

PENNSYLVANIA COMPENSATION RATING BUREAU

Retrospective Test of Trend Projections for Severity Ratios

Attached is a retrospective test of the predictive accuracy of various trend procedures. Please note that instead of using ultimate loss ratios, as in Exhibit 11a, Exhibit 11b uses ultimate severity ratios, i.e., ultimate loss ratios adjusted by dividing out the frequency component. Please note that our analysis is limited to Policy Years 1991 through 2002, the years for which frequency data is available.

Results for both indemnity and medical are shown using both linear and exponential fits. All possible combinations of from four to ten data points, which permitted a test of the projected severity ratio three years hence, were used. Our current review trends policy year 2002 3.25 years, policy year 2001 4.25 years, and policy year 2000 5.25 years. An average of those three values is then calculated.

Current estimates of policy year ultimate severity ratios are compared with predicted values based on trending through earlier years. The results are available for each of twenty-one loss development approaches - incurred and paid-to-2nd through paid-to-20th, as well as the average of the incurred and paid-to-20th methods, although only eleven approaches are shown.

As an illustration, the incurred loss development approach generated an indemnity severity ratio of 0.7640 for policy year 1998. Fitting the loss ratios for policy years 1992 to 1995 using a straight line and projecting that to 1998 yielded a loss ratio of 0.8616, which overstates our current estimate for 1998 by 0.0976 points.

Indemnity
Actual Ultimate Severity Ratios
Including Average of Paid and Incurred

INDEMNITY	Policy Year	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
	1991	0.7093	0.6981	0.6981	0.6981	0.6981	0.6981	0.6981	0.6981	0.6981	0.7081	0.7205
	1992	0.7015	0.6922	0.6922	0.6922	0.6922	0.6922	0.6922	0.6922	0.6870	0.6986	0.7109
	1993	0.7134	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.7028	0.6996	0.7114	0.7239
	1994	0.7717	0.7567	0.7567	0.7567	0.7567	0.7567	0.7567	0.7567	0.7603	0.7732	0.7868
	1995	0.8006	0.7712	0.7712	0.7712	0.7712	0.7712	0.7712	0.7712	0.8019	0.8154	0.8299
	1996	0.7146	0.6789	0.6789	0.6789	0.6789	0.6789	0.6789	0.7091	0.7251	0.7374	0.7504
	1997	0.7996	0.7448	0.7448	0.7448	0.7448	0.7448	0.7448	0.8076	0.8257	0.8397	0.8545
	1998	0.8209	0.7640	0.7640	0.7640	0.7640	0.7640	0.7777	0.8295	0.8482	0.8626	0.8777
	1999	0.9443	0.8775	0.8775	0.8775	0.8775	0.8812	0.8957	0.9555	0.9771	0.9936	1.0111
	2000	1.0502	0.9749	0.9749	0.9749	0.9819	0.9807	0.9971	1.0635	1.0876	1.1060	1.1253
	2001	1.0835	1.0022	1.0022	1.0082	1.0164	1.0153	1.0321	1.1010	1.1258	1.1448	1.1650
	2002	1.1091	1.0189	1.0315	1.0380	1.0462	1.0450	1.0625	1.1332	1.1588	1.1784	1.1992

