STANDARD &POOR'S

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Criteria | Insurance | General:

Revised Insurance Capital Adequacy Credit Risk Measures

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Revised Insurance Capital Adequacy Credit Risk Measures

Credit losses experienced by insurance companies and their subsidiaries are largely a result of credit defaults, rating transitions, and systemic credit spread movements. The source of these credit risks at insurance companies can include fixed income assets, credit derivatives, commercial mortgages, and counterparty credit exposure resulting from reinsurance contracts and over-the-counter (OTC) derivative contracts.

Our revised factors for credit risk largely target credit losses relating to default risk, but we will now apply the factors to all the major sources of credit default risk, some of which may have been ignored in the past (e.g. credit default swaps). Because losses on exposure relating to systemic credit spread movements are largely related to asset-liability risks, this exposure will be captured in our factors for risk relating to asset-liability mismatches. Based on our research on the potential economic impact of ratings transitions on insurance company portfolios, Standard & Poor's Ratings Services decided the magnitude of this risk did not warrant separate specific risk factors.

To determine the expected capital adequacy for credit risk, Standard & Poor's will apply source specific credit risk factors to the exposure amounts. Consistent with other portions of model, the factors for credit risk are derived by stressing the relevant risk variables based on a confidence level that is commensurate with the loss probability associated with the targeted rating on the company.

Therefore, when the factors are applied to the exposure amounts, the resulting numbers are the absolute expected level of capital given the targeted rating, and no additional stresses or ratios will be necessary. Also consistent with other types of risk, the amount of capital required for a specified credit exposure amount given the same exposure rating, and tenor will increase as the rating on the company increases, and vice versa as the rating on the company decreases.

Standard & Poor's used its studies on credit defaults, recoveries, and ratings transitions to determine the targeted confidence intervals based on a company's target rating as well as to determine expected losses given the rating assumptions on the company's credit exposure. For example, if an 'A' rated insurance company has exposure to an 'AA' credit, we would use our empirical studies to determine the probability of a default on an 'A' rated security to determine the stress level to apply to the probability of a default on the 'AA' security they are holding.

The methodology used to determine the expected losses relating to defaults is applied consistently across each of the various sources of credit risk, but the methodology used to determine the final factors makes source specific adjustments to relevant risk variables. Assumptions for the underlying variables that impact expected losses, such as credit quality (rating), tenor, related financial market, and spread volatility and recovery values, which impact the magnitude of the expected losses, have been made in a manner which is reflective of the specific source of risk.

Furthermore, our revised approach to measuring expected risk-based adequacy will be largely consistent across international localities with adjustments made to reflect regional differences in credit risk variables and form and content of data collection.

Our philosophical goal is to determine expected capital adequacy relating to credit risk that captures the net present value (NPV) of credit losses for the term of the existing book of business. In calculating the expected capital

adequacy for credit default risk, Standard & Poor's makes the assumption that the tenor of the assets roughly equals the tenor of the liabilities, which we believe is general industry practice. However, if in practice a company's assets are significantly shorter than its liabilities, we are aware that our capital modeling may be understating capital needs and vice versa if in practice the company's assets are longer than its liabilities.

For example, with respect to credit default risk and ignoring potential differences in expected marginal default rates, if an insurance company uses the proceeds of a longer term funding agreement to invest in a series of shorter-term instruments, on a true net present value basis, they would roughly be exposed to the same credit default risk as if they purchased a single instrument with a tenor that matches that of the funding agreement. However, our revised methodology would require less capital in the former case than the latter case.

Along the same lines, if a company actively manages its portfolio, it is our assumption that the overall holding period, based on its current liabilities, will roughly approximate the tenor of the existing assets. Furthermore, while actively managing the portfolio may result in a reduction in the marginal default rate experienced, based on our analytical research, we believe this benefit is largely offset by increased exposure to ratings transition risk.

Lastly, it is important to note, and Standard & Poor's is aware that using probabilities based on studies of historical defaults to determine expected losses should be considered in the context of a broadly diversified and larger portfolio. This is because the actual economic gain or loss experienced in the event of a default on an individual security is typically far greater than the expected gain or loss that is implied for each individual security.

For example, suppose an insurance company holds $5 million of an 'A' rated security, based on our studies, the probability of the security defaulting over its specific tenor is estimated to be 0.75% and the assumed recovery is 45%. The expected loss due to default would be $20,625 or (.75% x $5.0 million) x (1 - .45%). However, the actual economic loss experienced on that individual security if a default occurred and the assumed recovery was realized, would be $2.75 million ($5 million less recovery of 45%).

In the example, if the company held only the one security and reserved capital relative to the expected losses for the credit events based on this one security, they would not be sufficiently capitalized if the default event actually occurred. However, if the company held capital based on these same calculations across a much larger portfolio, they would likely be sufficiently capitalized if one or several of the unlikely events that do occur (i.e., in aggregation, the small amounts of capital probabilistically determined for each individual security will likely provide the sufficient and necessary capital to cover the actual economic losses experienced). This illustration underlies the importance of applying a well-designed credit concentration risk model as an overlay to any credit model based on expected losses.

Methodology For Deriving Expected Losses For Credit Defaults

The following section details the methodology Standard & Poor's used to derive the expected losses for credit defaults of all exposures, with the exception of commercial mortgage loans. To create consistency when modeling expected capital adequacy across the various sources of credit risk, this same methodology is used to develop the final factors we apply to all of the other various types of credit exposure. As will be discussed, the expected credit losses embedded in each factor will vary based on the rating on the insurance company, the rating on the credit exposure, and the source specific assumption tenor. Following this section, we will explain how the individual factors are derived using the expected losses explained in this section.

Cumulative default rates of rated instruments

Standard & Poor's has tracked and studied default rates on each annual pool of ratings it has issued since 1981 (currently, 25 years or pools of data exist). We publish the results of these studies, which include statistical summaries of the empirical observations of defaults by rating and tenor, annually in our ratings performance studies (and are available on our Web site). These ratings performance studies and studies we have done on recovery values form the basis for our analysis of determining expected losses relating to defaults.

