*Massachusetts Workers Compensation*
*Assigned Risk Pool*

April 13, 2020

**MASSACHUSETTS WORKERS' COMPENSATION**
**ASSIGNED RISK POOL**

**SPECIAL BULLETIN NO. 04-20**
**RESIDUAL MARKET LOSS RATIO AND BURDEN ESTIMATE**

The policy year (PY) 2019 Residual Market Burden, estimated as of the fourth quarter of 2019, is 1.98%. This burden was calculated using the following data, valued as of December 31, 2019. The loss ratio was estimated by the Massachusetts Workers' Compensation Assigned Risk Pool Reserving Committee.

- The Loss Ratio is 73.0%;
- The Expense Ratio is estimated to be 36.62% of written premium;
- The policy year 2019 Servicing Carrier Written Premium is estimated to be $107,871,000;
- The estimated Voluntary Assessable Premium that is being used to determine shares of the PY 2019 Massachusetts Reinsurance Pool is $523,580,642; and
- A factor of 1.00 is used since a VDAC Reapportionment has not yet been performed on PY 2019.

The PY 2019 estimated Residual Market Burden was determined as follows:

$$(\text{Loss Ratio} + \text{Expense Ratio} - 1.00) \times \frac{\text{Servicing Carrier Premium}}{\text{Voluntary Assessable Premium}} \times \text{VDAC Factor} = \text{Residual Market Burden}$$

$$(.73 + .3662 - 1.00) \times \frac{107{,}871{,}000}{523{,}580{,}642} \times 1.00 = 0.096 \times 0.2060 \times 1.00 = 1.98\%$$

Similarly, the PY 2018 Residual Market Burden, estimated as of the fourth quarter 2019, is 1.36%, assuming a Loss Ratio of 70% and a VDAC Reapportionment factor of 1.00.

The residual market burden is a measure of the pool-related cost that pool members incur when writing assessable voluntary business. For example, a positive burden of 10% indicates that an insurer will incur ten dollars of pool-related obligations for every one hundred dollars of voluntary assessable premium written. By comparison, a burden of -5% indicates that a pool member will earn a profit of five dollars for every one hundred dollars of voluntary assessable premium written.

Note that burden estimates do not take into account those policies serviced by Voluntary Direct Assignment Carriers (VDACs). VDACs assume the underwriting results of policies assigned to them.

Exhibit 1 shows the currently estimated burden for policy years 2010 through 2019.

Exhibit 2 shows the currently estimated loss ratios, expense ratios and pool shares used to calculate the burdens for policy years 2010 through 2019.

Exhibit 3 is a graph that provides historical estimated burdens for policy years 2010 through 2019. Burden estimates may change over time because estimated loss ratios are subject to change as loss experience matures.

The residual market burdens shown in Exhibits 1, 2 and 3 ignore the time value of money, in effect assuming an interest rate of 0%. The chart in Exhibit 4 includes, solely for informational purposes, estimates of the net present values of the residual market burdens using various discount rate assumptions.

Details of the calculations are available on request from Christine Cronin at 617-646-7544 or at ccronin@wcribma.org or Laura Kirchberg at 617-646-7526 or at lkirchberg@wcribma.org.

