

PENNSYLVANIA COMPENSATION RATING BUREAU

Claim Frequencies

The attached exhibits examine historical Workers Compensation claim frequencies in Pennsylvania.

Claim frequencies per \$1 million of expected losses are shown on Page 1 based on statistics gathered by the PCRB. For informational purposes, claim frequencies are also shown at constant (2008) wage levels. The data excludes the experience of deductible business.

Staff is proposing an annual change in claim frequency of -6.3%. This is based on a claim frequency trend line of the form $y=a*b^x$ using the most recent seven points.

The second page shows Unit Statistical Data reported claim counts and the associated claim development factors for experience excluding deductible business.

The third page shows a graph of the frequencies appearing in column (7) of Page 1.

The fourth through sixth pages are comparable to Pages 1 through 3 but include the experience of deductible policies.

The seventh page shows a graph comparing claim frequencies presented on Pages 3 and 6, all indexed to a common value of 1.0 at January 1, 2008.

Page 8 presents the Unit Statistical Plan claim frequencies of Page 1 by industry group and Page 9 shows a graph of those industry group claim frequencies.

Pennsylvania W.C - Claim Frequencies

PCRB Unit Statistical Plan
(Excluding Deductible Business)

Policy Year	Reported Claim Counts (1)	Indemnity Claim Dev Factors (2)	Ultimate Claim Counts (3)	% Change Counts (4)	Expected Losses (5)	% Change Expected Loss (6)	Claim Frequency (# Claims per \$1 million) (7)	% Change Claim Freq (8)
2008	24,844	1.000	24,844		891,281,369		27.87	
2009	23,168	1.000	23,168	-6.7%	852,240,537	-4.4%	27.18	-2.5%
2010	23,971	1.000	23,971	3.5%	899,190,222	5.5%	26.66	-1.9%
2011	23,270	1.000	23,270	-2.9%	931,746,646	3.6%	24.97	-6.3%
2012	21,517	1.000	21,517	-7.5%	919,342,563	-1.3%	23.40	-6.3%
2013	21,636	1.000	21,636	0.6%	943,877,951	2.7%	22.92	-2.1%
2014	20,661	1.000	20,661	-4.5%	986,780,193	4.5%	20.94	-8.6%
2015	19,959	1.002	19,999	-3.2%	1,034,494,437	4.8%	19.33	-7.7%
2016	19,090	1.008	19,243	-3.8%	1,063,549,921	2.8%	18.09	-6.4%
2017	18,494	1.032	19,090	-0.8%	1,115,629,314	4.9%	17.11	-5.4%
2018	18,633	1.032	19,233	0.8%	1,177,056,814	5.5%	16.34	-4.5%

Period	Annual % Change in Claim Frequency	Period	Annual % Change in Claim Frequency
PY08-PY18	-5.6%	PY08-PY17	-5.5%
PY09-PY18	-5.9%	PY09-PY17	-5.9%
PY10-PY18	-6.1%	PY10-PY17	-6.2%
PY11-PY18	-6.1%	PY11-PY17	-6.3%
PY12-PY18	-6.3%	PY12-PY17	-6.5%
PY13-PY18	-6.5%	PY13-PY17	-7.0%
PY14-PY18	-6.0%	PY14-PY17	-6.5%
PY15-PY18	-5.4%	PY15-PY17	-5.9%
PY16-PY18	-5.0%	PY16-PY17	-5.4%
PY17-PY18	-4.5%		

Policy Years 2017 and 2018 are both at first report. 2018 uses Policy data, 2017 and prior uses Unit Statistical Plan data.

Policy Year	SAWW	% Change SAWW	SAWW Index	Adjusted Claim Frequency # Claims per \$1 million	% Change Adj Claim Frequency
2008	845.5				
2009	860.1	1.7%	1.0173	27.66	
2010	887.9	3.2%	1.0501	27.99	1.2%
2011	915.3	3.1%	1.0825	27.04	-3.4%
2012	932.5	1.9%	1.1029	25.81	-4.5%
2013	952.0	2.1%	1.1260	25.81	0.0%
2014	976.8	2.6%	1.1552	24.19	-6.3%
2015	996.6	2.0%	1.1787	22.79	-5.8%
2016	1,024.3	2.8%	1.2114	21.92	-3.8%
2017	1,050.0	2.5%	1.2419	21.25	-3.1%
2018	1,081.3	3.0%	1.2788	20.90	-1.6%