Cumulative default rates, which are detailed in the performance studies, reveal the percentage of cumulative defaults experienced each year by pool and rating. For example, if a pool had a cumulative default rate for 'A' rated credits of 2% in year 7, this would imply that the total defaults experienced over the seven years for that group of rated "credits" would aggregate to 2%. Table 1 provides an example of cumulative default rates, which in this case, are based on cumulative defaults experienced by 'A' rated issuers.

Table 1

Example Cumulative Default Rates For One Set Of Static Pools

		Annual cumulative default rates for static pools of 'A' rated issuers (%)														
Pool	Issuers	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
1980	350	0.00	0.00	0.00	0.00	0.00	0.57	0.57	0.86	0.86	1.43	2.86	3.14	3.71	3.71	4.00
1981	309	0.32	0.32	0.32	0.32	0.65	0.65	0.65	0.65	1.29	3.24	3.24	3.88	3.88	3.88	3.88
1982	265	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	2.26	2.64	3.40	3.40	3.40	3.40	3.40
1983	250	0.00	0.40	0.80	0.80	1.20	1.20	2.00	2.40	3.20	3.60	3.60	4.00	4.00	4.00	4.00
1984	258	0.00	0.39	0.39	0.39	0.39	1.16	1.94	2.71	2.71	2.71	3.10	3.10	3.10	3.10	3.10
1985	257	0.00	0.00	0.00	0.00	0.78	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.56
1986	222	0.00	0.00	0.00	0.45	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	2.25
1987	196	0.00	0.00	0.00	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	1.53	2.04
1988	223	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35	1.79	2.24
1989	220	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.91	0.91	0.91
1990	238	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.84	1.26	1.26	1.26	1.68
1991	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	1.11	1.85	1.85	1.85	1.85	
1992	314	0.00	0.00	0.32	0.32	0.32	0.32	0.64	0.96	1.59	2.23	2.55	2.55	2.55		
1993	319	0.00	0.31	0.31	0.31	0.63	1.25	1.57	2.19	2.82	3.13	3.13	3.13			
1994	364	0.00	0.00	0.00	0.00	0.27	0.27	0.82	1.10	1.37	1.37	1.37				
1995	376	0.00	0.00	0.00	0.27	0.27	0.80	1.33	1.86	1.86	1.86					
1996	415	0.00	0.00	0.24	0.24	0.48	1.20	1.69	1.69	1.69						
1997	411	0.00	0.24	0.24	0.24	0.97	1.22	1.22	1.22							
1998	390	0.26	0.26	0.26	0.77	0.77	0.77	0.77								
1999	390	0.00	0.26	0.51	0.51	0.51	0.51									
2000	388	0.00	0.26	0.26	0.26	0.26										
2001	389	0.26	0.26	0.26	0.26											
2002	376	0.00	0.00	0.00												
2003	396	0.00	0.00													
2004	407	0.00														

Marginal default rates of rated instruments

The first step in calculating the expected losses for defaults is to derive the percentage of defaults that occur for every rating across each of the 25 pools during each year, which are known as marginal default rates. The series of marginal default rates are derived for each rating by taking the differences between the cumulative default rate at each annual tenor and the cumulative default rate that directly precedes it. For years 21 through 30, where limited empirical data exists, we applied an average of the marginal default rates observed in years one through 20 as a constant across each of these years.

For example, if the cumulative default rate for the 'A' rated credits in a pool is 1.2% and 2%, for the six and seven year tenors, respectively, this would imply that the marginal default rate experienced in year seven was 0.8% or (2%-1.2%). Table 2 provides an example of marginal default rates, which in this case, are based on marginal defaults experienced by 'A' rated issuers.

Table 2

Example Marginal Default Rates For One Set Of Static Pools

		Annual marginal default rates for static pools of 'A' rated issuers (%)														
Pool	Issuers	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
1980	350	0.00	0.00	0.00	0.00	0.00	0.57	0.00	0.29	0.00	0.57	1.43	0.29	0.57	0.00	0.29
1981	309	0.32	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.65	1.94	0.00	0.65	0.00	0.00	0.00
1982	265	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.13	1.13	0.38	0.75	0.00	0.00	0.00	0.00
1983	250	0.00	0.40	0.40	0.00	0.40	0.00	0.80	0.40	0.80	0.40	0.00	0.40	0.00	0.00	0.00
1984	258	0.00	0.39	0.00	0.00	0.00	0.78	0.78	0.78	0.00	0.00	0.39	0.00	0.00	0.00	0.00
1985	257	0.00	0.00	0.00	0.00	0.78	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39
1986	222	0.00	0.00	0.00	0.45	0.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35
1987	196	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	0.51
1988	223	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.35	0.45	0.45
1989	220	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.45	0.00	0.00
1990	238	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.42	0.42	0.00	0.00	0.42
1991	270	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.74	0.74	0.00	0.00	0.00	
1992	314	0.00	0.00	0.32	0.00	0.00	0.00	0.32	0.32	0.64	0.64	0.32	0.00	0.00		
1993	319	0.00	0.31	0.00	0.00	0.31	0.63	0.31	0.63	0.63	0.31	0.00	0.00			
1994	364	0.00	0.00	0.00	0.00	0.27	0.00	0.55	0.27	0.27	0.00	0.00				
1995	376	0.00	0.00	0.00	0.27	0.00	0.53	0.53	0.53	0.00	0.00					
1996	415	0.00	0.00	0.24	0.00	0.24	0.72	0.48	0.00	0.00						
1997	411	0.00	0.24	0.00	0.00	0.73	0.24	0.00	0.00							
1998	390	0.26	0.00	0.00	0.51	0.00	0.00	0.00								
1999	390	0.00	0.26	0.26	0.00	0.00	0.00									
2000	388	0.00	0.26	0.00	0.00	0.00										
2001	389	0.26	0.00	0.00	0.00											
2002	376	0.00	0.00	0.00												
2003	396	0.00	0.00													
2004	407	0.00														

Discounting technique

Standard & Poor's goal is to determine the net present value of capital necessary to fund future losses relating to credit defaults. Once the marginal default rates are determined across each of the 25 pools, they are discounted using discount factors derived using a spot curve based the term structure of LIBOR interest rate swaps curve plus a spread of 200 basis points. The marginal default rates derived for each pool are discounted using the tenor appropriate discount rate (e.g., a three-year marginal default rate is discounted using a three-year default factor).

