

Understanding BCAR for Canadian Property/Casualty Insurers

Exhibit C.5: Sample B5 Calculation

Loss & Loss Adjustment Expense Reserve Risk (B5)
(\$ Thousands)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Carried Net Loss and LAE Reserves								
Class of Insurance	%	Statement \$Amount	Allocated Adjustment	Manual Adjustment	Adjusted (2) + (3) + (4)	Deficiency Factor	Discount Factor	Adjusted Factor (6) * (7)	Adjusted Reserves (5) * (8)
Personal Property	2.5	8,000	0	0	8,000	1.00	0.942	0.942	7,536
Commercial Property	3.1	10,000	0	0	10,000	1.00	0.953	0.953	9,530
Aircraft	4.6	15,000	0	0	15,000	1.05	0.915	0.961	14,411
Auto Liability	15.4	50,000	0	0	50,000	1.15	0.935	1.075	53,763
Auto Pers Accident	7.7	25,000	0	0	25,000	1.10	0.941	1.035	25,878
Auto Other	2.2	7,000	0	0	7,000	1.00	0.979	0.979	6,853
Boiler&Machinery	5.5	18,000	0	0	18,000	1.00	0.914	0.914	16,452
Credit	3.4	11,000	0	0	11,000	1.00	0.952	0.952	10,472
Credit Protection	3.7	12,000	0	0	12,000	1.10	0.952	1.047	12,566
Fidelity	4.0	13,000	0	0	13,000	1.10	0.910	1.001	13,013
Hail	3.1	10,000	0	0	10,000	1.10	0.953	1.048	10,483
Legal Expense	6.2	20,000	0	0	20,000	1.10	0.852	0.937	18,744
Liability	9.2	30,000	0	0	30,000	1.00	0.852	0.852	25,560
Mortgage	2.2	7,000	0	0	7,000	1.00	0.937	0.937	6,559
Other Approved Products	2.5	8,000	0	0	8,000	1.00	0.961	0.961	7,688
Surety	2.8	9,000	0	0	9,000	1.00	0.910	0.910	8,190
Title	1.5	5,000	0	0	5,000	1.00	0.843	0.843	4,215
Marine	4.9	16,000	0	0	16,000	1.00	0.914	0.914	14,624
Accident&Sickness	3.1	10,000	0	0	10,000	1.10	0.952	1.047	10,472
Warranty	5.8	19,000	0	0	19,000	1.00	0.976	0.976	18,544
Long Duration Contract UPR	6.8	22,000	0	0	22,000	1.00	1.000	1.000	22,000
Total	100.2	325,000	0	0	325,000	1.05	0.928	0.977	317,553

Capital Factors

Class of Insurance	(10) VaR 95	(11) VaR 99	(12) VaR 99.5	(13) VaR 99.6
Personal Property	0.242	0.364	0.412	0.426
Commercial Property	0.243	0.366	0.415	0.430
Aircraft	0.200	0.299	0.338	0.350
Auto Liability	0.169	0.250	0.281	0.291
Auto Pers Accident	0.169	0.250	0.281	0.291
Auto Other	0.188	0.279	0.314	0.325
Boiler&Machinery	0.200	0.299	0.338	0.350
Credit	0.206	0.307	0.346	0.359
Credit Protection	0.206	0.307	0.346	0.359
Fidelity	0.252	0.381	0.433	0.448
Hail	0.243	0.366	0.415	0.430
Legal Expense	0.283	0.430	0.487	0.507
Liability	0.283	0.430	0.487	0.507
Mortgage	0.252	0.381	0.433	0.448
Other Approved Products	0.206	0.307	0.346	0.359
Surety	0.252	0.381	0.433	0.448
Title	0.443	0.692	0.793	0.826
Marine	0.200	0.299	0.338	0.350
Accident&Sickness	0.206	0.307	0.346	0.359
Warranty	0.188	0.279	0.314	0.326
Long Duration Contract UPR	0.170	0.250	0.290	0.300
Total	0.213	0.319	0.361	0.375

Required Capital Amount

(14) (9) * (10) VaR 95	(15) (9) * (11) VaR 99	(16) (9) * (12) VaR 99.5	(17) (9) * (13) VaR 99.6
1,824	2,743	3,105	3,210
2,316	3,488	3,955	4,098
2,882	4,309	4,871	5,044
9,086	13,441	15,107	15,645
4,373	6,470	7,272	7,530
1,288	1,912	2,152	2,227
3,290	4,919	5,561	5,758
2,157	3,215	3,623	3,759
2,589	3,858	4,348	4,511
3,279	4,958	5,635	5,830
2,547	3,837	4,350	4,508
5,305	8,060	9,128	9,503
7,233	10,991	12,448	12,959
1,653	2,499	2,840	2,938
1,584	2,360	2,660	2,760
2,064	3,120	3,546	3,669
1,867	2,917	3,342	3,482
2,925	4,373	4,943	5,118
2,157	3,215	3,623	3,759
3,486	5,174	5,823	6,045
3,740	5,500	6,380	6,600
67,645	101,359	114,712	118,953

Diversification Factor:	x	0.65	0.65	0.65	0.65
Growth Factor:	x	1.05	1.05	1.05	1.05
(B5) Reserve Risk Required Capital Amount:	=	46,168	69,178	78,291	81,185

Four industry baseline probability distributions of potential reserve deviations were created for each line of business based on the size of the reported reserve. The points on the probability distribution that represent the 95th, the 99th, the 99.5th, and the 99.6th percentiles are used as the baseline industry reserve capital factors in the BCAR model. The rating unit's amount of reserve for a line of business determines the industry baseline risk factors that are then adjusted based on the rating unit's case incurred development for non-life lines of business. A.M. Best views the size and variation in a

