PENNSYLVANIA COMPENSATION RATING BUREAU
F-CLASS FILING

ANALYSIS OF EXPERIENCE

The following pages present an analysis of Pennsylvania F-Class experience. The analysis is based on data reported to the PCRB under the Unit Statistical Plan.

Page 1 (indemnity) and page 2 (medical) present reported standard earned premiums, incurred losses by policy year and age-to-age development factors based on reported losses separately. Losses are shown through 10th report which is the latest report currently available under the Unit Statistical Plan. A weighted average based on all available data points was calculated and formed the basis for the factors ultimately selected. The process for calculation of selected loss development factors and a tail factor are shown on pages 3 and 4. Factors to ultimate are calculated by compounding the age-to-age and 10th-to-ultimate factors.

Page 3 (indemnity) and page 4 (medical) show the derivation of selected age-to-age and 10th-to-ultimate development factors.

Page 5 shows the calculation of indemnity and medical ultimate loss ratios.

Derivation of the indemnity and medical trend factors are shown on page 5 is presented on page 6 (indemnity) and page 7 (medical). Frequency trend was selected as 0% given the very limited number of claims resulting in no credible observed patterns.

Page 8 shows indemnity, medical and total ultimate loss ratio graphs for Policy Years 2010 through 2019.

F-CLASS UNIT STATISTICAL PLAN EXPERIENCE

REPORTED STANDARD EARNED PREMIUM AND INDEMNITY INCURRED LOSSES

Policy Year	Standard Earned Premium	Reported Indemnity Incurred Losses Report Level									
		1	2	3	4	5	6	7	8	9	10
2007	8,067,266	718,534	1,126,675	1,376,732	1,358,792	1,335,668	1,386,903	1,408,228	1,514,100	1,514,100	1,576,939
2008	7,446,294	766,266	1,028,131	1,301,614	1,313,724	1,368,724	1,423,568	1,463,980	1,102,993	1,105,224	1,100,763
2009	7,614,067	249,857	384,390	449,042	449,042	550,496	550,496	550,496	550,496	550,496	550,496
2010	5,478,068	302,481	353,923	462,568	414,621	426,746	276,746	276,746	276,746	276,746	276,746
2011	6,303,640	497,125	679,039	715,829	848,234	853,474	1,209,868	1,264,205	1,264,205	1,264,205	
2012	11,946,683	559,069	732,437	800,154	817,738	835,209	796,982	796,982	796,982		
2013	13,868,910	497,960	643,427	687,767	732,539	918,844	1,127,847	1,127,847			
2014	15,471,136	985,757	1,550,484	1,621,614	1,419,838	1,462,917	2,373,553				
2015	16,540,662	974,036	1,768,616	2,196,290	2,297,332	2,304,943					
2016	18,703,543	1,214,418	1,392,238	1,598,733	1,713,417						
2017	11,777,257	1,889,431	2,234,638	2,241,682							
2018	8,592,752	717,244	620,162								
2019	8,030,950	901,427									

PENNSYLVANIA COMPENSATION RATING BUREAU

F-CLASS UNIT STATISTICAL PLAN EXPERIENCE

INDEMNITY INCURRED LOSS DEVELOPMENT FACTORS

Age-to-Age Development Factors

Policy Year	Report									
	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - ULT
2007	1.5680	1.2219	0.9870	0.9830	1.0384	1.0154	1.0752	1.0000	1.0415	
2008	****	1.2660	1.0093	1.0419	1.0401	1.0284	0.7534	1.0020	0.9960	
2009	1.5384	1.1682	1.0000	1.2259	1.0000	1.0000	1.0000	1.0000	1.0000	
2010	1.1701	1.3070	0.8963	1.0292	0.6485	1.0000	1.0000	1.0000	1.0000	
2011	1.3659	1.0542	1.1850	1.0062	1.4176	1.0449	1.0000	1.0000		
2012	1.3101	1.0925	1.0220	1.0214	0.9542	1.0000	1.0000			
2013	1.2921	1.0689	1.0651	1.2543	1.2275	1.0000				
2014	1.5729	1.0459	0.8756	1.0303	1.6225					
2015	1.8158	1.2418	1.0460	1.0033						
2016	1.1464	1.1483	1.0717							
2017	1.1827	1.0032								
2018	0.8646									

