



AMERICAN ACADEMY *of* ACTUARIES

**2010 Update to P/C Risk-Based Capital Underwriting Factors Presented to
the National Association of Insurance Commissioners' Property Risk-Based Capital
Working Group**

March 2010

This report was prepared by
the P/C Risk-Based Capital Committee of the American Academy of Actuaries.

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March 4, 2010

Ms. Anne Kelly, Chair
Property Risk-Based Capital Working Group
Capital Adequacy (E) Task Force
National Association of Insurance Commissioners
2301 McGee Street
Suite 800
Kansas City, MO 64108

Re: Risk-Based Capital (RBC) Underwriting Factors – 2010 Update

Dear Ms. Kelly:

On behalf of the American Academy of Actuaries' Property and Casualty Risk-Based Capital (RBC) Committee, I am pleased to provide this update to its September 2007 report, "An Update to the Risk-Based Capital Underwriting Factors."

After a number of years without an update, the underwriting factors were updated in 2007 based on 2005 annual statement data and a 15 percent cap per factor; that update was adopted by the NAIC for the 2008 reporting year. In 2009, the factors were updated applying the 15 percent cap again, and that update was adopted by the NAIC for the 2009 reporting year. As discussed below, the impact of the proposed factors relates to the change from the 2009 adopted factors using 2008 Annual Statement data. This update uses the same methodology outlined in the original 2007 report. The only change in this update is that 2008 Annual Statement data was used.

When applied in practice, the RBC formula considers both the insurers' own historical experience and applies an adjustment to the various risk charges such as credit risk, investment risk, and underwriting risk, to account for "covariance," or the fact that not all risks will come to pass at the same time. To get a sense of the impact of the factor changes, we calculated the weighted aggregate impact of these charge factors against industry reserves and premiums before covariance and companies' own experience, and, on this basis, we found the weighted aggregate impact of the 2010 update remains small, at nearly zero percent. However, this reflects an offsetting 7 percent increase in the reserve charge with an 11 percent decrease in the premium charge. Nearly 85 percent of the factors, by count and by weighted RBC charge, are affected by the cap.

In addition, changes experienced by insurers focused in certain segments are greater in magnitude, as shown in Exhibit III, which illustrates the impact of the change in factors before the covariance adjustment and companies' own experience by line groupings. In particular, the indicated capped reserve charge is an increase of 15 percent for the reinsurance lines, a 10 percent increase for most commercial lines, and a nearly 13 percent decrease for personal lines. Further, the indicated capped premium charge is an increase of 15 percent for the reinsurance lines, a 14 percent decrease for most commercial lines, and a 15 percent decrease for personal lines.



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To assess the impact of these indicated factors, including the covariance adjustment and companies' own experience, we performed the RBC calculation using the updated factors for a sample of companies and compared this to the result using existing factors. The comparison shows a minimal impact in the aggregate and some impact for insurers focused in certain segments, consistent in direction and magnitude with what was expected by looking at the pure change in charges before the covariance adjustment and companies' own experience. This sample is shown in Exhibit IV.

As mentioned, the only change in this update is that 2008 Annual Statement data was used. In addition, please note the following:

- The same caps and assumptions were retained, i.e., 5 percent minimum charge, 87.5 percentile, 15 percent cap.
- Using the 2008 data, the industry underwriting expense ratio changed slightly to 27.5 percent from 25.5 percent.
- The International line was not updated due to lack of credible data consistent with all prior reports.
- Although data was not credible for the Financial & Mortgage Guaranty line, the indicated factors for this line were increased by the 15 percent cap to reflect the high level of inherent risk in this line that is not reflected in the current factors.
- The Warranty line continued to use the Fidelity & Surety results by default.
- We treated intercompany pools consistent with past revisions. Each company in an intercompany pool will show a similar reserve runoff and loss ratio history equal to their share of the aggregate results of that particular pool. In calculating the update, we utilized data from these companies exactly as reported.
- The investment income offset factors were also updated using 2008 A.M. Best data and a 5 percent interest rate consistent with the September 2007 report. (We recognize that the 5 percent discount rate embedded in the current RBC formula anticipates higher future investment income than current interest rates could support. We could explore use of other rates upon request.)

We are pleased to assist the NAIC in this important revision. If you have any questions about it, please feel free to contact Lauren Pachman, the Academy's casualty policy analyst, at pachman@actuary.org. Please feel free to seek our assistance in the future.