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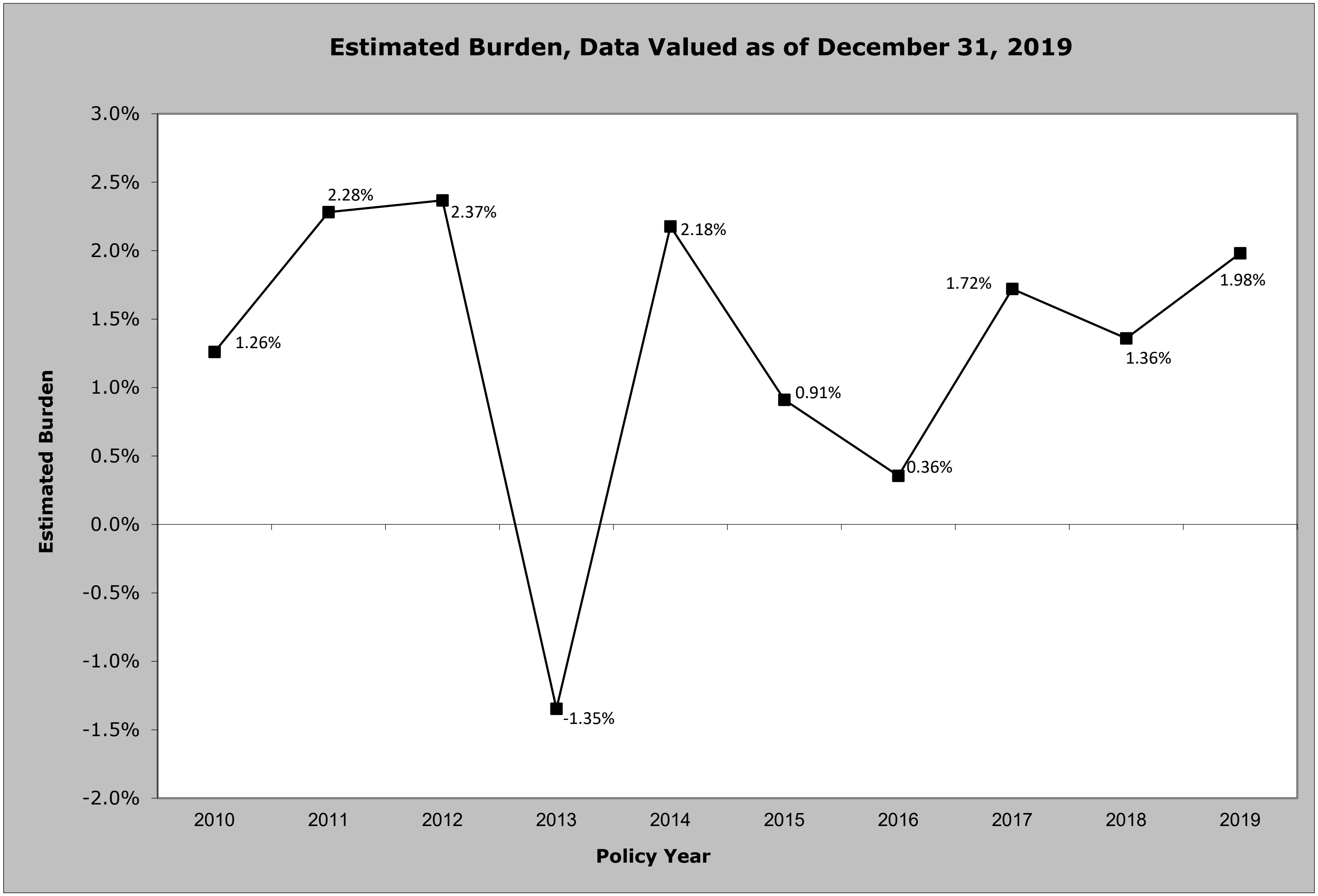
SB 04-20
Attachments

Exhibit 1



Estimated Burden, Data Valued as of December 31, 2019
Estimated Burden
3.0%
2.5%
2.0%
1.5%
1.0%
0.5%
0.0%
-0.5%
-1.0%
-1.5%
-2.0%
1.26%
2.28%
2.37%
-1.35%
2.18%
0.91%
0.36%
1.72%
1.36%
1.98%
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
Policy Year

