Exhibit 7
As Filed

PENNSYLVANIA COMPENSATION RATING BUREAU

Tail Factors and Paid Bridge Factors for Loss Development

For a given calendar year, the PCRB collects financial loss development data for the current policy year and the thirty previous individual policy years. A single aggregate line of experience is reported for all older policy years combined.

A summary of both the incurred and paid 20th to ultimate tail factors is shown on Page 1.

The incurred tail factor methodology is applied separately for indemnity and medical loss experience using two separate methods. These two methods, which are described below, are averaged to generate the selected tail factors.

The first method, the historical Linear Decay method, is outlined below.

1. A starting policy year loss amount based on the average reported incurred loss for the three earliest available policy years was computed.

2. An annual loss inflation factor was selected based on observed changes in incurred losses by policy year for the older policy years having separate experience data reported.

3. A historical series of estimated incurred losses by policy year beginning with the policy year immediately prior to the earliest available policy year was computed using the starting point from #1 and the selected inflation factor from #2.

4. A calendar year loss development factor was selected for that policy year based on observed developments for the oldest years with actual separate experience available.

5. A rate of decline in calendar year loss development factors by policy year was then computed such that when the resulting series of loss development factors was applied to the historical series of estimated incurred losses in #3, the total implied dollar amount of loss development for the calendar year balanced to the observed amount of development on policy years prior to the earliest available policy year.

6. The tail factor applicable to maturities in those prior policy years based on that calendar year of experience was then computed as the cumulative product of the series of loss development factors constructed in #5 as well as the actual loss development factors from the 20th to 30th development periods to calculate a 20th to ultimate incurred tail factor.

Recognizing the volatility of observed calendar year development for the prior policy years in the aggregate, the PCRB elected to use an experience period comprising seven calendar years of loss development in computing indicated tail factors for this method.

A summary exhibit on Page 2 presents results of the Linear Decay tail development factor calculations. On Pages 3 through 16, fourteen exhibits presenting the derivation of indicated tail factors using the procedure outlined above are attached (seven for indemnity and seven for medical).

The second method, the Weibull curve fit method, is a commonly used distribution for fitting Workers Compensation data. Several Weibull models were generated and reviewed using various data points and calendar years to fit the data to project the 20th to ultimate incurred tail factor. A Weibull fit was selected for indemnity and medical from the various models generated. The model selections for indemnity and medical were considered separately to contemplate their unique characteristics relating to model fit, the stability of the data points and consistency of the development patterns before and after the tail attachment point. The detail of each of the selected Weibull models is shown on Page 17.

Pages 18 (indemnity) and 19 (medical) show the selected curves for the twentieth-to-ultimate bridge factors and the development periods used to select the curve. The average of the fitted factors from 20-21 to 50th-Ultimate was selected for both indemnity and medical. The 50th point was selected as the cutoff as the data shows that is the point where virtually all claims have been historically settled.

Page 20 shows graphically the two selected curve fits, and the resulting bridge factors based on the average of the points between the 20th and 50th reports.

PA Incurred Tail Factor Summary (20th to Ultimate)

(1) Incurred Tail Selections using Linear Decay Method (Pages 2 through 16)

Indemnity	1.0038		Medical	1.0388

Based on: Based on:

Average   7-Year   Average   7-Year

Data Points Used   20-29   Data Points Used   20-29

(2) Incurred Tail Selections using Weibull (Page 17)

Indemnity	1.0071		Medical	1.0298

Based on: Based on:

Average   5 year   Average   5-Year

Data Points Used   10-29   Data Points Used   10-29

(3) Incurred Tail Selections using a 50/50 Weight Between (1) and (2)

Indemnity	1.0054		Medical	1.0343

(4) Paid to Incurred Bridge Factors (Pages 18 and 19)

Indemnity	1.0096		Medical	1.0247

(5) Paid Tail Selections ((3) * (4))

Indemnity	1.0151		Medical	1.0598

SUMMARY OF TAIL FACTOR CALCULATIONS USING LINEAR DECAY METHOD

VALUATION	MATURITY	INDEMNITY Tail Factor	MEDICAL Tail Factor
20V21	20TH TO ULT.	1.0033	1.0015
19V20	20TH TO ULT.	1.0042	1.0519
18V19	20TH TO ULT.	1.0051	1.0182
17V18	20TH TO ULT.	1.0027	1.0701
16V17	20TH TO ULT.	1.0017	1.0474
15V16	20TH TO ULT.	1.0038	1.0534
14V15	20TH TO ULT.	1.0056	1.0289
AVERAGE OF LATEST 7 VALUATIONS		1.0038	1.0388

INDEMNITY   20 vs 21

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1991 PYs Incurred	9,027,147,771	1	PY 1990 Incurred = (Average of 1991, 1992, 1993) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1991 PYs Incurred	9,023,585,738	2	PY 1989 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1991 PYs	3,562,033	3	PY 1990 LDF selected based on balancing Prior to 1991 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1991 Incurred	968,264,944	4	PY 1989 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1991 PYs in Prior to 1991 PYs Data	9.32		
Selected Decrement Development Factor	0.75		CY Development of Prior to 1991 PYs: 3,562,033
Selected Average PY Deflation Factor	0.95		Total Dollar Development: 3,562,034
			Difference: -1

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/21	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/21	Prior Year LDF	Dollar Development	Cumulative LDF	
1950	*	96,152,398	1.000000	1	1.0000		1986	*	609,411,054	1.000433	264,031	1.0017	34TH TO ULT
1951	*	101,213,050	1.000000	2	1.0000		1987	*	641,485,320	1.000578	370,516	1.0023	33RD TO ULT
1952	*	106,540,053	1.000000	3	1.0000		1988	*	675,247,705	1.000771	519,923	1.0031	32ND TO ULT
1953	*	112,147,424	1.000000	4	1.0000		1989	*	710,787,058	1.001027	729,529	1.0041	31ST TO ULT
1954	*	118,049,920	1.000000	5	1.0000		1990	*	748,196,904	1.00136990	1,023,550	1.0055	30TH TO ULT
1955	*	124,263,074	1.000000	7	1.0000		1991		968,672,963	1.0004		1.0059	29th TO ULT
1956	*	130,803,235	1.000000	10	1.0000		1992		810,527,515	1.0009		1.0068	28th TO ULT
1957	*	137,687,616	1.000000	14	1.0000		1993		707,880,642	0.9998		1.0066	27th TO ULT
1958	*	144,934,333	1.000000	20	1.0000		1994		659,757,553	1.0004		1.0070	26th TO ULT
1959	*	152,562,456	1.000000	28	1.0000		1995		554,452,741	1.0000		1.0070	25th TO ULT
1960	*	160,592,059	1.000000	39	1.0000		1996		467,654,764	1.0003		1.0073	24th TO ULT
1961	*	169,044,272	1.000000	55	1.0000		1997		483,999,903	0.9992		1.0065	23rd TO ULT
1962	*	177,941,339	1.000000	77	1.0000		1998		473,952,317	0.9983		1.0048	22nd TO ULT
1963	*	187,306,673	1.000001	109	1.0000		1999		530,943,909	0.9993		1.0041	21st TO ULT
1964	*	197,164,919	1.000001	152	1.0000		2000		566,628,559	0.9992		1.0033	20th TO ULT
1965	*	207,542,020	1.000001	214	1.0000		2001		597,308,892	1.0003			
1966	*	218,465,284	1.000001	300	1.0000		2002		647,791,336	0.9996			
1967	*	229,963,457	1.000002	421	1.0000		2003		640,675,294	1.0005			
1968	*	242,066,797	1.000002	592	1.0000		2004		683,325,200	0.9992			
1969	*	254,807,154	1.000003	830	1.0000		2005		696,901,597	1.0010			
1970	*	268,218,057	1.000004	1,165	1.0000		2006		722,245,780	0.9986			
1971	*	282,334,797	1.000006	1,635	1.0000		2007		761,217,014	0.9996			
1972	*	297,194,523	1.000008	2,295	1.0000		2008		702,966,837	1.0013			
1973	*	312,836,340	1.000010	3,221	1.0000		2009		642,453,072	1.0035			
1974	*	329,301,411	1.000014	4,521	1.0001		2010		662,268,285	1.0023			
1975	*	346,633,064	1.000018	6,346	1.0001		2011		637,591,012	1.0008			
1976	*	364,876,909	1.000024	8,906	1.0001		2012		585,744,976	0.9972			
1977	*	384,080,957	1.000033	12,500	1.0001		2013		591,057,335	1.0019			
1978	*	404,295,744	1.000043	17,543	1.0002		2014		593,552,657	1.0055			
1979	*	425,574,468	1.000058	24,621	1.0002		2015		564,130,280	1.0113			
1980	*	447,973,124	1.000077	34,556	1.0003		2016		530,917,323	0.9996			
1981	*	471,550,657	1.000103	48,498	1.0004		2017		569,800,541	1.0110			
1982	*	496,369,112	1.000137	68,065	1.0005		2018		585,056,875	1.0563			
1983	*	522,493,803	1.000183	95,525	1.0007		2019		514,478,165	1.3125			
1984	*	549,993,476	1.000244	134,062	1.0010		2020		346,202,515	3.5155			
1985	*	578,940,501	1.000325	188,143	1.0013		2021		114,147,116				