Trend # Years = 3

**Indemnity
Linear Fit
Trended Severity Ratios**

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	0.8136	0.7963	0.7963	0.7963	0.7963	0.7963	0.7963	0.7963	0.8009	0.8165	0.8309
92-95 (4)	1998	0.9068	0.8616	0.8616	0.8616	0.8616	0.8616	0.8616	0.8616	0.9196	0.9351	0.9518
93-96 (4)	1999	0.7647	0.7017	0.7017	0.7017	0.7017	0.7017	0.7017	0.7500	0.7999	0.8134	0.8279
94-97 (4)	2000	0.7706	0.6803	0.6803	0.6803	0.6803	0.6803	0.6803	0.8019	0.8320	0.8461	0.8610
95-98 (4)	2001	0.8496	0.7597	0.7597	0.7597	0.7597	0.7597	0.7816	0.9024	0.9080	0.9235	0.9395
96-99 (4)	2002	1.1395	1.0431	1.0431	1.0431	1.0431	1.0490	1.0818	1.1679	1.1944	1.2145	1.2358
91-95 (5)	1998	0.8657	0.8296	0.8296	0.8296	0.8296	0.8296	0.8296	0.8296	0.8698	0.8859	0.9018
92-96 (5)	1999	0.7971	0.7413	0.7413	0.7413	0.7413	0.7413	0.7413	0.7775	0.8240	0.8380	0.8529
93-97 (5)	2000	0.8176	0.7340	0.7340	0.7340	0.7340	0.7340	0.7340	0.8305	0.8710	0.8858	0.9015
94-98 (5)	2001	0.8302	0.7372	0.7372	0.7372	0.7372	0.7372	0.7537	0.8658	0.8920	0.9072	0.9231
95-99 (5)	2002	1.0129	0.9161	0.9161	0.9161	0.9161	0.9206	0.9476	1.0591	1.0724	1.0905	1.1096
91-96 (6)	1999	0.7952	0.7473	0.7473	0.7473	0.7473	0.7473	0.7473	0.7760	0.8136	0.8285	0.8432
92-97 (6)	2000	0.8324	0.7568	0.7568	0.7568	0.7568	0.7568	0.7568	0.8359	0.8775	0.8924	0.9082
93-98 (6)	2001	0.8542	0.7644	0.7644	0.7644	0.7644	0.7644	0.7774	0.8766	0.9123	0.9278	0.9441
94-99 (6)	2002	0.9672	0.8674	0.8674	0.8674	0.8674	0.8709	0.8935	1.0041	1.0310	1.0485	1.0669
91-97 (7)	2000	0.8267	0.7597	0.7597	0.7597	0.7597	0.7597	0.7597	0.8263	0.8628	0.8783	0.8939
92-98 (7)	2001	0.8618	0.7776	0.7776	0.7776	0.7776	0.7776	0.7883	0.8757	0.9141	0.9296	0.9460
93-99 (7)	2002	0.9643	0.8663	0.8663	0.8663	0.8663	0.8692	0.8885	0.9918	1.0266	1.0440	1.0623
91-98 (8)	2001	0.8549	0.7777	0.7777	0.7777	0.7777	0.7777	0.7868	0.8643	0.8998	0.9159	0.9320
92-99 (8)	2002	0.9563	0.8627	0.8627	0.8627	0.8627	0.8651	0.8818	0.9767	1.0145	1.0317	1.0498
91-99 (9)	2002	0.9400	0.8525	0.8525	0.8525	0.8525	0.8546	0.8693	0.9563	0.9923	1.0097	1.0275

