

PENNSYLVANIA COMPENSATION RATING BUREAU

Retrospective Test of Trend Projections for Loss Ratios

Attached is a retrospective test of the predictive accuracy of various trend procedures.

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 loss ratio three years hence, were used. Our current review trends policy year 2012 3.25 years, policy year 2011 4.25 years, and policy year 2010 5.25 years. An average of those three values is then calculated.

Current estimates of policy year ultimate loss (to expected loss) ratios are compared with predicted values based on trending through earlier years. The results are shown for three loss development approaches: incurred, paid to twenty-sixth and the average of the incurred and the paid to twenty-sixth methods.

As an illustration, the incurred loss development approach generates an indemnity loss ratio of 0.5383 for policy year 2007. Fitting the loss ratios for policy years 2001 to 2004 using a straight line and projecting that to 2007 yields a loss ratio of 0.5453, which overstates our current estimate for 2007 by 0.0070.

Please note that the boxed numbers correspond to those numbers that do not have a comparable value in Exhibit 11b, Retrospective Test of Trend Projections for Severity Ratios.

**Indemnity
Actual Ultimate Loss Ratios
Including Average of Paid and Incurred**

INDEMNITY	Policy Year	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
	1995	0.7880	0.7823	0.7938
	1996	0.6626	0.6565	0.6687
	1997	0.6780	0.6657	0.6903
	1998	0.6341	0.6202	0.6481
	1999	0.6679	0.6530	0.6829
	2000	0.6853	0.6711	0.6995
	2001	0.6479	0.6337	0.6622
	2002	0.6485	0.6379	0.6590
	2003	0.6039	0.5939	0.6139
	2004	0.6033	0.5964	0.6103
	2005	0.5545	0.5424	0.5665
	2006	0.5456	0.5331	0.5582
	2007	0.5545	0.5383	0.5707
	2008	0.5343	0.5120	0.5567
	2009	0.5121	0.4878	0.5364
	2010	0.5049	0.4794	0.5303
	2011	0.4842	0.4550	0.5134
	2012	0.4609	0.4288	0.4930

Trend # Years = 3

**Indemnity
Linear Fit
Trended Loss Ratios**

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	0.4898	0.4665	0.5133
96-99 (4)	2002	0.6481	0.6237	0.6727
97-00 (4)	2003	0.6914	0.6746	0.7083
98-01 (4)	2004	0.6853	0.6709	0.6997
99-02 (4)	2005	0.6194	0.6117	0.6269
00-03 (4)	2006	0.5368	0.5318	0.5417
01-04 (4)	2007	0.5456	0.5453	0.5460
02-05 (4)	2008	0.4754	0.4649	0.4859
03-06 (4)	2009	0.4762	0.4601	0.4923
04-07 (4)	2010	0.4946	0.4699	0.5192
05-08 (4)	2011	0.5240	0.4928	0.5554
06-09 (4)	2012	0.4823	0.4448	0.5198
95-99 (5)	2002	0.5518	0.5281	0.5756
96-00 (5)	2003	0.6832	0.6616	0.7050
97-01(5)	2004	0.6581	0.6422	0.6742
98-02 (5)	2005	0.6611	0.6512	0.6709
99-03 (5)	2006	0.5683	0.5622	0.5743
00-04 (5)	2007	0.5338	0.5320	0.5356
01-05 (5)	2008	0.4956	0.4888	0.5023
02-06 (5)	2009	0.4636	0.4502	0.4771
03-07 (5)	2010	0.4941	0.4736	0.5147
04-08 (5)	2011	0.4894	0.4580	0.5210
05-09 (5)	2012	0.4922	0.4576	0.5269
95-00 (6)	2003	0.6009	0.5786	0.6232
96-01 (6)	2004	0.6598	0.6398	0.6800
97-02 (6)	2005	0.6463	0.6343	0.6583
98-03 (6)	2006	0.6092	0.6013	0.6169
99-04 (6)	2007	0.5538	0.5508	0.5567
00-05 (6)	2008	0.4931	0.4869	0.4992
01-06 (6)	2009	0.4758	0.4659	0.4858
02-07 (6)	2010	0.4760	0.4583	0.4939
03-08 (6)	2011	0.4869	0.4595	0.5145
04-09 (6)	2012	0.4709	0.4362	0.5057
95-01 (7)	2004	0.5980	0.5769	0.6192
96-02 (7)	2005	0.6496	0.6335	0.6657
97-03 (7)	2006	0.6065	0.5967	0.6163
98-04 (7)	2007	0.5864	0.5817	0.5912
99-05 (7)	2008	0.5127	0.5067	0.5186
00-06 (7)	2009	0.4732	0.4645	0.4819
01-07 (7)	2010	0.4793	0.4650	0.4937
02-08 (7)	2011	0.4709	0.4465	0.4953
03-09 (7)	2012	0.4697	0.4382	0.5014
95-02 (8)	2005	0.5996	0.5818	0.6174
96-03 (8)	2006	0.6149	0.6014	0.6283
97-04 (8)	2007	0.5866	0.5799	0.5933
98-05 (8)	2008	0.5437	0.5369	0.5504
99-06 (8)	2009	0.4890	0.4809	0.4970
00-07 (8)	2010	0.4731	0.4605	0.4858
01-08 (8)	2011	0.4714	0.4507	0.4921
02-09 (8)	2012	0.4568	0.4280	0.4856
95-03 (9)	2006	0.5766	0.5612	0.5919
96-04 (9)	2007	0.5954	0.5852	0.6056
97-05 (9)	2008	0.5483	0.5403	0.5562
98-06 (9)	2009	0.5160	0.5076	0.5243
99-07 (9)	2010	0.4835	0.4720	0.4950
00-08 (9)	2011	0.4646	0.4462	0.4831
01-09 (9)	2012	0.4567	0.4314	0.4820
95-04 (10)	2007	0.5637	0.5514	0.5759
96-05 (10)	2008	0.5594	0.5486	0.5701
97-06 (10)	2009	0.5217	0.5125	0.5308
98-07 (10)	2010	0.5052	0.4940	0.5164
99-08 (10)	2011	0.4722	0.4555	0.4890
00-09 (10)	2012	0.4505	0.4276	0.4734