MEDICAL   20 vs 21

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1991 PYs Incurred	4,182,739,762	1 PY 1990 Incurred = (Average of 1991, 1992, 1993) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1991 PYs Incurred	4,184,750,396	2 PY 1989 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1991 PYs	-2,010,634	3 PY 1990 LDF selected based on balancing Prior to 1991 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1991 Incurred	587,345,923	4 PY 1989 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1991 PYs in Prior to 1991 PYs Data	7.12	
Selected Decrement Development Factor	0.75	CY Development of Prior to 1991 PYs: -2,010,634
Selected Average PY Deflation Factor	0.93	Total Dollar Development: -2,010,634
		Difference: 0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/21	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/21	Prior Year LDF	Dollar Development	Cumulative LDF	
1950	*	23,813,960	1.000000	0	1.0000		1986	*	324,672,479	0.999557	-143,894	0.9982	34TH TO ULT
1951	*	25,606,409	1.000000	0	1.0000		1987	*	349,110,192	0.999409	-206,330	0.9976	33RD TO ULT
1952	*	27,533,773	1.000000	-1	1.0000		1988	*	375,387,304	0.999212	-295,872	0.9969	32ND TO ULT
1953	*	29,606,208	1.000000	-1	1.0000		1989	*	403,642,262	0.998950	-424,300	0.9958	31ST TO ULT
1954	*	31,834,632	1.000000	-1	1.0000		1990	*	434,023,937	0.99859990	-608,529	0.9944	30TH TO ULT
1955	*	34,230,787	1.000000	-2	1.0000		1991		586,193,142	0.9980		0.9924	29th TO ULT
1956	*	36,807,298	1.000000	-3	1.0000		1992		520,895,036	1.0023		0.9947	28th TO ULT
1957	*	39,577,739	1.000000	-4	1.0000		1993		398,371,196	1.0039		0.9986	27th TO ULT
1958	*	42,556,709	1.000000	-6	1.0000		1994		387,416,163	1.0004		0.9990	26th TO ULT
1959	*	45,759,902	1.000000	-9	1.0000		1995		349,746,066	0.9985		0.9975	25th TO ULT
1960	*	49,204,196	1.000000	-12	1.0000		1996		346,779,470	1.0011		0.9986	24th TO ULT
1961	*	52,907,738	1.000000	-18	1.0000		1997		372,051,141	1.0067		1.0053	23rd TO ULT
1962	*	56,890,040	1.000000	-25	1.0000		1998		386,731,222	1.0019		1.0072	22nd TO ULT
1963	*	61,172,086	0.999999	-36	1.0000		1999		408,798,734	0.9952		1.0024	21st TO ULT
1964	*	65,776,437	0.999999	-52	1.0000		2000		442,032,895	0.9992		1.0015	20th TO ULT
1965	*	70,727,352	0.999999	-75	1.0000		2001		442,252,994	0.9994			
1966	*	76,050,916	0.999999	-107	1.0000		2002		526,330,023	1.0033			
1967	*	81,775,178	0.999998	-153	1.0000		2003		544,904,495	1.0022			
1968	*	87,930,299	0.999998	-220	1.0000		2004		597,997,946	0.9987			
1969	*	94,548,709	0.999997	-315	1.0000		2005		639,258,686	1.0040			
1970	*	101,665,278	0.999996	-451	1.0000		2006		653,802,748	1.0056			
1971	*	109,317,504	0.999994	-647	1.0000		2007		693,791,742	1.0032			
1972	*	117,545,703	0.999992	-928	1.0000		2008		619,763,094	1.0002			
1973	*	126,393,229	0.999989	-1,330	1.0000		2009		543,798,434	0.9989			
1974	*	135,906,698	0.999986	-1,907	0.9999		2010		596,374,931	0.9932			
1975	*	146,136,234	0.999981	-2,734	0.9999		2011		608,296,506	0.9998			
1976	*	157,135,735	0.999975	-3,920	0.9999		2012		565,442,917	1.0063			
1977	*	168,963,156	0.999967	-5,620	0.9999		2013		566,324,008	1.0067			
1978	*	181,680,813	0.999956	-8,058	0.9998		2014		584,414,472	1.0034			
1979	*	195,355,713	0.999941	-11,553	0.9998		2015		535,987,885	1.0080			
1980	*	210,059,907	0.999921	-16,563	0.9997		2016		524,058,212	0.9972			
1981	*	225,870,867	0.999895	-23,747	0.9996		2017		563,711,736	0.9858			
1982	*	242,871,900	0.999860	-34,048	0.9994		2018		640,776,864	1.0029			
1983	*	261,152,581	0.999813	-48,816	0.9993		2019		554,045,233	1.0555			
1984	*	280,809,227	0.999751	-69,992	0.9990		2020		488,926,226	2.1581			
1985	*	301,945,405	0.999668	-100,355	0.9987		2021		234,859,517				

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INDEMNITY   19 vs 20

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1990 PYs Incurred	8,188,692,883	1 PY 1989 Incurred = (Average of 1990, 1991, 1992) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1990 PYs Incurred	8,186,858,932	2 PY 1988 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1990 PYs	1,833,951	3 PY 1989 LDF selected based on balancing Prior to 1990 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1990 Incurred	1,153,845,876	4 PY 1988 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1990 PYs in Prior to 1990 PYs Data	7.10	
Selected Decrement Development Factor	0.75	CY Development of Prior to 1990 PYs: 1,833,951
Selected Average PY Deflation Factor	0.95	Total Dollar Development: 1,833,949
		Difference: 2

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/20	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/20	Prior Year LDF	Dollar Development	Cumulative LDF	
1949	*	115,759,869	1.000000	1	1.0000		1985	*	733,682,629	1.000185	135,907	1.0007	34TH TO ULT
1950	*	121,852,494	1.000000	1	1.0000		1986	*	772,297,504	1.000247	190,735	1.0010	33RD TO ULT
1951	*	128,265,783	1.000000	1	1.0000		1987	*	812,944,742	1.000329	267,676	1.0013	32ND TO ULT
1952	*	135,016,614	1.000000	2	1.0000		1988	*	855,731,307	1.000439	375,644	1.0018	31ST TO ULT
1953	*	142,122,751	1.000000	3	1.0000		1989	*	900,769,797	1.00058556	527,143	1.0023	30TH TO ULT
1954	*	149,602,896	1.000000	4	1.0000		1990		1,153,984,370	1.0001		1.0024	29th TO ULT
1955	*	157,476,733	1.000000	5	1.0000		1991		998,952,964	0.9997		1.0021	28th TO ULT
1956	*	165,764,982	1.000000	7	1.0000		1992		841,311,297	1.0007		1.0028	27th TO ULT
1957	*	174,489,454	1.000000	10	1.0000		1993		727,642,487	1.0002		1.0030	26th TO ULT
1958	*	183,673,110	1.000000	14	1.0000		1994		677,118,189	1.0004		1.0034	25th TO ULT
1959	*	193,340,116	1.000000	20	1.0000		1995		571,364,425	1.0002		1.0036	24th TO ULT
1960	*	203,515,911	1.000000	28	1.0000		1996		484,875,000	0.9988		1.0024	23rd TO ULT
1961	*	214,227,275	1.000000	40	1.0000		1997		502,559,542	1.0005		1.0029	22nd TO ULT
1962	*	225,502,395	1.000000	56	1.0000		1998		501,588,967	1.0006		1.0035	21st TO ULT
1963	*	237,370,942	1.000000	78	1.0000		1999		567,949,444	1.0007		1.0042	20th TO ULT
1964	*	249,864,149	1.000000	110	1.0000		2000		605,953,195	1.0002			
1965	*	263,014,894	1.000001	155	1.0000		2001		615,864,862	0.9998			
1966	*	276,857,783	1.000001	217	1.0000		2002		651,024,254	0.9998			
1967	*	291,429,246	1.000001	304	1.0000		2003		640,947,054	0.9985			
1968	*	306,767,627	1.000001	427	1.0000		2004		685,548,320	0.9988			
1969	*	322,913,291	1.000002	600	1.0000		2005		698,159,011	1.0003			
1970	*	339,908,728	1.000002	842	1.0000		2006		724,743,675	1.0011			
1971	*	357,798,661	1.000003	1,181	1.0000		2007		763,127,378	1.0019			
1972	*	376,630,169	1.000004	1,658	1.0000		2008		705,628,871	1.0006			
1973	*	396,452,810	1.000006	2,327	1.0000		2009		643,208,438	1.0003			
1974	*	417,318,747	1.000008	3,266	1.0000		2010		664,238,426	1.0009			
1975	*	439,282,892	1.000010	4,583	1.0000		2011		639,644,488	1.0006			
1976	*	462,403,044	1.000014	6,432	1.0001		2012		591,276,650	1.0026			
1977	*	486,740,046	1.000019	9,028	1.0001		2013		591,490,618	1.0008			
1978	*	512,357,943	1.000025	12,671	1.0001		2014		589,833,631	1.0012			
1979	*	539,324,151	1.000033	17,783	1.0001		2015		557,562,077	0.9999			
1980	*	567,709,633	1.000044	24,959	1.0002		2016		531,835,823	1.0091			
1981	*	597,589,087	1.000059	35,030	1.0002		2017		564,388,149	1.0708			
1982	*	629,041,144	1.000078	49,163	1.0003		2018		556,512,301	1.3172			
1983	*	662,148,573	1.000104	69,000	1.0004		2019		393,672,641	3.1258			
1984	*	696,998,498	1.000139	96,838	1.0006		2020		98,937,045				