**Indemnity
Linear Fit
Differences: (Actual - Trended)**

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	-0.0140	-0.0515	-0.0515	-0.0515	-0.0515	-0.0515	-0.0515	0.0113	0.0248	0.0232	0.0236
92-95 (4)	1998	-0.0859	-0.0976	-0.0976	-0.0976	-0.0976	-0.0976	-0.0839	-0.0321	-0.0714	-0.0725	-0.0741
93-96 (4)	1999	0.1796	0.1758	0.1758	0.1758	0.1758	0.1795	0.1940	0.2055	0.1772	0.1802	0.1832
94-97 (4)	2000	0.2796	0.2946	0.2946	0.2946	0.3016	0.3004	0.3168	0.2616	0.2556	0.2599	0.2643
95-98 (4)	2001	0.2339	0.2425	0.2425	0.2485	0.2567	0.2556	0.2505	0.1986	0.2178	0.2213	0.2255
96-99 (4)	2002	-0.0304	-0.0242	-0.0116	-0.0051	0.0031	-0.0040	-0.0193	-0.0347	-0.0355	-0.0361	-0.0366
91-95 (5)	1998	-0.0448	-0.0656	-0.0656	-0.0656	-0.0656	-0.0656	-0.0519	-0.0001	-0.0216	-0.0233	-0.0241
92-96 (5)	1999	0.1472	0.1362	0.1362	0.1362	0.1362	0.1399	0.1544	0.1780	0.1531	0.1556	0.1582
93-97 (5)	2000	0.2326	0.2409	0.2409	0.2409	0.2479	0.2467	0.2631	0.2330	0.2166	0.2202	0.2238
94-98 (5)	2001	0.2533	0.2650	0.2650	0.2710	0.2792	0.2781	0.2784	0.2352	0.2338	0.2376	0.2419
95-99 (5)	2002	0.0962	0.1028	0.1154	0.1219	0.1301	0.1244	0.1149	0.0741	0.0864	0.0879	0.0896
91-96 (6)	1999	0.1491	0.1302	0.1302	0.1302	0.1302	0.1339	0.1484	0.1795	0.1635	0.1651	0.1679
92-97 (6)	2000	0.2178	0.2181	0.2181	0.2181	0.2251	0.2239	0.2403	0.2276	0.2101	0.2136	0.2171
93-98 (6)	2001	0.2293	0.2378	0.2378	0.2438	0.2520	0.2509	0.2547	0.2244	0.2135	0.2170	0.2209
94-99 (6)	2002	0.1419	0.1515	0.1641	0.1706	0.1788	0.1741	0.1690	0.1291	0.1278	0.1299	0.1323
91-97 (7)	2000	0.2235	0.2152	0.2152	0.2152	0.2223	0.2211	0.2374	0.2373	0.2248	0.2277	0.2314
92-98 (7)	2001	0.2217	0.2246	0.2246	0.2306	0.2388	0.2377	0.2438	0.2253	0.2117	0.2152	0.2190
93-99 (7)	2002	0.1448	0.1526	0.1652	0.1717	0.1799	0.1758	0.1740	0.1414	0.1322	0.1344	0.1369
91-98 (8)	2001	0.2286	0.2245	0.2245	0.2305	0.2387	0.2376	0.2453	0.2367	0.2260	0.2289	0.2330
92-99 (8)	2002	0.1528	0.1562	0.1688	0.1753	0.1835	0.1799	0.1807	0.1565	0.1443	0.1467	0.1494
91-99 (9)	2002	0.1691	0.1664	0.1790	0.1855	0.1937	0.1904	0.1932	0.1769	0.1665	0.1687	0.1717

**Indemnity
Exponential Fit
Trended Loss Ratios**

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Incur)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	0.8168	0.7993	0.7993	0.7993	0.7993	0.7993	0.7993	0.7993	0.8040	0.8200	0.8344
92-95 (4)	1998	0.9234	0.8732	0.8732	0.8732	0.8732	0.8732	0.8732	0.8732	0.9412	0.9570	0.9741
93-96 (4)	1999	0.7634	0.6992	0.6992	0.6992	0.6992	0.6992	0.6992	0.7496	0.8017	0.8153	0.8298
94-97 (4)	2000	0.7684	0.6812	0.6812	0.6812	0.6812	0.6812	0.6812	0.7994	0.8304	0.8445	0.8594
95-98 (4)	2001	0.8517	0.7606	0.7606	0.7606	0.7606	0.7606	0.7825	0.9102	0.9136	0.9293	0.9453
96-99 (4)	2002	1.2026	1.0914	1.0914	1.0914	1.0914	1.0987	1.1419	1.2426	1.2707	1.2921	1.3148
91-95 (5)	1998	0.8740	0.8356	0.8356	0.8356	0.8356	0.8356	0.8356	0.8356	0.8798	0.8965	0.9125
92-96 (5)	1999	0.7979	0.7392	0.7392	0.7392	0.7392	0.7392	0.7392	0.7788	0.8290	0.8430	0.8580
93-97 (5)	2000	0.8186	0.7328	0.7328	0.7328	0.7328	0.7328	0.7328	0.8326	0.8772	0.8921	0.9080
94-98 (5)	2001	0.8298	0.7366	0.7366	0.7366	0.7366	0.7366	0.7524	0.8679	0.8954	0.9107	0.9266
95-99 (5)	2002	1.0274	0.9230	0.9230	0.9230	0.9230	0.9277	0.9578	1.0863	1.0960	1.1146	1.1340
91-96 (6)	1999	0.7958	0.7455	0.7455	0.7455	0.7455	0.7455	0.7455	0.7771	0.8169	0.8320	0.8468
92-97 (6)	2000	0.8357	0.7563	0.7563	0.7563	0.7563	0.7563	0.7563	0.8399	0.8866	0.9017	0.9177
93-98 (6)	2001	0.8577	0.7642	0.7642	0.7642	0.7642	0.7642	0.7772	0.8826	0.9226	0.9383	0.9548
94-99 (6)	2002	0.9725	0.8663	0.8663	0.8663	0.8663	0.8698	0.8935	1.0168	1.0457	1.0635	1.0821
91-97 (7)	2000	0.8294	0.7592	0.7592	0.7592	0.7592	0.7592	0.7592	0.8295	0.8696	0.8855	0.9012
92-98 (7)	2001	0.8673	0.7783	0.7783	0.7783	0.7783	0.7783	0.7892	0.8832	0.9270	0.9428	0.9594
93-99 (7)	2002	0.9735	0.8672	0.8672	0.8672	0.8672	0.8701	0.8903	1.0066	1.0472	1.0649	1.0836
91-98 (8)	2001	0.8596	0.7784	0.7784	0.7784	0.7784	0.7784	0.7876	0.8704	0.9103	0.9268	0.9431
92-99 (8)	2002	0.9668	0.8647	0.8647	0.8647	0.8647	0.8671	0.8846	0.9913	1.0363	1.0539	1.0724
91-99 (9)	2002	0.9485	0.8540	0.8540	0.8540	0.8540	0.8560	0.8713	0.9676	1.0097	1.0277	1.0459

