%	0.48%	-0.01%	1.08%	-0.46%	0.39%	0.31%	-0.64%	0.90%	-0.24%	-0.50%	3.11%	0.04%	0.72%	-0.56%	-2.09%	0.35%	-0.60%	-0.05%	0.39%	0.01%	-0.56%	-1.26%	1.48%	-1.64%	0.20%	0.26%	0.10%	-0.64%
P1 Basic-Real MRP	0.39%	-0.20%	0.63%	0.37%	0.02%	0.80%	-0.39%	0.23%	0.21%	-0.47%	0.83%	-0.12%	-0.71%	2.42%	0.07%	0.64%	-0.20%	-1.32%	0.23%	-0.43%	0.09%	0.35%	0.02%	-0.80%	-0.82%	1.01%	-1.05%	0.09%	0.29%	0.09%	-0.46%
P2 Basic-Real MRP	0.01%	0.32%	-0.36%	0.23%	-0.01%	0.14%	-0.01%	0.04%	0.33%	0.12%	0.13%	-0.85%	-3.12%	3.15%	0.71%	0.76%	0.77%	-0.03%	-0.23%	-0.59%	2.01%	0.61%	0.18%	0.54%	0.34%	1.03%	0.24%	0.36%	0.32%	0.22%	0.81%

Surplus Volatility
Nominal MRP

	from March 2019 to Mar-21	Sep-21
Actual-Nominal MRP	1.82%	1.65%
Policy-Nominal MRP	1.07%	0.99%
P1 Basic-Nominal MRP	1.55%	1.46%
P2 Basic-Nominal MRP	4.07%	3.88%

Real MRP

Actual-Real MRP	2.02%	2.34%
Policy-Real MRP	3.23%	3.24%
P1 Basic-Real MRP	2.46%	2.42%
P2 Basic-Real MRP	3.58%	3.27%

(*) Source: Ellement & MPI