Indemnity
Linear Fit
Differences: (Actual - Trended)

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	0.1581	0.1672	0.1490
96-99 (4)	2002	0.0004	0.0142	-0.0137
97-00 (4)	2003	-0.0875	-0.0807	-0.0944
98-01 (4)	2004	-0.0820	-0.0745	-0.0894
99-02 (4)	2005	-0.0649	-0.0693	-0.0604
00-03 (4)	2006	0.0088	0.0013	0.0166
01-04 (4)	2007	0.0089	-0.0070	0.0247
02-05 (4)	2008	0.0589	0.0472	0.0708
03-06 (4)	2009	0.0359	0.0277	0.0441
04-07 (4)	2010	0.0103	0.0095	0.0111
05-08 (4)	2011	-0.0398	-0.0378	-0.0420
06-09 (4)	2012	-0.0214	-0.0160	-0.0268
95-99 (5)	2002	0.0967	0.1098	0.0834
96-00 (5)	2003	-0.0793	-0.0677	-0.0911
97-01 (5)	2004	-0.0548	-0.0458	-0.0639
98-02 (5)	2005	-0.1066	-0.1088	-0.1044
99-03 (5)	2006	-0.0227	-0.0291	-0.0161
00-04 (5)	2007	0.0207	0.0063	0.0351
01-05 (5)	2008	0.0387	0.0232	0.0544
02-06 (5)	2009	0.0485	0.0376	0.0593
03-07 (5)	2010	0.0108	0.0058	0.0156
04-08 (5)	2011	-0.0052	-0.0030	-0.0076
05-09 (5)	2012	-0.0312	-0.0288	-0.0338
95-00 (6)	2003	0.0030	0.0153	-0.0093
96-01 (6)	2004	-0.0565	-0.0434	-0.0697
97-02 (6)	2005	-0.0918	-0.0919	-0.0918
98-03 (6)	2006	-0.0636	-0.0682	-0.0587
99-04 (6)	2007	0.0007	-0.0125	0.0140
00-05 (6)	2008	0.0412	0.0251	0.0575
01-06 (6)	2009	0.0363	0.0219	0.0506
02-07 (6)	2010	0.0289	0.0211	0.0364
03-08 (6)	2011	-0.0027	-0.0045	-0.0011
04-09 (6)	2012	-0.0100	-0.0074	-0.0127
95-01 (7)	2004	0.0053	0.0195	-0.0089
96-02 (7)	2005	-0.0951	-0.0911	-0.0992
97-03 (7)	2006	-0.0609	-0.0636	-0.0581
98-04 (7)	2007	-0.0319	-0.0434	-0.0204
99-05 (7)	2008	0.0216	0.0053	0.0381
00-06 (7)	2009	0.0389	0.0233	0.0545
01-07 (7)	2010	0.0256	0.0144	0.0366
02-08 (7)	2011	0.0134	0.0085	0.0181
03-09 (7)	2012	-0.0088	-0.0094	-0.0084
95-02 (8)	2005	-0.0451	-0.0394	-0.0509
96-03 (8)	2006	-0.0693	-0.0683	-0.0701
97-04 (8)	2007	-0.0321	-0.0416	-0.0226
98-05 (8)	2008	-0.0094	-0.0249	0.0063
99-06 (8)	2009	0.0231	0.0069	0.0394
00-07 (8)	2010	0.0318	0.0189	0.0445
01-08 (8)	2011	0.0129	0.0043	0.0213
02-09 (8)	2012	0.0041	0.0008	0.0074
95-03 (9)	2006	-0.0310	-0.0281	-0.0337
96-04 (9)	2007	-0.0409	-0.0469	-0.0349
97-05 (9)	2008	-0.0140	-0.0283	0.0005
98-06 (9)	2009	-0.0039	-0.0198	0.0121
99-07 (9)	2010	0.0214	0.0074	0.0353
00-08 (9)	2011	0.0196	0.0088	0.0303
01-09 (9)	2012	0.0042	-0.0026	0.0110
95-04 (10)	2007	-0.0092	-0.0131	-0.0052
96-05 (10)	2008	-0.0251	-0.0366	-0.0134
97-06 (10)	2009	-0.0096	-0.0247	0.0056
98-07 (10)	2010	-0.0003	-0.0146	0.0139
99-08 (10)	2011	0.0120	-0.0005	0.0244
00-09 (10)	2012	0.0104	0.0012	0.0196

