Article Title: ARCHIVE | Criteria | Insurance | General: Revisiting The Capital Charge For Common Equities In Standard & Poor's 1998 Capital Model Data: (EDITOR'S NOTE: —This article is no longer current. It has been superseded by an article titled "Analysis Of Insurer Capital Adequacy," which was published on April 22, 2009.) Introduction When Standard & Poor's establishes criteria to be applied in the rating of insurance companies, it is always with the intention of providing a fair and reasonable basis for assessing some aspect of companies' operations on a consistent basis throughout the industry. Typically, Standard & Poor's analysts begin the rating process with a broadly shared perception that some feature of the industry has not been fairly or consistently analyzed in the rating process. A team is assembled to research and review the issue, and the team's conclusions are summarized and presented to a panel of industry experts. That panel critiques the committee's findings and, with the benefit of that advice, the committee makes a definitive recommendation to Standard & Poor's senior management to establish new criteria. The process can be aborted anywhere along the line; the committee may not agree on an approach; and research may provide surprising conclusions. The panel may present convincing arguments against adopting the new criteria, or senior management may decide that recommended criteria are inconsistent with other Standard & Poor's rating groups' criteria. The point is that criteria are not set arbitrarily, but through a process that relies on contributions from a variety of sources. Certainly, all such efforts move forward from an initiative, but the process ensures that participants keep an open mind from beginning to end. This means that some of those initiatives may fail completely, some will result in new criteria vastly different from what was originally foreseen, and some may result in a decision that existing criteria adequately address the issue. This last instance occurred in 1998 in connection with one of the criteria initiatives undertaken by Standard & Poor's Insurance Rating Group. Standard & Poor's began the year intending to develop a new basis for assigning charges in the capital model to the common equity holdings of insurance companies. The analysts, with near unanimity, concluded that such work was necessary. As the year progressed, however, in-house research and discussions, supported by valuable input from a panel of industry experts, led to the conclusion that the theory underlying the reevaluation was inherently flawed. Moreover, it was determined that the approach to common equity capital charges in use for a number of years, far from being obsolete, was actually more valid now than it had ever been. Consequently, the year ended with no new basis for common equity charges for the capital model. Indeed, confidence was renewed in the current approach, and analysts came away from the evaluation with a refined understanding of market dynamics. The following sections describe the process that took place during 1998. The Concept In the U.S., the risk-based capital revolution in the insurance industry occurred around 1990 or 1991. Although the notion of risk-adjusted capital strength had been in vogue for decades and was used by most large companies in managing their capital positions, it was only in the late 1980s that the industry developed a convention for applying the concept. Also in the late 1980s, the National Association of Insurance Commissioners (NAIC) produced its risk-based capital model. That model assigned a capital charge to common equity investments of 30% of the carrying value of those assets. At roughly the same time, Standard & Poor's released its first version of a risk-based capital model. Standard & Poor's approach to common equity charges, however, differed from the risk-based capital model that the NAIC used. The NAIC established its 30% charge by taking into account the 30-year history of the S&P; 500 index and calculating the cumulative negative performance for any two-year period within that 30-year time span. The two-year time frame was chosen because that was considered the time that a life insurer might reasonably be expected to continue to hold equity investments in the midst of a market decline. Standard & Poor's also used the S&P; 500 as a reference. However, to establish the charge in its model, it went back to the end of World War II and calculated one standard deviation in the year end-to-year end performance of that index over that period. One standard deviation was 15% (rounded). From that time forward, Standard & Poor's has used that as the charge for common equity investments in its capital model. The Impetus for Change At the beginning of 1998, it seemed an appropriate time to revisit this issue. Ironically, it was two situations that were polar opposites of one another that prompted a revaluation of the model. First, the U.S. insurance industry had a capital position buoyed by a long bull market in common equities. The obvious concern was that perhaps this bull market had played itself out, that a correction or maybe even a bear market was imminent, and that Standard & Poor's 15% charge was, therefore, insufficient to reflect the existing

