

Appendix to S&P Global’s Proposed Capital Model Changes and its Implication to U.S. Life Insurance Companies

Comparison of S&P Global’s Proposed vs. Original GAAP Capital Model

All tables below illustrate the rates applicable to U.S. life insurers.

Table A1. Proposed vs. original confidence level

	Confidence level			
	AAA	AA	A	BBB
Proposed	99.99%	99.95%	99.80%	99.50%
Original	99.90%	99.70%	99.40%	97.20%

Table A2. Proposed vs. original mortality risk capital charge rates on net amount at risk

Mortality risk capital charges (%)	Confidence level			
	AAA	AA	A	BBB
Proposed				
First \$50 billion	0.248	0.219	0.192	0.172
\$50 billion to \$250 billion	0.167	0.148	0.129	0.115
More than \$250 billion	0.052	0.046	0.040	0.036
Original	AAA	AA	A	BBB
First \$1 billion	0.37	0.33	0.30	0.23
\$1 billion to \$5 billion	0.25	0.22	0.20	0.15
\$5 billion to \$10 billion	0.19	0.17	0.15	0.11
\$10 billion to \$50 billion	0.16	0.14	0.13	0.10
\$50 billion to \$100 billion	0.12	0.11	0.10	0.08
More than \$100 billion	0.09	0.08	0.08	0.06

Table A3. New to S&P model – pandemic risk charge rates

Pandemic risk capital charges (%)	Confidence level			
	AAA	AA	A	BBB
Net amount at risk	0.084	0.074	0.065	0.058

Table A4. Proposed vs. original longevity risk capital charge rates on reserve

Longevity risk capital charges (%)	Confidence level			
Proposed	AAA	AA	A	BBB
Category 1 (No lump-sum option, i.e., Immediate payoff annuity)	7.9	7	6.1	5.5
Category 2 (Between 2 & 3)	2.4	2.1	1.8	1.7
Category 3 (Limited and noneconomic annuitization option)	0	0	0	0
Original	AAA	AA	A	BBB
Flat rate	8.104	7.236	6.604	5

Table A5. Proposed vs. original lapse risk charge rates on adjusted life liabilities

Lapse risk capital charges (%)	Confidence level			
Proposed	99.99%	99.95%	99.80%	99.50%
Category 1 (Offer surrender value, with investment guarantee)	2.3	2	1.7	1.4
Category 2 (Offer surrender value, with surrender charge or market value adjustment)	1.2	1	0.9	0.7
Category 3 (No lapse option)	0.7	0.6	0.5	0.4
Original	AAA	AA	A	BBB
Category 1 (with investment guarantee)	3.26	2.89	2.64	2
Category 2 (without guarantee)	1.06	0.94	0.86	0.65

Table A6-a. Proposed vs. original market risk charge rates - Equity

Market risk capital charges - Equity (%)	Confidence level			
Proposed	AAA	AA	A	BBB
Listed	55	50	45	40
Unlisted	66	60	54	48
Original	AAA	AA	A	BBB
	47	42	38	27

Table A6-b. Proposed vs. original market risk charge rates – Real estate

Market risk capital charges - Real estate (%)	Confidence level			
Proposed	AAA	AA	A	BBB
Investment	30	27	24	20
Owner occupied	38	34	30	25
Original	AAA	AA	A	BBB
Investment	30	27	24	18
Owner occupied	38.14	34.23	30.61	23

Table A6-c. Proposed vs. original market risk charge rates - Interest

Market risk capital charges - Interest (%)	Confidence level			
Proposed	AAA	AA	A	BBB
Up	3.5	3.15	2.8	2.55
Down	3.15	2.75	2.35	2.1
Original	AAA	AA	A	BBB
	2.45	2.18	1.99	1.50

Table A7-a. Proposed vs. original credit risk charges – more than 20-year duration bond factors

Credit risk - bond factors	Confidence level			
Proposed (category 2) - More than 20 years	AAA	AA	A	BBB
AAA Security	1.58%	1.25%	1.00%	0.83%
AA Security	2.55%	2.02%	1.61%	1.34%
A Security	3.57%	2.82%	2.25%	1.88%
BBB Security	5.86%	4.63%	3.70%	3.08%
BB Security	12.43%	9.81%	7.85%	6.54%
B Security	18.48%	14.59%	11.67%	9.73%
CCC/C Security	72.00%	69.50%	55.60%	46.33%
Unrated	72.00%	70.00%	67.00%	65.00%
Original - More than 20 years	AAA	AA	A	BBB
AAA Security	1.45%	1.28%	1.14%	0.96%
AA Security	2.26%	2.04%	1.86%	1.62%
A Security	3.06%	2.89%	2.75%	2.57%
BBB Security	6.10%	5.92%	5.77%	5.57%
BB Security	27.82%	26.35%	25.14%	23.56%
B Security	39.56%	38.46%	36.89%	34.24%
CCC/C Security	76.88%	72.63%	69.75%	62.22%
Unrated	27.82%	26.35%	25.14%	23.56%

Table A7-b. Proposed vs. original commercial mortgage risk charges – assets in good standing

Credit risk - CML	Confidence level			
Proposed – mortgages - in good standing	AAA	AA	A	BBB
Debt service cover ratio > 1.4x				
LTV < 60%	4.80%	3.70%	2.70%	2.10%
LTV 60 - 80	5.50%	4.40%	3.50%	2.90%
LTV > 80%	6.00%	5.00%	4.10%	3.50%
Debt service cover ratio 1.1x to 1.4x				
LTV < 60%	6.70%	5.10%	3.80%	3.00%
LTV 60 - 80	7.70%	6.20%	5.00%	4.10%
LTV > 80%	8.40%	6.90%	5.70%	4.80%
Debt service cover ratio < 1.1x				
LTV < 60%	9.50%	7.30%	5.50%	4.30%
LTV 60 - 80	11.00%	8.90%	7.10%	5.90%
LTV > 80%	11.90%	9.90%	8.10%	6.90%
Original - mortgages - performing	AAA	AA	A	BBB
LTV < 60%	0.81%	0.72%	0.66%	0.50%
LTV 60 - 85	8.14%	7.23%	6.61%	5.00%
LTV > 85%	16.28%	14.45%	13.22%	10.00%

Table A8-a. Diversification correlation assumptions within life technical risk category

(%)	Mortality	Morbidity	Longevity	Other life	Pandemic
Mortality	100	75	-25	25	50
Morbidity	75	100	25	25	50
Longevity	-25	25	100	25	0
Other life	25	25	25	100	25
Pandemic	50	50	0	25	100

Table A8-b. Diversification correlation assumptions within market risk category

(%)	Equity	Real estate	Interest rate
Equity	100	75	50
Real estate	75	100	50
Interest rate	50	50	100

Table A8-c. Diversification correlation assumptions between risk categories

(%)	Market	Credit	Natural catastrophe	Non-life technical	Life technical	Pandemic
Market	100	75	25	25	25	75
Credit	75	100	25	25	25	75
Natural catastrophe	25	25	100	0	0	0
Non-life technical	25	25	0	100	0	25
Life technical	25	25	0	0	100	N/A*
Pandemic	75	75	0	25	N/A*	100

**N/A because this correlation is addressed in Table A8-a.*