**Indemnity
Exponential Fit
Trended Loss Ratios**

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	0.5187	0.4991	0.5385
96-99 (4)	2002	0.6478	0.6238	0.6723
97-00 (4)	2003	0.6917	0.6748	0.7087
98-01 (4)	2004	0.6858	0.6714	0.7003
99-02 (4)	2005	0.6205	0.6126	0.6283
00-03 (4)	2006	0.5446	0.5388	0.5504
01-04 (4)	2007	0.5502	0.5488	0.5517
02-05 (4)	2008	0.4868	0.4762	0.4973
03-06 (4)	2009	0.4837	0.4685	0.4990
04-07 (4)	2010	0.4997	0.4769	0.5227
05-08 (4)	2011	0.5242	0.4937	0.5554
06-09 (4)	2012	0.4843	0.4487	0.5204
95-99 (5)	2002	0.5673	0.5463	0.5886
96-00 (5)	2003	0.6830	0.6612	0.7051
97-01(5)	2004	0.6580	0.6421	0.6740
98-02 (5)	2005	0.6613	0.6514	0.6710
99-03 (5)	2006	0.5718	0.5652	0.5784
00-04 (5)	2007	0.5414	0.5385	0.5445
01-05 (5)	2008	0.5040	0.4964	0.5115
02-06 (5)	2009	0.4756	0.4628	0.4886
03-07 (5)	2010	0.4993	0.4800	0.5187
04-08 (5)	2011	0.4941	0.4650	0.5238
05-09 (5)	2012	0.4935	0.4603	0.5272
95-00 (6)	2003	0.6091	0.5885	0.6299
96-01 (6)	2004	0.6595	0.6396	0.6797
97-02 (6)	2005	0.6465	0.6345	0.6584
98-03 (6)	2006	0.6091	0.6011	0.6170
99-04 (6)	2007	0.5585	0.5547	0.5624
00-05 (6)	2008	0.5039	0.4968	0.5110
01-06 (6)	2009	0.4862	0.4760	0.4965
02-07 (6)	2010	0.4857	0.4690	0.5025
03-08 (6)	2011	0.4922	0.4666	0.5182
04-09 (6)	2012	0.4764	0.4444	0.5090
95-01 (7)	2004	0.6055	0.5858	0.6254
96-02 (7)	2005	0.6495	0.6335	0.6655
97-03 (7)	2006	0.6069	0.5970	0.6166
98-04 (7)	2007	0.5875	0.5825	0.5926
99-05 (7)	2008	0.5203	0.5134	0.5272
00-06 (7)	2009	0.4860	0.4766	0.4953
01-07 (7)	2010	0.4889	0.4749	0.5029
02-08 (7)	2011	0.4803	0.4578	0.5031
03-09 (7)	2012	0.4759	0.4468	0.5056
95-02 (8)	2005	0.6062	0.5895	0.6230
96-03 (8)	2006	0.6147	0.6015	0.6280
97-04 (8)	2007	0.5880	0.5811	0.5948
98-05 (8)	2008	0.5465	0.5391	0.5538
99-06 (8)	2009	0.4989	0.4901	0.5077
00-07 (8)	2010	0.4855	0.4729	0.4981
01-08 (8)	2011	0.4813	0.4617	0.5010
02-09 (8)	2012	0.4669	0.4406	0.4936
95-03 (9)	2006	0.5836	0.5692	0.5981
96-04 (9)	2007	0.5960	0.5860	0.6061
97-05 (9)	2008	0.5511	0.5427	0.5594
98-06 (9)	2009	0.5210	0.5121	0.5298
99-07 (9)	2010	0.4941	0.4823	0.5058
00-08 (9)	2011	0.4774	0.4597	0.4951
01-09 (9)	2012	0.4676	0.4440	0.4914
95-04 (10)	2007	0.5712	0.5597	0.5827
96-05 (10)	2008	0.5610	0.5503	0.5717
97-06 (10)	2009	0.5264	0.5169	0.5359
98-07 (10)	2010	0.5116	0.5000	0.5231
99-08 (10)	2011	0.4838	0.4673	0.5002
00-09 (10)	2012	0.4642	0.4427	0.4859