Sincerely,

Alex Krutov, Chair
American Academy of Actuaries' P/C Risk-Based Capital Committee

Enclosure

American Academy of Actuaries
Risk Based Capital Subgroup on Pricing & Reserving Charges
Summary of Results

Exhibit I

Line	Line Letter	Reserving Runoff Ratio			IIO		Impact from Reserving
		Current	Before Cap and Min	Indicated	Current	Indicated	
(1) H/F	A	0.206	0.201	0.201	0.939	0.938	-4.5%
(2) PPA	B	0.199	0.124	0.180	0.927	0.928	-15.0%
(3) CA	C	0.238	0.230	0.230	0.909	0.911	-3.8%
(4) WC	D	0.310	0.338	0.335	0.835	0.830	15.0%
(5) CMP	E	0.439	0.465	0.465	0.884	0.876	4.1%
(6) MM Occurrence	F1	0.439	0.217	0.402	0.869	0.865	-15.0%
(7) MM CM	F2	0.283	0.309	0.309	0.893	0.883	7.0%
(8) SL	G	0.249	0.164	0.243	0.901	0.890	-15.0%
(9) OL	H	0.478	0.529	0.529	0.862	0.852	10.5%
(11) Spec Prop	I	0.184	0.274	0.206	0.966	0.966	15.0%
(12) Auto Phys Damage	J	0.118	0.000	0.103	0.975	0.976	-15.0%
(10) Fidelity & Surety	K	0.315	0.307	0.307	0.957	0.940	-11.6%
(13) Other	L	0.183	0.153	0.158	0.964	0.967	-15.0%
(15) International	M	0.327	0.327	0.327	0.877	0.874	-2.4%
(16) Rein Property & Financial	N&P	0.278	0.580	0.303	0.901	0.901	15.0%
(17) Reinsurance Liab	O	0.750	1.357	0.824	0.834	0.838	15.0%
(18) Products Liability	R	0.627	1.414	0.686	0.838	0.841	15.0%
(14) Fin & Mort	S	0.150	0.150	0.212	0.962	0.926	15.0%
(19) Warranty	T	0.315	0.307	0.307	0.957	0.940	-11.6%
							7.1%

Line	Line Letter	Loss & LAE Ratio			IIO		Impact from Premium
		Current	Before Cap and Min	Indicated	Current	Indicated	
(1) H/F	A	0.949	0.919	0.919	0.951	0.954	-14.5%
(2) PPA	B	0.983	0.933	0.950	0.921	0.925	-15.0%
(3) CA	C	1.005	0.926	0.970	0.883	0.890	-15.0%
(4) WC	D	1.051	1.013	1.016	0.832	0.839	-15.0%
(5) CMP	E	0.935	0.886	0.909	0.888	0.896	-15.0%
(6) MM Occurrence	F1	1.842	1.691	1.730	0.778	0.767	-15.0%
(7) MM CM	F2	1.071	1.351	1.112	0.835	0.827	15.0%
(8) SL	G	0.910	0.891	0.894	0.897	0.898	-15.0%
(9) OL	H	1.045	1.003	1.026	0.820	0.816	-15.0%
(11) Spec Prop	I	0.955	0.786	0.922	0.944	0.949	-15.0%
(12) Auto Phys Damage	J	0.847	0.814	0.833	0.972	0.971	-15.0%
(10) Fidelity & Surety	K	0.863	0.979	0.891	0.921	0.904	15.0%
(13) Other	L	0.891	0.891	0.891	0.956	0.947	-6.3%
(15) International	M	1.169	1.169	1.169	0.901	0.905	1.4%
(16) Rein Property & Financial	N&P	1.337	1.733	1.400	0.884	0.893	15.0%
(17) Reinsurance Liab	O	1.419	1.706	1.561	0.810	0.777	15.0%
(18) Products Liability	R	1.195	1.288	1.241	0.778	0.774	15.0%
(14) Fin & Mort	S	1.400	1.400	1.545	0.916	0.884	15.0%
(19) Warranty	T	0.863	0.979	0.891	0.921	0.904	15.0%
							-11.0%

Underwriting Expense Ratio 27.5%

Capped Selection	15.0%
Percentile Selected	87.5%
Industry Underwriting Expense	
OUE	27.5%