Indemnity
Exponential Fit
Differences: (Actual - Trended)

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	-0.0172	-0.0545	-0.0545	-0.0545	-0.0545	-0.0545	-0.0545	0.0083	0.0217	0.0197	0.0201
92-95 (4)	1998	-0.1025	-0.1092	-0.1092	-0.1092	-0.1092	-0.1092	-0.0955	-0.0437	-0.0930	-0.0944	-0.0964
93-96 (4)	1999	0.1809	0.1783	0.1783	0.1783	0.1783	0.1820	0.1965	0.2059	0.1754	0.1783	0.1813
94-97 (4)	2000	0.2818	0.2937	0.2937	0.2937	0.3007	0.2995	0.3159	0.2641	0.2572	0.2615	0.2659
95-98 (4)	2001	0.2318	0.2416	0.2416	0.2476	0.2558	0.2547	0.2496	0.1908	0.2122	0.2155	0.2197
96-99 (4)	2002	-0.0935	-0.0725	-0.0599	-0.0534	-0.0452	-0.0537	-0.0794	-0.1094	-0.1119	-0.1137	-0.1156
91-95 (5)	1998	-0.0531	-0.0716	-0.0716	-0.0716	-0.0716	-0.0716	-0.0579	-0.0061	-0.0316	-0.0339	-0.0348
92-96 (5)	1999	0.1464	0.1383	0.1383	0.1383	0.1383	0.1420	0.1565	0.1767	0.1481	0.1506	0.1531
93-97 (5)	2000	0.2316	0.2421	0.2421	0.2421	0.2491	0.2479	0.2643	0.2309	0.2104	0.2139	0.2173
94-98 (5)	2001	0.2537	0.2656	0.2656	0.2716	0.2798	0.2787	0.2797	0.2331	0.2304	0.2341	0.2384
95-99 (5)	2002	0.0817	0.0959	0.1085	0.1150	0.1232	0.1173	0.1047	0.0469	0.0628	0.0638	0.0652
91-96 (6)	1999	0.1485	0.1320	0.1320	0.1320	0.1320	0.1357	0.1502	0.1784	0.1602	0.1616	0.1643
92-97 (6)	2000	0.2145	0.2186	0.2186	0.2186	0.2256	0.2244	0.2408	0.2236	0.2010	0.2043	0.2076
93-98 (6)	2001	0.2258	0.2380	0.2380	0.2440	0.2522	0.2511	0.2549	0.2184	0.2032	0.2065	0.2102
94-99 (6)	2002	0.1366	0.1526	0.1652	0.1717	0.1799	0.1752	0.1690	0.1164	0.1131	0.1149	0.1171
91-97 (7)	2000	0.2208	0.2157	0.2157	0.2157	0.2227	0.2215	0.2379	0.2340	0.2180	0.2205	0.2241
92-98 (7)	2001	0.2162	0.2239	0.2239	0.2299	0.2381	0.2370	0.2429	0.2178	0.1988	0.2020	0.2056
93-99 (7)	2002	0.1356	0.1517	0.1643	0.1708	0.1790	0.1749	0.1722	0.1266	0.1116	0.1135	0.1156
91-98 (8)	2001	0.2239	0.2238	0.2238	0.2298	0.2380	0.2369	0.2445	0.2306	0.2155	0.2180	0.2219
92-99 (8)	2002	0.1423	0.1542	0.1668	0.1733	0.1815	0.1779	0.1779	0.1419	0.1225	0.1245	0.1268
91-99 (9)	2002	0.1606	0.1649	0.1775	0.1840	0.1922	0.1890	0.1912	0.1656	0.1491	0.1507	0.1533