	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10-ULT *
5 Yr. Weighted Average	1.3088	1.0997	1.0111	1.0425	1.2864	1.0137	0.9171	1.0005	1.0169	
10 Yr. Weighted Average	1.3134	1.1215	1.0138	1.0420	1.1798	1.0171	0.9557	1.0005	1.0169	
Weighted Average (All Available)	1.3347	1.1310	1.0138	1.0420	1.1798	1.0171	0.9557	1.0005	1.0169	
Selected **	1.3240	1.1408	1.0808	1.0515	1.0345	1.0237	1.0164	1.0114	1.0077	1.0125

Development Factors to Ultimate

	1-ULT	2-ULT	3-ULT	4-ULT	5-ULT	6-ULT	7-ULT	8-ULT	9-ULT	10-ULT
5 Yr. Weighted Average	1.8689	1.4279	1.2984	1.2842	1.2319	0.9577	0.9447	1.0301	1.0296	1.0125
10 Yr. Weighted Average	1.8384	1.3997	1.2481	1.2311	1.1815	1.0014	0.9845	1.0301	1.0296	1.0125
Weighted Average (All Available)	1.8840	1.4116	1.2481	1.2311	1.1815	1.0014	0.9845	1.0301	1.0296	1.0125
Selected	1.9066	1.4400	1.2623	1.1679	1.1107	1.0737	1.0488	1.0319	1.0203	1.0125

* Based on selected value

** Selected values are shown on page 3

**** Loss development factor not used

Policy Year	Standard Earned Premium	Reported Medical Incurred Losses Report Level									
		1	2	3	4	5	6	7	8	9	10
2007	8,067,266	525,340	529,351	763,343	779,294	540,498	782,948	945,933	963,400	977,631	983,120
2008	7,446,294	470,052	474,481	439,863	407,649	445,593	451,093	462,093	459,093	459,093	354,093
2009	7,614,067	170,604	180,017	208,152	199,857	193,058	193,177	193,288	193,288	193,288	193,288
2010	5,478,068	268,179	289,352	301,346	300,659	301,684	283,502	283,502	283,502	283,502	283,502
2011	6,303,640	467,159	475,720	494,370	506,370	516,370	644,942	655,193	631,011	633,703	
2012	11,946,683	281,354	338,570	381,480	383,173	388,144	386,075	376,126	378,683		
2013	13,868,910	287,742	346,544	341,845	361,933	381,653	431,065	436,067			
2014	15,471,136	423,941	387,005	339,761	1,271,319	2,271,819	4,172,938				
2015	16,540,662	733,315	995,567	1,033,620	1,041,226	1,043,579					
2016	18,703,543	659,489	651,197	679,432	682,031						
2017	11,777,257	1,433,941	1,293,528	1,310,755							
2018	8,592,752	365,707	326,119								
2019	8,030,950	404,165									

PENNSYLVANIA COMPENSATION RATING BUREAU

F-CLASS UNIT STATISTICAL PLAN EXPERIENCE

MEDICAL INCURRED LOSS DEVELOPMENT FACTORS

Age-to-Age Development Factors

Policy Year	Report									
	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - ULT
2007	1.0076	1.4420	1.0209	0.6936	1.4486	1.2082	1.0185	1.0148	1.0056	
2008	****	0.9270	0.9268	1.0931	1.0123	1.0244	0.9935	1.0000	0.7713	
2009	1.0552	1.1563	0.9601	0.9660	1.0006	1.0006	1.0000	1.0000	1.0000	
2010	1.0790	1.0415	0.9977	1.0034	0.9397	1.0000	1.0000	1.0000	1.0000	
2011	1.0183	1.0392	1.0243	1.0197	1.2490	1.0159	0.9631	1.0043		
2012	1.2034	1.1267	1.0044	1.0130	0.9947	0.9742	1.0068			
2013	1.2044	0.9864	1.0588	1.0545	1.1295	1.0116				
2014	0.9129	0.8779	3.7418	1.7870	1.8368					
2015	1.3576	1.0382	1.0074	1.0023						
2016	0.9874	1.0434	1.0038							
2017	0.9021	1.0133								
2018	0.8917									