**American Academy of Actuaries
RBC Subgroup on Pricing & Reserving Charges**

Exhibit II

Development of Capped Factors

Line	Line Letter	Current			Proposed before Cap, w/ Min			Indicated Capped	Indicated Capped Charge
		Reserve Runoff Ratio	Reserving IIO	Reserve Charge	Reserve Runoff Ratio	Reserving IIO	Reserve Charge Before Cap, with Min		
(1) H/F	A	0.206	0.939	0.132	0.201	0.938	0.127	0.127	0.201
(2) PPA	B	0.199	0.927	0.111	0.124	0.928	0.050	0.095	0.180
(3) CA	C	0.238	0.909	0.125	0.230	0.911	0.121	0.121	0.230
(4) WC	D	0.310	0.835	0.094	0.338	0.830	0.111	0.108	0.335
(5) CMP	E	0.439	0.884	0.272	0.465	0.876	0.283	0.283	0.465
(6) MM Occurrence	F1	0.439	0.869	0.250	0.217	0.865	0.053	0.213	0.402
(7) MM CM	F2	0.283	0.893	0.146	0.309	0.883	0.156	0.156	0.309
(8) SL	G	0.249	0.901	0.125	0.164	0.890	0.050	0.107	0.243
(9) OL	H	0.478	0.862	0.274	0.529	0.852	0.303	0.303	0.529
(11) Spec Prop	I	0.184	0.966	0.144	0.274	0.966	0.231	0.165	0.206
(12) Auto Phys Damage	J	0.118	0.975	0.090	0.000	0.976	0.050	0.077	0.103
(10) Fidelity & Surety	K	0.315	0.957	0.258	0.307	0.940	0.229	0.229	0.307
(13) Other	L	0.183	0.964	0.140	0.153	0.967	0.115	0.119	0.158
(15) International	M	0.327	0.877	0.164	0.327	0.874	0.160	0.160	0.327
(16) Rein Property & Financial	N&P	0.278	0.901	0.151	0.580	0.901	0.424	0.174	0.303
(17) Reinsurance Liab	O	0.750	0.834	0.460	1.357	0.838	0.975	0.528	0.824
(18) Products Liability	R	0.627	0.838	0.363	1.414	0.841	1.030	0.418	0.686
(14) Fin & Mort	S	0.150	0.962	0.106	0.150	0.926	0.065	0.122	0.212
(19) Warranty	T	0.315	0.957	0.258	0.307	0.940	0.229	0.229	0.307

Minimum Charge Applied 0.050

Line	Line Letter	Current			Proposed before Cap, w/ Min			Indicated Capped	Indicated Capped Charge
		Premium Loss and LAE Ratio	Premium IIO	Premium Charge	Premium Loss and LAE Ratio	Premium IIO	Premium Charge Before Cap, with Min		
(1) H/F	A	0.949	0.951	0.177	0.919	0.954	0.152	0.152	0.919
(2) PPA	B	0.983	0.921	0.180	0.933	0.925	0.138	0.153	0.950
(3) CA	C	1.005	0.883	0.162	0.926	0.890	0.099	0.138	0.970
(4) WC	D	1.051	0.832	0.149	1.013	0.839	0.125	0.127	1.016
(5) CMP	E	0.935	0.888	0.105	0.886	0.896	0.069	0.089	0.909
(6) MM Occurrence	F1	1.842	0.778	0.708	1.691	0.767	0.572	0.602	1.730
(7) MM CM	F2	1.071	0.835	0.169	1.351	0.827	0.392	0.195	1.112
(8) SL	G	0.910	0.897	0.091	0.891	0.898	0.075	0.078	0.894
(9) OL	H	1.045	0.820	0.132	1.003	0.816	0.093	0.112	1.026
(11) Spec Prop	I	0.955	0.944	0.177	0.786	0.949	0.050	0.150	0.922
(12) Auto Phys Damage	J	0.847	0.972	0.098	0.814	0.971	0.065	0.084	0.833
(10) Fidelity & Surety	K	0.863	0.921	0.070	0.979	0.904	0.160	0.080	0.891
(13) Other	L	0.891	0.956	0.127	0.891	0.947	0.119	0.119	0.891
(15) International	M	1.169	0.901	0.328	1.169	0.905	0.333	0.333	1.169
(16) Rein Property & Financial	N&P	1.337	0.884	0.457	1.733	0.893	0.823	0.525	1.400
(17) Reinsurance Liab	O	1.419	0.810	0.424	1.706	0.777	0.601	0.488	1.561
(18) Products Liability	R	1.195	0.778	0.205	1.288	0.774	0.272	0.235	1.241
(14) Fin & Mort	S	1.400	0.916	0.557	1.400	0.884	0.513	0.641	1.545
(19) Warranty	T	0.863	0.921	0.070	0.979	0.904	0.160	0.080	0.891