Medical
Actual Ultimate Severity Ratios
Including Average of Paid and Incurred

MEDICAL	Policy Year	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
	1991	0.4997	0.5012	0.5012	0.5012	0.5012	0.5012	0.5012	0.5012	0.5012	0.4971	0.4982
	1992	0.5271	0.5275	0.5275	0.5275	0.5275	0.5275	0.5275	0.5275	0.5229	0.5255	0.5268
	1993	0.5343	0.5318	0.5318	0.5318	0.5318	0.5318	0.5318	0.5318	0.5331	0.5357	0.5370
	1994	0.5794	0.5760	0.5760	0.5760	0.5760	0.5760	0.5760	0.5760	0.5783	0.5813	0.5827
	1995	0.6561	0.6571	0.6571	0.6571	0.6571	0.6571	0.6571	0.6571	0.6503	0.6535	0.6551
	1996	0.6618	0.6626	0.6626	0.6626	0.6626	0.6626	0.6626	0.6578	0.6563	0.6597	0.6611
	1997	0.7580	0.7602	0.7602	0.7602	0.7602	0.7602	0.7602	0.7517	0.7502	0.7539	0.7558
	1998	0.8128	0.8275	0.8275	0.8275	0.8275	0.8275	0.8009	0.7939	0.7920	0.7960	0.7980
	1999	0.8817	0.8948	0.8948	0.8948	0.8948	0.8901	0.8722	0.8645	0.8625	0.8670	0.8689
	2000	0.9558	0.9651	0.9651	0.9651	0.9795	0.9695	0.9500	0.9415	0.9396	0.9444	0.9465
	2001	0.9544	0.9471	0.9471	0.9814	0.9949	0.9849	0.9650	0.9564	0.9544	0.9593	0.9615
	2002	1.0275	1.0203	1.0392	1.0562	1.0707	1.0599	1.0385	1.0292	1.0271	1.0322	1.0347

Trend # Years = 3

**Medical
Linear Fit
Trended Severity Ratios**

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	0.6460	0.6370	0.6370	0.6370	0.6370	0.6370	0.6370	0.6370	0.6426	0.6532	0.6548
92-95 (4)	1998	0.7687	0.7680	0.7680	0.7680	0.7680	0.7680	0.7680	0.7680	0.7635	0.7673	0.7692
93-96 (4)	1999	0.8145	0.8200	0.8200	0.8200	0.8200	0.8200	0.8200	0.8123	0.8032	0.8074	0.8091
94-97 (4)	2000	0.9075	0.9151	0.9151	0.9151	0.9151	0.9151	0.9151	0.8982	0.8935	0.8979	0.9001
95-98 (4)	2001	0.9770	1.0008	1.0008	1.0008	1.0008	1.0008	0.9583	0.9421	0.9458	0.9505	0.9530
96-99 (4)	2002	1.1001	1.1300	1.1300	1.1300	1.1300	1.1225	1.0753	1.0650	1.0624	1.0680	1.0705
91-95 (5)	1998	0.7419	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7389	0.7340	0.7429	0.7448
92-96 (5)	1999	0.7873	0.7888	0.7888	0.7888	0.7888	0.7888	0.7888	0.7830	0.7802	0.7842	0.7859
93-97 (5)	2000	0.9028	0.9092	0.9092	0.9092	0.9092	0.9092	0.9092	0.8957	0.8897	0.8942	0.8963
94-98 (5)	2001	0.9780	0.9997	0.9997	0.9997	0.9997	0.9997	0.9678	0.9525	0.9491	0.9538	0.9562
95-99 (5)	2002	1.0552	1.0806	1.0806	1.0806	1.0806	1.0750	1.0349	1.0205	1.0223	1.0277	1.0300
91-96 (6)	1999	0.7717	0.7709	0.7709	0.7709	0.7709	0.7709	0.7709	0.7663	0.7627	0.7707	0.7725
92-97 (6)	2000	0.8730	0.8764	0.8764	0.8764	0.8764	0.8764	0.8764	0.8653	0.8632	0.8675	0.8696
93-98 (6)	2001	0.9710	0.9892	0.9892	0.9892	0.9892	0.9892	0.9639	0.9503	0.9454	0.9502	0.9526
94-99 (6)	2002	1.0515	1.0759	1.0759	1.0759	1.0759	1.0714	1.0374	1.0228	1.0198	1.0250	1.0274
91-97 (7)	2000	0.8522	0.8536	0.8536	0.8536	0.8536	0.8536	0.8536	0.8442	0.8413	0.8488	0.8509
92-98 (7)	2001	0.9443	0.9583	0.9583	0.9583	0.9583	0.9583	0.9374	0.9253	0.9232	0.9279	0.9301
93-99 (7)	2002	1.0429	1.0647	1.0647	1.0647	1.0647	1.0610	1.0317	1.0179	1.0137	1.0190	1.0213
91-98 (8)	2001	0.9231	0.9339	0.9339	0.9339	0.9339	0.9339	0.9162	0.9054	0.9027	0.9100	0.9122
92-99 (8)	2002	1.0181	1.0362	1.0362	1.0362	1.0362	1.0331	1.0076	0.9948	0.9927	0.9978	1.0001
91-99 (9)	2002	0.9968	1.0119	1.0119	1.0119	1.0119	1.0092	0.9866	0.9749	0.9722	0.9795	0.9818