MEDICAL   19 vs 20

Latest 12/31 Prior to 1990 PYs Incurred	3,674,223,609	1	PY 1989 Incurred = (Average of 1990, 1991, 1992) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1990 PYs Incurred	3,661,430,307	2	PY 1988 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1990 PYs	12,793,302	3	PY 1989 LDF selected based on balancing Prior to 1990 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1990 Incurred	655,239,059	4	PY 1988 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1990 PYs in Prior to 1990 PYs Data	5.61		
Selected Decrement Development Factor	0.75		CY Development of Prior to 1990 PYs: 12,793,302
Selected Average PY Deflation Factor	0.93		Total Dollar Development: 12,793,302
			Difference: 0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/20	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/20	Prior Year LDF	Dollar Development	Cumulative LDF	
1949	*	28,484,126	1.000000	2	1.0000		1985	*	388,344,130	1.002370	918,149	1.0095	34TH TO ULT
1950	*	30,628,092	1.000000	3	1.0000		1986	*	417,574,334	1.003160	1,315,306	1.0127	33RD TO ULT
1951	*	32,933,432	1.000000	4	1.0000		1987	*	449,004,660	1.004213	1,883,766	1.0170	32ND TO ULT
1952	*	35,412,293	1.000000	6	1.0000		1988	*	482,800,709	1.005617	2,696,968	1.0227	31ST TO ULT
1953	*	38,077,734	1.000000	9	1.0000		1989	*	519,140,548	1.00748996	3,859,434	1.0303	30TH TO ULT
1954	*	40,943,800	1.000000	13	1.0000		1990		656,282,963	1.0016		1.0320	29th TO ULT
1955	*	44,025,592	1.000000	19	1.0000		1991		606,608,629	1.0000		1.0320	28th TO ULT
1956	*	47,339,346	1.000001	27	1.0000		1992		537,804,030	1.0078		1.0400	27th TO ULT
1957	*	50,902,523	1.000001	38	1.0000		1993		409,477,667	1.0012		1.0413	26th TO ULT
1958	*	54,733,895	1.000001	55	1.0000		1994		396,693,314	1.0004		1.0417	25th TO ULT
1959	*	58,853,651	1.000001	79	1.0000		1995		360,841,664	1.0015		1.0433	24th TO ULT
1960	*	63,283,495	1.000002	113	1.0000		1996		357,198,604	1.0002		1.0435	23rd TO ULT
1961	*	68,046,769	1.000002	162	1.0000		1997		381,831,478	1.0095		1.0534	22nd TO ULT
1962	*	73,168,569	1.000003	232	1.0000		1998		411,290,211	0.9988		1.0521	21st TO ULT
1963	*	78,675,881	1.000004	333	1.0000		1999		432,576,208	0.9998		1.0519	20th TO ULT
1964	*	84,597,721	1.000006	477	1.0000		2000		467,049,528	1.0057			
1965	*	90,965,292	1.000008	684	1.0000		2001		456,420,558	0.9984			
1966	*	97,812,142	1.000010	980	1.0000		2002		527,180,241	0.9978			
1967	*	105,174,346	1.000013	1,405	1.0001		2003		545,284,487	1.0033			
1968	*	113,090,694	1.000018	2,015	1.0001		2004		600,479,655	0.9975			
1969	*	121,602,897	1.000024	2,888	1.0001		2005		639,185,194	1.0053			
1970	*	130,755,803	1.000032	4,141	1.0001		2006		652,282,075	1.0072			
1971	*	140,597,638	1.000042	5,937	1.0002		2007		693,081,995	1.0063			
1972	*	151,180,256	1.000056	8,511	1.0002		2008		623,927,873	1.0027			
1973	*	162,559,415	1.000075	12,202	1.0003		2009		547,740,676	0.9998			
1974	*	174,795,070	1.000100	17,494	1.0004		2010		602,124,739	1.0028			
1975	*	187,951,688	1.000133	25,080	1.0005		2011		607,773,636	1.0064			
1976	*	202,098,589	1.000178	35,955	1.0007		2012		563,567,228	0.9996			
1977	*	217,310,311	1.000237	51,546	1.0009		2013		562,739,330	1.0012			
1978	*	233,667,001	1.000316	73,895	1.0013		2014		581,990,601	1.0001			
1979	*	251,254,840	1.000422	105,931	1.0017		2015		532,025,356	0.9919			
1980	*	270,166,495	1.000562	151,851	1.0023		2016		526,116,923	1.0007			
1981	*	290,501,607	1.000750	217,667	1.0030		2017		573,524,506	1.0169			
1982	*	312,367,320	1.001000	311,989	1.0040		2018		642,190,878	1.0194			
1983	*	335,878,838	1.001333	447,148	1.0053		2019		527,344,811	1.8255			
1984	*	361,160,041	1.001777	640,788	1.0071		2020		227,670,229				

INDEMNITY   18 vs 19

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1989 PYs Incurred	7,330,112,987	1 PY 1988 Incurred = (Average of 1989, 1990, 1991) x (PY Deflation Factor ^ 2)	
Next Latest 12/31 Prior to 1989 PYs Incurred	7,328,022,613	2 PY 1987 & Prior Incurreds = Subsequent Year x PY Deflation	
CY Development of Prior to 1989 PYs	2,090,373	3 PY 1988 LDF selected based on balancing Prior to 1989 PYs Total Dollar Dev. to Actual CY Dev.	
Next Latest PY 1989 Incurred	1,160,484,070	4 PY 1987 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0	
# of 1989 PYs in Prior to 1989 PYs Data	6.32		
Selected Decrement Development Factor	0.75	CY Development of Prior to 1989 PYs:	2,090,373
Selected Average PY Deflation Factor	0.95	Total Dollar Development:	2,090,373
		Difference:	0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/19	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/19	Prior Year LDF	Dollar Development	Cumulative LDF	
1948	*	130,392,720	1.000000	1	1.0000		1984	*	826,425,206	1.000187	154,910	1.0008	34TH TO ULT
1949	*	137,255,495	1.000000	1	1.0000		1985	*	869,921,270	1.000250	217,404	1.0010	33RD TO ULT
1950	*	144,479,468	1.000000	2	1.0000		1986	*	915,706,600	1.000333	305,103	1.0013	32ND TO ULT
1951	*	152,083,651	1.000000	2	1.0000		1987	*	963,901,684	1.000444	428,167	1.0018	31ST TO ULT
1952	*	160,088,053	1.000000	3	1.0000		1988	*	1,014,633,351	1.00059253	600,847	1.0024	30TH TO ULT
1953	*	168,513,741	1.000000	4	1.0000		1989		1,160,217,751	0.9998		1.0022	29th TO ULT
1954	*	177,382,885	1.000000	6	1.0000		1990		1,185,020,691	0.9992		1.0014	28th TO ULT
1955	*	186,718,826	1.000000	8	1.0000		1991		1,027,504,000	0.9995		1.0009	27th TO ULT
1956	*	196,546,133	1.000000	12	1.0000		1992		873,784,851	1.0031		1.0040	26th TO ULT
1957	*	206,890,666	1.000000	16	1.0000		1993		757,599,518	1.0002		1.0042	25th TO ULT
1958	*	217,779,648	1.000000	23	1.0000		1994		700,530,084	0.9990		1.0032	24th TO ULT
1959	*	229,241,735	1.000000	32	1.0000		1995		596,445,615	1.0003		1.0035	23rd TO ULT
1960	*	241,307,090	1.000000	45	1.0000		1996		513,054,683	0.9995		1.0030	22nd TO ULT
1961	*	254,007,463	1.000000	64	1.0000		1997		522,470,276	1.0011		1.0041	21st TO ULT
1962	*	267,376,277	1.000000	89	1.0000		1998		522,902,930	1.0010		1.0051	20th TO ULT
1963	*	281,448,712	1.000000	125	1.0000		1999		595,466,700	0.9993			
1964	*	296,261,802	1.000001	176	1.0000		2000		632,588,483	1.0003			
1965	*	311,854,529	1.000001	247	1.0000		2001		642,913,117	1.0000			
1966	*	328,267,925	1.000001	347	1.0000		2002		675,522,266	0.9994			
1967	*	345,545,184	1.000001	487	1.0000		2003		658,911,343	0.9977			
1968	*	363,731,773	1.000002	683	1.0000		2004		695,371,586	1.0000			
1969	*	382,875,550	1.000003	959	1.0000		2005		700,395,648	0.9989			
1970	*	403,026,895	1.000003	1,346	1.0000		2006		723,087,503	1.0007			
1971	*	424,238,837	1.000004	1,890	1.0000		2007		759,664,929	0.9997			
1972	*	446,567,197	1.000006	2,652	1.0000		2008		708,143,423	0.9989			
1973	*	470,070,734	1.000008	3,722	1.0000		2009		645,506,480	1.0017			
1974	*	494,811,298	1.000011	5,224	1.0000		2010		667,707,858	1.0015			
1975	*	520,853,998	1.000014	7,332	1.0001		2011		642,784,847	1.0024			
1976	*	548,267,367	1.000019	10,290	1.0001		2012		590,303,169	1.0043			
1977	*	577,123,544	1.000025	14,443	1.0001		2013		585,095,892	0.9978			
1978	*	607,498,467	1.000033	20,270	1.0001		2014		583,671,438	1.0042			
1979	*	639,472,071	1.000044	28,449	1.0002		2015		559,977,690	1.0205			
1980	*	673,128,496	1.000059	39,928	1.0002		2016		529,212,396	1.0832			
1981	*	708,556,311	1.000079	56,038	1.0003		2017		530,102,279	1.3449			
1982	*	745,848,749	1.000105	78,647	1.0004		2018		422,417,885	3.5355			
1983	*	785,103,946	1.000141	110,379	1.0006		2019		126,048,403				

MEDICAL   18 vs 19

Latest 12/31 Prior to 1989 PYs Incurred	3,159,471,440	1 PY 1988 Incurred = (Average of 1989, 1990, 1991) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1989 PYs Incurred	3,153,223,207	2 PY 1987 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1989 PYs	6,248,233	3 PY 1988 LDF selected based on balancing Prior to 1989 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1989 Incurred	655,473,249	4 PY 1987 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1989 PYs in Prior to 1989 PYs Data	4.82	
Selected Decrement Development Factor	0.75	CY Development of Prior to 1989 PYs: 6,248,233
Selected Average PY Deflation Factor	0.93	Total Dollar Development: 6,248,234
		Difference: -1