The discounted marginal default rates occurring on or before each tenor for each rating are aggregated for each separate pool to derive the discounted cumulative default rates. This methodology results in 25 sets of cumulative default rates (one set for each pool). Each set has a cumulative default factor for each tenor and rating category that is derived from the component marginal default rates that have been discounted according to the term structure.

Stress technique

For each rating and tenor, the average and standard deviation of the discounted cumulative default rates are calculated across the pools. To arrive at the gross stressed discounted default factors for each rating and tenor, Standard & Poor's takes the mean of the discounted cumulative defaults experienced across the pools and adds a standard deviation movement based on an established confidence level, which is commensurate with the targeted rating on the company (Z score is determined).

For tenors of one through five years, the nondiscounted average cumulative default probability across all the pools that is associated with the rating on the company at the five-year tenor point is used to derive the confidence level. For tenors that are longer than five years, the nondiscounted average cumulative default probability that is associated with the rating on the company at the tenor point, which is consistent with the tenor of the exposure, is used. Table 3 illustrates the applied confidence levels.

Table 3

Applied Confidence Levels

Company Rating	Cumulative default probabilities (%)														
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
AAA	0.00	0.00	0.03	0.06	0.10	0.17	0.24	0.36	0.40	0.44	0.44	0.44	0.44	0.51	0.58
AA	0.01	0.04	0.09	0.19	0.29	0.40	0.52	0.62	0.71	0.81	0.91	1.01	1.12	1.22	1.28
A	0.04	0.12	0.23	0.38	0.59	0.81	1.06	1.29	1.55	1.83	2.06	2.26	2.44	2.60	2.85
BBB	0.27	0.76	1.32	2.06	2.83	3.56	4.15	4.76	5.27	5.82	6.37	6.80	7.29	7.77	8.32
	Confidence Levels (%)														
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
AAA	100.00	100.00	99.97	99.94	99.90	99.83	99.76	99.64	99.60	99.56	99.56	99.56	99.56	99.49	99.42
AA	99.99	99.96	99.91	99.81	99.71	99.60	99.48	99.38	99.29	99.19	99.09	98.99	98.88	98.78	98.72
A	99.96	99.88	99.77	99.62	99.41	99.19	98.94	98.71	98.45	98.17	97.94	97.74	97.56	97.40	97.15
BBB	99.73	99.24	98.68	97.94	97.17	96.44	95.85	95.24	94.73	94.18	93.63	93.20	92.71	92.23	91.68
	Z-Values Assuming Normal Distribution (%)														
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15
AAA	N.A.	N.A.	3.425	3.226	3.102	2.937	2.821	2.691	2.654	2.618	2.618	2.618	2.618	2.570	2.522

Table 3

Applied Confidence Levels (cont.)															
AA	3.730	3.356	3.117	2.895	2.755	2.649	2.561	2.499	2.450	2.402	2.363	2.324	2.284	2.251	2.233
A	3.346	3.028	2.828	2.666	2.520	2.404	2.304	2.231	2.157	2.090	2.041	2.004	1.970	1.943	1.904
BBB	2.778	2.428	2.221	2.041	1.906	1.804	1.733	1.669	1.619	1.570	1.524	1.491	1.455	1.420	1.384

Recovery assumptions

Standard & Poor's then derives the net stressed and discounted cumulative default factors by applying an assumed recovery value to the gross default factors. The applied recovery values for senior obligations are based on the rating on the exposure and vary by rating category in accordance with Standard & Poor's empirical observations. Table 4 illustrates the recovery levels applied to senior credit exposures.

Table 4

Recovery Levels Applied To Senior Credit Exposures

Recovery levels applied to senior credit exposure in U.S.

NAIC ratings	Recovery rate (%)
NAIC 1	55.00
NAIC 2	45.00
NAIC 3	40.00
NAIC 4	40.00
NAIC 5	40.00

Recovery levels applied to senior credit exposure in Europe

Ratings category	Recovery rate (%)
AAA	55.00
AA	55.00
A	55.00
BBB	45.00
BB	40.00
B	40.00
CCC/C	40.00

Smoothing technique

Because the standard deviations vary by rating and tenor and abnormalities exist in the observed data by rating and tenor, the process previously described to create the net discounted cumulative default factors may lead to anomalies (i.e. in some instances the stressed discounted cumulative defaults s may show higher defaults for a higher rating or vice versa for a lower rating at a specified tenor point). Standard & Poor's applies a two-step smoothing technique to eliminate these anomalies.

In the first step, the net stressed discounted average cumulative default factors with the same rating are ranked by magnitude from smallest to largest, then assigned to the annual tenor that coincides with the ranking.

In the second step, we smooth out the rating anomalies by assigning ranks to the default factors within the same tenor, then sort each default factor by its rank. The result is that within each tenor default the magnitude of the factors increase as the ratings decrease.

As a result of this process, the smoothed discounted cumulative default factors increase for each rating as the tenor increases and increase for each tenor as rating quality declines. The final smoothed net stressed discounted average cumulative default factors including recovery credit, that are applied to determine the various factors in the U.S. and abroad are listed in Table 5.