	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10-ULT *
5 Yr. Weighted Average	1.0102	1.0086	1.3471	1.2911	1.5334	1.0028	0.9875	1.0067	0.9480	
10 Yr. Weighted Average	1.0377	1.0182	1.1907	1.1582	1.4578	1.0565	0.9975	1.0067	0.9480	
Weighted Average (All Available)	1.0349	1.0558	1.1907	1.1582	1.4578	1.0565	0.9975	1.0067	0.9480	
Selected **	1.3401	1.1379	1.0547	1.0228	1.0103	1.0052	1.0030	1.0019	1.0013	1.0023

Development Factors to Ultimate

	1-ULT	2-ULT	3-ULT	4-ULT	5-ULT	6-ULT	7-ULT	8-ULT	9-ULT	10-ULT
5 Yr. Weighted Average	2.5740	2.5479	2.5262	1.8753	1.4525	0.9472	0.9446	0.9566	0.9502	1.0023
10 Yr. Weighted Average	2.1419	2.0640	2.0272	1.7025	1.4699	1.0083	0.9543	0.9566	0.9502	1.0023
Weighted Average (All Available)	2.2151	2.1403	2.0272	1.7025	1.4699	1.0083	0.9543	0.9566	0.9502	1.0023
Selected	1.6845	1.2570	1.1047	1.0474	1.0241	1.0137	1.0085	1.0055	1.0036	1.0023

* Based on selected value

** Selected values are shown on page 4

**** Loss development factor not used

PENNSYLVANIA COMPENSATION RATING BUREAU

F-CLASS UNIT STATISTICAL PLAN EXPERIENCE

FITTED DEVELOPMENT FACTORS

INDEMNITY INCURRED LOSSES

$$Y = a+b*x+c/x$$

a	(0.046920)
b	0.001513
c	0.369399

$R \wedge 2 =$ 0.7477

Incurred Development	All Year Weighted Average	Points Used	Points Used - 1	Fitted Value	Fitted Value + 1
1st to 2nd	1.3347	1.3347	0.3347	0.3240	1.3240
2nd to 3rd	1.1310	1.1310	0.1310	0.1408	1.1408
3rd to 4th	1.0138	1.0138	0.0138	0.0808	1.0808
4th to 5th	1.0420	1.0420	0.0420	0.0515	1.0515
5th to 6th	1.1798	1.1798	0.1798	0.0345	1.0345
6th to 7th	1.0171	1.0171	0.0171	0.0237	1.0237
7th to 8th	0.9557	0.9557	(0.0443)	0.0164	1.0164
8th to 9th	1.0005	1.0005	0.0005	0.0114	1.0114
9th to 10th	1.0169	1.0169	0.0169	0.0077	1.0077
10th to 11th				0.0052	1.0052
11th to 12th				0.0033	1.0033
12th to 13th				0.0020	1.0020
13th to 14th				0.0012	1.0012
14th to 15th *	1.0000	1.0000	0	0.0007	1.0007
10th to Ultimate					1.0125

* 14th to 15th age-to-age factor set at 1.0000 to ensure proper tendency for the fitted curve.

F-CLASS UNIT STATISTICAL PLAN EXPERIENCE

FITTED DEVELOPMENT FACTORS

MEDICAL INCURRED LOSSES

$Y = a+b*\ln(x)/x^2+c*\exp(-x)$

a	(0.000914)
b	0.077314
c	0.927050

R ^ 2 =　0.8934

Incurred Development	All Year Weighted Average	Points Used *	Points Used -1	Fitted Value	Fitted Value + 1
1st to 2nd	1.0349	1.3441	0.3441	0.3401	1.3401
2nd to 3rd	1.0558	1.1209	0.1209	0.1379	1.1379
3rd to 4th	1.1907	1.0791	0.0791	0.0547	1.0547
4th to 5th	1.1582	0.9732	(0.0268)	0.0228	1.0228
5th to 6th	1.4578	1.0815	0.0815	0.0103	1.0103
6th to 7th	1.0565	1.0336	0.0336	0.0052	1.0052
7th to 8th	0.9975	0.9970	(0.0030)	0.0030	1.0030
8th to 9th	1.0067	1.0038	0.0038	0.0019	1.0019
9th to 10th	0.9480	0.9442	(0.0558)	0.0013	1.0013
10th to 11th				0.0009	1.0009
11th to 12th				0.0006	1.0006
12th to 13th				0.0004	1.0004
13th to 14th				0.0003	1.0003
14th to 15th **	1.0000	1.0000	0	0.0001	1.0001
10th to Ultimate				1.0023	