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/19	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/19	Prior Year LDF	Dollar Development	Cumulative LDF	
1948	*	30,994,713	1.000000	1	1.0000		1984	*	422,572,738	1.001061	447,839	1.0043	34TH TO ULT
1949	*	33,327,649	1.000000	1	1.0000		1985	*	454,379,288	1.001415	641,836	1.0057	33RD TO ULT
1950	*	35,836,181	1.000000	2	1.0000		1986	*	488,579,879	1.001886	919,762	1.0076	32ND TO ULT
1951	*	38,533,528	1.000000	3	1.0000		1987	*	525,354,709	1.002515	1,317,828	1.0101	31ST TO ULT
1952	*	41,433,901	1.000000	4	1.0000		1988	*	564,897,537	1.00335302	1,887,781	1.0135	30TH TO ULT
1953	*	44,552,582	1.000000	6	1.0000		1989		654,445,740	0.9984		1.0119	29th TO ULT
1954	*	47,906,002	1.000000	9	1.0000		1990		677,560,802	1.0026		1.0145	28th TO ULT
1955	*	51,511,831	1.000000	13	1.0000		1991		627,402,187	1.0023		1.0168	27th TO ULT
1956	*	55,389,065	1.000000	19	1.0000		1992		556,747,561	1.0064		1.0233	26th TO ULT
1957	*	59,558,134	1.000000	27	1.0000		1993		429,685,191	0.9988		1.0221	25th TO ULT
1958	*	64,041,005	1.000001	38	1.0000		1994		410,946,338	1.0023		1.0245	24th TO ULT
1959	*	68,861,296	1.000001	55	1.0000		1995		376,584,348	1.0008		1.0253	23rd TO ULT
1960	*	74,044,404	1.000001	79	1.0000		1996		375,255,756	0.9927		1.0178	22nd TO ULT
1961	*	79,617,638	1.000001	113	1.0000		1997		393,565,229	0.9983		1.0161	21st TO ULT
1962	*	85,610,364	1.000002	162	1.0000		1998		429,409,261	1.0021		1.0182	20th TO ULT
1963	*	92,054,155	1.000003	232	1.0000		1999		452,765,979	1.0021			
1964	*	98,982,962	1.000003	333	1.0000		2000		487,318,937	1.0025			
1965	*	106,433,293	1.000004	477	1.0000		2001		476,079,683	1.0010			
1966	*	114,444,401	1.000006	685	1.0000		2002		546,297,278	0.9973			
1967	*	123,058,495	1.000008	981	1.0000		2003		558,041,835	0.9998			
1968	*	132,320,963	1.000011	1,407	1.0000		2004		610,827,079	1.0004			
1969	*	142,280,605	1.000014	2,017	1.0001		2005		641,828,407	1.0065			
1970	*	152,989,898	1.000019	2,892	1.0001		2006		650,203,327	1.0010			
1971	*	164,505,267	1.000025	4,146	1.0001		2007		694,940,535	1.0007			
1972	*	176,887,383	1.000034	5,944	1.0001		2008		629,871,028	1.0021			
1973	*	190,201,488	1.000045	8,522	1.0002		2009		555,214,790	0.9996			
1974	*	204,517,729	1.000060	12,218	1.0002		2010		612,162,649	1.0026			
1975	*	219,911,536	1.000080	17,516	1.0003		2011		602,374,718	1.0041			
1976	*	236,464,017	1.000106	25,112	1.0004		2012		565,763,057	1.0138			
1977	*	254,262,384	1.000142	36,002	1.0006		2013		569,618,704	0.9946			
1978	*	273,400,413	1.000189	51,614	1.0008		2014		575,317,663	0.9945			
1979	*	293,978,939	1.000252	73,994	1.0010		2015		539,012,376	1.0018			
1980	*	316,106,386	1.000336	106,075	1.0013		2016		524,482,623	1.0136			
1981	*	339,899,340	1.000448	152,062	1.0018		2017		575,245,203	1.0451			
1982	*	365,483,161	1.000597	217,977	1.0024		2018		628,770,837	2.1572			
1983	*	392,992,646	1.000796	312,450	1.0032		2019		290,459,584				

INDEMNITY   17 vs 18

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1988 PYs Incurred	6,303,711,141	1	PY 1987 Incurred = (Average of 1988, 1989, 1990) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1988 PYs Incurred	6,304,174,763	2	PY 1986 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1988 PYs	-463,622	3	PY 1987 LDF selected based on balancing Prior to 1988 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1988 Incurred	994,707,604	4	PY 1986 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1988 PYs in Prior to 1988 PYs Data	6.34		
Selected Decrement Development Factor	0.75		CY Development of Prior to 1988 PYs:	-463,622
Selected Average PY Deflation Factor	0.95		Total Dollar Development:	-463,622
			Difference:	0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/18	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/18	Prior Year LDF	Dollar Development	Cumulative LDF	
1947	*	129,126,361	1.000000	0	1.0000		1983	*	818,399,057	0.999958	-34,350	0.9998	34TH TO ULT
1948	*	135,922,485	1.000000	0	1.0000		1984	*	861,472,692	0.999944	-48,211	0.9998	33RD TO ULT
1949	*	143,076,300	1.000000	0	1.0000		1985	*	906,813,360	0.999925	-67,666	0.9997	32ND TO ULT
1950	*	150,606,631	1.000000	0	1.0000		1986	*	954,540,379	0.999901	-94,972	0.9996	31ST TO ULT
1951	*	158,533,296	1.000000	-1	1.0000		1987	*	1,004,779,346	0.99986735	-133,298	0.9995	30TH TO ULT
1952	*	166,877,154	1.000000	-1	1.0000		1988		994,106,481	0.9994		0.9989	29th TO ULT
1953	*	175,660,162	1.000000	-1	1.0000		1989		1,160,177,865	1.0002		0.9991	28th TO ULT
1954	*	184,905,434	1.000000	-2	1.0000		1990		1,185,702,400	1.0006		0.9997	27th TO ULT
1955	*	194,637,299	1.000000	-3	1.0000		1991		1,028,042,580	1.0004		1.0001	26th TO ULT
1956	*	204,881,367	1.000000	-4	1.0000		1992		871,251,371	1.0023		1.0024	25th TO ULT
1957	*	215,664,597	1.000000	-5	1.0000		1993		757,923,969	1.0000		1.0024	24th TO ULT
1958	*	227,015,365	1.000000	-7	1.0000		1994		701,921,392	0.9999		1.0023	23rd TO ULT
1959	*	238,963,542	1.000000	-10	1.0000		1995		596,366,407	1.0002		1.0025	22nd TO ULT
1960	*	251,540,571	1.000000	-14	1.0000		1996		513,368,363	0.9996		1.0021	21st TO ULT
1961	*	264,779,548	1.000000	-20	1.0000		1997		522,336,131	1.0006		1.0027	20th TO ULT
1962	*	278,715,314	1.000000	-28	1.0000		1998		522,907,154	1.0007			
1963	*	293,384,541	1.000000	-39	1.0000		1999		596,380,725	1.0009			
1964	*	308,825,833	1.000000	-55	1.0000		2000		632,717,334	1.0000			
1965	*	325,079,824	1.000000	-77	1.0000		2001		643,323,781	1.0009			
1966	*	342,189,288	1.000000	-108	1.0000		2002		675,956,444	1.0011			
1967	*	360,199,251	1.000000	-152	1.0000		2003		653,759,793	0.9992			
1968	*	379,157,106	0.999999	-213	1.0000		2004		683,860,179	1.0005			
1969	*	399,112,743	0.999999	-298	1.0000		2005		684,213,253	1.0020			
1970	*	420,118,677	0.999999	-419	1.0000		2006		707,864,330	1.0025			
1971	*	442,230,186	0.999999	-588	1.0000		2007		739,583,218	1.0022			
1972	*	465,505,459	0.999998	-825	1.0000		2008		691,742,383	0.9995			
1973	*	490,005,747	0.999998	-1,158	1.0000		2009		628,405,905	1.0029			
1974	*	515,795,523	0.999997	-1,625	1.0000		2010		646,714,296	1.0020			
1975	*	542,942,656	0.999996	-2,281	1.0000		2011		621,590,866	1.0000			
1976	*	571,518,585	0.999994	-3,202	1.0000		2012		570,018,890	1.0034			
1977	*	601,598,510	0.999993	-4,494	1.0000		2013		573,163,467	0.9976			
1978	*	633,261,590	0.999990	-6,307	1.0000		2014		570,064,841	1.0170			
1979	*	666,591,147	0.999987	-8,852	0.9999		2015		548,712,251	1.0791			
1980	*	701,674,892	0.999982	-12,424	0.9999		2016		488,551,343	1.3284			
1981	*	738,605,149	0.999976	-17,438	0.9999		2017		394,220,080	3.3940			
1982	*	777,479,104	0.999969	-24,474	0.9999		2018		119,495,366				