Table 5

Example Discounted Cumulative Default Factors Stressed To a 'AAA' Level (%)

	Exposure Rating																
Year	**AAA**	**AA+**	**AA**	**AA-**	**A+**	**A**	**A-**	**BBB+**	**BBB**	**BBB-**	**BB+**	**BB**	**BB-**	**B+**	**B**	**B-**	**CCC**
1	0.11	0.11	0.11	0.11	0.14	0.20	0.24	0.75	0.81	0.87	2.02	2.21	4.32	5.14	12.21	20.30	35.22
2	0.15	0.15	0.15	0.23	0.24	0.42	0.46	1.23	1.46	2.33	4.49	4.53	8.98	11.67	20.16	31.54	36.53
3	0.15	0.15	0.15	0.33	0.52	0.57	0.72	1.62	2.05	3.57	7.14	7.32	12.91	16.12	23.25	32.30	37.65
4	0.21	0.22	0.39	0.74	0.76	1.01	1.03	2.07	2.30	4.67	9.20	9.34	14.94	19.16	23.44	32.70	37.76
5	0.27	0.30	0.56	0.80	1.20	1.22	1.41	2.52	2.77	5.83	10.79	10.99	16.21	19.60	23.64	32.73	39.29
6	0.37	0.38	0.70	0.81	1.45	1.61	1.67	2.82	3.22	6.83	10.85	11.67	16.90	19.64	24.03	33.46	39.63
7	0.45	0.48	0.83	0.90	1.68	2.01	2.14	3.21	3.55	7.09	10.92	12.72	17.83	20.19	24.17	36.00	40.44
8	0.51	0.60	0.86	1.05	1.86	2.04	2.33	3.60	3.65	7.15	11.10	13.31	18.22	20.64	24.36	36.28	40.86
9	0.55	0.71	0.88	1.22	1.96	2.05	2.69	3.69	3.79	7.22	11.44	14.14	18.51	20.89	24.49	36.47	41.20
10	0.61	0.80	1.04	1.37	1.98	2.08	2.92	3.70	3.89	7.29	11.44	14.84	18.58	20.98	24.53	36.67	41.25
11	0.62	0.81	1.19	1.42	2.02	2.15	2.94	3.72	3.99	7.41	11.46	15.02	18.87	21.44	24.82	37.25	41.73
12	0.62	0.83	1.24	1.45	2.22	2.22	2.97	3.75	4.07	7.71	11.57	15.17	18.90	21.59	24.91	37.28	42.12
13	0.64	0.85	1.36	1.48	2.25	2.30	2.97	3.83	4.07	7.83	11.75	15.19	19.12	21.87	25.14	37.67	42.17
14	0.65	0.86	1.49	1.54	2.33	2.35	2.98	4.10	4.18	7.97	11.90	15.27	19.60	21.96	25.31	38.30	42.69
15	0.67	0.89	1.49	1.62	2.41	2.41	3.00	4.19	4.49	8.07	11.95	15.31	19.64	22.10	25.40	38.86	42.90
16	0.68	0.93	1.49	1.64	2.46	2.47	3.06	4.21	4.94	8.27	12.02	15.34	19.65	22.14	25.53	38.97	44.00
17	0.68	0.97	1.50	1.67	2.55	2.65	3.33	4.21	5.42	8.55	12.40	15.51	19.73	22.35	25.76	39.03	44.99
18	0.69	1.01	1.51	1.69	2.59	2.80	3.62	4.43	5.88	9.30	12.42	15.83	20.22	23.08	26.64	39.81	45.09
19	0.76	1.07	1.57	1.85	2.78	2.97	3.75	4.57	6.02	9.70	12.47	16.56	20.84	23.40	27.81	40.30	48.03
20	0.85	1.14	1.64	2.13	2.92	3.04	3.93	4.86	6.03	9.85	12.64	17.49	21.05	24.35	27.90	40.95	48.34
21	0.87	1.16	1.68	2.19	2.98	3.04	4.03	4.96	6.16	10.07	12.64	17.82	21.05	24.79	27.90	40.95	48.34
22	0.89	1.18	1.71	2.24	3.03	3.08	4.11	5.05	6.29	10.28	12.64	18.13	21.05	25.20	27.90	40.95	48.34
23	0.91	1.20	1.75	2.30	3.08	3.13	4.19	5.13	6.41	10.48	12.64	18.42	21.05	25.58	27.90	40.95	48.34
24	0.92	1.22	1.78	2.35	3.13	3.18	4.27	5.21	6.52	10.66	12.73	18.70	21.05	25.94	27.90	40.95	48.34
25	0.94	1.24	1.81	2.39	3.17	3.22	4.34	5.28	6.63	10.83	12.90	18.95	21.32	26.28	27.90	40.95	48.34
26	0.96	1.26	1.84	2.43	3.21	3.27	4.40	5.35	6.73	10.99	13.05	19.19	21.58	26.59	27.90	40.95	48.34
27	0.97	1.27	1.86	2.47	3.25	3.30	4.47	5.41	6.82	11.14	13.19	19.41	21.83	26.88	27.90	40.95	48.34
28	0.98	1.29	1.89	2.51	3.29	3.34	4.52	5.47	6.91	11.27	13.33	19.61	22.05	27.16	28.02	40.95	48.34
29	1.00	1.30	1.91	2.55	3.32	3.38	4.58	5.52	6.99	11.40	13.46	19.81	22.26	27.41	28.25	40.95	48.34
30	1.01	1.31	1.93	2.58	3.35	3.41	4.63	5.58	7.07	11.53	13.57	19.99	22.46	27.65	28.46	40.95	48.34

Credit Default Risk Factors

The following section details the methodology, assumptions and rationale Standard & Poor's used to derive the credit risk factors that will be applied to senior fixed-income assets, preferred stock, credit derivatives, commercial

mortgages, and counterparty credit exposure resulting from reinsurance contracts and OTC derivative contracts.

Credit default risk factors for senior fixed income assets

Based on available reporting, the credit default risk factors Standard & Poor's will apply to senior fixed income assets of U.S. insurance companies will be based on NAIC classification and tenor. Outside of the U.S., since the information available to Standard & Poor's is more granular, the factors will be applied based on rating category and tenor.

To determine which rating(s) to assume for the stressed cumulative default factors applied to each NAIC bucket, Standard & Poor's researched the fixed-income holdings across a spectrum of U.S. insurance companies and analyzed the breakdown of ratings in each NAIC category. Table 6 illustrates our assumptions for ratings within NAIC categories for U.S. insurance companies based on this research:

Table 6

Rating Weight Assumptions For NAIC Categories For U.S. Companies (%)

NAIC 1 Components	**AAA**	**AA+**	**AA**	**AA-**	**A+**	**A**	**A-**
Weights	45.0	5.0	10.0	5.0	15.0	15.0	5.0
NAIC 2 Components	**BBB+**	**BBB**	**BBB-**				
Weights	30.0	45.0	25.0				
NAIC 3 Components	**BB+**	**BB**	**BB-**				
Weights	33.0	33.0	34.0				
NAIC 4 Components	**B+**	**B**	**B-**				
Weights	33.0	33.0	34.0				
NAIC 5 Components	**CCC/C**						
Weights	100.0						

Outside of the U.S., for purposes of consistency, we assumed the insurance companies had the same breakdown as their U.S. counterparts within each ratings category. Table 7 illustrates our assumptions for ratings within ratings categories for insurance companies in Europe.