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

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	0.1292	0.1346	0.1237
96-99 (4)	2002	0.0007	0.0141	-0.0133
97-00 (4)	2003	-0.0878	-0.0809	-0.0948
98-01 (4)	2004	-0.0825	-0.0750	-0.0900
99-02 (4)	2005	-0.0660	-0.0702	-0.0618
00-03 (4)	2006	0.0010	-0.0057	0.0078
01-04 (4)	2007	0.0043	-0.0105	0.0190
02-05 (4)	2008	0.0475	0.0358	0.0594
03-06 (4)	2009	0.0284	0.0193	0.0374
04-07 (4)	2010	0.0052	0.0025	0.0076
05-08 (4)	2011	-0.0400	-0.0387	-0.0420
06-09 (4)	2012	-0.0234	-0.0199	-0.0274
95-99 (5)	2002	0.0812	0.0916	0.0704
96-00 (5)	2003	-0.0791	-0.0673	-0.0912
97-01 (5)	2004	-0.0547	-0.0457	-0.0637
98-02 (5)	2005	-0.1068	-0.1090	-0.1045
99-03 (5)	2006	-0.0262	-0.0321	-0.0202
00-04 (5)	2007	0.0131	-0.0002	0.0262
01-05 (5)	2008	0.0303	0.0156	0.0452
02-06 (5)	2009	0.0365	0.0250	0.0478
03-07 (5)	2010	0.0056	-0.0006	0.0116
04-08 (5)	2011	-0.0099	-0.0100	-0.0104
05-09 (5)	2012	-0.0326	-0.0315	-0.0342
95-00 (6)	2003	-0.0052	0.0054	-0.0160
96-01 (6)	2004	-0.0562	-0.0432	-0.0694
97-02 (6)	2005	-0.0920	-0.0921	-0.0919
98-03 (6)	2006	-0.0635	-0.0680	-0.0588
99-04 (6)	2007	-0.0040	-0.0164	0.0083
00-05 (6)	2008	0.0304	0.0152	0.0457
01-06 (6)	2009	0.0259	0.0118	0.0399
02-07 (6)	2010	0.0192	0.0104	0.0278
03-08 (6)	2011	-0.0080	-0.0116	-0.0048
04-09 (6)	2012	-0.0155	-0.0156	-0.0160
95-01 (7)	2004	-0.0022	0.0106	-0.0151
96-02 (7)	2005	-0.0950	-0.0911	-0.0990
97-03 (7)	2006	-0.0613	-0.0639	-0.0584
98-04 (7)	2007	-0.0330	-0.0442	-0.0219
99-05 (7)	2008	0.0140	-0.0014	0.0295
00-06 (7)	2009	0.0261	0.0112	0.0411
01-07 (7)	2010	0.0160	0.0045	0.0274
02-08 (7)	2011	0.0039	-0.0028	0.0103
03-09 (7)	2012	-0.0150	-0.0180	-0.0126
95-02 (8)	2005	-0.0517	-0.0471	-0.0565
96-03 (8)	2006	-0.0691	-0.0684	-0.0698
97-04 (8)	2007	-0.0335	-0.0428	-0.0241
98-05 (8)	2008	-0.0122	-0.0271	0.0029
99-06 (8)	2009	0.0132	-0.0023	0.0287
00-07 (8)	2010	0.0194	0.0065	0.0322
01-08 (8)	2011	0.0029	-0.0067	0.0124
02-09 (8)	2012	-0.0060	-0.0118	-0.0006
95-03 (9)	2006	-0.0380	-0.0361	-0.0399
96-04 (9)	2007	-0.0415	-0.0477	-0.0354
97-05 (9)	2008	-0.0168	-0.0307	-0.0027
98-06 (9)	2009	-0.0089	-0.0243	0.0066
99-07 (9)	2010	0.0108	-0.0029	0.0245
00-08 (9)	2011	0.0068	-0.0047	0.0183
01-09 (9)	2012	-0.0067	-0.0152	0.0016
95-04 (10)	2007	-0.0167	-0.0214	-0.0120
96-05 (10)	2008	-0.0267	-0.0383	-0.0150
97-06 (10)	2009	-0.0143	-0.0291	0.0005
98-07 (10)	2010	-0.0067	-0.0206	0.0072
99-08 (10)	2011	0.0004	-0.0123	0.0132
00-09 (10)	2012	-0.0033	-0.0139	0.0071