# Residual Market Underwriting Results

Exhibit 2

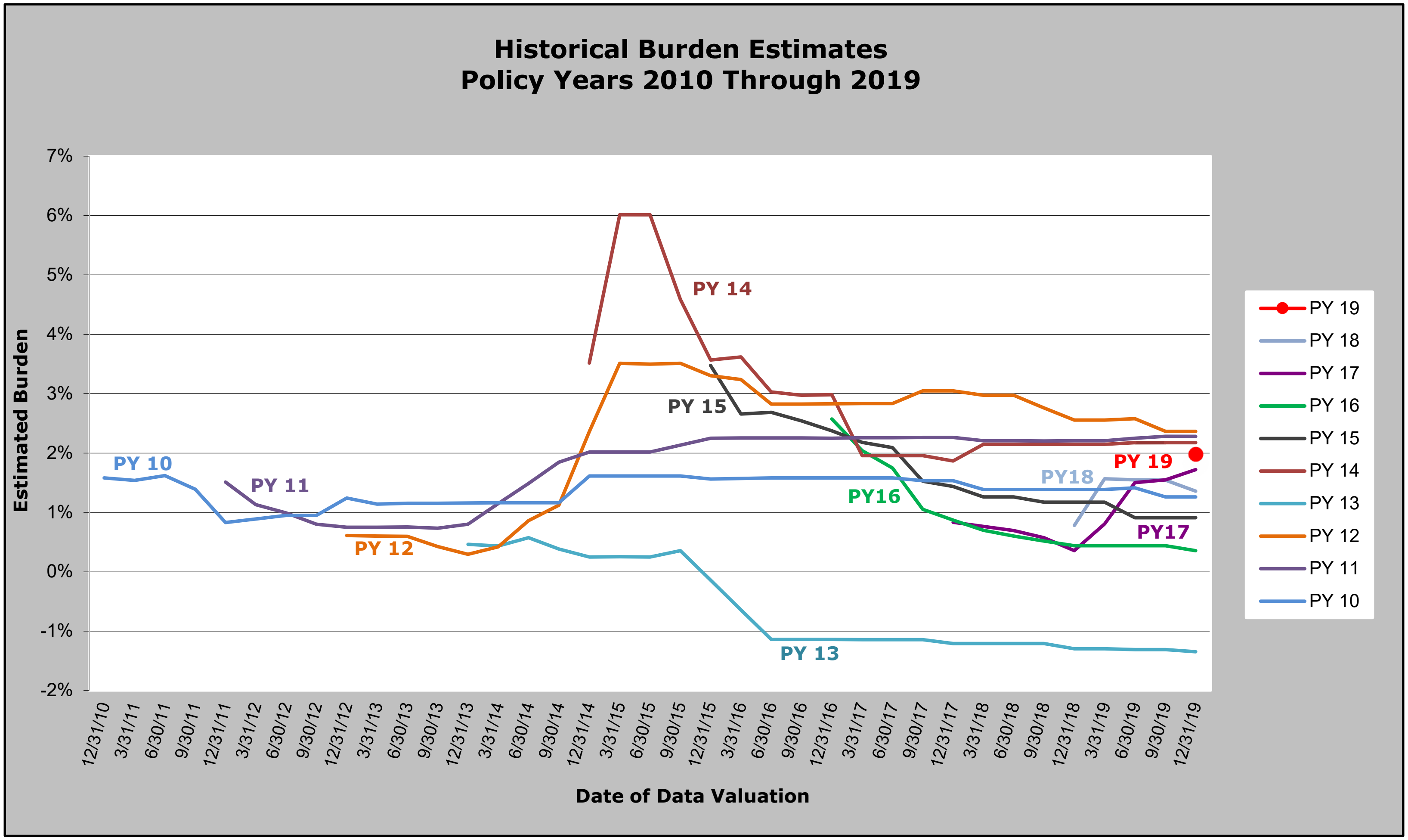
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|
| Policy Year | Loss Ratio | Expense Ratio | Ratio of Servicing Carrier Written Premium to Voluntary Assessable Premium | VDAC Factor | Leveraging Factor (4) x (5) | Estimated Pool Burden [(2)+(3)-1.00] x (6) |
| 2019 | 73.0% | 36.62% | 20.60% | 1.00 | 0.206 | 1.98% |
| 2018 | 70.0% | 35.88% | 23.13% | 1.00 | 0.231 | 1.36% |
| 2017 | 73.0% | 34.25% | 23.51% | 1.01 | 0.237 | 1.72% |
| 2016 | 68.0% | 33.46% | 25.02% | 0.97 | 0.244 | 0.36% |
| 2015 | 70.0% | 33.62% | 25.34% | 0.99 | 0.252 | 0.91% |
| 2014 | 73.0% | 35.51% | 25.68% | 1.00 | 0.256 | 2.18% |
| 2013 | 59.0% | 35.04% | 21.99% | 1.03 | 0.226 | -1.35% |
| 2012 | 75.0% | 37.33% | 19.59% | 0.98 | 0.192 | 2.37% |
| 2011 | 74.0% | 40.86% | 18.63% | 0.82 | 0.154 | 2.28% |
| 2010 | 66.0% | 43.10% | 12.70% | 1.09 | 0.138 | 1.26% |