Table 7

Rating Weight Assumptions For Rating Categories For European Insurance Companies

Rating	**(%)**
AAA	
AAA	100.0
AA	
AA+	25.0
AA	50.0
AA-	25.0
A	
A+	42.9
A	42.9
A-	14.3

Table 7

Rating Weight Assumptions For Rating Categories For European Insurance Companies (cont.)

BBB	
BBB+	30.0
BBB	45.0
BBB-	25.0
B	
B+	33.0
B	33.0
B-	34.0
CCC/C	
CCC/C	100.0

For both U.S. and non-U.S. insurance companies, five tenor buckets will be established and Standard & Poor's will apply the same factor to all the fixed income assets within each tenor bucket. The midpoint tenor of each bucket and the rating weighting previously described will be used to determine the stressed cumulative default factor that is applied to each bucket. Tables 8 and 9 illustrate the credit risk charges by tenor buckets that will be applied to senior credit exposures of U.S. and European companies:

Table 8

Credit Default Risk Charges Applied To Senior Credit Exposures Of U.S. Companies (%)

Credit default risk charges applied to senior exposures of 'AAA' rated U.S. company

Term Bucket	NAIC1	NAIC2	NAIC3	NAIC4	NAIC5	NAIC6
Less than 1 year	0.13	0.81	2.87	12.63	35.22	30.00
1.01 to 5 years	0.31	2.30	9.16	23.98	37.65	30.00
5.01 to 10 years	1.01	4.33	13.87	26.88	40.44	30.00
10.01 to 20 years	1.45	5.29	15.67	28.89	42.90	30.00
More than 20 years	1.80	6.64	17.10	31.17	48.34	30.00

Credit default risk charges applied to senior exposures of 'AA' rated U.S. company

Term Bucket	NAIC1	NAIC2	NAIC3	NAIC4	NAIC5	NAIC6
Less than 1 year	0.12	0.73	2.61	11.67	32.74	30.00
1.01 to 5 years	0.28	2.10	8.48	22.28	35.44	30.00
5.01 to 10 years	0.94	4.12	13.21	25.82	38.59	30.00
10.01 to 20 years	1.34	4.98	14.89	27.34	41.57	30.00
More than 20 years	1.64	6.13	16.13	29.18	45.59	30.00

Credit default risk charges applied to senior exposures of 'A' rated U.S. company

Term Bucket	NAIC1	NAIC2	NAIC3	NAIC4	NAIC5	NAIC6
Less than 1 year	0.11	0.68	2.44	11.02	31.06	30.00
1.01 to 5 years	0.26	1.97	8.02	20.79	32.92	30.00
5.01 to 10 years	0.87	3.84	12.54	24.20	36.82	30.00
10.01 to 20 years	1.22	4.66	14.09	25.83	39.70	30.00
More than 20 years	1.50	5.64	15.18	27.69	43.72	30.00

Table 8

Credit Default Risk Charges Applied To Senior Credit Exposures Of U.S. Companies (%) (cont.)

Credit default risk charges applied to senior exposures of 'BBB' rated U.S. company

Term Bucket	NAIC1	NAIC2	NAIC3	NAIC4	NAIC5	NAIC6
Less than 1 year	0.09	0.55	2.00	9.33	26.67	30.00
1.01 to 5 years	0.21	1.63	6.81	18.11	29.81	30.00
5.01 to 10 years	0.71	3.35	11.14	21.84	33.39	30.00
10.01 to 20 years	1.04	4.15	12.78	23.21	35.77	30.00
More than 20 years	1.33	5.03	13.79	24.54	38.85	30.00

Table 9

Credit Default Risk Charges Applied To Senior Credit Exposure Of European Companies (%)

Credit default risk charges applied to senior exposures of 'AAA' rated European company

	Rating Category							
Term Bucket	AAA	AA	A	BBB	BB	B	CCC/C	Not rated
Less than 1 year	0.11	0.11	0.18	0.81	2.87	12.63	35.22	2.87
1.01 to 5 years	0.15	0.19	0.57	2.30	9.16	23.98	37.65	9.16
5.01 to 10 years	0.45	0.76	1.89	4.33	13.87	26.88	40.44	13.87
10.01 to 20 years	0.67	1.37	2.49	5.29	15.67	28.89	42.90	15.67
More than 20 years	0.85	1.64	3.12	6.64	17.10	31.17	48.34	17.10

Credit default risk charges applied to senior exposures of 'AA' rated European company

Term Bucket	AAA	AA	A	BBB	BB	B	CCC/C	Not rated
Less than 1 year	0.10	0.10	0.16	0.73	2.61	11.67	32.74	2.61
1.01 to 5 years	0.13	0.18	0.52	2.10	8.48	22.28	35.44	8.48
5.01 to 10 years	0.41	0.71	1.76	4.12	13.21	25.82	38.59	13.21
10.01 to 20 years	0.63	1.29	2.29	4.98	14.89	27.34	41.57	14.89
More than 20 years	0.79	1.51	2.82	6.13	16.13	29.18	45.59	16.13

Credit default risk charges applied to senior exposures of 'A' rated European company

Term Bucket	AAA	AA	A	BBB	BB	B	CCC/C	Not rated
Less than 1 year	0.09	0.09	0.15	0.68	2.44	11.02	31.06	2.44
1.01 to 5 years	0.12	0.16	0.49	1.97	8.02	20.79	32.92	8.02
5.01 to 10 years	0.38	0.67	1.62	3.84	12.54	24.20	36.82	12.54
10.01 to 20 years	0.58	1.18	2.07	4.66	14.09	25.83	39.70	14.09
More than 20 years	0.74	1.41	2.54	5.64	15.18	27.69	43.72	15.18