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MEDICAL   17 vs 18

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1988 PYs Incurred	2,614,306,665	1 PY 1987 Incurred = (Average of 1988, 1989, 1990) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1988 PYs Incurred	2,598,041,698	2 PY 1986 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1988 PYs	16,264,967	3 PY 1987 LDF selected based on balancing Prior to 1988 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1988 Incurred	531,512,303	4 PY 1986 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1988 PYs in Prior to 1988 PYs Data	4.92	
Selected Decrement Development Factor	0.75	CY Development of Prior to 1988 PYs: 16,264,967
Selected Average PY Deflation Factor	0.93	Total Dollar Development: 16,264,967
		Difference: 0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/18	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/18	Prior Year LDF	Dollar Development	Cumulative LDF	
1947	*	29,493,528	1.000000	3	1.0000		1983	*	402,106,023	1.002913	1,167,932	1.0117	34TH TO ULT
1948	*	31,713,471	1.000000	4	1.0000		1984	*	432,372,068	1.003884	1,672,836	1.0156	33RD TO ULT
1949	*	34,100,506	1.000000	6	1.0000		1985	*	464,916,202	1.005179	2,395,241	1.0209	32ND TO ULT
1950	*	36,667,211	1.000000	8	1.0000		1986	*	499,909,895	1.006905	3,428,151	1.0279	31ST TO ULT
1951	*	39,427,109	1.000000	12	1.0000		1987	*	537,537,521	1.00920652	4,903,702	1.0374	30TH TO ULT
1952	*	42,394,741	1.000000	17	1.0000		1988		533,169,876	1.0031		1.0406	29th TO ULT
1953	*	45,585,743	1.000001	24	1.0000		1989		655,442,233	1.0050		1.0458	28th TO ULT
1954	*	49,016,928	1.000001	34	1.0000		1990		675,895,422	1.0017		1.0476	27th TO ULT
1955	*	52,706,374	1.000001	49	1.0000		1991		626,111,547	1.0024		1.0501	26th TO ULT
1956	*	56,673,520	1.000001	70	1.0000		1992		553,309,205	1.0023		1.0525	25th TO ULT
1957	*	60,939,269	1.000002	100	1.0000		1993		430,468,373	0.9961		1.0484	24th TO ULT
1958	*	65,526,096	1.000002	144	1.0000		1994		410,498,121	1.0088		1.0577	23rd TO ULT
1959	*	70,458,168	1.000003	206	1.0000		1995		376,438,471	1.0046		1.0625	22nd TO ULT
1960	*	75,761,470	1.000004	295	1.0000		1996		378,070,875	1.0031		1.0658	21st TO ULT
1961	*	81,463,947	1.000005	423	1.0000		1997		394,997,939	1.0040		1.0701	20th TO ULT
1962	*	87,595,642	1.000007	607	1.0000		1998		428,762,410	1.0045			
1963	*	94,188,862	1.000009	870	1.0000		1999		452,101,414	1.0012			
1964	*	101,278,346	1.000012	1,247	1.0000		2000		486,596,378	1.0081			
1965	*	108,901,448	1.000016	1,788	1.0001		2001		475,812,863	1.0016			
1966	*	117,098,331	1.000022	2,564	1.0001		2002		547,746,192	1.0196			
1967	*	125,912,184	1.000029	3,676	1.0001		2003		552,415,916	1.0069			
1968	*	135,389,445	1.000039	5,270	1.0002		2004		604,026,665	1.0101			
1969	*	145,580,048	1.000052	7,556	1.0002		2005		624,663,654	1.0048			
1970	*	156,537,686	1.000069	10,832	1.0003		2006		639,077,350	1.0074			
1971	*	168,320,092	1.000092	15,530	1.0004		2007		679,396,727	1.0030			
1972	*	180,989,347	1.000123	22,265	1.0005		2008		613,725,788	1.0034			
1973	*	194,612,201	1.000164	31,919	1.0007		2009		541,854,119	0.9989			
1974	*	209,260,431	1.000219	45,760	1.0009		2010		595,291,755	1.0089			
1975	*	225,011,216	1.000292	65,601	1.0012		2011		583,087,922	1.0007			
1976	*	241,947,544	1.000389	94,042	1.0016		2012		543,742,256	1.0003			
1977	*	260,158,650	1.000518	134,810	1.0021		2013		561,898,894	0.9866			
1978	*	279,740,484	1.000691	193,242	1.0028		2014		568,597,852	1.0018			
1979	*	300,796,219	1.000922	276,986	1.0037		2015		538,049,539	0.9999			
1980	*	323,436,794	1.001229	396,991	1.0049		2016		517,512,602	1.0466			
1981	*	347,781,499	1.001639	568,929	1.0066		2017		550,490,869	2.1862			
1982	*	373,958,602	1.002185	815,225	1.0088		2018		291,707,133				

INDEMNITY   16 vs 17

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1987 PYs Incurred	5,287,930,388	1 PY 1986 Incurred = (Average of 1987, 1988, 1989) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1987 PYs Incurred	5,286,913,916	2 PY 1985 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1987 PYs	1,016,472	3 PY 1986 LDF selected based on balancing Prior to 1987 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1987 Incurred	868,247,305	4 PY 1985 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1987 PYs in Prior to 1987 PYs Data	6.09	
Selected Decrement Development Factor	0.75	CY Development of Prior to 1987 PYs: 1,016,472
Selected Average PY Deflation Factor	0.95	Total Dollar Development: 1,016,472
		Difference: 0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/17	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/17	Prior Year LDF	Dollar Development	Cumulative LDF	
1946	*	115,674,653	1.000000	0	1.0000		1982	*	733,142,534	1.000103	75,321	1.0004	34TH TO ULT
1947	*	121,762,793	1.000000	1	1.0000		1983	*	771,728,983	1.000137	105,710	1.0005	33RD TO ULT
1948	*	128,171,361	1.000000	1	1.0000		1984	*	812,346,298	1.000183	148,358	1.0007	32ND TO ULT
1949	*	134,917,222	1.000000	1	1.0000		1985	*	855,101,367	1.000244	208,209	1.0010	31ST TO ULT
1950	*	142,018,129	1.000000	1	1.0000		1986	*	900,106,702	1.000325	292,199	1.0013	30TH TO ULT
1951	*	149,492,767	1.000000	2	1.0000		1987		868,590,440	1.0004		1.0017	29th TO ULT
1952	*	157,360,807	1.000000	3	1.0000		1988		980,512,306	0.9995		1.0012	28th TO ULT
1953	*	165,642,955	1.000000	4	1.0000		1989		1,142,941,692	1.0003		1.0015	27th TO ULT
1954	*	174,361,005	1.000000	6	1.0000		1990		1,165,153,522	1.0003		1.0018	26th TO ULT
1955	*	183,537,900	1.000000	8	1.0000		1991		1,006,254,873	0.9995		1.0013	25th TO ULT
1956	*	193,197,790	1.000000	11	1.0000		1992		843,389,302	1.0000		1.0013	24th TO ULT
1957	*	203,366,095	1.000000	16	1.0000		1993		736,272,214	0.9999		1.0012	23rd TO ULT
1958	*	214,069,573	1.000000	22	1.0000		1994		686,497,154	0.9998		1.0010	22nd TO ULT
1959	*	225,336,393	1.000000	31	1.0000		1995		580,597,103	1.0009		1.0019	21st TO ULT
1960	*	237,196,203	1.000000	43	1.0000		1996		497,365,687	0.9998		1.0017	20th TO ULT
1961	*	249,680,214	1.000000	61	1.0000		1997		504,496,406	1.0004			
1962	*	262,821,278	1.000000	86	1.0000		1998		499,164,890	0.9999			
1963	*	276,653,976	1.000000	120	1.0000		1999		563,723,401	1.0006			
1964	*	291,214,712	1.000001	169	1.0000		2000		597,954,900	1.0012			
1965	*	306,541,802	1.000001	237	1.0000		2001		627,958,455	1.0001			
1966	*	322,675,581	1.000001	332	1.0000		2002		674,041,682	1.0014			
1967	*	339,658,507	1.000001	466	1.0000		2003		658,465,461	1.0016			
1968	*	357,535,270	1.000002	655	1.0000		2004		695,881,890	1.0009			
1969	*	376,352,916	1.000002	919	1.0000		2005		699,947,489	1.0011			
1970	*	396,160,964	1.000003	1,289	1.0000		2006		720,191,112	1.0011			
1971	*	417,011,541	1.000004	1,810	1.0000		2007		758,126,829	1.0033			
1972	*	438,959,517	1.000006	2,540	1.0000		2008		706,470,506	1.0015			
1973	*	462,062,649	1.000008	3,565	1.0000		2009		639,234,796	1.0043			
1974	*	486,381,736	1.000010	5,003	1.0000		2010		660,206,261	1.0068			
1975	*	511,980,775	1.000014	7,022	1.0001		2011		635,550,757	1.0078			
1976	*	538,927,132	1.000018	9,855	1.0001		2012		577,924,257	1.0050			
1977	*	567,291,717	1.000024	13,832	1.0001		2013		581,154,570	1.0105			
1978	*	597,149,176	1.000033	19,413	1.0001		2014		556,791,346	1.0864			
1979	*	628,578,080	1.000043	27,245	1.0002		2015		498,025,442	1.3372			
1980	*	661,661,137	1.000058	38,239	1.0002		2016		364,613,082	3.3664			
1981	*	696,485,408	1.000077	53,667	1.0003		2017		114,741,844				

MEDICAL   16 vs 17

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1987 PYs Incurred	2,095,988,490	1	PY 1986 Incurred = (Average of 1987, 1988, 1989) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1987 PYs Incurred	2,092,785,573	2	PY 1985 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1987 PYs	3,202,917	3	PY 1986 LDF selected based on balancing Prior to 1987 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1987 Incurred	437,638,844	4	PY 1985 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1987 PYs in Prior to 1987 PYs Data	4.79		
Selected Decrement Development Factor	0.75		CY Development of Prior to 1987 PYs:	3,202,917
Selected Average PY Deflation Factor	0.93		Total Dollar Development:	3,202,917
			Difference:	0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/17	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/17	Prior Year LDF	Dollar Development	Cumulative LDF	
1946	*	25,521,630	1.000000	1	1.0000		1982	*	347,954,337	1.000660	229,475	1.0026	34TH TO ULT
1947	*	27,442,613	1.000000	1	1.0000		1983	*	374,144,448	1.000880	328,924	1.0035	33RD TO ULT
1948	*	29,508,185	1.000000	1	1.0000		1984	*	402,305,858	1.001173	471,438	1.0047	32ND TO ULT
1949	*	31,729,232	1.000000	2	1.0000		1985	*	432,586,945	1.001564	675,632	1.0063	31ST TO ULT
1950	*	34,117,453	1.000000	2	1.0000		1986	*	465,147,252	1.00208571	968,144	1.0084	30th TO ULT
1951	*	36,685,434	1.000000	3	1.0000		1987		445,607,513	1.0182		1.0267	29th TO ULT
1952	*	39,446,703	1.000000	5	1.0000		1988		524,711,194	0.9981		1.0248	28th TO ULT
1953	*	42,415,810	1.000000	7	1.0000		1989		643,095,279	1.0015		1.0263	27th TO ULT
1954	*	45,608,398	1.000000	10	1.0000		1990		663,442,072	1.0018		1.0282	26th TO ULT
1955	*	49,041,288	1.000000	14	1.0000		1991		610,953,160	1.0021		1.0303	25th TO ULT
1956	*	52,732,567	1.000000	20	1.0000		1992		536,685,035	1.0007		1.0310	24th TO ULT
1957	*	56,701,685	1.000000	28	1.0000		1993		419,832,793	1.0035		1.0346	23rd TO ULT
1958	*	60,969,554	1.000001	40	1.0000		1994		398,732,142	1.0028		1.0375	22nd TO ULT
1959	*	65,558,660	1.000001	58	1.0000		1995		366,032,892	1.0016		1.0392	21st TO ULT
1960	*	70,493,183	1.000001	83	1.0000		1996		367,707,346	1.0079		1.0474	20th TO ULT
1961	*	75,799,122	1.000002	119	1.0000		1997		382,301,878	0.9982			
1962	*	81,504,432	1.000002	171	1.0000		1998		402,951,814	1.0153			
1963	*	87,639,174	1.000003	245	1.0000		1999		432,265,047	0.9984			
1964	*	94,235,671	1.000004	351	1.0000		2000		462,045,801	1.0026			
1965	*	101,328,679	1.000005	503	1.0000		2001		466,305,560	1.0017			
1966	*	108,955,568	1.000007	721	1.0000		2002		536,277,184	1.0057			
1967	*	117,156,525	1.000009	1,033	1.0000		2003		552,047,850	1.0046			
1968	*	125,974,758	1.000012	1,481	1.0000		2004		605,522,820	1.0032			
1969	*	135,456,729	1.000016	2,124	1.0001		2005		634,622,287	1.0073			
1970	*	145,652,397	1.000021	3,045	1.0001		2006		644,541,197	1.0046			
1971	*	156,615,481	1.000028	4,365	1.0001		2007		692,152,336	1.0022			
1972	*	168,403,743	1.000037	6,258	1.0001		2008		623,411,445	0.9978			
1973	*	181,079,293	1.000050	8,972	1.0002		2009		552,881,259	0.9971			
1974	*	194,708,918	1.000066	12,863	1.0003		2010		601,930,105	1.0082			
1975	*	209,364,427	1.000088	18,441	1.0004		2011		593,729,286	1.0084			
1976	*	225,123,040	1.000117	26,438	1.0005		2012		553,227,436	1.0309			
1977	*	242,067,785	1.000157	37,903	1.0006		2013		574,658,775	0.9973			
1978	*	260,287,941	1.000209	54,339	1.0008		2014		565,563,887	1.0202			
1979	*	279,879,507	1.000278	77,899	1.0011		2015		528,855,104	1.0478			
1980	*	300,945,706	1.000371	111,673	1.0015		2016		490,693,171	2.1990			
1981	*	323,597,533	1.000495	160,085	1.0020		2017		248,019,525				

