

Exposure

Accident year	0
1996	7411
1997	7072
1998	6812
1999	6818
2000	5900
2001	5630
2002	5124
2003	4719
2004	3898
2005	3575
2006	3466

Incremental claim statistics

	Development year										
Accident year	0	1	2	3	4	5	6	7	8	9	10
1996	7138450	11815298	8671531	11111737	4964479	4069805	2019768	1374206	2234495	3037237	1944669
1997	6313427	12551015	3222795	3263399	1380108	2333806	2367864	139276	283633	51532	
1998	11363995	16330169	5989212	6776575	6174632	12239913	2327321	3074992	8568034		
1999	10173975	11532203	7624857	6440626	3621930	1428277	3554789	2970912			
2000	8342065	15283378	7746167	5520526	4711504	914381	92641				
2001	7891927	9970374	4811317	6044180	1655557	696879					
2002	7364560	4408991	4498424	4328130	8029581						
2003	3801268	6128612	4404561	6488141							
2004	3446162	10850312	1032361								
2005	9401604	7023166									
2006	5830699										

Empirical claim ratios by accident year

	Development year										
Accident year	0	1	2	3	4	5	6	7	8	9	10
1996	9,63E+02	1,59E+03	1,17E+03	1,50E+03	6,70E+02	5,49E+02	2,73E+02	1,85E+02	3,02E+02	4,10E+02	2,62E+02
1997	8,93E+02	1,77E+03	4,56E+02	4,61E+02	1,95E+02	3,30E+02	3,35E+02	1,97E+01	4,01E+01	7,29E+00	
1998	1,67E+03	2,40E+03	8,79E+02	9,95E+02	9,06E+02	1,80E+03	3,42E+02	4,51E+02	1,26E+03		
1999	1,49E+03	1,69E+03	1,12E+03	9,45E+02	5,31E+02	2,09E+02	5,21E+02	4,36E+02			
2000	1,41E+03	2,59E+03	1,31E+03	9,36E+02	7,99E+02	1,55E+02	1,57E+01				
2001	1,40E+03	1,77E+03	8,55E+02	1,07E+03	2,94E+02	1,24E+02					
2002	1,44E+03	8,60E+02	8,78E+02	8,45E+02	1,57E+03						
2003	8,06E+02	1,30E+03	9,33E+02	1,37E+03							
2004	8,84E+02	2,78E+03	2,65E+02								
2005	2,63E+03	1,96E+03									
2006	1,68E+03										

Empirical	Development year										
	0	1	2	3	4	5	6	7	8	9	10
Average	1,34E+03	1,86E+03	8,99E+02	1,01E+03	6,82E+02	5,47E+02	3,05E+02	2,69E+02	5,21E+02	2,13E+02	2,62E+02
Selected	1,34E+03	1,86E+03	8,99E+02	1,01E+03	6,82E+02	5,47E+02	3,05E+02	2,69E+02	5,21E+02	2,13E+02	2,62E+02

Tail factors	Start	gamma
Choose	11	0,00

Please enter here from which delay you want to use a smoothing formula and the factor gamma.

The fomula used here is $\text{claim ratio}(e+1) = \text{gamma} * \text{claim ratio}(e)$.

Theta	7,91E+03
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Delay pattern	Development year										
	0	1	2	3	4	5	6	7	8	9	10
pi (cum.)	16,96 %	40,47 %	51,84 %	64,61 %	73,23 %	80,15 %	84,00 %	87,40 %	93,99 %	96,68 %	100,00 %
pi (incr.)	16,96 %	23,51 %	11,37 %	12,77 %	8,63 %	6,92 %	3,85 %	3,40 %	6,58 %	2,70 %	3,32 %