Credit default risk charges applied to senior exposures of 'BBB' rated European company

Term Bucket	AAA	AA	A	BBB	BB	B	CCC/C	Not rated
Less than 1 year	0.07	0.07	0.12	0.55	2.00	9.33	26.67	2.00
1.01 to 5 years	0.10	0.13	0.39	1.63	6.81	18.11	29.81	6.81
5.01 to 10 years	0.31	0.56	1.31	3.35	11.14	21.84	33.39	11.14
10.01 to 20 years	0.51	1.03	1.71	4.15	12.78	23.21	35.77	12.78
More than 20 years	0.67	1.27	2.20	5.03	13.79	24.54	38.85	13.79

Standard & Poor's assumes assets held by U.S. insurance companies classified as NAIC 6 have been impaired and the company has experienced a commensurate reduction in capital. Therefore, a charge of 30% on assets categorized as NAIC 6 across all tenors largely reflects a further potential impairment on the residual value. Please note, that although the NAIC 6 factor may appear lower than those applied to assets classified as NAIC 5 or NAIC 4, the latter two factors are applied to the full non-impaired statement value, so the overall charges that result will actually be higher.

Credit Default Risk Factors For Preferred Shares

The expected loss factors applied when deriving the credit default factors for preferred shares were developed using a methodology that is identical to that which was described for senior fixed income securities, however, a 10% recovery assumption was used across all the ratings classes (i.e., the same cumulative default factors were created using a 10% recovery assumption).

Based on available reporting, the factor Standard & Poor's will apply to holdings of preferred shares of U.S. Life insurance companies will be based on NAIC classification and an assumed tenor of 10 years. The factor Standard & Poor's will apply to holdings of preferred shares of U.S. non-life insurance companies that don't report preferred holdings by NAIC classification will be based on assumed ratings (to be discussed) and a tenor of 25 years. Outside of the U.S., since the information available to Standard & Poor's is more granular, the factors will be applied based on rating category and tenor.

Because Standard & Poor's assigns a preferred stock rating one-notch lower than the senior debt to account for subordination in recovery when determining ratings on preferred shares, for the purposes of creating the factors, we raised the ratings on our assumed holdings by one notch to more closely align it with the probability of default. (We applied a recovery factor that is in line with expectations for preferred shares.)

Table 10 illustrates our assumptions for ratings of preferred shares held within NAIC categories for U.S. life insurance companies. (When NAIC reporting is not available, U.S. non-life companies are assumed to hold preferred shares with ratings in the same weightings applied when creating the factors for NAIC 1 holdings of preferred shares for life-companies).

Table 10

Rating Weighting Assumptions For NAIC Categories For Preferred Shares Held By U.S. Companies (%)

NAIC 1 Components	**AAA**	**AA+**	**AA**	**AA-**	**A+**	**A**	**A-**
Weights	0.00	0.00	25.00	0.00	0.00	75.00	0.00
NAIC 2 Components	**BBB+**	**BBB**	**BBB-**				
Weights	0.00	100.00	0.00				
NAIC 3 Components	**BB+**	**BB**	**BB-**				
Weights	0.00	100.00	0.00				
NAIC 4 Components	**B+**	**B**	**B-**				
Weights	0.00	100.00	0.00				
NAIC 5 Components	**CCC/C**						
Weights	100.00						

Note: Weightings shown are notched up relative to assumed holdings.

Consistent with our credit charges for senior fixed-income securities, in Europe, we assumed the insurance companies had the same breakdown as their U.S. counterparts within each ratings category.

Table 11 illustrates the credit risk factors that will be applied to exposures of preferred shares held by U.S. life and non-life insurance companies, depending on the available tenor and NAIC reporting. Table 12 illustrates the credit risk factors that will be applied to exposures of preferred shares held by European insurance companies.

Table 11

Credit Charges For Preferred Shares Of U.S. Companies

Credit charges for preferred shares of U.S. companies if reporting is not available by tenor (%)

	Credit default risk charges applied to preferred shares of U.S. life insurance companies				
Insurance Co. Rating	**NAIC1**	**NAIC2**	**NAIC3**	**NAIC4**	**NAIC5**
AAA	3.64	6.36	22.26	36.79	61.87
AA	3.41	6.09	21.15	35.42	59.30
A	3.07	5.69	19.58	33.82	56.21
BBB	2.50	5.03	16.94	31.44	51.13
	Credit default risk charges applied to preferred shares of U.S. nonlife insurance companies				
	NAIC1	**NAIC2**	**NAIC3**	**NAIC4**	**NAIC5**
AAA	5.74	10.85	28.42	41.86	72.51
AA	5.23	9.75	26.46	39.86	68.38
A	4.81	8.85	24.85	38.28	65.58
BBB	4.26	7.67	22.73	34.40	58.27

Credit charges for preferred shares of U.S. companies if reporting is available by tenor (%)

	Credit default risk charges applied to preferred shares of a 'AAA' rated U.S. insurance company				
Term Buckets	**NAIC1**	**NAIC2**	**NAIC3**	**NAIC4**	**NAIC5**
F	0.36	1.32	3.31	18.31	52.83
1.01 to 5 years	0.94	3.35	10.97	34.87	56.48
5.01 to 10 years	3.44	5.81	19.08	36.26	60.66
10.01 to 20 years	4.36	7.35	22.96	38.10	64.35
More than 20 years	5.38	9.87	26.24	41.86	72.51
	Credit default risk charges applied to preferred shares of a 'AA' rated U.S. insurance company				
Term Buckets	**NAIC1**	**NAIC2**	**NAIC3**	**NAIC4**	**NAIC5**
Less than 1 year	0.32	1.20	3.01	17.02	49.11
1.01 to 5 years	0.85	3.06	10.21	33.42	53.16
5.01 to 10 years	3.21	5.49	18.00	35.09	57.88
10.01 to 20 years	4.03	6.89	21.66	36.55	62.35
More than 20 years	4.92	9.05	24.42	39.86	68.38
	Credit default risk charges applied to preferred shares of an 'A' rated U.S. Insurance Company				
Term Buckets	**NAIC1**	**NAIC2**	**NAIC3**	**NAIC4**	**NAIC5**
Less than 1 years	0.30	1.11	2.80	16.15	46.59
1.01 to 5 years	0.79	2.87	9.69	32.04	49.38
5.01 to 10 years	2.95	5.09	16.93	33.32	55.24
10.01 to 20 years	3.67	6.37	20.24	35.14	59.55