Medical
Actual Ultimate Loss Ratios
Including Average of Paid and Incurred

MEDICAL

Policy Year	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
1995	0.6076	0.5989	0.6162
1996	0.5825	0.5797	0.5852
1997	0.6130	0.6069	0.6190
1998	0.6082	0.6018	0.6146
1999	0.6151	0.6075	0.6227
2000	0.6154	0.6027	0.6281
2001	0.5695	0.5521	0.5870
2002	0.5898	0.5747	0.6050
2003	0.5840	0.5652	0.6029
2004	0.6065	0.5879	0.6251
2005	0.5665	0.5500	0.5830
2006	0.5489	0.5290	0.5687
2007	0.5784	0.5579	0.5988
2008	0.5423	0.5177	0.5669
2009	0.5311	0.5048	0.5573
2010	0.5545	0.5310	0.5779
2011	0.5463	0.5175	0.5750
2012	0.5221	0.4931	0.5510

Trend # Years = 3

**Medical
Linear Fit
Trended Loss Ratios**

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	0.6174	0.6130	0.6218
96-99 (4)	2002	0.6466	0.6342	0.6590
97-00 (4)	2003	0.6193	0.6016	0.6370
98-01 (4)	2004	0.5499	0.5218	0.5783
99-02 (4)	2005	0.5426	0.5172	0.5683
00-03 (4)	2006	0.5564	0.5332	0.5798
01-04 (4)	2007	0.6348	0.6140	0.6555
02-05 (4)	2008	0.5654	0.5463	0.5843
03-06 (4)	2009	0.5111	0.4921	0.5298
04-07 (4)	2010	0.5292	0.5063	0.5520
05-08 (4)	2011	0.5396	0.5081	0.5712
06-09 (4)	2012	0.5099	0.4766	0.5432
95-99 (5)	2002	0.6256	0.6186	0.6327
96-00 (5)	2003	0.6408	0.6230	0.6587
97-01 (5)	2004	0.5643	0.5399	0.5890
98-02 (5)	2005	0.5584	0.5330	0.5840
99-03 (5)	2006	0.5509	0.5241	0.5778
00-04 (5)	2007	0.5914	0.5683	0.6146
01-05 (5)	2008	0.5886	0.5705	0.6067
02-06 (5)	2009	0.5295	0.5081	0.5507
03-07 (5)	2010	0.5425	0.5213	0.5634
04-08 (5)	2011	0.5103	0.4823	0.5382
05-09 (5)	2012	0.5147	0.4810	0.5483
95-00 (6)	2003	0.6277	0.6149	0.6406
96-01 (6)	2004	0.5926	0.5690	0.6164
97-02 (6)	2005	0.5654	0.5415	0.5896
98-03 (6)	2006	0.5588	0.5318	0.5861
99-04 (6)	2007	0.5783	0.5522	0.6046
00-05 (6)	2008	0.5667	0.5461	0.5874
01-06 (6)	2009	0.5539	0.5336	0.5740
02-07 (6)	2010	0.5472	0.5246	0.5696
03-08 (6)	2011	0.5223	0.4965	0.5480
04-09 (6)	2012	0.4963	0.4652	0.5272
95-01 (7)	2004	0.5917	0.5727	0.6108
96-02 (7)	2005	0.5867	0.5628	0.6107
97-03 (7)	2006	0.5630	0.5370	0.5892
98-04 (7)	2007	0.5785	0.5515	0.6055
99-05 (7)	2008	0.5605	0.5367	0.5843
00-06 (7)	2009	0.5425	0.5205	0.5644
01-07 (7)	2010	0.5621	0.5404	0.5836
02-08 (7)	2011	0.5285	0.5022	0.5546
03-09 (7)	2012	0.5064	0.4774	0.5352
95-02 (8)	2005	0.5866	0.5662	0.6071
96-03 (8)	2006	0.5801	0.5541	0.6062
97-04 (8)	2007	0.5779	0.5514	0.6045
98-05 (8)	2008	0.5627	0.5376	0.5879
99-06 (8)	2009	0.5403	0.5158	0.5648
00-07 (8)	2010	0.5507	0.5278	0.5735
01-08 (8)	2011	0.5429	0.5178	0.5677
02-09 (8)	2012	0.5126	0.4836	0.5415
95-03 (9)	2006	0.5806	0.5576	0.6038
96-04 (9)	2007	0.5897	0.5629	0.6165
97-05 (9)	2008	0.5639	0.5386	0.5893
98-06 (9)	2009	0.5443	0.5185	0.5700
99-07 (9)	2010	0.5469	0.5218	0.5718
00-08 (9)	2011	0.5353	0.5096	0.5609
01-09 (9)	2012	0.5260	0.4982	0.5536
95-04 (10)	2007	0.5887	0.5643	0.6132
96-05 (10)	2008	0.5754	0.5496	0.6014
97-06 (10)	2009	0.5469	0.5209	0.5729
98-07 (10)	2010	0.5486	0.5224	0.5748
99-08 (10)	2011	0.5332	0.5059	0.5605
00-09 (10)	2012	0.5209	0.4927	0.5489