INDEMNITY   15 vs 16

Latest 12/31 Prior to 1986 PYs Incurred	4,745,489,731	1	PY 1985 Incurred = (Average of 1986, 1987, 1988) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1986 PYs Incurred	4,745,177,980	2	PY 1984 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1986 PYs	311,751	3	PY 1985 LDF selected based on balancing Prior to 1986 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1986 Incurred	721,153,650	4	PY 1984 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1986 PYs in Prior to 1986 PYs Data	6.58		
Selected Decrement Development Factor	0.75		CY Development of Prior to 1986 PYs: 311,751
Selected Average PY Deflation Factor	0.95		Total Dollar Development: 311,752
			Difference: -1

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/16	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/16	Prior Year LDF	Dollar Development	Cumulative LDF	
1945	*	99,789,611	1.000000	0	1.0000		1981	*	632,463,603	1.000037	23,100	1.0001	34TH TO ULT
1946	*	105,041,695	1.000000	0	1.0000		1982	*	665,751,161	1.000049	32,420	1.0002	33RD TO ULT
1947	*	110,570,206	1.000000	0	1.0000		1983	*	700,790,696	1.000065	45,501	1.0003	32ND TO ULT
1948	*	116,389,690	1.000000	0	1.0000		1984	*	737,674,417	1.000087	63,860	1.0003	31ST TO ULT
1949	*	122,515,463	1.000000	0	1.0000		1985	*	776,499,386	1.00011544	89,625	1.0005	30TH TO ULT
1950	*	128,963,646	1.000000	1	1.0000		1986		721,423,366	1.0004		1.0009	29TH TO ULT
1951	*	135,751,206	1.000000	1	1.0000		1987		872,323,486	0.9992		1.0001	28th TO ULT
1952	*	142,896,006	1.000000	1	1.0000		1988		987,414,544	1.0004		1.0005	27th TO ULT
1953	*	150,416,849	1.000000	2	1.0000		1989		1,148,185,169	1.0005		1.0010	26th TO ULT
1954	*	158,333,525	1.000000	2	1.0000		1990		1,173,634,949	1.0006		1.0016	25th TO ULT
1955	*	166,666,868	1.000000	3	1.0000		1991		1,013,820,336	1.0008		1.0024	24th TO ULT
1956	*	175,438,809	1.000000	5	1.0000		1992		851,993,670	1.0011		1.0035	23rd TO ULT
1957	*	184,672,430	1.000000	7	1.0000		1993		743,375,567	1.0002		1.0037	22nd TO ULT
1958	*	194,392,032	1.000000	9	1.0000		1994		679,124,242	1.0017		1.0054	21st TO ULT
1959	*	204,623,192	1.000000	13	1.0000		1995		572,479,411	0.9984		1.0038	20th TO ULT
1960	*	215,392,833	1.000000	19	1.0000		1996		489,052,264	0.9999			
1961	*	226,729,298	1.000000	26	1.0000		1997		499,333,753	1.0021			
1962	*	238,662,419	1.000000	37	1.0000		1998		496,989,793	1.0003			
1963	*	251,223,599	1.000000	52	1.0000		1999		564,142,781	1.0005			
1964	*	264,445,894	1.000000	73	1.0000		2000		600,237,959	0.9999			
1965	*	278,364,099	1.000000	102	1.0000		2001		603,932,408	1.0013			
1966	*	293,014,841	1.000000	143	1.0000		2002		629,926,963	1.0016			
1967	*	308,436,675	1.000001	201	1.0000		2003		613,382,480	1.0007			
1968	*	324,670,184	1.000001	282	1.0000		2004		662,136,395	1.0014			
1969	*	341,758,088	1.000001	395	1.0000		2005		676,903,388	1.0014			
1970	*	359,745,356	1.000002	555	1.0000		2006		703,215,817	1.0025			
1971	*	378,679,322	1.000002	779	1.0000		2007		742,284,269	1.0013			
1972	*	398,609,813	1.000003	1,093	1.0000		2008		686,046,358	0.9999			
1973	*	419,589,276	1.000004	1,534	1.0000		2009		625,080,978	1.0058			
1974	*	441,672,923	1.000005	2,153	1.0000		2010		646,464,468	1.0002			
1975	*	464,918,866	1.000007	3,022	1.0000		2011		618,761,328	1.0040			
1976	*	489,388,280	1.000009	4,242	1.0000		2012		549,092,227	1.0319			
1977	*	515,145,558	1.000012	5,953	1.0000		2013		550,876,199	1.0948			
1978	*	542,258,482	1.000015	8,355	1.0001		2014		491,422,631	1.3303			
1979	*	570,798,402	1.000021	11,727	1.0001		2015		349,068,153	3.2468			
1980	*	600,840,423	1.000027	16,459	1.0001		2016		99,813,347				

MEDICAL   15 vs 16

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1986 PYs Incurred	1,819,884,532	1	PY 1985 Incurred = (Average of 1986, 1987, 1988) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1986 PYs Incurred	1,815,292,120	2	PY 1984 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1986 PYs	4,592,412	3	PY 1985 LDF selected based on balancing Prior to 1986 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1986 Incurred	326,405,356	4	PY 1984 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1986 PYs in Prior to 1986 PYs Data	5.58		
Selected Decrement Development Factor	0.75		CY Development of Prior to 1986 PYs: 4,592,412
Selected Average PY Deflation Factor	0.93		Total Dollar Development: 4,592,413
			Difference: -1

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/16	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/16	Prior Year LDF	Dollar Development	Cumulative LDF	
1945	*	20,371,808	1.000000	1	1.0000		1981	*	277,743,188	1.001187	329,200	1.0048	34TH TO ULT
1946	*	21,905,169	1.000000	1	1.0000		1982	*	298,648,589	1.001582	471,785	1.0063	33RD TO ULT
1947	*	23,553,946	1.000000	2	1.0000		1983	*	321,127,515	1.002110	676,038	1.0085	32ND TO ULT
1948	*	25,326,823	1.000000	2	1.0000		1984	*	345,298,404	1.002813	968,550	1.0113	31ST TO ULT
1949	*	27,233,143	1.000000	3	1.0000		1985	*	371,288,606	1.00375047	1,387,305	1.0151	30TH TO ULT
1950	*	29,282,950	1.000000	5	1.0000		1986		329,202,606	1.0086		1.0238	29th TO ULT
1951	*	31,487,043	1.000000	7	1.0000		1987		434,847,726	1.0013		1.0252	28th TO ULT
1952	*	33,857,035	1.000000	10	1.0000		1988		523,804,702	1.0017		1.0269	27th TO ULT
1953	*	36,405,414	1.000000	14	1.0000		1989		641,859,811	1.0067		1.0338	26th TO ULT
1954	*	39,145,607	1.000001	20	1.0000		1990		658,809,222	1.0055		1.0395	25th TO ULT
1955	*	42,092,050	1.000001	28	1.0000		1991		609,613,045	0.9988		1.0382	24th TO ULT
1956	*	45,260,269	1.000001	40	1.0000		1992		533,783,612	1.0045		1.0429	23rd TO ULT
1957	*	48,666,956	1.000001	58	1.0000		1993		414,671,416	1.0057		1.0488	22nd TO ULT
1958	*	52,330,060	1.000002	83	1.0000		1994		388,068,541	1.0053		1.0544	21st TO ULT
1959	*	56,268,882	1.000002	119	1.0000		1995		355,595,791	0.9991		1.0534	20th TO ULT
1960	*	60,504,174	1.000003	171	1.0000		1996		350,308,852	1.0060			
1961	*	65,058,252	1.000004	245	1.0000		1997		375,918,546	1.0052			
1962	*	69,955,109	1.000005	351	1.0000		1998		388,985,978	1.0010			
1963	*	75,220,547	1.000007	503	1.0000		1999		428,134,150	1.0035			
1964	*	80,882,309	1.000009	721	1.0000		2000		449,479,718	1.0048			
1965	*	86,970,225	1.000012	1,034	1.0000		2001		445,565,619	1.0019			
1966	*	93,516,371	1.000016	1,483	1.0001		2002		495,555,910	1.0033			
1967	*	100,555,237	1.000021	2,126	1.0001		2003		508,251,806	1.0069			
1968	*	108,123,911	1.000028	3,048	1.0001		2004		575,507,521	0.9996			
1969	*	116,262,270	1.000038	4,370	1.0002		2005		606,206,438	1.0083			
1970	*	125,013,194	1.000050	6,265	1.0002		2006		623,546,703	1.0041			
1971	*	134,422,789	1.000067	8,982	1.0003		2007		670,707,343	1.0062			
1972	*	144,540,633	1.000089	12,878	1.0004		2008		603,236,759	0.9991			
1973	*	155,420,036	1.000119	18,462	1.0005		2009		541,865,628	1.0162			
1974	*	167,118,318	1.000158	26,468	1.0006		2010		595,738,577	0.9987			
1975	*	179,697,116	1.000211	37,944	1.0008		2011		576,761,963	1.0088			
1976	*	193,222,706	1.000282	54,397	1.0011		2012		510,306,935	1.0047			
1977	*	207,766,350	1.000375	77,981	1.0015		2013		554,013,130	1.0201			
1978	*	223,404,677	1.000501	111,787	1.0020		2014		533,464,895	1.0717			
1979	*	240,220,083	1.000668	160,241	1.0027		2015		468,896,395	2.1736			
1980	*	258,301,165	1.000890	229,685	1.0036		2016		199,538,261				