Period	Annual % Change in Adjusted Claim Frequency	Period	Annual % Change in SAWW
PY08-PY18		PY08-PY18	2.5%
PY09-PY18	-3.5%	PY09-PY18	2.5%
PY10-PY18	-3.8%	PY10-PY18	2.4%
PY11-PY18	-3.9%	PY11-PY18	2.4%
PY12-PY18	-3.9%	PY12-PY18	2.5%
PY13-PY18	-4.1%	PY13-PY18	2.5%
PY14-PY18	-3.6%	PY14-PY18	2.6%
PY15-PY18	-2.9%	PY15-PY18	2.7%
PY16-PY18	-2.4%	PY16-PY18	2.7%
PY17-PY18	-1.6%	PY17-PY18	3.0%

Adjusted claim frequency is claim frequency per \$1 million expected losses at constant (2008) wages

Projected Annual Change in Claim Frequency: **-6.3%** (See PY12-PY18)

Pennsylvania W.C - Claim Frequencies

PCRB Unit Statistical Plan

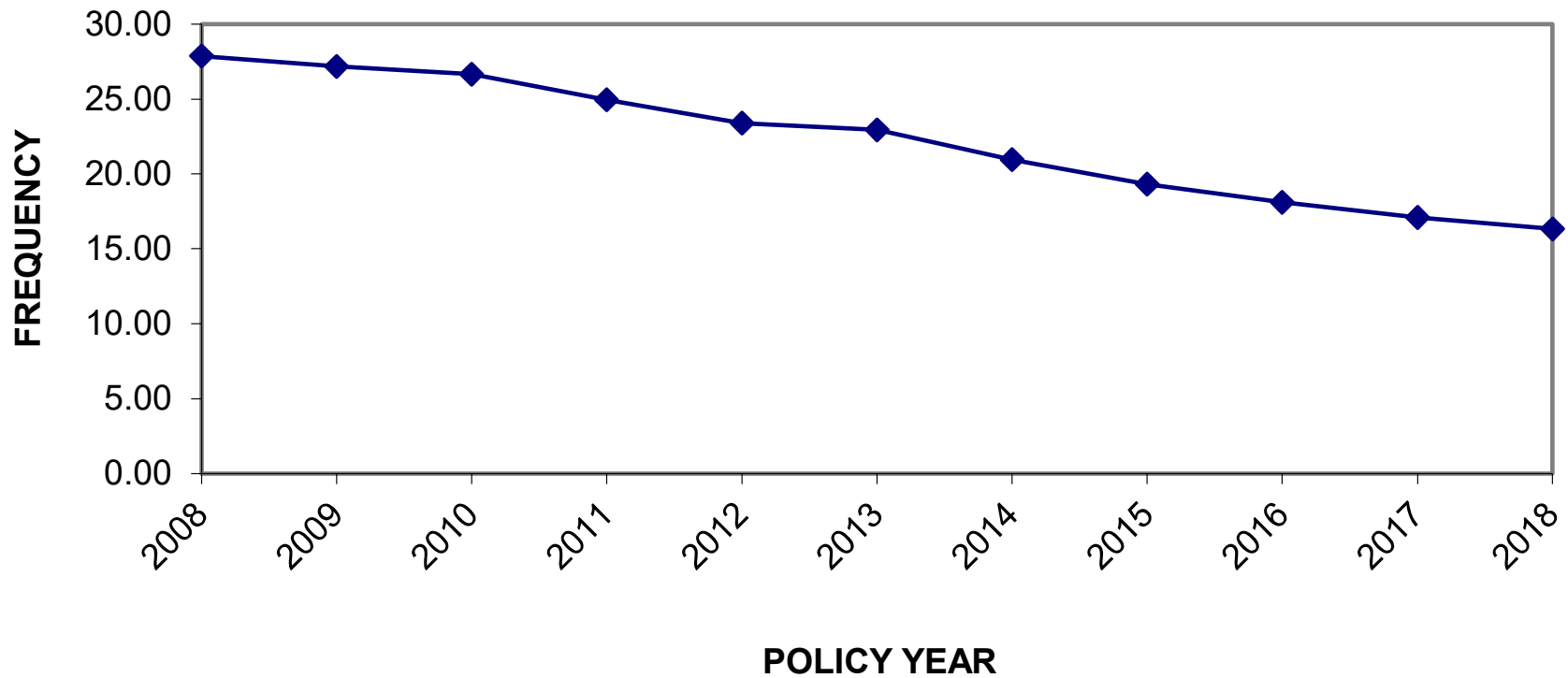
(Excluding Deductible Business)