Observed claim statistics and predicted future development

Accident year	Exposure	Developed to	Observed	pi(cum.)	Theta_(BF)	Outstanding	Ultimate
1996	7411	10	58381675	100 %	7,91E+03	0,0	58 381 674,8
1997	7072	9	31906855	97 %	7,91E+03	1 855 714,1	33 762 568,6
1998	6812	8	72844843	94 %	7,91E+03	3 240 275,0	76 085 118,2
1999	6818	7	47347569	87 %	7,91E+03	6 792 574,9	54 140 144,0
2000	5900	6	42610662	84 %	7,91E+03	7 464 466,3	50 075 127,9
2001	5630	5	31070234	80 %	7,91E+03	8 838 105,0	39 908 338,8
2002	5124	4	28629686	73 %	7,91E+03	10 846 387,9	39 476 074,2
2003	4719	3	20822582	65 %	7,91E+03	13 208 155,3	34 030 737,5
2004	3898	2	15328835	52 %	7,91E+03	14 846 618,6	30 175 453,4
2005	3575	1	16424769	40 %	7,91E+03	16 830 911,4	33 255 680,8
2006	3466	0	5830699	17 %	7,91E+03	22 761 449,1	28 592 148,3
Total	60425		371198409			106 684 657,7	477 883 066,6

Prediction of future claim development (incremental)

	Development year											Total
Accident year	0	1	2	3	4	5	6	7	8	9	10	
1996	-	-	-	-	-	-	-	-	-	-	-	0
1997	-	-	-	-	-	-	-	-	-	-	1 855 714	1 855 714
1998	-	-	-	-	-	-	-	-	-	1 452 786	1 787 489	3 240 275
1999	-	-	-	-	-	-	-	-	3 549 446	1 454 065	1 789 064	6 792 575
2000	-	-	-	-	-	-	-	1 586 468	3 071 536	1 258 285	1 548 178	7 464 466
2001	-	-	-	-	-	-	1 715 233	1 513 867	2 930 974	1 200 702	1 477 329	8 838 105
2002	-	-	-	-	-	2 802 613	1 561 075	1 377 807	2 667 551	1 092 788	1 344 553	10 846 388
2003	-	-	-	-	3 219 064	2 581 095	1 437 688	1 268 906	2 456 708	1 006 414	1 238 280	13 208 155
2004	-	-	-	3 936 386	2 659 019	2 132 043	1 187 563	1 048 144	2 029 296	831 321	1 022 847	14 846 619
2005	-	-	3 214 528	3 610 205	2 438 685	1 955 375	1 089 158	961 292	1 861 142	762 435	938 091	16 830 911
2006	-	6 443 704	3 116 519	3 500 132	2 364 330	1 895 757	1 055 950	931 983	1 804 397	739 189	909 489	22 761 449
												106 684 658

Prediction of overall claim development (incremental)

	Development year											
Accident year	0	1	2	3	4	5	6	7	8	9	10	Total
1996	7138450	11815298	8671531	11111737	4964479	4069805	2019768	1374206	2234495	3037237	1944669	58381675
1997	6313427	12551015	3222795	3263399	1380108	2333806	2367864	139276	283633	51532	1855714	33762569
1998	11363995	16330169	5989212	6776575	6174632	12239913	2327321	3074992	8568034	1452786	1787489	76085118
1999	10173975	11532203	7624857	6440626	3621930	1428277	3554789	2970912	3549446	1454065	1789064	54140144
2000	8342065	15283378	7746167	5520526	4711504	914381	92641	1586468	3071536	1258285	1548178	50075128
2001	7891927	9970374	4811317	6044180	1655557	696879	1715233	1513867	2930974	1200702	1477329	39908339
2002	7364560	4408991	4498424	4328130	8029581	2802613	1561075	1377807	2667551	1092788	1344553	39476074
2003	3801268	6128612	4404561	6488141	3219064	2581095	1437688	1268906	2456708	1006414	1238280	34030737
2004	3446162	10850312	1032361	3936386	2659019	2132043	1187563	1048144	2029296	831321	1022847	30175453
2005	9401604	7023166	3214528	3610205	2438685	1955375	1089158	961292	1861142	762435	938091	33255681
2006	5830699	6443704	3116519	3500132	2364330	1895757	1055950	931983	1804397	739189	909489	28592148
												477 883 066,6