Medical
Linear Fit
Differences: (Actual - Trended)

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	-0.0479	-0.0609	-0.0348
96-99 (4)	2002	-0.0568	-0.0595	-0.0540
97-00 (4)	2003	-0.0353	-0.0364	-0.0341
98-01 (4)	2004	0.0566	0.0661	0.0468
99-02 (4)	2005	0.0239	0.0328	0.0147
00-03 (4)	2006	-0.0075	-0.0042	-0.0111
01-04 (4)	2007	-0.0564	-0.0561	-0.0567
02-05 (4)	2008	-0.0231	-0.0286	-0.0174
03-06 (4)	2009	0.0200	0.0127	0.0275
04-07 (4)	2010	0.0253	0.0248	0.0259
05-08 (4)	2011	0.0067	0.0094	0.0038
06-09 (4)	2012	0.0122	0.0165	0.0078
95-99 (5)	2002	-0.0358	-0.0439	-0.0277
96-00 (5)	2003	-0.0568	-0.0578	-0.0558
97-01 (5)	2004	0.0422	0.0480	0.0361
98-02 (5)	2005	0.0081	0.0170	-0.0010
99-03 (5)	2006	-0.0020	0.0049	-0.0091
00-04 (5)	2007	-0.0130	-0.0104	-0.0158
01-05 (5)	2008	-0.0463	-0.0528	-0.0398
02-06 (5)	2009	0.0016	-0.0033	0.0066
03-07 (5)	2010	0.0120	0.0098	0.0145
04-08 (5)	2011	0.0360	0.0353	0.0368
05-09 (5)	2012	0.0074	0.0121	0.0027
95-00 (6)	2003	-0.0437	-0.0497	-0.0377
96-01 (6)	2004	0.0139	0.0189	0.0087
97-02 (6)	2005	0.0011	0.0085	-0.0066
98-03 (6)	2006	-0.0099	-0.0028	-0.0174
99-04 (6)	2007	0.0001	0.0057	-0.0058
00-05 (6)	2008	-0.0244	-0.0284	-0.0205
01-06 (6)	2009	-0.0228	-0.0288	-0.0167
02-07 (6)	2010	0.0073	0.0064	0.0083
03-08 (6)	2011	0.0240	0.0210	0.0270
04-09 (6)	2012	0.0258	0.0279	0.0238
95-01 (7)	2004	0.0148	0.0152	0.0143
96-02 (7)	2005	-0.0202	-0.0128	-0.0277
97-03 (7)	2006	-0.0141	-0.0080	-0.0205
98-04 (7)	2007	0.0000	0.0064	-0.0067
99-05 (7)	2008	-0.0182	-0.0190	-0.0174
00-06 (7)	2009	-0.0114	-0.0157	-0.0071
01-07 (7)	2010	-0.0076	-0.0094	-0.0057
02-08 (7)	2011	0.0178	0.0153	0.0204
03-09 (7)	2012	0.0157	0.0157	0.0158
95-02 (8)	2005	-0.0201	-0.0162	-0.0241
96-03 (8)	2006	-0.0312	-0.0251	-0.0375
97-04 (8)	2007	0.0005	0.0065	-0.0057
98-05 (8)	2008	-0.0204	-0.0199	-0.0210
99-06 (8)	2009	-0.0092	-0.0110	-0.0075
00-07 (8)	2010	0.0038	0.0032	0.0044
01-08 (8)	2011	0.0034	-0.0003	0.0073
02-09 (8)	2012	0.0095	0.0095	0.0095
95-03 (9)	2006	-0.0317	-0.0286	-0.0351
96-04 (9)	2007	-0.0113	-0.0050	-0.0177
97-05 (9)	2008	-0.0216	-0.0209	-0.0224
98-06 (9)	2009	-0.0132	-0.0137	-0.0127
99-07 (9)	2010	0.0076	0.0092	0.0061
00-08 (9)	2011	0.0110	0.0079	0.0141
01-09 (9)	2012	-0.0039	-0.0051	-0.0026
95-04 (10)	2007	-0.0103	-0.0064	-0.0144
96-05 (10)	2008	-0.0331	-0.0319	-0.0345
97-06 (10)	2009	-0.0158	-0.0161	-0.0156
98-07 (10)	2010	0.0059	0.0086	0.0031
99-08 (10)	2011	0.0131	0.0116	0.0145
00-09 (10)	2012	0.0012	0.0004	0.0021