volatility of the asset class. On the other hand, the situation in the Far East generally, and Japan in particular, where the insurance industry, having seen the market value of its equity investments decline in recent years with the expected adverse effects on capital, continued to be charged as before for those investments in Standard & Poor's capital model. The concern was that, perhaps, these markets had declined as much as they might reasonably be expected to do so, and Standard & Poor's analyses of these companies were unnecessarily harsh, not reducing the common equity capital charge on the assumption that stock prices could not decline much further. Therefore, at the beginning of 1998, Standard & Poor's intended to design a mechanism that would provide a basis for: 1) raising the charge when markets appeared to be overheated, and 2) lowering the charge when markets appeared to be deflated. The prevailing consensus within the group was that this was a fair and reasonable approach, which would be met with acceptance and, perhaps, even enthusiasm by the insurance industry. The Journey The first step was to review the situation with in-house economists, who could provide insights from their research that would provide useful background information. Using data going back to 1925, the economists concluded that in each decade, equity markets had exhibited less volatility and debt markets more volatility. With this as background, Standard & Poor's began to develop a methodology that would enable an adjustment to the charge for common equity investments in the capital model. First, the validity of the initial approach had to be tested. Some on the in-house committee thought that, perhaps, given the performance of the U.S. equity markets in the last few years, one standard deviation in the S&P; 500 index since World War II might differ today from what it was in 1991. Contrary to the committee's collective intuition, however, the index's standard deviation had actually declined ever so slightly, despite the market performance since 1991. This validated the previously noted observation about the ongoing decline in the volatility of equity markets. Deriving some security from the thought that the current approach was at least as valid today as it was seven years ago, the next step was to devise a system that would adjust the capital charge to accommodate the market's apparent highs and lows. The first effort resulted in a sliding scale, which would have adjusted the common equity risk charge annually in 1 per cent increments according to the performance of the S&P; 500 in the preceding two years. The better the index performed, the higher the charge. Conversely, the worse it performed, the lower the charge. Table 1 TWO-YEAR APPRECIATION EQUITY CHARGE .323 or less 15% .323 to .346 16% .346 to .369 17% .369 to .392 18% .392 to .416 19% .416 to .440 20% .440 to .464 21% .464 to .488 22% .488 to .513 23% .513 to .538 24% .538 to .563 25% .563 to .588 26% .588 to .613 27% .613 to .638 28% .638 to .664 29% .664 to .690 30% This approach had two defects: 1) it did not address the question of when the markets were underperforming, and 2) the use of the S&P; 500 as an index mitigated its usefulness outside the U.S. However, in this first effort, had the concept worked, the approach could have readily been adapted to underperforming markets by extending the scale downward and to non-U.S. environments by adopting local indexes. Table 1 illustrates the way this would have worked. However, the in-house committee decided that this approach would not be satisfactory, primarily because even this modest level of complexity would lead to misunderstandings with some of Standard & Poor's constituents. Actually, several permutations of this and other approaches were considered, but eventually the committee designed an approach that: 1) would fit philosophically; (2) would offer the necessary flexibility from an upward and downward perspective and internationally; and (3) would be relatively simple and easy to explain. This approach was based on certain specific premises: 1) Given the continued conceptual soundness of the 15% charge, it would be the base. 2) Exceptional short-term performance, good or bad, beyond sustainable norms would justify altering the base charge. 3) Short term would be 24 months. 4) Sustainable norm would be an annual rate of 12%. 5) In the interest of simplicity, adjustments to the base would be made in tiers rather than on a sliding scale. 6) Any adjustments would be designed to reflect truly extreme conditions and not with the intention of moving the charge up and down every year. Table 2 TWO-YEAR COMPOUNDED ANNUAL INDEX PERFORMANCE CAPITAL CHARGE Less than or equal to negative 12% 5% Greater than -12% but less than or equal to 0% 10% Greater than 0% but less than or equal to 24% 15% Greater than 24% but less than or equal to 36% 20% Greater than 36% 25% The specifics of the proposal are in Table 2. The base capital charge would have been 15%, based on a rounded standard deviation in the performance of the S&P; 500 over the last 50 years. At the end of each calendar year, the compounded annual rate of increase in the S&P; 500 index over the preceding two years would be