* Policy Year 2014's development factors were reordered largest to smallest due to unusal development of a large claim.
** 14th to 15th age-to-age factor set at 1.00 to ensure proper tendency for the fitted curve.

PENNSYLVANIA COMPENSATION RATING BUREAU

F-CLASS UNIT STATISTICAL PLAN EXPERIENCE

ULTIMATE LOSS RATIOS

	Policy Year	Standard Earned Premium	Premium On-Level Factor	Adjusted Premium	Reported Incurred Loss	Loss Level	Loss Development Factor	Trend Factor to 4/1/2024*	Ultimate Incurred Loss	Loss Ratio
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(6)*(7)]	(9)=(8)/(3)
Indemnity	2010	5,478,068	0.5411	2,964,183	276,746	10	1.0125	1.6602	465,192	0.1569
	2011	6,303,640	0.5157	3,250,787	1,264,205	9	1.0203	1.5979	2,061,037	0.6340
	2012	11,946,683	0.5059	6,043,827	796,982	8	1.0319	1.5379	1,264,768	0.2093
	2013	13,868,910	0.5059	7,016,282	1,127,847	7	1.0488	1.4802	1,750,863	0.2495
	2014	15,471,136	0.5123	7,925,863	2,373,553	6	1.0737	1.4246	3,630,577	0.4581
	2015	16,540,662	0.5153	8,523,403	2,304,943	5	1.1107	1.3711	3,510,227	0.4118
	2016	18,703,543	0.5596	10,466,503	1,713,417	4	1.1679	1.3197	2,640,775	0.2523
	2017	11,777,257	0.8827	10,395,785	2,241,682	3	1.2623	1.2701	3,594,047	0.3457
	2018	8,592,752	0.9676	8,314,347	620,162	2	1.4400	1.2225	1,091,690	0.1313
	2019	8,030,950	1.0077	8,092,788	901,427	1	1.9066	1.1766	2,022,117	0.2499
	10 Year Total	116,713,601		72,993,768	13,620,964				22,031,293	0.3018

Selected Loss Ratio — **0.3018**

* Selected Indemnity Severity Trend equals 3.9%. See Page 6.

	Policy Year	Standard Earned Premium	Premium On-Level Factor	Adjusted Premium	Reported Incurred Loss	Loss Level	Loss Development Factor	Trend Factor to 4/1/2024*	Ultimate Incurred Loss	Loss Ratio
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(6)*(7)]	(9)=(8)/(3)
Medical	2010	5,478,068	0.5411	2,964,183	283,502	10	1.0023	1.7469	496,388	0.1675
	2011	6,303,640	0.5157	3,250,787	633,703	9	1.0036	1.6749	1,065,195	0.3277
	2012	11,946,683	0.5059	6,043,827	378,683	8	1.0055	1.6058	611,444	0.1012
	2013	13,868,910	0.5059	7,016,282	436,067	7	1.0085	1.5396	677,085	0.0965
	2014	15,471,136	0.5123	7,925,863	4,172,938	6	1.0137	1.4761	6,244,264	0.7878
	2015	16,540,662	0.5153	8,523,403	1,043,579	5	1.0241	1.4153	1,512,562	0.1775
	2016	18,703,543	0.5596	10,466,503	682,031	4	1.0474	1.3569	969,344	0.0926
	2017	11,777,257	0.8827	10,395,785	1,310,755	3	1.1047	1.3010	1,883,835	0.1812
	2018	8,592,752	0.9676	8,314,347	326,119	2	1.2570	1.2474	511,333	0.0615
	2019	8,030,950	1.0077	8,092,788	404,165	1	1.6845	1.1959	814,213	0.1006
	10 Year Total	116,713,601		72,993,768	9,671,542				14,785,663	0.2026

Selected Loss Ratio — **0.2610** **

 * Selected Medical Severity Trend equals 4.3%. See Page 7.
** The selection adjusts the medical 10-year average ultimate loss ratio for a large claim not fully reflected in the data. However, this claim existed in the prior filing at much higher incurred loss value, and based on recently reported data, returns to a similar value at the next report level.