**Medical
Exponential Fit
Trended Loss Ratios**

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	0.6175	0.6132	0.6220
96-99 (4)	2002	0.6484	0.6355	0.6614
97-00 (4)	2003	0.6193	0.6016	0.6372
98-01 (4)	2004	0.5508	0.5238	0.5783
99-02 (4)	2005	0.5449	0.5207	0.5696
00-03 (4)	2006	0.5579	0.5353	0.5808
01-04 (4)	2007	0.6366	0.6156	0.6574
02-05 (4)	2008	0.5650	0.5461	0.5838
03-06 (4)	2009	0.5138	0.4949	0.5325
04-07 (4)	2010	0.5314	0.5089	0.5538
05-08 (4)	2011	0.5394	0.5082	0.5708
06-09 (4)	2012	0.5109	0.4783	0.5437
95-99 (5)	2002	0.6260	0.6189	0.6332
96-00 (5)	2003	0.6421	0.6237	0.6607
97-01 (5)	2004	0.5644	0.5406	0.5887
98-02 (5)	2005	0.5592	0.5347	0.5843
99-03 (5)	2006	0.5526	0.5270	0.5787
00-04 (5)	2007	0.5916	0.5687	0.6147
01-05 (5)	2008	0.5882	0.5701	0.6061
02-06 (5)	2009	0.5305	0.5094	0.5515
03-07 (5)	2010	0.5432	0.5222	0.5640
04-08 (5)	2011	0.5132	0.4860	0.5405
05-09 (5)	2012	0.5155	0.4826	0.5486
95-00 (6)	2003	0.6281	0.6151	0.6412
96-01 (6)	2004	0.5919	0.5682	0.6161
97-02 (6)	2005	0.5659	0.5426	0.5896
98-03 (6)	2006	0.5598	0.5338	0.5864
99-04 (6)	2007	0.5787	0.5531	0.6046
00-05 (6)	2008	0.5670	0.5467	0.5874
01-06 (6)	2009	0.5535	0.5332	0.5736
02-07 (6)	2010	0.5476	0.5252	0.5698
03-08 (6)	2011	0.5239	0.4985	0.5492
04-09 (6)	2012	0.4999	0.4699	0.5299
95-01 (7)	2004	0.5910	0.5719	0.6104
96-02 (7)	2005	0.5864	0.5626	0.6106
97-03 (7)	2006	0.5637	0.5385	0.5894
98-04 (7)	2007	0.5786	0.5523	0.6054
99-05 (7)	2008	0.5611	0.5380	0.5844
00-06 (7)	2009	0.5433	0.5217	0.5648
01-07 (7)	2010	0.5618	0.5402	0.5832
02-08 (7)	2011	0.5296	0.5038	0.5553
03-09 (7)	2012	0.5088	0.4805	0.5370
95-02 (8)	2005	0.5862	0.5659	0.6069
96-03 (8)	2006	0.5800	0.5544	0.6062
97-04 (8)	2007	0.5780	0.5522	0.6044
98-05 (8)	2008	0.5632	0.5389	0.5878
99-06 (8)	2009	0.5415	0.5178	0.5653
00-07 (8)	2010	0.5513	0.5287	0.5738
01-08 (8)	2011	0.5429	0.5181	0.5677
02-09 (8)	2012	0.5144	0.4861	0.5427
95-03 (9)	2006	0.5805	0.5577	0.6037
96-04 (9)	2007	0.5895	0.5631	0.6165
97-05 (9)	2008	0.5643	0.5399	0.5892
98-06 (9)	2009	0.5452	0.5204	0.5702
99-07 (9)	2010	0.5478	0.5235	0.5722
00-08 (9)	2011	0.5363	0.5111	0.5615
01-09 (9)	2012	0.5266	0.4992	0.5539
95-04 (10)	2007	0.5885	0.5643	0.6130
96-05 (10)	2008	0.5753	0.5500	0.6011
97-06 (10)	2009	0.5477	0.5226	0.5730
98-07 (10)	2010	0.5495	0.5241	0.5750
99-08 (10)	2011	0.5346	0.5081	0.5612
00-09 (10)	2012	0.5224	0.4949	0.5499

