



*Massachusetts Workers Compensation  
Assigned Risk Pool*

April 27, 2022

**MASSACHUSETTS WORKERS' COMPENSATION  
ASSIGNED RISK POOL**

**SPECIAL BULLETIN NO. 04-22  
RESIDUAL MARKET LOSS RATIO AND BURDEN ESTIMATE**

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The policy year (PY) 2021 Residual Market Burden, estimated as of the fourth quarter of 2021, is 3.98%. This burden was calculated using the following data, valued as of December 31, 2021. The loss ratio was estimated by the Massachusetts Workers' Compensation Assigned Risk Pool Reserving Committee.

- The Loss Ratio is 85.0%;
- The Expense Ratio is estimated to be 36.72% of written premium;
- The policy year 2021 Servicing Carrier Written Premium is estimated to be \$93,458,000;
- The Voluntary Assessable Premium that is being used to determine shares of the PY 2021 Massachusetts Reinsurance Pool is \$509,955,374; and
- A factor of 1.00 is used since a VDAC Reapportionment has not yet been performed on PY 2021.

The PY 2021 estimated Residual Market Burden was determined as follows:

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

$$(0.85 + 0.3672 - 1.00) \times \frac{93,458,000}{509,955,374} \times 1.00 = 0.2172 \times 0.1833 \times 1.00 = 3.98\%$$

Similarly, the PY 2020 Residual Market Burden, estimated as of the fourth quarter 2021, is 0.23%, assuming a Loss Ratio of 67% 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 2012 through 2021.

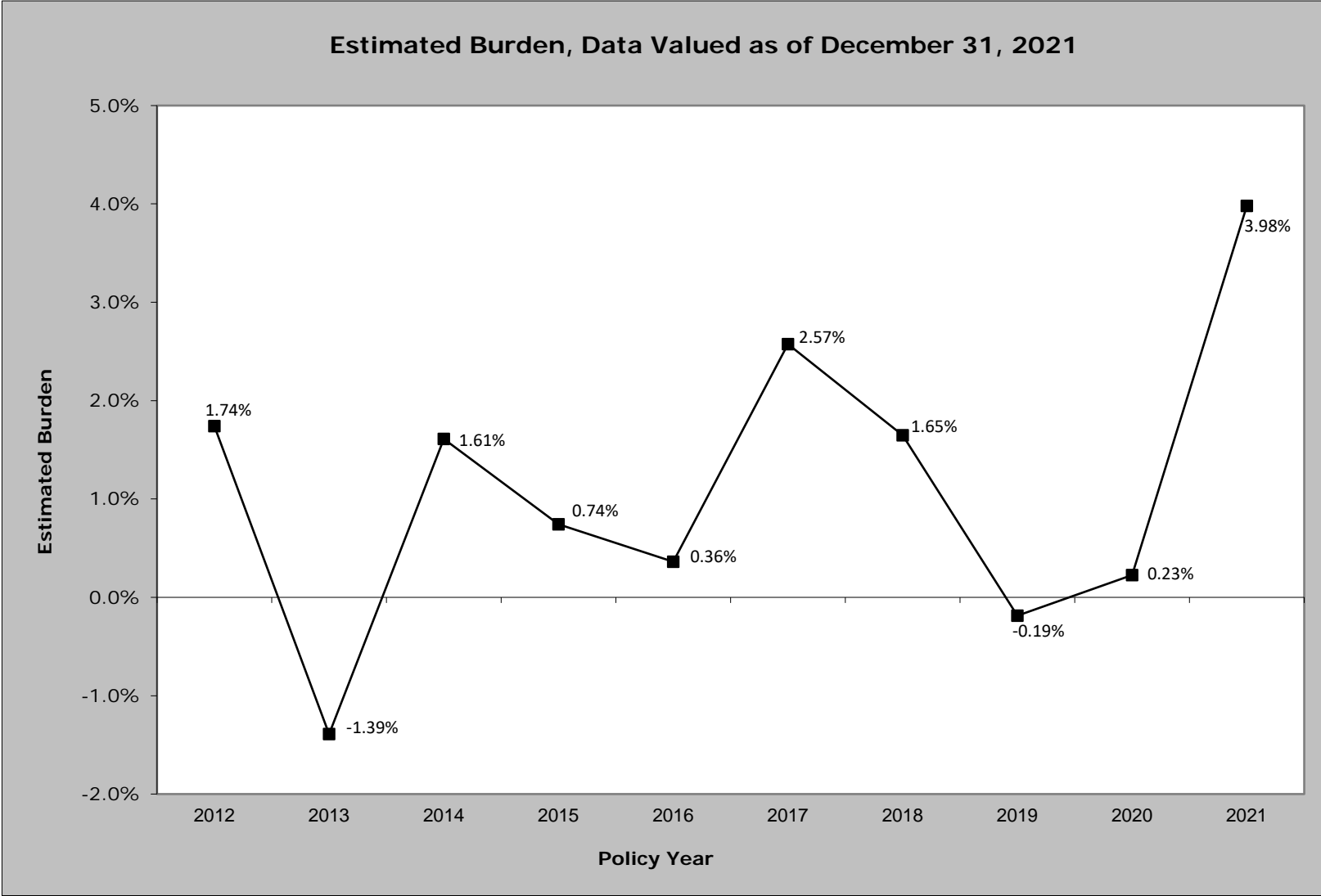
Exhibit 2 shows the currently estimated loss ratios, expense ratios and pool shares used to calculate the burdens for policy years 2012 through 2021.