Reported Claim Count Development

Policy Year	Reported Claim Counts									
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
2005								26,580	27,873	27,875
2006							26,144	27,662	27,661	27,671
2007						25,095	27,250	27,253	27,263	27,268
2008					22,147	24,834	24,831	24,839	24,842	24,844
2009				19,354	23,157	23,166	23,165	23,168	23,168	
2010			17,154	23,931	23,946	23,964	23,968	23,971		
2011		11,032	23,201	23,247	23,260	23,268	23,270			
2012		21,320	21,459	21,506	21,516	21,517				
2013	20,902	21,457	21,597	21,633	21,636					
2014	20,044	20,489	20,595	20,661						
2015	19,407	19,861	19,959							
2016	18,650	19,090								
2017	18,494									

Policy Year	Claim Development Factors									
	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>	<u>5-6</u>	<u>6-7</u>	<u>7-8</u>	<u>8-9</u>	<u>9-10</u>	
2005									1.000	
2006								1.000	1.000	
2007							1.000	1.000	1.000	
2008						1.000	1.000	1.000	1.000	
2009					1.000	1.000	1.000	1.000		
2010				1.001	1.001	1.000	1.000			
2011			1.002	1.001	1.000	1.000				
2012		1.007	1.002	1.000	1.000					
2013	1.027	1.007	1.002	1.000						
2014	1.022	1.005	1.003							
2015	1.023	1.005								
2016	1.024									
Average CDF	1.024	1.006	1.002	1.000	1.000	1.000	1.000	1.000	1.000	
Selected CDF	1.024	1.006	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Cum CDF	1.032	1.008	1.002	1.000	1.000	1.000	1.000	1.000	1.000	1.000
										Tail

PA W.C. - CLAIM FREQUENCIES PCRB Unit Statistical Plan (Excl. Deductible Business)



—◆— Claim Freq per \$1 Million Expected Losses

Pennsylvania W.C - Claim Frequencies
 PCRB Unit Statistical Plan
 All Business Including Deductible Business

Policy Year	# of Claim Indemnity (1)	Indemnity Claim Dev Factors (2)	Ultimate Claim Counts (3)	% Change Counts (2)	Expected Losses (3)	% Change Exp Loss (4)	Claim Frequency (#Claims per \$1 million) (5)	% Change Claim Freq (6)
2008	37,890	1.000	37,890		1,396,709,586		27.13	
2009	35,686	1.000	35,686	-5.8%	1,353,412,190	-3.1%	26.37	-2.8%
2010	36,403	1.000	36,403	2.0%	1,427,246,283	5.5%	25.51	-3.3%
2011	35,529	1.000	35,529	-2.4%	1,496,414,760	4.8%	23.74	-6.9%
2012	33,944	1.000	33,944	-4.5%	1,513,795,560	1.2%	22.42	-5.6%
2013	34,769	1.000	34,769	2.4%	1,572,833,466	3.9%	22.11	-1.4%
2014	33,665	1.001	33,699	-3.1%	1,656,012,637	5.3%	20.35	-8.0%
2015	32,462	1.004	32,592	-3.3%	1,716,727,868	3.7%	18.98	-6.7%
2016	31,336	1.011	31,682	-2.8%	1,764,946,943	2.8%	17.95	-5.4%
2017	30,473	1.043	31,795	0.4%	1,869,885,893	5.9%	17.00	-5.3%
2018	30,331	1.043	31,647	-0.5%	1,963,668,274	5.0%	16.12	-5.2%

Period	Annual % Change In Claim Frequency	Period	Annual % Change In Claim Frequency
PY08-PY18	-5.3%	PY08-PY17	-5.2%
PY09-PY18	-5.5%	PY09-PY17	-5.4%
PY10-PY18	-5.6%	PY10-PY17	-5.6%
PY11-PY18	-5.5%	PY11-PY17	-5.6%
PY12-PY18	-5.7%	PY12-PY17	-5.8%
PY13-PY18	-6.0%	PY13-PY17	-6.3%
PY14-PY18	-5.6%	PY14-PY17	-5.8%
PY15-PY18	-5.3%	PY15-PY17	-5.4%
PY16-PY18	-5.2%	PY16-PY17	-5.3%
PY17-PY18	-5.2%		

Policy Years 2017 and 2018 are both at first report. 2018 uses Policy data, 2017 and prior uses Unit Statistical Plan data.