Medical
Exponential Fit
Differences: (Actual - Trended)

Years Used (# Yrs)	3 Yr Trend To	Loss Ratio Average (Pd & Inc)	Loss Ratio (Incur)	Loss Ratio (Pd-26)
95-98 (4)	2001	-0.0480	-0.0611	-0.0350
96-99 (4)	2002	-0.0586	-0.0608	-0.0564
97-00 (4)	2003	-0.0353	-0.0364	-0.0343
98-01 (4)	2004	0.0557	0.0641	0.0468
99-02 (4)	2005	0.0216	0.0293	0.0134
00-03 (4)	2006	-0.0090	-0.0063	-0.0121
01-04 (4)	2007	-0.0582	-0.0577	-0.0586
02-05 (4)	2008	-0.0227	-0.0284	-0.0169
03-06 (4)	2009	0.0173	0.0099	0.0248
04-07 (4)	2010	0.0231	0.0221	0.0241
05-08 (4)	2011	0.0069	0.0093	0.0042
06-09 (4)	2012	0.0112	0.0148	0.0073
95-99 (5)	2002	-0.0362	-0.0442	-0.0282
96-00 (5)	2003	-0.0581	-0.0585	-0.0578
97-01 (5)	2004	0.0421	0.0473	0.0364
98-02 (5)	2005	0.0073	0.0153	-0.0013
99-03 (5)	2006	-0.0037	0.0020	-0.0100
00-04 (5)	2007	-0.0132	-0.0108	-0.0159
01-05 (5)	2008	-0.0459	-0.0524	-0.0392
02-06 (5)	2009	0.0006	-0.0046	0.0058
03-07 (5)	2010	0.0113	0.0088	0.0139
04-08 (5)	2011	0.0331	0.0315	0.0345
05-09 (5)	2012	0.0066	0.0105	0.0024
95-00 (6)	2003	-0.0441	-0.0499	-0.0383
96-01 (6)	2004	0.0146	0.0197	0.0090
97-02 (6)	2005	0.0006	0.0074	-0.0066
98-03 (6)	2006	-0.0109	-0.0048	-0.0177
99-04 (6)	2007	-0.0003	0.0048	-0.0058
00-05 (6)	2008	-0.0247	-0.0290	-0.0205
01-06 (6)	2009	-0.0224	-0.0284	-0.0163
02-07 (6)	2010	0.0069	0.0058	0.0081
03-08 (6)	2011	0.0224	0.0190	0.0258
04-09 (6)	2012	0.0222	0.0232	0.0211
95-01 (7)	2004	0.0155	0.0160	0.0147
96-02 (7)	2005	-0.0199	-0.0126	-0.0276
97-03 (7)	2006	-0.0148	-0.0095	-0.0207
98-04 (7)	2007	-0.0002	0.0056	-0.0066
99-05 (7)	2008	-0.0188	-0.0203	-0.0175
00-06 (7)	2009	-0.0122	-0.0169	-0.0075
01-07 (7)	2010	-0.0073	-0.0092	-0.0053
02-08 (7)	2011	0.0167	0.0137	0.0197
03-09 (7)	2012	0.0133	0.0126	0.0140
95-02 (8)	2005	-0.0197	-0.0159	-0.0239
96-03 (8)	2006	-0.0311	-0.0254	-0.0375
97-04 (8)	2007	0.0004	0.0057	-0.0056
98-05 (8)	2008	-0.0209	-0.0212	-0.0209
99-06 (8)	2009	-0.0104	-0.0130	-0.0080
00-07 (8)	2010	0.0032	0.0023	0.0041
01-08 (8)	2011	0.0034	-0.0006	0.0073
02-09 (8)	2012	0.0077	0.0070	0.0083
95-03 (9)	2006	-0.0316	-0.0287	-0.0350
96-04 (9)	2007	-0.0111	-0.0052	-0.0177
97-05 (9)	2008	-0.0220	-0.0222	-0.0223
98-06 (9)	2009	-0.0141	-0.0156	-0.0129
99-07 (9)	2010	0.0067	0.0075	0.0057
00-08 (9)	2011	0.0100	0.0064	0.0135
01-09 (9)	2012	-0.0045	-0.0061	-0.0029
95-04 (10)	2007	-0.0101	-0.0064	-0.0142
96-05 (10)	2008	-0.0330	-0.0323	-0.0342
97-06 (10)	2009	-0.0166	-0.0178	-0.0157
98-07 (10)	2010	0.0050	0.0069	0.0029
99-08 (10)	2011	0.0117	0.0094	0.0138
00-09 (10)	2012	-0.0003	-0.0018	0.0011