Medical
Linear Fit
Differences: (Actual - Trended)

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	0.1120	0.1232	0.1232	0.1232	0.1232	0.1232	0.1232	0.1147	0.1076	0.1007	0.1010
92-95 (4)	1998	0.0441	0.0595	0.0595	0.0595	0.0595	0.0595	0.0329	0.0259	0.0285	0.0287	0.0288
93-96 (4)	1999	0.0672	0.0749	0.0749	0.0749	0.0749	0.0702	0.0523	0.0522	0.0593	0.0596	0.0598
94-97 (4)	2000	0.0483	0.0500	0.0500	0.0500	0.0644	0.0544	0.0349	0.0433	0.0461	0.0465	0.0464
95-98 (4)	2001	-0.0226	-0.0537	-0.0537	-0.0194	-0.0059	-0.0159	0.0068	0.0143	0.0086	0.0088	0.0085
96-99 (4)	2002	-0.0726	-0.1097	-0.0908	-0.0738	-0.0593	-0.0626	-0.0367	-0.0358	-0.0353	-0.0358	-0.0358
91-95 (5)	1998	0.0709	0.0886	0.0886	0.0886	0.0886	0.0886	0.0620	0.0550	0.0580	0.0531	0.0532
92-96 (5)	1999	0.0944	0.1061	0.1061	0.1061	0.1061	0.1013	0.0834	0.0815	0.0823	0.0828	0.0830
93-97 (5)	2000	0.0530	0.0559	0.0559	0.0559	0.0703	0.0603	0.0408	0.0458	0.0499	0.0502	0.0502
94-98 (5)	2001	-0.0236	-0.0526	-0.0526	-0.0183	-0.0048	-0.0148	-0.0028	0.0039	0.0053	0.0055	0.0053
95-99 (5)	2002	-0.0277	-0.0603	-0.0414	-0.0244	-0.0099	-0.0150	0.0037	0.0088	0.0048	0.0045	0.0047
91-96 (6)	1999	0.1100	0.1239	0.1239	0.1239	0.1239	0.1192	0.1013	0.0982	0.0998	0.0963	0.0964
92-97 (6)	2000	0.0828	0.0887	0.0887	0.0887	0.1031	0.0931	0.0736	0.0762	0.0764	0.0769	0.0769
93-98 (6)	2001	-0.0166	-0.0421	-0.0421	-0.0078	0.0057	-0.0043	0.0011	0.0061	0.0090	0.0091	0.0089
94-99 (6)	2002	-0.0240	-0.0556	-0.0367	-0.0197	-0.0052	-0.0115	0.0011	0.0064	0.0073	0.0072	0.0073
91-97 (7)	2000	0.1036	0.1115	0.1115	0.1115	0.1259	0.1159	0.0964	0.0973	0.0983	0.0956	0.0956
92-98 (7)	2001	0.0101	-0.0112	-0.0112	0.0231	0.0366	0.0266	0.0276	0.0311	0.0312	0.0314	0.0314
93-99 (7)	2002	-0.0154	-0.0444	-0.0255	-0.0085	0.0060	-0.0011	0.0068	0.0113	0.0134	0.0133	0.0134
91-98 (8)	2001	0.0313	0.0132	0.0132	0.0475	0.0610	0.0510	0.0488	0.0510	0.0517	0.0493	0.0493
92-99 (8)	2002	0.0094	-0.0159	0.0030	0.0200	0.0345	0.0268	0.0309	0.0344	0.0344	0.0344	0.0346
91-99 (9)	2002	0.0307	0.0084	0.0273	0.0443	0.0588	0.0507	0.0519	0.0543	0.0549	0.0527	0.0529