INDEMNITY   14 vs 15

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1986 PYs Incurred	4,755,613,236	1 PY 1985 Incurred = (Average of 1986, 1987, 1988) x (PY Deflation Factor ^ 2)
Next Latest 12/31 Prior to 1986 PYs Incurred	4,754,363,728	2 PY 1984 & Prior Incurreds = Subsequent Year x PY Deflation
CY Development of Prior to 1986 PYs	1,249,508	3 PY 1985 LDF selected based on balancing Prior to 1986 PYs Total Dollar Dev. to Actual CY Dev.
Next Latest PY 1986 Incurred	726,092,080	4 PY 1984 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0
# of 1986 PYs in Prior to 1986 PYs Data	6.55	
Selected Decrement Development Factor	0.75	CY Development of Prior to 1986 PYs: 1,249,508
Selected Average PY Deflation Factor	0.95	Total Dollar Development: 1,249,506
		Difference: 2

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/15	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/15	Prior Year LDF	Dollar Development	Cumulative LDF	
1944	*	95,673,747	1.000000	0	1.0000		1980	*	606,377,380	1.000109	65,975	1.0004	34TH TO ULT
1945	*	100,709,207	1.000000	0	1.0000		1981	*	638,291,979	1.000145	92,593	1.0006	33RD TO ULT
1946	*	106,009,692	1.000000	1	1.0000		1982	*	671,886,294	1.000193	129,948	1.0008	32ND TO ULT
1947	*	111,589,149	1.000000	1	1.0000		1983	*	707,248,730	1.000258	182,372	1.0010	31ST TO ULT
1948	*	117,462,262	1.000000	1	1.0000		1984	*	744,472,348	1.000344	255,938	1.0014	30TH TO ULT
1949	*	123,644,487	1.000000	2	1.0000		1985	*	783,655,103	1.00045854	359,170	1.0018	29th TO ULT
1950	*	130,152,091	1.000000	3	1.0000		1986		726,812,924	1.0010		1.0028	28th TO ULT
1951	*	137,002,201	1.000000	4	1.0000		1987		880,601,077	1.0005		1.0033	27th TO ULT
1952	*	144,212,844	1.000000	5	1.0000		1988		997,533,709	0.9996		1.0029	26th TO ULT
1953	*	151,802,993	1.000000	7	1.0000		1989		1,160,800,329	1.0019		1.0048	25th TO ULT
1954	*	159,792,624	1.000000	10	1.0000		1990		1,186,718,523	1.0002		1.0050	24th TO ULT
1955	*	168,202,763	1.000000	14	1.0000		1991		1,032,657,872	1.0006		1.0056	23rd TO ULT
1956	*	177,055,540	1.000000	19	1.0000		1992		875,483,471	0.9989		1.0045	22nd TO ULT
1957	*	186,374,252	1.000000	27	1.0000		1993		765,887,412	1.0003		1.0048	21st TO ULT
1958	*	196,183,423	1.000000	38	1.0000		1994		703,066,621	1.0008		1.0056	20th TO ULT
1959	*	206,508,867	1.000000	53	1.0000		1995		598,012,194	1.0004			
1960	*	217,377,754	1.000000	75	1.0000		1996		514,743,988	0.9970			
1961	*	228,818,689	1.000000	105	1.0000		1997		523,066,821	0.9996			
1962	*	240,861,778	1.000001	148	1.0000		1998		525,338,085	0.9996			
1963	*	253,538,713	1.000001	207	1.0000		1999		597,802,971	0.9995			
1964	*	266,882,856	1.000001	291	1.0000		2000		640,969,959	0.9998			
1965	*	280,929,322	1.000001	409	1.0000		2001		651,504,521	0.9996			
1966	*	295,715,076	1.000002	573	1.0000		2002		681,630,644	0.9986			
1967	*	311,279,028	1.000003	805	1.0000		2003		673,673,794	0.9998			
1968	*	327,662,134	1.000003	1,129	1.0000		2004		714,008,732	0.9996			
1969	*	344,907,510	1.000005	1,585	1.0000		2005		721,987,953	1.0013			
1970	*	363,060,537	1.000006	2,225	1.0000		2006		744,413,168	0.9989			
1971	*	382,168,986	1.000008	3,122	1.0000		2007		774,978,264	1.0003			
1972	*	402,283,143	1.000011	4,382	1.0000		2008		727,487,212	1.0028			
1973	*	423,455,940	1.000015	6,151	1.0001		2009		656,801,769	1.0112			
1974	*	445,743,095	1.000019	8,632	1.0001		2010		685,395,759	1.0060			
1975	*	469,203,258	1.000026	12,115	1.0001		2011		661,710,968	1.0240			
1976	*	493,898,166	1.000034	17,004	1.0001		2012		601,801,398	1.1086			
1977	*	519,892,806	1.000046	23,865	1.0002		2013		576,743,190	1.3936			
1978	*	547,255,586	1.000061	33,494	1.0002		2014		413,959,022	3.3485			
1979	*	576,058,511	1.000082	47,008	1.0003		2015		119,136,595				

MEDICAL 14 vs 15

Inputs and Notes for Tail Factor Estimation

Latest 12/31 Prior to 1986 PYs Incurred	1,823,993,233	1 PY 1985 Incurred = (Average of 1986, 1987, 1988) x (PY Deflation Factor ^ 2)	
Next Latest 12/31 Prior to 1986 PYs Incurred	1,825,502,117	2 PY 1984 & Prior Incurreds = Subsequent Year x PY Deflation	
CY Development of Prior to 1986 PYs	-1,508,885	3 PY 1985 LDF selected based on balancing Prior to 1986 PYs Total Dollar Dev. to Actual CY Dev.	
Next Latest PY 1986 Incurred	331,126,399	4 PY 1984 & Prior LDFs = (Subsequent Year - 1.0) x Selected Decrement + 1.0	
# of 1986 PYs in Prior to 1986 PYs Data	5.51		
Selected Decrement Development Factor	0.75	CY Development of Prior to 1986 PYs:	-1,508,885
Selected Average PY Deflation Factor	0.93	Total Dollar Development:	-1,508,885
		Difference:	0

Tail Factor Model - 2023 Loss Cost Filing

Policy Year	(*=Estimate)	Incurred as of 12/31/15	Prior Year LDF	Dollar Development	Cumulative LDF		Policy Year	(*=Estimate)	Incurred as of 12/31/15	Prior Year LDF	Dollar Development	Cumulative LDF	
1944	*	19,230,467	1.000000	0	1.0000		1980	*	262,182,486	0.999713	-75,317	0.9989	34TH TO ULT
1945	*	20,677,921	1.000000	0	1.0000		1981	*	281,916,651	0.999617	-107,992	0.9985	33RD TO ULT
1946	*	22,234,324	1.000000	0	1.0000		1982	*	303,136,184	0.999489	-154,847	0.9980	32ND TO ULT
1947	*	23,907,875	1.000000	-1	1.0000		1983	*	325,952,886	0.999319	-222,041	0.9973	31ST TO ULT
1948	*	25,707,393	1.000000	-1	1.0000		1984	*	350,486,974	0.999092	-318,411	0.9964	30TH TO ULT
1949	*	27,642,358	1.000000	-1	1.0000		1985	*	376,867,714	0.99878979	-456,641	0.9952	29TH TO ULT
1950	*	29,722,965	1.000000	-2	1.0000		1986		330,580,596	0.9984		0.9936	28th TO ULT
1951	*	31,960,178	1.000000	-2	1.0000		1987		443,737,515	1.0022		0.9958	27th TO ULT
1952	*	34,365,782	1.000000	-3	1.0000		1988		532,888,668	0.9993		0.9951	26th TO ULT
1953	*	36,952,454	1.000000	-4	1.0000		1989		648,525,709	1.0095		1.0045	25th TO ULT
1954	*	39,733,822	1.000000	-6	1.0000		1990		671,154,365	1.0037		1.0082	24th TO ULT
1955	*	42,724,539	1.000000	-9	1.0000		1991		626,954,209	1.0041		1.0124	23rd TO ULT
1956	*	45,940,365	1.000000	-13	1.0000		1992		553,794,102	1.0017		1.0141	22nd TO ULT
1957	*	49,398,242	1.000000	-19	1.0000		1993		430,831,803	1.0067		1.0209	21st TO ULT
1958	*	53,116,389	0.999999	-27	1.0000		1994		403,999,091	1.0079		1.0289	20th TO ULT
1959	*	57,114,397	0.999999	-39	1.0000		1995		374,694,836	1.0113			
1960	*	61,413,330	0.999999	-56	1.0000		1996		372,243,797	0.9932			
1961	*	66,035,839	0.999999	-80	1.0000		1997		393,535,887	1.0026			
1962	*	71,006,278	0.999998	-115	1.0000		1998		422,130,236	1.0001			
1963	*	76,350,837	0.999998	-165	1.0000		1999		452,891,190	0.9998			
1964	*	82,097,674	0.999997	-236	1.0000		2000		489,424,756	1.0054			
1965	*	88,277,069	0.999996	-339	1.0000		2001		484,383,915	1.0038			
1966	*	94,921,579	0.999995	-486	1.0000		2002		538,244,120	1.0094			
1967	*	102,066,214	0.999993	-696	1.0000		2003		558,206,172	1.0063			
1968	*	109,748,618	0.999991	-998	1.0000		2004		618,937,865	1.0012			
1969	*	118,009,266	0.999988	-1,431	1.0000		2005		642,666,471	1.0032			
1970	*	126,891,684	0.999984	-2,052	0.9999		2006		660,362,763	1.0072			
1971	*	136,442,671	0.999978	-2,942	0.9999		2007		706,046,964	0.9987			
1972	*	146,712,550	0.999971	-4,218	0.9999		2008		643,747,920	1.0082			
1973	*	157,755,430	0.999962	-6,048	0.9998		2009		573,212,642	0.9982			
1974	*	169,629,494	0.999949	-8,671	0.9998		2010		630,706,009	1.0061			
1975	*	182,397,306	0.999932	-12,431	0.9997		2011		621,748,097	0.9925			
1976	*	196,126,135	0.999909	-17,823	0.9996		2012		578,980,070	1.0252			
1977	*	210,888,318	0.999879	-25,554	0.9995		2013		622,530,992	1.0874			
1978	*	226,761,632	0.999838	-36,638	0.9994		2014		569,698,677	2.2152			
1979	*	243,829,712	0.999785	-52,530	0.9991		2015		248,506,154				