Minimum Charge Applied 0.050

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Risk Based Capital Subgroup on Pricing & Reserving Charges
Estimated Impact

Exhibit III

Line	Impact from Reserving	Impact from Premium	Hit Cap?		Impact Weighted on Industry Reserves and Premiums <i>prior to covariance</i>							
			Res	Prem	Reserve (\$)		Premium (\$)		Change (\$)			Percent Total Change
					Charge Before	Capped Charge	Charge Before	Capped Charge	Reserve	Premium	Total	
(1) H/F	-4.5%	-14.5%	0	0	2,953,492	2,822,002	10,469,178	8,949,045	-131,490	-1,520,133	-1,651,623	-12.3%
(2) PPA	-15.0%	-15.0%	1	1	9,734,957	8,274,713	17,043,140	14,486,669	-1,460,244	-2,556,471	-4,016,715	-15.0%
(3) CA	-3.8%	-15.0%	0	1	3,321,565	3,194,046	2,893,708	2,459,651	-127,518	-434,056	-561,574	-9.0%
(4) WC	15.0%	-15.0%	1	1	12,274,176	14,115,302	5,900,547	5,015,465	1,841,126	-885,082	956,044	5.3%
(5) CMP	4.1%	-15.0%	0	1	10,535,989	10,972,181	3,179,277	2,702,386	436,192	-476,892	-40,700	-0.3%
(6) MM Occurrence	-15.0%	-15.0%	1	1	2,726,436	2,317,471	1,442,276	1,225,934	-408,965	-216,341	-625,307	-15.0%
(7) MM CM	7.0%	15.0%	0	1	2,687,358	2,874,140	1,240,399	1,426,459	186,781	186,060	372,841	9.5%
(8) SL	-15.0%	-15.0%	1	1	940,864	799,734	561,317	477,119	-141,130	-84,198	-225,327	-15.0%
(9) OL	10.5%	-15.0%	0	1	34,523,889	38,136,075	5,302,515	4,507,138	3,612,186	-795,377	2,816,808	7.1%
(11) Spec Prop	15.0%	-15.0%	1	1	2,360,565	2,714,649	5,911,953	5,025,160	354,085	-886,793	-532,708	-6.4%
(12) Auto Phys Damage	-15.0%	-15.0%	1	1	508,985	432,637	6,884,971	5,852,225	-76,348	-1,032,746	-1,109,093	-15.0%
(10) Fidelity & Surety	-11.6%	15.0%	0	1	1,255,430	1,110,314	426,696	490,700	-145,116	64,004	-81,112	-4.8%
(13) Other	-15.0%	-6.3%	1	0	0	0	452,957	424,310	0	-28,646	-28,646	-6.3%
(15) International	-2.4%	1.4%	0	0	77,761	75,871	94,862	96,213	-1,890	1,351	-539	-0.3%
(16) Rein Property & Financial	15.0%	15.0%	1	1	1,190,560	1,369,143	3,041,304	3,497,500	178,584	456,196	634,780	15.0%
(17) Reinsurance Liab	15.0%	15.0%	1	1	18,431,554	21,196,287	3,051,823	3,509,596	2,764,733	457,773	3,222,507	15.0%
(18) Products Liability	15.0%	15.0%	1	1	6,045,715	6,952,572	568,580	653,867	906,857	85,287	992,144	15.0%
(14) Fin & Mort	15.0%	15.0%	1	1	9,129	10,498	325,089	373,852	1,369	48,763	50,133	15.0%
(19) Warranty	-11.6%	15.0%	0	1	55,498	49,083	145,716	167,573	-6,415	21,857	15,442	7.7%
					109,633,921	117,416,719	68,936,306	61,340,863	7,782,798	-7,595,443	187,355	0.10%
Percentage of Reserve/Premium Capped			58%	85%								
Number Capped	11	16		27					Reserve	Premium	Total	
Proportion of Lines Capped	58%	84%		71%					-12.6%	-14.9%	-14.2%	
									CMP/WC/CA/OL/SP/PL	-14.3%	3.9%	
									Reinsurance	15.0%	15.0%	15.0%
									Medical Malpractice	-4.1%	-1.1%	-3.1%