**Medical
Exponential Fit
Trended Loss Ratios**

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	0.6565	0.6460	0.6460	0.6460	0.6460	0.6460	0.6460	0.6460	0.6524	0.6654	0.6671
92-95 (4)	1998	0.7973	0.7960	0.7960	0.7960	0.7960	0.7960	0.7960	0.7960	0.7923	0.7963	0.7982
93-96 (4)	1999	0.8548	0.8629	0.8629	0.8629	0.8629	0.8629	0.8629	0.8529	0.8407	0.8451	0.8468
94-97 (4)	2000	0.9535	0.9646	0.9646	0.9646	0.9646	0.9646	0.9646	0.9426	0.9360	0.9405	0.9427
95-98 (4)	2001	1.0208	1.0506	1.0506	1.0506	1.0506	1.0506	0.9971	0.9769	0.9834	0.9884	0.9911
96-99 (4)	2002	1.1770	1.2180	1.2180	1.2180	1.2180	1.2078	1.1427	1.1312	1.1284	1.1343	1.1370
91-95 (5)	1998	0.7664	0.7620	0.7620	0.7620	0.7620	0.7620	0.7620	0.7620	0.7570	0.7688	0.7708
92-96 (5)	1999	0.8194	0.8212	0.8212	0.8212	0.8212	0.8212	0.8212	0.8140	0.8116	0.8159	0.8176
93-97 (5)	2000	0.9602	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9522	0.9434	0.9482	0.9504
94-98 (5)	2001	1.0385	1.0681	1.0681	1.0681	1.0681	1.0681	1.0270	1.0068	1.0020	1.0069	1.0095
95-99 (5)	2002	1.1156	1.1487	1.1487	1.1487	1.1487	1.1415	1.0888	1.0706	1.0751	1.0807	1.0832
91-96 (6)	1999	0.8024	0.8009	0.8009	0.8009	0.8009	0.8009	0.8009	0.7954	0.7915	0.8022	0.8040
92-97 (6)	2000	0.9217	0.9263	0.9263	0.9263	0.9263	0.9263	0.9263	0.9122	0.9103	0.9150	0.9171
93-98 (6)	2001	1.0434	1.0687	1.0687	1.0687	1.0687	1.0687	1.0360	1.0176	1.0104	1.0155	1.0181
94-99 (6)	2002	1.1280	1.1619	1.1619	1.1619	1.1619	1.1561	1.1106	1.0910	1.0870	1.0926	1.0951
91-97 (7)	2000	0.8981	0.8993	0.8993	0.8993	0.8993	0.8993	0.8993	0.8877	0.8844	0.8948	0.8969
92-98 (7)	2001	1.0095	1.0276	1.0276	1.0276	1.0276	1.0276	1.0015	0.9857	0.9838	0.9888	0.9912
93-99 (7)	2002	1.1322	1.1631	1.1631	1.1631	1.1631	1.1583	1.1189	1.1000	1.0936	1.0993	1.1018
91-98 (8)	2001	0.9853	0.9982	0.9982	0.9982	0.9982	0.9982	0.9767	0.9629	0.9597	0.9699	0.9723
92-99 (8)	2002	1.1017	1.1261	1.1261	1.1261	1.1261	1.1221	1.0887	1.0715	1.0695	1.0751	1.0775
91-99 (9)	2002	1.0775	1.0967	1.0967	1.0967	1.0967	1.0933	1.0644	1.0489	1.0457	1.0561	1.0585

Medical
Exponential Fit
Differences: (Actual - Trended)