Policy Year	SAWW	% Change SAWW	SAWW Index	Adjusted Claim Frequency # Claims per \$1 million	% Change Adj Claim Frequency
2008	845.5		1.0000	27.13	
2009	860.1	1.7%	1.0173	26.82	-1.1%
2010	887.9	3.2%	1.0501	26.78	-0.1%
2011	915.3	3.1%	1.0825	25.70	-4.0%
2012	932.5	1.9%	1.1029	24.73	-3.8%
2013	952.0	2.1%	1.1260	24.89	0.6%
2014	976.8	2.6%	1.1552	23.51	-5.5%
2015	996.6	2.0%	1.1787	22.38	-4.8%
2016	1,024.3	2.8%	1.2114	21.75	-2.8%
2017	1,050.0	2.5%	1.2419	21.12	-2.9%
2018	1,081.3	3.0%	1.2788	20.61	-2.4%

Period	Annual % Change In Adjusted Claim Frequency	Period	Annual % Change in SAWW
PY08-PY18	-2.9%	PY08-PY18	2.5%
PY09-PY18	-3.1%	PY09-PY18	2.5%
PY10-PY18	-3.3%	PY10-PY18	2.4%
PY11-PY18	-3.3%	PY11-PY18	2.4%
PY12-PY18	-3.3%	PY12-PY18	2.5%
PY13-PY18	-3.6%	PY13-PY18	2.5%
PY14-PY18	-3.2%	PY14-PY18	2.6%
PY15-PY18	-2.7%	PY15-PY18	2.7%
PY16-PY18	-2.7%	PY16-PY18	2.7%
PY17-PY18	-2.4%	PY17-PY18	3.0%

Adjusted claim frequency is claim frequency per \$1 million expected losses at constant (2008) wages

Pennsylvania W.C - Claim Frequencies

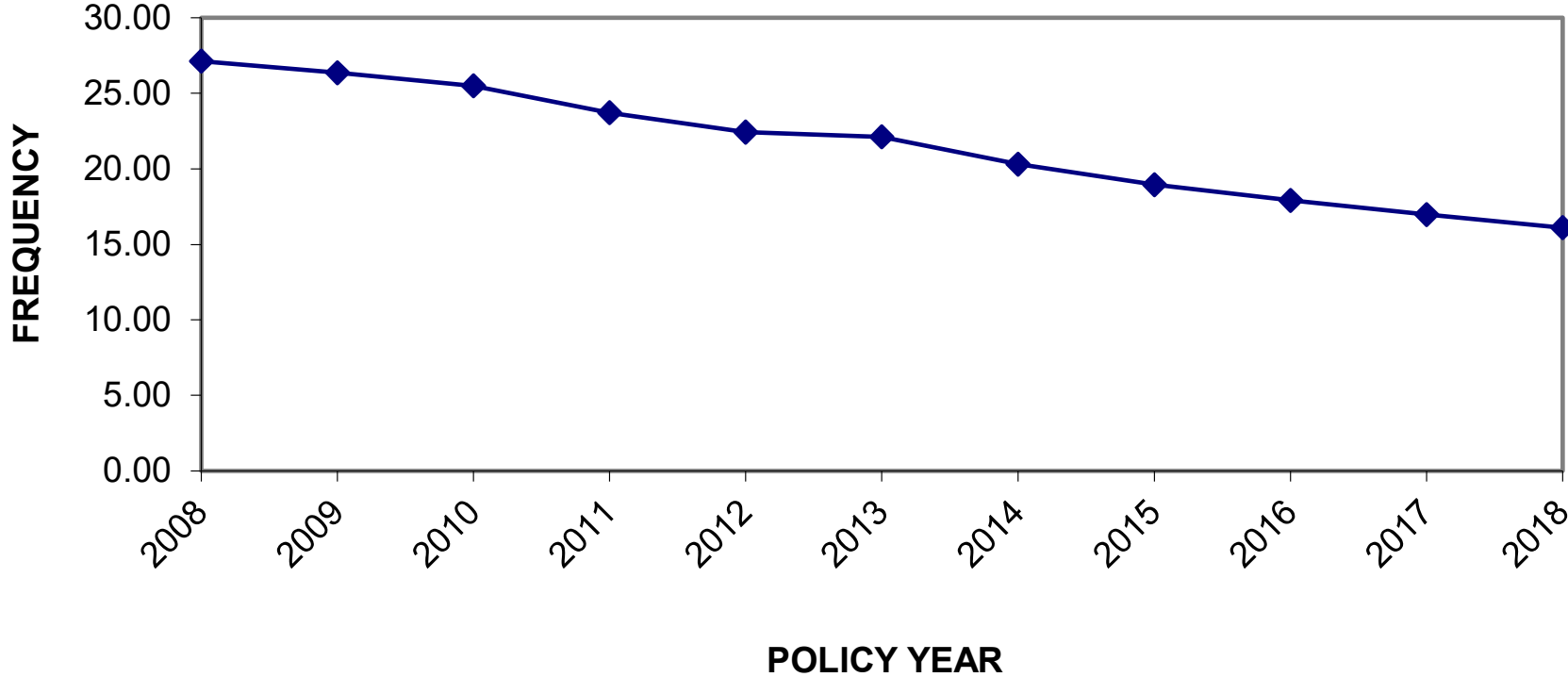
PCRB Unit Statistical Plan
(Including Deductible Business)

