

Understanding BCAR for U.S. Property/Casualty Insurers

Analytical Contact

Thomas Mount, Oldwick
+1 (908) 439-2200 Ext. 5155
Thomas.Mount@ambest.com

DATE



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The assignment of an Issuer Credit Rating (ICR) consists of a comprehensive quantitative and qualitative analysis of the following key rating factors—balance sheet strength, operating performance, business profile, enterprise risk management (ERM), and (if applicable) rating enhancement/drag.

A. Balance Sheet Strength

A.M. Best's rating analysis begins with an evaluation of the rating unit's balance sheet strength. Balance sheet strength is viewed as the foundation for financial security; thus, its evaluation is critical when determining a rating unit's ability to meet its current and ongoing obligations. The evaluation of balance sheet strength includes an analysis of three main areas: the insurance rating unit; the financial flexibility and risks associated with the holding company and/or ownership structure; and the impact of country risk on the balance sheet strength.

Balance sheet strength measures the exposure of a rating unit's surplus to its operating and financial practices. An analysis of a rating unit's underwriting, financial and asset leverage is very important in assessing overall balance-sheet strength. Underwriting leverage is generated from current premium writings, reinsurance recoverables and loss reserves. To assess whether a rating unit's underwriting leverage is prudent, a number of factors unique to the rating unit are taken into account, such as: the types of business written; the quality and appropriateness of its reinsurance program and the use of capital market alternatives; the adequacy of its loss reserves; and the adequacy of its pricing.

Financial leverage is created through the use of debt or debt-like instruments and is reviewed in conjunction with a rating unit's underwriting leverage. An analysis of financial leverage is conducted at both the rating unit and holding company levels, since debt at either level could place a call on the rating unit's earnings and strain its cash flow, leading to financial instability.

Exhibit A. 1: Structural Overview

A.M. Best's Capital Adequacy Ratio

$$\text{BCAR} = \frac{(\text{Available Capital} - \text{Net Required Capital})}{\text{Available Capital}} \times 100$$

Available Capital Components:

Reported Capital (Surplus)

Equity Adjustments:

Unearned Premiums

Assets

Loss Reserves

Reinsurance

Debt Adjustments:

Surplus Notes

Debt Service Requirements

Other Adjustments:

Future Operating Losses

Goodwill & Intangibles

Net Required Capital (NRC) Components:

(B1) Fixed-Income Securities

(B2) Equity Securities

(B3) Interest Rate

(B4) Credit

(B5) Net Loss and LAE Reserves

(B6) Net Written Premium

(B7) Business Risk

(B8) Potential Catastrophe Losses

Covariance

$$\text{NRC} = \sqrt{(B1)^2 + (B2)^2 + (B3)^2 + (.5 * B4)^2 + [(.5 * B4) + B5]^2 + (B6)^2} + (B7) + (B8)$$

Asset leverage measures the exposure of a rating unit's available capital to investment, interest rate and credit risks. The volatility and credit quality of the investment portfolio, recoverables and agents' balances can have a material impact on the rating unit's balance sheet strength.

A.M. Best evaluates a rating unit's underwriting, financial and asset leverage individually, and they are also subjected to an evaluation by Best's Capital Adequacy Ratio (BCAR), which allows for an integrated review of these leverage areas. BCAR calculates the net required capital to support the financial risks of the rating unit associated with the exposure of assets and underwriting to adverse economic and market conditions, and compares it with available capital, which is adjusted to reflect the quality of the rating unit's capital position. This integrated evaluation permits a more discerning view of a rating unit's balance sheet strength relative to its operating risks.

A rating unit's BCAR calculation is extremely useful in evaluating that rating unit's balance sheet strength, but it is only one component of the balance sheet analysis. Furthermore, balance sheet strength is only one component of the overall rating process, which also includes operating performance, business profile, enterprise risk management, and rating enhancement/drag. BCAR

establishes a guideline for risk-adjusted capital to support balance sheet strength, but other factors can impact the balance sheet strength analysis as well, such as liquidity, quality of capital, dependence on reinsurance, quality and appropriateness of reinsurance, asset/liability matching, reserve adequacy, stress tests, internal capital models, and the actions or financial condition of an affiliated holding company. This article will describe the procedure used in the BCAR model and how market issues are treated within the model.

B. Overview of BCAR

A.M. Best's capital formula is structured to compute the amount of capital required to support three broad risk categories: investment risk, credit risk and underwriting risk. These three broad risk categories are further subdivided into eight separately analyzed risk components and the sum of the capital requirements for these eight components is the gross required capital. The A.M. Best formula then reduces the gross required capital for covariance, which reflects the assumed statistical independence for many of the individual components, to determine the net required capital. A rating unit's available capital is then compared to its net required capital and that difference is divided by its available capital to determine its BCAR.

A rating unit's available capital is determined by making a series of adjustments to the capital (surplus) reported in the financial statements. These adjustments may increase or decrease reported capital and result in a more economic and consistent view of capital available to a rating unit.