Table 11

Credit Charges For Preferred Shares Of U.S. Companies (cont.)					
More than 20 years	4.43	8.15	22.92	38.28	65.58
	Credit default risk charges applied to preferred shares of a 'BBB' rated U.S. insurance company				
Term Buckets	**NAIC1**	**NAIC2**	**NAIC3**	**NAIC4**	**NAIC5**
Less than 1 year	0.23	0.88	2.27	13.88	40.01
1.01 to 5 years	0.63	2.36	8.33	28.43	44.72
5.01 to 10 years	2.36	4.44	14.55	31.05	50.09
10.01 to 20 years	3.10	5.55	18.00	32.30	53.65
More than 20 years	3.89	7.04	20.96	34.40	58.27

Credit default risk charges applied to preferred shares of U.S. nonlife companies without tenor or NAIC designation

Insurance Co. Rating	Charge (%)
AAA	5.74
AA	5.23
A	4.81
BBB	4.26

Table 12

Credit Charges For Preferred Stock Held By European Companies	
Insurance Co. Rating	**Charge (%)**
AAA	9.87
AA	9.05
A	8.15
BBB	7.04

Credit Default Risk Factors For Sovereign Debt And U.S. Government Agencies And U.S. Government Sponsored Enterprises

Credit default risk factors will not be applied to direct sovereign debt that has been rated 'AAA' by Standard & Poor's. For all other direct sovereign debt, we will apply the same default factors that we apply to corporate obligations of insurance companies (default probabilities and recoveries will be assumed equivalent to the pools of corporate debt).

Federal agencies of the U.S. government and other sovereigns that are rated 'AAA' by Standard & Poor's, that are direct obligations of the federal government, such as obligations of GNMA, will be treated in a manner consistent with sovereign debt of the country. Government Sponsored Enterprises (GSE's) of federal agencies, such as FNMA and FHMLC, which have an implied, but not direct guarantee of the U.S. Government, will be treated like corporate debt for purposes of modeling capital adequacy for credit risk (GSE issued transactions that are securitizing mortgages will be treated differently from corporate debt in our credit concentration risk model).

Credit default risk factors for credit default swaps

In situations where Standard & Poor's determines that the counterparty credit exposure relating to OTC derivative contracts for an insurance company is material, we will calculate expected capital adequacy relating to such exposure. The determination of materiality will be based on the company analyst's discretion. To determine the

expected capital adequacy relating to such exposure, Standard & Poor's will apply the stressed discounted cumulative default factors described earlier based on the average tenor of the exposure and the rating on the counterparty to the unrealized gains of the insurance company. The analyst has the discretion to apply credit for counterparty netting and risk mitigation techniques, such as collateralization provisions, where applicable.

Credit default risk factors for OTC derivative counterparties

Also, in situations where Standard & Poor's determines that the credit exposure relating to credit default swaps written by an insurance company is material, we will calculate expected capital adequacy relating to such exposure. To determine the expected capital adequacy relating to such exposure, Standard & Poor's will apply the stressed discounted cumulative default factors described earlier based on tenor of the swap and the rating on the referenced party to the notional amount of the swap. In cases where the company's purchase credit default swaps to mitigate other credit exposures, the analyst has the discretion to factor this into the capital modeling.

Credit Default Risk Factors For Commercial Mortgage Loans

The first part of the following section details the methodology Standard & Poor's used to derive the expected losses for credit defaults of commercial mortgage loans. The second part explains our methodology and assumptions for using the expected losses to determining the actual factors applied to performing and nonperforming commercial mortgage loans of insurance companies.

Cumulative default rates of commercial mortgage loans

Standard & Poor's has tracked and studied default rates on commercial mortgage loans that have been originated since 1993 that were pooled for Standard & Poor's rated CMBS issued in the U.S. and has published several research papers on its findings. We have tracked the performance of about 30,000 loans and recorded the occurrences of default relative to passage of time (loan age) since the vintage year (i.e. year of origination). Standard & Poor's has also studied the loss severity (recovery) relating to this pool of loans. Unlike the individual credits in the pools previously described relating to our cumulative default studies, it is important to note that Standard & Poor's has not assigned a rating to the individual commercial loans, but instead assigns a rating to the security that collateralizes (securitizes) the loans (i.e. CMBS). Therefore, the method by which we stress these defaults is similar, but somewhat different than the technique we used for stressing other types of defaults.

Standard & Poor's publishes the results of these studies, which include statistical summaries of the empirical observations of defaults by age and vintage, in our research articles (and are available on our web site). These performance studies which include data on loss severity (recovery values) form the basis for our analysis of determining expected losses relating to defaults on commercial mortgage loans.

Cumulative default rates, which are detailed in the performance study, provide the percentage of cumulative defaults experienced in each pool by vintage year and age. For example, if a pool had a cumulative default rate of 3% in year nine, this would imply that the total defaults experienced over the nine years for that pool of loans would aggregate to 3%.

We assume that the percentage of commercial loans of each sector's type in the insurance company portfolio is identical to that observed in our studies (in reality, we believe that insurance companies are actually more concentrated in the sectors experiencing the lower defaults).

Marginal default rates for commercial mortgage loans

The first step we used in calculating the expected losses for defaults on commercial mortgage loans was to use the cumulative default rates to derive the marginal default rates (as described earlier). The series of marginal default rates were derived for each vintage year. For loan ages between period 11 and 20 years, the average of the marginal default period over the studied time period was used.

Discounting technique

Once the marginal default rates were determined for each of the vintage years across the various loan ages, they were discounted using tenor appropriate discount rates and the same technique described earlier.

The discounted marginal default rates occurring on or before each loan age (tenor) were aggregated for each separate vintage to derive the discounted cumulative default rates. This methodology resulted in 10 sets of cumulative default rates or one set for each vintage. Each set had a cumulative default factor for each loan age (tenor) that is derived from the component marginal default rates that were discounted according to the term structure.