Reported Claim Count Development

Policy Year	Reported Claim Counts									
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
2005								41,468	43,454	43,458
2006							39,733	42,104	42,108	42,121
2007						38,756	42,165	42,170	42,182	42,189
2008					33,413	37,862	37,865	37,878	37,884	37,890
2009				29,191	35,648	35,661	35,666	35,681	35,686	
2010			25,420	36,330	36,356	36,384	36,404	36,403		
2011		15,979	35,415	35,492	35,511	35,526	35,529			
2012		33,505	33,805	33,914	33,939	33,944				
2013	33,285	34,400	34,652	34,745	34,769					
2014	32,380	33,353	33,556	33,665						
2015	31,277	32,266	32,462							
2016	30,398	31,336								
2017	30,473									

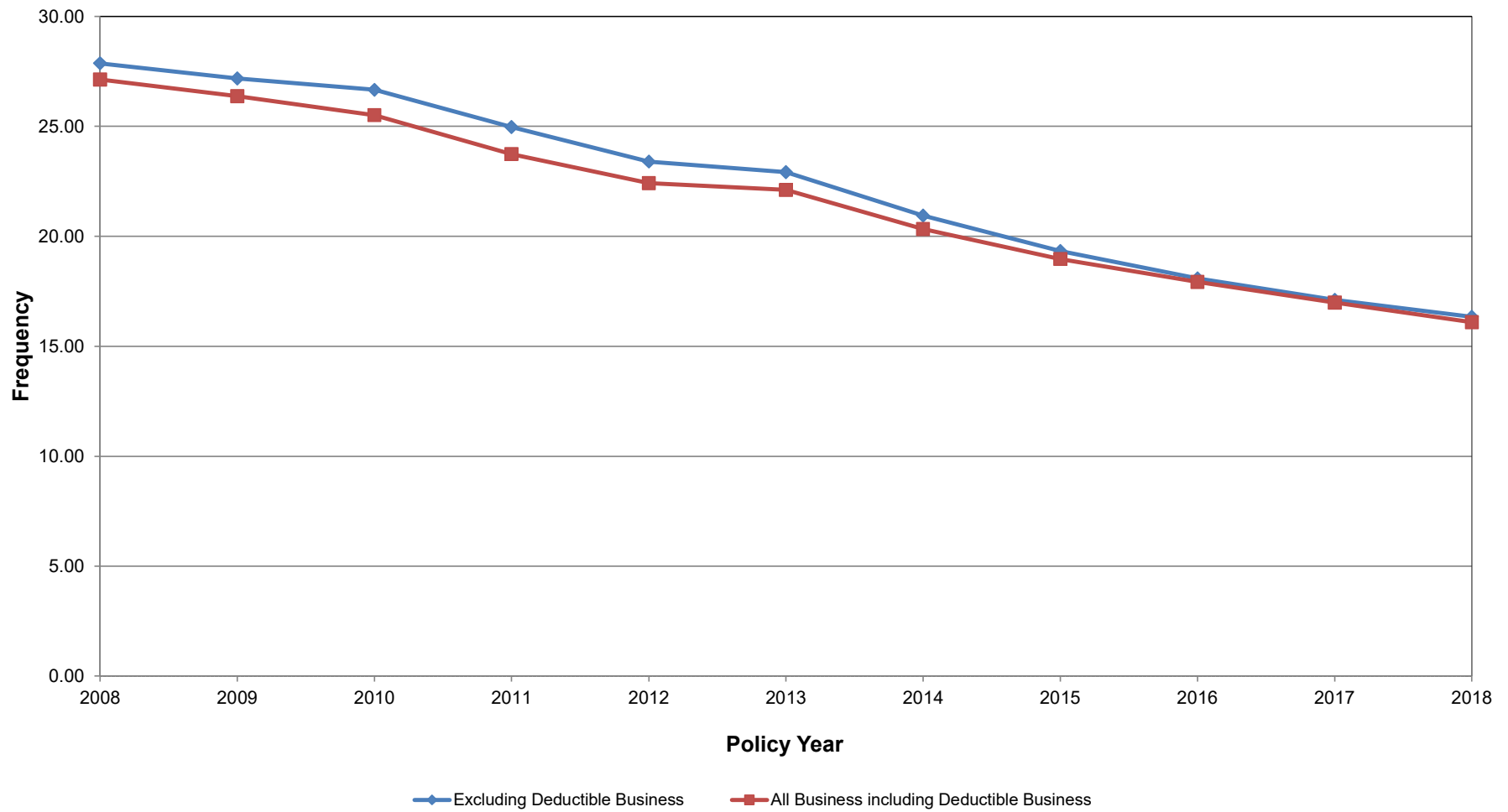
Policy Year	Claim Development Factors									
	<u>1-2</u>	<u>2-3</u>	<u>3-4</u>	<u>4-5</u>	<u>5-6</u>	<u>6-7</u>	<u>7-8</u>	<u>8-9</u>	<u>9-10</u>	
2005										1.000
2006								1.000		1.000
2007							1.000	1.000		1.000
2008						1.000	1.000	1.000		1.000
2009					1.000	1.000	1.000	1.000		
2010				1.001	1.001	1.001	1.000			
2011			1.002	1.001	1.000	1.000				
2012		1.009	1.003	1.001	1.000					
2013	1.033	1.007	1.003	1.001						
2014	1.030	1.006	1.003							
2015	1.032	1.006								
2016	1.031									
Average CDF	1.032	1.007	1.003	1.001	1.000	1.000	1.000	1.000	1.000	
Selected CDF	1.032	1.007	1.003	1.001	1.000	1.000	1.000	1.000	1.000	1.000
Cum CDF	1.043	1.011	1.004	1.001	1.000	1.000	1.000	1.000	1.000	1.000
										Tail

PA W.C. - CLAIM FREQUENCIES
PCRB Unit Statistical Plan (All Business Incl. Deductible Business)



—◆— Claim Freq per \$1 Million Expected Losses

PA W.C. - COMPARISON OF CLAIM FREQUENCIES (Claim Frequencies per \$1 Million Expected Losses)



Pennsylvania W.C. - Claim Frequencies
 PCRB Unit Statistical Plan
 (Excluding Deductible Business)