	Policy Year	Standard Earned Premium	Premium On-Level Factor	Adjusted Premium	Reported Incurred Loss	Loss Level	Loss Development Factor	Trend Factor to 4/1/2024	Ultimate Incurred Loss	Loss Ratio
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)=(4)*(6)*(7)]	(9)=(8)/(3)
Total	2010	5,478,068	0.5411	2,964,183	560,248				961,580	0.3244
	2011	6,303,640	0.5157	3,250,787	1,897,908				3,126,232	0.9617
	2012	11,946,683	0.5059	6,043,827	1,175,665				1,876,212	0.3104
	2013	13,868,910	0.5059	7,016,282	1,563,914				2,427,948	0.3460
	2014	15,471,136	0.5123	7,925,863	6,546,491				9,874,841	1.2459
	2015	16,540,662	0.5153	8,523,403	3,348,522				5,022,789	0.5893
	2016	18,703,543	0.5596	10,466,503	2,395,448				3,610,119	0.3449
	2017	11,777,257	0.8827	10,395,785	3,552,437				5,477,882	0.5269
	2018	8,592,752	0.9676	8,314,347	946,281				1,603,023	0.1928
	2019	8,030,950	1.0077	8,092,788	1,305,592				2,836,330	0.3505
	10 Year Total	116,713,601		72,993,768	23,292,506				36,816,956	0.5044

Selected Loss Ratio — **0.5628**

Indemnity Trend Calculation

Fiscal Year	NAWW	Annual Percent Change		Period	NAWW Exp Fit Trend	
1994	369.15			2013 - 2023	3.0%	11 pt
1995	380.46	3.1%		2014 - 2023	3.2%	10 pt
1996	391.22	2.8%		2015 - 2023	3.4%	9 pt
1997	400.53	2.4%		2016 - 2023	3.6%	8 pt
1998	417.87	4.3%		2017 - 2023	**3.9%**	**7 pt**
1999	435.88	4.3%		2018 - 2023	4.2%	6 pt
2000	450.64	3.4%		2019 - 2023	4.5%	5 pt
2001	466.91	3.6%		2020 - 2023	4.9%	4 pt
2002	483.04	3.5%		2021 - 2023	5.0%	3 pt
2003	498.27	3.2%				
2004	515.39	3.4%		Selection	3.9%	
2005	523.58	1.6%				
2006	536.82	2.5%				
2007	557.22	3.8%				
2008	580.18	4.1%				
2009	600.31	3.5%				
2010	612.33	2.0%				
2011	628.42	2.6%				
2012	647.60	3.1%				
2013	662.59	2.3%				
2014	673.34	1.6%				
2015	688.51	2.3%				
2016	703.00	2.1%				
2017	718.24	2.2%				
2018	735.89	2.5%				
2019	755.38	2.6%				
2020	780.04	3.3%				
2021	816.35	4.7%				
2022	857.17	5.0%				
2023	900.03	5.0%				

NAWW source:
https://www.dol.gov/agencies/owcp/dlhwc/NAWWinfo

Medical Trend Calculation

Calendar Year	Medicare Index	Annual Percent Change		Period	Exp Fit Trend	
2002	54			2013-2023	5.2%	11 pt
2003	59	9.3%		2014-2023	5.4%	10 pt
2004	67	13.6%		2015-2023	5.3%	9 pt
2005	78	16.4%		2016-2023	4.5%	8 pt
2006	89	14.1%		2017-2023	**4.3%**	**7 pt**
2007	94	5.6%		2018-2023	5.1%	6 pt
2008	96	2.1%		2019-2023	5.6%	5 pt
2009	96	0.0%		2020-2023	5.4%	4 pt
2010	111	15.6%		2021-2023	5.4%	3 pt
2011	115	3.6%				
2012	100	-13.0%		Selection	4.3%	
2013	105	5.0%				
2014	105	0.0%				
2015	105	0.0%				
2016	122	16.2%				
2017	134	9.8%				
2018	134	0.0%				
2019	136	1.5%				
2020	145	6.6%				
2021	149	2.4%				
2022	170	14.5%				
2023	165	-3.1%				

