

PENNSYLVANIA COMPENSATION RATING BUREAU

State and Hazard Group Relativities

The attached exhibit pages present an analysis of Pennsylvania State and Hazard Group relativities.

The exhibit on page 24.1 shows the derivation of the April 1, 2024 proposed relativities. PCRБ and countrywide average severities are shown by hazard group and in total. A credibility weight is calculated for each hazard group based on the number of claims. A credibility weighted average severity is then calculated and these average severities are related to the countrywide average severity for all hazard groups combined to generate the indicated (and selected) relativities.

Page 24.2 shows the calculation of the overall countrywide average severity that is used in page 24.1.

**Derivation of State and Hazard Group Relativities
Pennsylvania April 1, 2024 Filing**

Hazard Group	Current Relativity (1)	PCRB Average Severity (2)	Ratio to PCRB Total (3)	Ratio PCRB to Countrywide Total (4)	Ratio to NCCI Total (5)	Countrywide Average Severity (6)	# Claims (7)	Credibility (8)	Credibility Weighted Average Severity (9)	Ratio to Countrywide Total (10)	Selected State & Hazard Group Relativity (11)
A	1.59	41,661	1.631	1.516	1.602	39,440	5,770	0.193	39,869	1.585	1.59
B	1.30	48,439	1.403	1.304	1.307	48,321	14,412	0.305	48,357	1.306	1.31
C	1.16	55,596	1.222	1.136	1.169	54,060	31,712	0.452	54,754	1.154	1.15
D	0.96	65,210	1.042	0.969	0.993	63,631	35,647	0.480	64,389	0.981	0.98
E	0.85	72,654	0.935	0.870	0.840	75,188	17,692	0.338	74,332	0.850	0.85
F	0.65	101,449	0.670	0.623	0.685	92,236	15,835	0.320	95,184	0.664	0.66
G	0.59	117,388	0.579	0.538	0.597	105,765	6,235	0.201	108,101	0.584	0.58
All		67,947		0.930		63,177	127,303	0.906	67,498		

(1) Prior Year Values

(2) From PCRB Unit Statistical Data

(3) = $(2)_{All} / (2)_i$

(4) = $(6)_{All} / (2)_i$

(5) From NCCI Item Filing R-1413 - 2017 Update to the Retrospective Rating Plan Parameters

The value for each hazard group = (Countrywide Average Severity for the Hazard Group / Countrywide Overall Average Severity)

(6) = $(6)_{All} / (5)_i$ with the value, $(5)_{All}$, calculated on page 24.2

(7) From PCRB Unit Statistical Data

(8) = $[\# \text{ claims by TOI} / 155,000]^{0.5}$

(9) = $[\text{PCRB Average Severity} * \text{Credibility}] + [\text{Countrywide Average Severity} * (1 - \text{Credibility})]$

(10) = $(6)_{All} / (9)_i$

(11) = (10), rounded to two decimals

Projected Countrywide Average Severity

NCCI Effective Date	NCCI Countrywide Average Severity	Exponential Trends	
1/1/2007	44,457	12 year	1.70%
1/1/2008	51,533	11 year	1.00%
1/1/2009	55,578	10 year	0.60%
1/1/2010	57,375	9 year	0.50%
1/1/2011	57,797	8 year	0.60%
1/1/2012	57,797	7 year (selected)	0.90%
1/1/2013	57,027	6 year	1.50%
1/1/2014	55,818	5 year	2.10%
1/1/2015	55,954	4 year	2.10%
1/1/2016	59,215	3 year	0.40%
1/1/2017	60,022	2 year	-0.50%
1/1/2018	59,736 *		

Selected Countrywide Average Severity = 59,736 * [(1.009) ^ 6.25 years] = 63,177
 where 6.25 years is the difference between one year past the filing effective date (4/1/2025)
 and one year past the latest NCCI effective date (1/1/2019).

* From NCCI Item Filing R-1413 - 2017 Update to the Retrospective Rating Plan Parameters