Years Used (# Yrs)	3 Yr Trend To	Severity Ratio (Avg Pd & Inc)	Severity Ratio (Incur)	Severity Ratio (Pd-2)	Severity Ratio (Pd-3)	Severity Ratio (Pd-4)	Severity Ratio (Pd-5)	Severity Ratio (Pd-6)	Severity Ratio (Pd-8)	Severity Ratio (Pd-12)	Severity Ratio (Pd-16)	Severity Ratio (Pd-20)
91-94 (4)	1997	0.1015	0.1142	0.1142	0.1142	0.1142	0.1142	0.1142	0.1057	0.0978	0.0885	0.0887
92-95 (4)	1998	0.0155	0.0315	0.0315	0.0315	0.0315	0.0315	0.0049	-0.0021	-0.0003	-0.0003	-0.0002
93-96 (4)	1999	0.0269	0.0319	0.0319	0.0319	0.0319	0.0272	0.0093	0.0116	0.0218	0.0219	0.0221
94-97 (4)	2000	0.0023	0.0005	0.0005	0.0005	0.0149	0.0049	-0.0146	-0.0011	0.0036	0.0039	0.0038
95-98 (4)	2001	-0.0664	-0.1035	-0.1035	-0.0692	-0.0557	-0.0657	-0.0321	-0.0205	-0.0290	-0.0291	-0.0296
96-99 (4)	2002	-0.1495	-0.1977	-0.1788	-0.1618	-0.1473	-0.1479	-0.1042	-0.1020	-0.1013	-0.1021	-0.1023
91-95 (5)	1998	0.0464	0.0655	0.0655	0.0655	0.0655	0.0655	0.0389	0.0319	0.0350	0.0272	0.0272
92-96 (5)	1999	0.0623	0.0736	0.0736	0.0736	0.0736	0.0689	0.0510	0.0505	0.0509	0.0511	0.0513
93-97 (5)	2000	-0.0044	-0.0049	-0.0049	-0.0049	0.0095	-0.0005	-0.0200	-0.0107	-0.0038	-0.0038	-0.0039
94-98 (5)	2001	-0.0841	-0.1210	-0.1210	-0.0867	-0.0732	-0.0832	-0.0620	-0.0504	-0.0476	-0.0476	-0.0480
95-99 (5)	2002	-0.0881	-0.1284	-0.1095	-0.0925	-0.0780	-0.0816	-0.0503	-0.0414	-0.0480	-0.0485	-0.0485
91-96 (6)	1999	0.0793	0.0939	0.0939	0.0939	0.0939	0.0892	0.0713	0.0691	0.0710	0.0648	0.0649
92-97 (6)	2000	0.0341	0.0388	0.0388	0.0388	0.0532	0.0432	0.0237	0.0293	0.0293	0.0294	0.0294
93-98 (6)	2001	-0.0890	-0.1216	-0.1216	-0.0873	-0.0738	-0.0838	-0.0710	-0.0612	-0.0560	-0.0562	-0.0566
94-99 (6)	2002	-0.1005	-0.1416	-0.1227	-0.1057	-0.0912	-0.0962	-0.0721	-0.0618	-0.0599	-0.0604	-0.0604
91-97 (7)	2000	0.0577	0.0658	0.0658	0.0658	0.0802	0.0702	0.0507	0.0538	0.0552	0.0496	0.0496
92-98 (7)	2001	-0.0551	-0.0805	-0.0805	-0.0462	-0.0327	-0.0427	-0.0365	-0.0293	-0.0294	-0.0295	-0.0297
93-99 (7)	2002	-0.1047	-0.1428	-0.1239	-0.1069	-0.0924	-0.0984	-0.0804	-0.0708	-0.0665	-0.0671	-0.0671
91-98 (8)	2001	-0.0309	-0.0511	-0.0511	-0.0168	-0.0033	-0.0133	-0.0117	-0.0065	-0.0053	-0.0106	-0.0108
92-99 (8)	2002	-0.0742	-0.1058	-0.0869	-0.0699	-0.0554	-0.0622	-0.0502	-0.0423	-0.0424	-0.0429	-0.0428
91-99 (9)	2002	-0.0500	-0.0764	-0.0575	-0.0405	-0.0260	-0.0334	-0.0259	-0.0197	-0.0186	-0.0239	-0.0238