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Exhibit IV

Risk Based Capital Subgroup on Pricing & Reserving Charges

Impacts of New Underwriting Risk Factors on Selected Companies Including the Impact of Covariance

Co	2008 Data As Reported			2009 Factors on 2008 Data				Proposed 2010 Factors on 2008 Data				Type of Insurer (13)
	2008 Total Adjusted Capital	2008 ACL RBC	2008 RBC Ratio	2009 ACL RBC*	2009 RBC Ratio*	Perc Chg	Perc points	Proposed ACL RBC**	Proposed Ratio**	Perc Chg	Perc points	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
a	1,342,950,644	407,040,488	330%	409,261,696	328%	-1%	-2%	419,016,217	321%	-2%	-8%	most lines, mainly WC, OL, Reins Liab
b	13,219,520,346	2,452,252,054	539%	2,367,119,215	558%	4%	19%	2,212,276,183	598%	7%	39%	personal lines
c	5,085,399,059	1,395,412,825	364%	1,401,776,286	363%	0%	-2%	1,481,967,919	343%	-5%	-20%	multi-line, mainly WC & OL
d	15,082,435	4,225,428	357%	4,357,170	346%	-3%	-11%	4,421,069	341%	-1%	-5%	CMP, WC
e	39,368,916	3,470,584	1134%	3,517,711	1119%	-1%	-15%	3,683,997	1069%	-5%	-51%	most lines mainly HO, CMP, WC, auto
f	108,494,659	27,082,825	401%	27,911,999	389%	-3%	-12%	30,401,176	357%	-8%	-32%	OL, PL
g	7,819,051,150	2,044,536,763	382%	2,088,948,877	374%	-2%	-8%	2,221,236,661	352%	-6%	-22%	all mainly IM, A&H, CMP, WC
h	2,861,629,728	678,972,097	421%	687,735,642	416%	-1%	-5%	698,491,416	410%	-2%	-6%	all mainly allied, CMP, HO, IM, OL
j	612,105,094	120,131,037	510%	110,952,330	552%	8%	42%	98,790,057	620%	12%	68%	med mal
k	834,095,836	357,117,866	234%	379,272,771	220%	-6%	-14%	424,067,142	197%	-11%	-23%	commercial liability, reinsurance
m	8,184,646,979	1,289,684,144	635%	1,366,599,370	599%	-6%	-36%	1,247,025,756	656%	10%	57%	personal, commercial liability
n	4,263,959	958,977	445%	994,727	429%	-4%	-16%	982,439	434%	1%	5%	WC
o	5,222,787,898	962,015,058	543%	982,551,637	532%	-2%	-11%	1,027,283,874	508%	-4%	-23%	personal, commercial liability
p	828,922,407	179,420,883	462%	170,237,710	487%	5%	25%	156,046,914	531%	9%	44%	personal lines
q	28,053,080	3,597,947	780%	3,455,311	812%	4%	32%	3,084,787	909%	12%	98%	personal lines
r	766,007,986	277,788,622	276%	278,346,422	275%	0%	-1%	279,189,743	274%	0%	-1%	OL, reinsurance
s	369,761,716	153,920,678	240%	160,019,286	231%	-4%	-9%	173,698,093	213%	-8%	-18%	med mal, commercial liability
t	3,995,309,216	1,366,238,253	292%	1,504,089,308	266%	-9%	-27%	1,663,709,551	240%	-10%	-25%	commercial liability, most lines
u	27,723,387,129	7,217,925,657	384%	7,302,114,382	380%	-1%	-4%	7,413,085,323	374%	-1%	-6%	reinsurance mainly, CMP, OL, MM, aircraft
v	519,665,755	170,107,112	305%	180,290,453	288%	-6%	-17%	196,553,312	264%	-8%	-24%	reinsurance
w	13,471,858,135	857,499,991	1571%	848,233,521	1588%	1%	17%	840,173,691	1603%	1%	15%	personal lines
x	3,965,618,054	427,634,370	927%	422,720,844	938%	1%	11%	410,503,509	966%	3%	28%	personal lines
	97,017,980,181	20,397,033,659		20,700,506,670		-1%	-2%	21,005,688,830		-1%	4%	

*2008 data using 2009 factors

**2008 data using proposed factors

Columns (7) and (11) - is the year over year percentage change in the RBC ratio due to the new factors
 Columns (8) and (12) are the year over year differences in the RBC ratio by subtraction due to the new factors.