calculated, with the expectation that sustainable long-term performance in the index would be an annual rate of increase of 12%. As long as the compounded annual performance of the index for that two-year period fell within the range of zero to 24% (i.e., between two and zero times the sustainable rate), the base capital charge of 15% would have applied for the following year. If the compounded annual performance of the index for that two-year period was less than 0%, a capital charge of 10% would apply. If the compounded annual performance of the index for that two-year period was more than 24% (i.e., twice the sustainable performance rate), a capital charge of 20% would apply. In truly extreme conditions, the charge could fall as low as 5% or rise as high as 25%, the former if the two-year compounded annual rate of change in the index was a negative 12% or less, and the latter if that rate was 36% (i.e., three times the sustainable rate) or more. Table 3 Number of years with 5% charge 1 Number of years with 10% charge 7 Number of years with 15% charge 37 Number of years with 20% charge 4 Number of years with 25% charge 0 The committee validated the soundness of this approach in two ways. First, going back to 1948 to calculate what the common equity charge would have been in each of the 49 years since then to see what the distribution of charges would have been. Second, to compare the effectiveness of the proposed charge to the flat 15%. Table 3 shows the results of the first validation. Bearing in mind that one of the premises was that adjustments in the base charge would occur only in occasional extreme conditions, this method would have resulted in the 15% base charge being used in 37 out of 49 years, fulfilling this part of the expected outcome. The second validation, proving the efficacy of this method over a straight 15% charge, was a little more difficult. To do so, yet another methodology was developed, which was called the over/under charge. The purpose of this methodology was to compare the charge used in any given year with the performance of the market in that year and then to compare that result with what would have been the case using the flat 15% charge. This methodology found a weak but positive correlation, which was thought to be meaningful, between the 15% charge and the actual performance of the market. The in-house committee agreed to take this proposal to the panel of industry experts. Consultation with Industry Experts To facilitate this consultation, a conference call was held with representatives of Jefferson Pilot, Transamerica, Ohio Casualty, Guardian Life, and USAA to discuss the proposed approach. Each had received written summaries in advance. The experts were unanimous in their belief that the charge should be kept at a flat 15%. Although, for the most part, not unsympathetic to the objectives of this exercise, the panel, as a group, felt that any attempt to adjust the capital charge for the market's cyclical highs and lows would be an exercise in market timing, which, they repeatedly noted, would allow all involved to retire if successfully implemented. The panel's specific comments mostly fell into the following general areas: 1) The theory behind the proposal would be more defensible if it were based on something more than a raw period-to-period comparison of an index. Suggestions of this nature included market-risk premiums, average price to earnings ratios for the S&P; 500, or consideration of individual beta coefficients on portfolios. 2) Even if data collection and administration issues associated with some of these more sophisticated approaches were successful, the issue of judging the overall co-variance of individual companies' asset-risk exposures would remain. 3) To justify the time and effort associated with the implementation, in addition to data collection and administration, of new criteria of this nature, stronger statistical validation would be required than that which supported the initial recommendation. Although some considered a likelihood of tinkering with the approach to improve its performance in this regard, all agreed that, ultimately, the result would be to know the unknowable and that no material improvement would be possible, no matter how sophisticated the approach. At least two experts stated the conclusion bluntly and emphatically: it would be illogical to change the current approach of applying a flat 15%. Conclusion All involved in the effort to reassess this criteria recognized, on some level, the theoretical difficulties associated with this process right from the start. However, all shared a strong intuitive perception of the market's volatility, which led to looking beyond the theory to see if some practical basis for reacting to this perception might exist. Standard & Poor's thought that some kindred spirits in the industry would appear, who, although they knew the theory better, would respect their sixth sense about risk in the market. In the end, despite these good intentions, Standard & Poor's was compelled by the data to acknowledge that the industry would be better served by a continuation of the historical approach to this criteria. Accordingly, Standard & Poor's will maintain the C1 charge in its capital model at 15% for nonaffiliated

common equities, with an renewed belief in its appropriateness, evidenced by research and the invaluable advice from the panel of industry experts. Finally, Standard & Poor's ended this effort with an enhanced confidence in the process by which criteria are established, satisfied that the best possible outcome had been achieved.