Source:
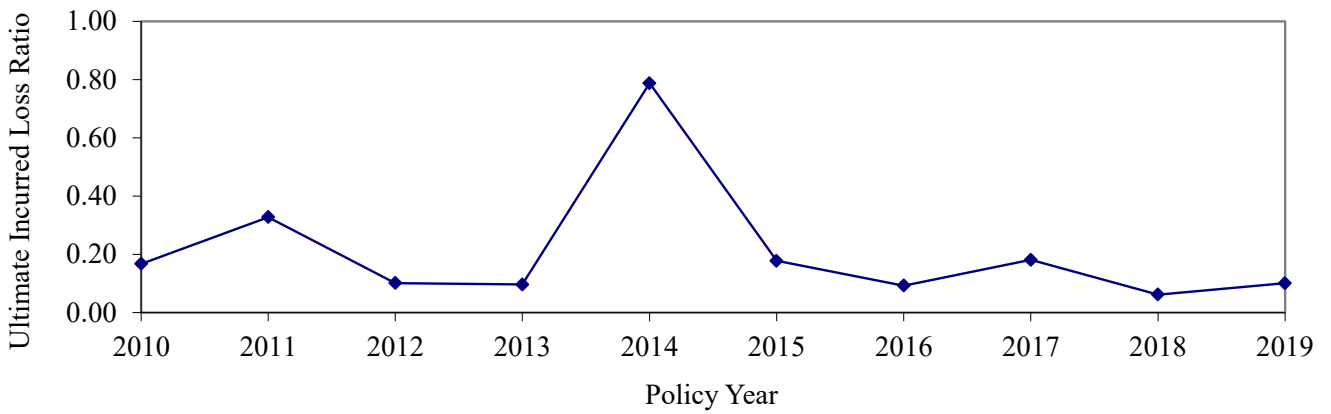https://www.kff.org/medicare/slide/monthly-part-b-premiums-and-annual-percentage-increases/

Indemnity Ultimate Incurred Loss Ratio
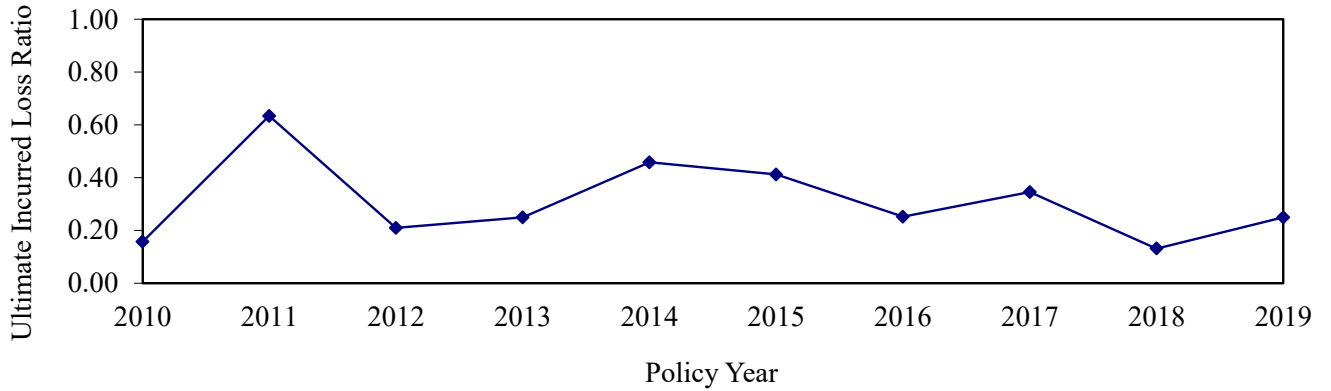
Medical Ultimate Incurred Loss Ratio

Total Ultimate Incurred Loss Ratio