Exhibit 3 is a graph that provides historical estimated burdens for policy years 2012 through 2021. 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](mailto:ccronin@wcribma.org) or Laura Kirchberg at 617-646-7526 or at [lkirchberg@wcribma.org](mailto:lkirchberg@wcribma.org).

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## 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)
2021	85.0%	36.72%	18.33%	1.00	0.183	3.98%
2020	67.0%	34.15%	19.72%	1.00	0.197	0.23%
2019	65.0%	34.02%	19.46%	0.97	0.189	-0.19%
2018	73.0%	34.54%	22.99%	0.95	0.218	1.65%
2017	77.0%	33.84%	23.53%	1.01	0.237	2.57%
2016	68.0%	33.49%	25.04%	0.97	0.244	0.36%
2015	70.0%	32.95%	25.37%	0.99	0.252	0.74%
2014	71.0%	35.29%	25.70%	1.00	0.256	1.61%
2013	59.0%	34.85%	22.01%	1.03	0.226	-1.39%
2012	72.0%	37.02%	19.70%	0.98	0.193	1.74%

**Notes:**

A VDAC Reapportionment has not yet been performed on PY 2020 or PY 2021, so a factor of 1.00 is being used.

Applying the Final 2019 VDAC Factor of 0.9735 caused no change to the 2019 Estimated Pool Burden.

Applying the Final 2018 VDAC Factor of 0.9501 caused the 2018 Estimated Pool Burden to decrease from 1.73% to 1.65%.

Applying the Final 2017 VDAC Factor of 1.0090 caused the 2017 Estimated Pool Burden to increase from 2.55% to 2.57%.

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 0.75% to 0.74%.

Applying the Final 2014 VDAC Factor of 0.9957 caused the 2014 Estimated Pool Burden to decrease from 1.62% to 1.61%.

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.



### 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%
2021	3.98%	3.33%	2.78%	2.29%	1.86%	1.48%	1.15%	0.85%	0.56%	0.30%	0.07%	-0.15%	-0.35%
2020	0.23%	-0.31%	-0.77%	-1.15%	-1.50%	-1.80%	-2.07%	-2.32%	-2.53%	-2.74%	-2.93%	-3.11%	-3.26%
2019	-0.19%	-0.68%	-1.10%	-1.47%	-1.78%	-2.06%	-2.31%	-2.53%	-2.73%	-2.94%	-3.10%	-3.25%	-3.40%
2018	1.65%	0.99%	0.43%	-0.06%	-0.46%	-0.84%	-1.18%	-1.48%	-1.76%	-1.99%	-2.23%	-2.44%	-2.64%
2017	2.57%	1.81%	1.19%	0.63%	0.15%	-0.29%	-0.69%	-1.03%	-1.36%	-1.63%	-1.91%	-2.15%	-2.38%
2016	0.36%	-0.30%	-0.89%	-1.39%	-1.81%	-2.19%	-2.52%	-2.82%	-3.11%	-3.37%	-3.60%	-3.82%	-4.01%
2015	0.74%	0.03%	-0.58%	-1.11%	-1.58%	-1.99%	-2.33%	-2.67%	-2.96%	-3.23%	-3.48%	-3.72%	-3.95%
2014	1.61%	0.86%	0.24%	-0.31%	-0.78%	-1.21%	-1.58%	-1.93%	-2.26%	-2.53%	-2.79%	-3.04%	-3.27%
2013	-1.39%	-1.92%	-2.38%	-2.77%	-3.10%	-3.40%	-3.66%	-3.91%	-4.10%	-4.30%	-4.48%	-4.66%	-4.81%
2012	1.74%	1.17%	0.68%	0.27%	-0.11%	-0.43%	-0.74%	-0.98%	-1.23%	-1.46%	-1.65%	-1.84%	-2.02%

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.