**Notes:**

A VDAC Reapportionment has not yet been performed on PY 2018 or PY 2019, so a factor of 1.00 is being used.
Applying the Final 2017 VDAC Factor of 1.0090 caused the 2017 Estimated Pool Burden to increase from 1.70% to 1.72%.
Applying the Final 2016 VDAC Factor of 0.9731 caused the 2016 Estimated Pool Burden to decrease from 0.37% to 0.36%.
Applying the Final 2015 VDAC Factor of 0.9927 caused the 2015 Estimated Pool Burden to decrease from 0.92% to 0.91%.
Applying the Final 2014 VDAC Factor of 0.9957 caused the 2014 Estimated Pool Burden to decrease from 2.19% to 2.18%.
Applying the Final 2013 VDAC Factor of 1.0272 caused the 2013 Estimated Pool Burden to decrease from -1.31% to -1.35%.

A VDAC Factor greater than one adjusts for over-assignment of residual market premium to the VDAC carriers relative to their final participation ratios. Similarly, a VDAC factor less than one adjusts for under-assignment of residual market premium to the VDAC carriers relative to their final participation ratios.

Exhibit 3



Historical Burden Estimates
Policy Years 2010 Through 2019
Estimated Burden
7%
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
PY 10
PY 11
PY 12
PY 13
PY 14
PY 15
PY16
PY17
PY18
PY 19
12/31/10
3/31/11
6/30/11
9/30/11
12/31/11
3/31/12
6/30/12
9/30/12
12/31/12
3/31/13
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12/31/16
3/31/17
6/30/17
9/30/17
12/31/17
3/31/18
6/30/18
9/30/18
12/31/18
3/31/19
6/30/19
9/30/19
12/31/19
Date of Data Valuation
PY 19
PY 18
PY 17
PY 16
PY 15
PY 14
PY 13
PY 12
PY 11
PY 10

# Net Present Value of Residual Market Burden

The chart below includes, solely for informational purposes, estimates of the net present values of the residual market burdens using various discount rate assumptions.

| Policy Year | 0% | 1% | 2% | 3% | 4% | 5% | 6% | 7% | 8% | 9% | 10% | 11% | 12% |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2019** | 1.98% | 1.36% | 0.81% | 0.37% | -0.03% | -0.40% | -0.72% | -1.00% | -1.27% | -1.51% | -1.74% | -1.94% | -2.13% |
| **2018** | 1.36% | 0.68% | 0.12% | -0.38% | -0.81% | -1.19% | -1.53% | -1.82% | -2.10% | -2.37% | -2.60% | -2.83% | -3.01% |
| **2017** | 1.72% | 1.00% | 0.38% | -0.13% | -0.59% | -1.00% | -1.37% | -1.70% | -2.00% | -2.28% | -2.53% | -2.76% | -2.98% |
| **2016** | 0.36% | -0.33% | -0.90% | -1.39% | -1.84% | -2.22% | -2.54% | -2.88% | -3.13% | -3.40% | -3.63% | -3.85% | -4.06% |
| **2015** | 0.91% | 0.18% | -0.43% | -0.97% | -1.43% | -1.85% | -2.21% | -2.53% | -2.82% | -3.12% | -3.36% | -3.61% | -3.81% |
| **2014** | 2.18% | 1.40% | 0.73% | 0.18% | -0.32% | -0.77% | -1.17% | -1.52% | -1.84% | -2.15% | -2.42% | -2.68% | -2.91% |
| **2013** | -1.35% | -1.89% | -2.33% | -2.72% | -3.07% | -3.38% | -3.64% | -3.88% | -4.10% | -4.30% | -4.48% | -4.63% | -4.79% |
| **2012** | 2.37% | 1.76% | 1.26% | 0.80% | 0.43% | 0.07% | -0.23% | -0.52% | -0.76% | -0.99% | -1.22% | -1.41% | -1.60% |
| **2011** | 2.28% | 1.80% | 1.40% | 1.04% | 0.73% | 0.46% | 0.22% | 0.00% | -0.21% | -0.40% | -0.57% | -0.73% | -0.87% |
| **2010** | 1.26% | 0.88% | 0.56% | 0.27% | 0.02% | -0.18% | -0.38% | -0.56% | -0.71% | -0.87% | -0.99% | -1.12% | -1.24% |

Premium and loss cash flows used to calculate the net present value of residual market burdens are consistent with premium development patterns and paid loss development patterns in the most recent rate filing.