Policy Year	Industry Group	Reported Claim Counts (1)	Indemnity Claim Dev Factors (2)	Ultimate Claim Counts (3)	% Change Counts (4)	Expected Losses (5)	% Change Exp Loss (6)	Claim Frequency (#Claims per \$1 million) (7)	% Change Frequency (8)	Period	Annual % Change In Claim Frequency
2008	1 (MFG)	4,473	1.000	4,473		154,350,096		28.98		PY08-PY18	-4.4%
2009	1	3,902	1.000	3,902	-12.8%	142,643,481	-7.6%	27.35	-5.6%	PY09-PY18	-4.6%
2010	1	4,126	1.000	4,126	5.7%	153,704,402	7.8%	26.84	-1.9%	PY10-PY18	-4.9%
2011	1	4,382	1.000	4,382	6.2%	158,827,132	3.3%	27.59	2.8%	PY11-PY18	-5.3%
2012	1	3,763	1.000	3,763	-14.1%	150,245,695	-5.4%	25.05	-9.2%	PY12-PY18	-5.0%
2013	1	3,729	1.000	3,729	-0.9%	156,087,679	3.9%	23.89	-4.6%	PY13-PY18	-5.1%
2014	1	3,671	1.000	3,671	-1.6%	160,978,947	3.1%	22.80	-4.6%	PY14-PY18	-5.2%
2015	1	3,613	1.002	3,620	-1.4%	164,908,915	2.4%	21.95	-3.7%	PY15-PY18	-5.5%
2016	1	3,409	1.008	3,436	-5.1%	165,783,708	0.5%	20.73	-5.6%	PY16-PY18	-5.0%
2017	1	3,095	1.036	3,207	-6.7%	168,360,756	1.6%	19.05	-8.1%	PY17-PY18	-1.9%
2018	1	3,168	1.036	3,283	2.4%	175,600,149	4.3%	18.69	-1.9%		
2008	2 (Contracting)	4,476	1.000	4,476		233,881,169		19.14		PY08-PY18	-7.2%
2009	2	3,915	1.000	3,915	-12.5%	208,817,664	-10.7%	18.75	-2.0%	PY09-PY18	-7.6%
2010	2	3,919	1.000	3,919	-0.4%	232,215,968	7.2%	16.88	-7.1%	PY11-PY18	-8.0%
2011	2	3,555	1.000	3,555	-9.3%	231,671,021	-0.2%	15.35	-9.1%	PY12-PY18	-8.0%
2012	2	3,465	1.000	3,465	-2.5%	236,587,247	2.1%	14.65	-4.6%	PY13-PY18	-8.2%
2013	2	3,400	1.000	3,400	-1.9%	253,087,118	7.0%	13.43	-8.3%	PY14-PY18	-7.9%
2014	2	3,197	1.001	3,200	-5.9%	268,364,026	6.0%	11.92	-11.2%	PY15-PY18	-7.0%
2015	2	3,030	1.006	3,048	-4.7%	278,884,216	3.9%	10.93	-8.3%	PY16-PY18	-6.5%
2016	2	2,955	1.023	3,023	-0.8%	292,618,771	4.9%	10.33	-5.5%	PY17-PY18	-7.6%
2017	2	2,949	1.023	3,017	-0.2%	315,918,779	8.0%	9.55	-7.6%		
2018	2	2,949	1.023	3,017	-0.2%	315,918,779	8.0%	9.55	-7.6%		
2008	3 (Other)	15,895	1.000	15,895		503,050,104		31.60		PY08-PY18	-5.4%
2009	3	15,351	1.000	15,351	-3.4%	500,779,392	-0.5%	30.65	-3.0%	PY09-PY18	-5.6%
2010	3	15,909	1.000	15,909	3.6%	528,852,892	5.6%	30.08	-1.9%	PY10-PY18	-5.8%
2011	3	14,969	1.000	14,969	-5.9%	540,703,546	2.2%	27.68	-8.0%	PY11-PY18	-5.7%
2012	3	14,199	1.000	14,199	-5.1%	537,425,847	-0.6%	26.42	-4.6%	PY12-PY18	-6.0%
2013	3	14,443	1.000	14,443	1.7%	551,203,025	2.6%	26.20	-0.8%	PY13-PY18	-6.3%
2014	3	13,151	1.003	13,190	-3.0%	601,221,496	5.0%	21.94	-7.5%	PY15-PY18	-4.9%
2015	3	12,651	1.009	12,765	-3.2%	618,881,997	2.9%	20.63	-6.0%	PY16-PY18	-4.4%
2016	3	12,444	1.033	12,858	0.7%	654,649,787	5.8%	19.64	-4.8%	PY17-PY18	-4.0%
2017	3	12,444	1.033	12,858	0.7%	654,649,787	5.8%	19.64	-4.8%		
2018	3	12,516	1.033	12,932	0.6%	685,537,886	4.7%	18.86	-4.0%		

2017 & 2018 are both at first report. 2018 is from policy data, 2017 and beyond is from unit data

PA W.C. - CLAIM FREQUENCIES BY INDUSTRY GROUP PCRB Unit Statistical Plan (Excl. Deductible Business)