Stress technique

For each loan age (tenor), the average and standard deviation of the discounted cumulative default rates is calculated across the vintage pools. To arrive at the gross stressed discounted default factors for each tenor, Standard & Poor's takes the mean of the discounted cumulative defaults experienced across the vintage pools and adds a standard deviation movement based on an established confidence level that is commensurate with the targeted rating on the company (Z score is determined).

The same technique (referenced tenors) described earlier was used to derive the confidence levels. As in the case of other risks, higher rated companies will be expected to hold more capital for a given level of exposure to commercial mortgage loans.

Standard & Poor's then derives the net stressed and discounted cumulative default factors by applying an assumed recovery value to the gross default factors. The applied recovery values, which are based on Standard & Poor's empirical observations, were assumed to be 70%, in all cases.

Smoothing technique

A smoothing technique that was similar to that which was described earlier was used to smooth anomalies in this data, as well.

The final smoothed net stressed discounted average cumulative default factors that are applied to determine the various factors in the U.S. and abroad for commercial mortgage loans are listed in Table 13.

Table 13

Stressed And Discounted Cumulative Default Rates For Commercial Loans Using Confidence Levels Specific To Tenor (%)

	Tenor																			
Insurance Co. Rating	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**
AAA	0.13	0.55	1.15	1.79	2.24	2.50	2.72	2.88	2.91	2.93	3.10	3.31	3.51	3.66	3.79	3.91	4.06	4.20	4.33	4.45
AA	0.12	0.51	1.07	1.65	2.07	2.34	2.57	2.75	2.79	2.80	2.94	3.11	3.27	3.42	3.57	3.71	3.82	3.93	4.01	4.05
A	0.12	0.48	1.02	1.57	1.97	2.21	2.42	2.56	2.62	2.62	2.73	2.89	3.05	3.19	3.31	3.42	3.51	3.59	3.66	3.72

Table 13

Stressed And Discounted Cumulative Default Rates For Commercial Loans Using Confidence Levels Specific To Tenor (%) (cont.)

BBB	0.10	0.42	0.89	1.33	1.68	1.90	2.09	2.24	2.26	2.27	2.39	2.54	2.68	2.80	2.91	3.01	3.09	3.17	3.23	3.30

Credit Default Risk Factors For Commercial Mortgage Loans

The following section details the methodology, assumptions, and rationale Standard & Poor's used to derive the credit risk factors that will be applied to performing and nonperforming commercial mortgage loans of U.S. and non-U.S. insurance companies.

Performing loans

For both U.S. and non-U.S. insurance companies, where reporting by mortgage tenor is available, five factors based on tenor buckets will be established for performing commercial mortgage loans. Standard & Poor's will apply the same factor to all the loans within each tenor bucket. An assumed weighting of mortgage tenors within each bucket, based on available industry data, was used to determine the tenor relative stressed cumulative default factor that is applied to each bucket. Table 14 illustrates the tenor assumptions used for each bucket.

Table 14

Tenor Weighting Assumptions For Commercial Loans If Tenor Reporting Is Available

Bucket	Tenor (years)	Weighting (%)
Less than 5 years	1 to 3	35.06
	4	64.94
5 to 10 years	5	64.36
	6	3.27
	7	18.55
	8 to 9	13.82
10 to 20 years	10	76.96
	11 to 14	9.82
	15	11.79
	16 to 19	1.43
20+ years	20	63.64
	20 to 25	9.09
	25	4.55
	26 to 29	1.14
	30	20.45
	> 30	1.14

Note: Equal weighting given to individual years within tenor ranges.

Table 15 illustrates the factors by tenor buckets and company rating that will be applied to commercial mortgage loan exposures of U.S. and European insurance companies, where tenor reporting is available.

Table 15

Credit Default Risk Charges For Commercial Mortgage Loans of U.S. And European Insurance Companies If Tenor Reporting Is Available (%)

	Less than 5 years	5 to 10 years	10 to 20 years	20+ years	Nonperforming loans
AAA	1.37	2.42	3.10	4.45	30.00
AA	1.27	2.27	2.95	4.05	26.64
A	1.21	2.14	2.75	3.72	21.64
BBB	1.03	1.84	2.39	3.30	13.30

For both U.S. and non-U.S. insurance companies, where reporting by mortgage tenor is not available, Standard & Poor's will apply a single factor to holdings of performing commercial mortgage loans. The single factors are based on the discounted net cumulative default factors with tenor weightings that are illustrated in Table 16, which results in a weighted tenor of about 10 years. Table 17 illustrates the individual credit risk factors applied to commercial mortgage loan exposures of U.S. and European insurance companies, where tenor reporting is not available.

Table 16

Tenor Weighting Assumptions For Commercial Loans If Tenor Reporting Is Not Available

Tenor Breakdown (years)	Weighting (%)
1 to 3	2.70
4	5.00
5	17.70
6	0.90
7	5.10
8 to 9	3.80
10	43.10
11 to 14	5.50
15	6.60
16 to 19	0.80
20	5.60
20 to 25	0.80
25	0.40
26 to 29	0.10
30	1.80
Less than 30	0.10
Total	100.00

Table 17

Credit Default Risk Charges For Commercial Mortgage Loans Of U.S. And European Insurance Companies If Tenor Reporting Is Not Available (%)

AAA	2.90	30.00
AA	2.73	26.64
A	2.55	21.64
BBB	2.22	13.30

Standard & Poor's will define nonperforming loans as defaulted loans that are at least 90 days late in payment and

that have not been resolved. Standard & Poor's research has determined that an average loss of roughly 30% has been experienced on the loans we have studied that relate to CMBS. Therefore, we will apply a capital charge factor of 30% on all non-performing commercial mortgage loans without regard to company rating (In other words, unlike other types of charges, risk based capital adequacy for non-performing loans will be the same across all company ratings).

For more on the way Standard & Poor's is updating the way it assesses the capital adequacy of insurance companies worldwide, please refer to the RatingsDirect article, "Request For Comment: Revisions In The Risk-Based Insurance Capital Model."