The Estimation of Loss Development Tail Factors: Weibull Curve Fit

Five-Year Average of Incurred Development Factors

Development Period	Average Age of Claim (x)	Unfitted Indemnity LDF	Fitted Cumulative Indemnity LDF *	Unfitted Medical LDF	Fitted Cumulative Medical LDF *
(2)	(3)	(4)	(5)	(6)	(7)
1/2	1.5	1.3280	1.4898	1.0465	1.6814
2/3	2.5	1.0752	1.3672	1.0107	1.5448
3/4	3.5	1.0136	1.2811	0.9975	1.4428
4/5	4.5	1.0013	1.2184	1.0002	1.3644
5/6	5.5	1.0043	1.1715	1.0023	1.3028
6/7	6.5	1.0035	1.1358	1.0055	1.2536
7/8	7.5	1.0026	1.1083	1.0033	1.2137
8/9	8.5	1.0007	1.0867	1.0024	1.1809
9/10	9.5	1.0012	1.0697	1.0016	1.1538
10/11	10.5	1.0010	1.0563	1.0005	1.1313
11/12	11.5	1.0015	1.0455	1.0034	1.1123
12/13	12.5	1.0014	1.0368	1.0031	1.0963
13/14	13.5	1.0003	1.0299	1.0063	1.0828
14/15	14.5	0.9999	1.0243	1.0048	1.0713
15/16	15.5	0.9997	1.0198	1.0045	1.0615
16/17	16.5	0.9998	1.0161	1.0007	1.0531
17/18	17.5	1.0002	1.0131	1.0015	1.0459
18/19	18.5	1.0001	1.0107	1.0041	1.0397
19/20	19.5	1.0002	1.0087	1.0020	1.0344
20/21	20.5	1.0003	**1.0071**	1.0026	**1.0298**
21/22	21.5	1.0003	1.0058	0.9994	1.0258
22/23	22.5	0.9997	1.0047	1.0023	1.0224
23/24	23.5	0.9996	1.0039	1.0040	1.0194
24/25	24.5	0.9999	1.0031	1.0003	1.0169
25/26	25.5	1.0005	1.0026	1.0004	1.0146
26/27	26.5	1.0009	1.0021	1.0024	1.0127
27/28	27.5	1.0002	1.0017	1.0034	1.0111
28/29	28.5	0.9999	1.0014	1.0016	1.0096
29/30	29.5	1.0000	1.0011	1.0039	1.0083
30/31	30.5		1.0009		1.0073

Curve Fit Parameters

	Data Points Used	# of Data Points Used	Selected Parameters λ	c	t	Tail Factor 20th - Ult
Indemnity	10-29	20	0.202	4.000	1.000	1.0071
Medical	10-29	20	0.139	5.000	1.000	1.0298

* Fitted Cumulative LDF (5) & (7) = $1 / e^{\wedge}(-\lambda*(x+c)^{\wedge}t)$

INDEMNITY BRIDGE FACTORS
(Incurred Losses Divided by Paid Losses)

	Model	$Y = a+b/x^{.5}+c*exp(-x)$
EQUATION	a	0.066921222
COEFFICIENTS	b	(0.001205912)
	c	0.876694695
	R^2	0.9985

Report Period	2 Year Average	Points Used	Fitted Value	Selected
1st	1.6967	1.6967	1.6944	
2nd	1.2749	1.2749	1.2831	
3rd	1.1329	1.1329	1.1297	
4th	1.0759	1.0759	1.0705	
5th	1.0486	1.0486	1.0464	
6th	1.0362	1.0362	1.0357	
7th	1.0271	1.0271	1.0303	
8th	1.0331	1.0331	1.0270	
9th	1.0302	1.0302	1.0248	
10th	1.0204	1.0204	1.0231	
11th	1.0151	1.0151	1.0216	
12th	1.0138	1.0138	1.0204	
13th	1.0171	1.0171	1.0193	
14th	1.0196	1.0196	1.0184	
15th	1.0165	1.0165	1.0175	
16th	1.0170	1.0170	1.0168	
17th	1.0147	1.0147	1.0161	
18th	1.0138	1.0138	1.0154	
19th	1.0111	1.0111	1.0148	
20th	1.0093	1.0093	1.0143	1.0143
21st	1.0089	1.0089	1.0138	1.0138
22nd	1.0074	1.0074	1.0133	1.0133
23rd	1.0082	1.0082	1.0129	1.0129
24th	1.0118	1.0118	1.0125	1.0125
25th	1.0161	1.0161	1.0121	1.0121
26th	1.0191	1.0191	1.0117	1.0117
27th	1.0192	1.0192	1.0114	1.0114
28th	1.0199	1.0199	1.0111	1.0111
29th	1.0185	1.0185	1.0107	1.0107
30th			1.0105	1.0105
31st			1.0102	1.0102
32nd			1.0099	1.0099
33rd			1.0097	1.0097
34th			1.0094	1.0094
35th			1.0092	1.0092
36th			1.0090	1.0090
37th			1.0087	1.0087
38th			1.0085	1.0085
39th			1.0083	1.0083
40th			1.0082	1.0082
41st			1.0080	1.0080
42nd			1.0078	1.0078
43rd			1.0076	1.0076
44th			1.0075	1.0075
45th			1.0073	1.0073
46th			1.0072	1.0072
47th			1.0070	1.0070
48th			1.0069	1.0069
49th			1.0067	1.0067
50th	1.0000	1.0000	1.0066	1.0066

Bridge Factor (Average of Selected Factors)   1.0096

* Selected

MEDICAL BRIDGE FACTORS
(Incurred Losses Divided by Paid Losses)

	Model	$Y = a+b*x+c*exp(-x)$
EQUATION	a	0.066921222
COEFFICIENTS	b	(0.001205912)
	c	0.876694695
	R^2	0.9760

Report Period	2 Year Average	Points Used	Fitted Value	Selected
1st	1.3813	1.3813	1.3882	
2nd	1.1944	1.1944	1.1832	
3rd	1.1300	1.1300	1.1070	
4th	1.0696	1.0696	1.0782	
5th	1.0705	1.0705	1.0668	
6th	1.0662	1.0662	1.0619	
7th	1.0560	1.0560	1.0593	
8th	1.0694	1.0694	1.0576	
9th	1.0715	1.0715	1.0562	
10th	1.0555	1.0555	1.0549	
11th	1.0418	1.0418	1.0537	
12th	1.0320	1.0320	1.0525	
13th	1.0319	1.0319	1.0512	
14th	1.0393	1.0393	1.0500	
15th	1.0525	1.0525	1.0488	
16th	1.0461	1.0461	1.0476	
17th	1.0332	1.0332	1.0464	
18th	1.0374	1.0374	1.0452	
19th	1.0317	1.0317	1.0440	
20th	1.0370		1.0428	1.0428
21st	1.0457		1.0416	1.0416
22nd	1.0501		1.0404	1.0404
23rd	1.0622		1.0392	1.0392
24th	1.0541		1.0380	1.0380
25th	1.0484		1.0368	1.0368
26th	1.0489	1.0489	1.0356	1.0356
27th	1.0411	1.0411	1.0344	1.0344
28th	1.0416	1.0416	1.0332	1.0332
29th	1.0452	1.0452	1.0319	1.0319
30th			1.0307	1.0307
31st			1.0295	1.0295
32nd			1.0283	1.0283
33rd			1.0271	1.0271
34th			1.0259	1.0259
35th			1.0247	1.0247
36th			1.0235	1.0235
37th			1.0223	1.0223
38th			1.0211	1.0211
39th			1.0199	1.0199
40th			1.0187	1.0187
41st			1.0175	1.0175
42nd			1.0163	1.0163
43rd			1.0151	1.0151
44th			1.0139	1.0139
45th			1.0127	1.0127
46th			1.0114	1.0114
47th			1.0102	1.0102
48th			1.0090	1.0090
49th			1.0078	1.0078
50th	1.0000	1.0000	1.0066	1.0066

Bridge Factor (Average of Selected Factors)   1.0247

* Selected

Indemnity Bridge Factors
(Incurred Losses Divided by Paid Losses)

Selected Bridge Factor equals the average of points 20-50 (1.0096)

Y = a+b/x^.5+c*exp(-x)   ● Indemnity Bridge Factors (2 Year Average)

Medical Bridge Factors
(Incurred Losses Divided by Paid Losses)

Selected Bridge Factor equals the average of points 20-50 (1.0247)

Y = a+b*x+c*exp(-x)   ● Medical Bridge Factors (2 Year Average)