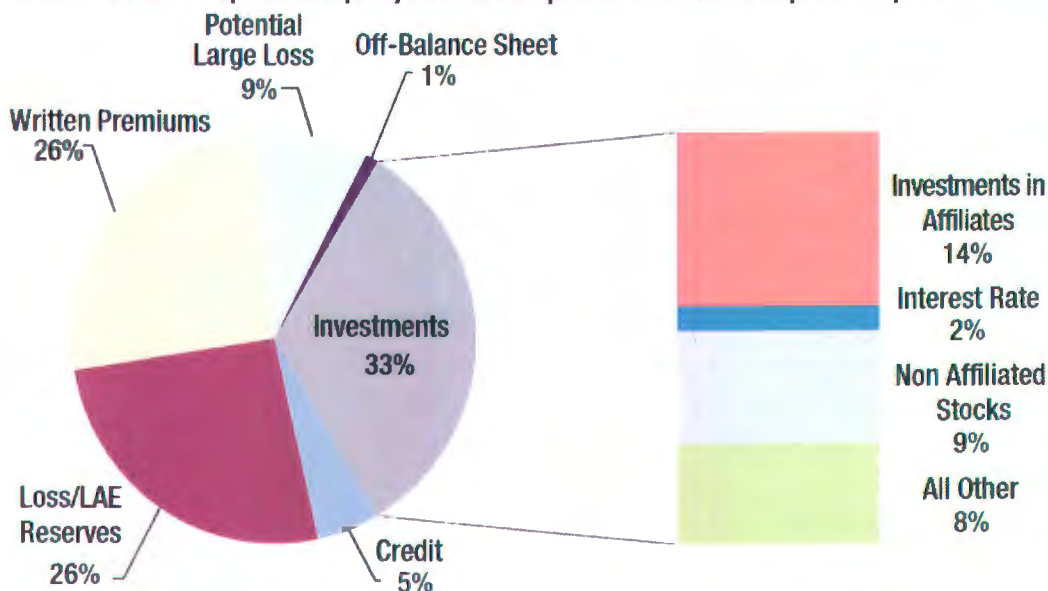
Since A.M. Best's capital model calculates the net required capital at five different confidence levels, the model will calculate a BCAR at each of the five confidence levels. A positive ratio indicates a rating unit's available capital is in excess of its required capital at a particular confidence level, whereas a negative ratio indicates a rating unit's available capital has fallen short of the net required capital at that confidence level. Since BCAR is calculated as a ratio to available capital, the BCAR indicates the extent of the excess or shortfall expressed as a percentage of available capital.

In the current BCAR model, a capital requirement for the potential catastrophe loss will be included as an increase to net required capital and will be excluded from the covariance calculation. This reflects A.M. Best's requirement that a rating unit's available capital must be able to absorb the losses from a catastrophe separately from losses associated with the other potential risk components. Historically, the potential catastrophe loss was included in the BCAR model as a reduction to available capital.

Typical Distribution of Risks

Exhibit B.1 shows the distribution of gross required capital by risk category based on the indicated capital requirements at year end 2013 from the U.S. property/casualty industry.

Exhibit B.1: Best's Capital Adequacy Model Composition of Gross Required Capital*



*2013 Industry Aggregates

Total investment risk, which includes three main risk components: (B1) fixed income securities, (B2) equities and (B3) interest rate, applies capital charges to different asset classes based on the risk of default, illiquidity and market value declines in both equity and fixed income securities. Based on the 2013 year end BCAR model, these three risk categories together typically generated approximately one-third of a property/casualty rating unit's gross required capital.

The credit risk category (B4) applies capital charges to different receivable balances to reflect third-party default risk. Capital charges are ascribed to recoverables from all reinsurers, including affiliates, based on the A.M. Best issuer credit rating of the reinsurer, the duration of the recoverable, and the size of the recoverable. Required capital for credit risk may be modified after taking into account any collateral offsets for reinsurance balances and the rating unit's dependence on its reinsurance program. Also included in the credit risk component are charges for agents' balances and other miscellaneous receivables. Based on the 2013 year end BCAR model, the credit risk component generated approximately 5 percent of the typical rating unit's gross required capital.

The largest risk category, which typically accounts for approximately sixty percent of a rating unit's gross required capital, is underwriting risk. This category encompasses net loss and loss adjustment expense reserves (B5), net premiums written (B6), and potential catastrophe losses (B8). The loss reserve component requires capital based on the risk inherent in a rating unit's loss reserves, adjusted for A.M. Best's assessment of its reserve equity. The net premiums written component requires capital based on the pricing risk inherent in a rating unit's mix of business. Smaller books of business typically show higher volatility in both the reserve and premium components and therefore have higher capital requirements. However, there is credit for a well-diversified business, and the credit is greater for smaller diversified books of business since the higher volatility in those smaller books of business tends

to overshadow the line by line correlations observed at the industry level. In addition, required capital for the reserve and premium components may be increased to reflect an additional surcharge for "excessive" growth in exposure.

Potential catastrophe loss (B8) is now a separate risk category and is added to the rating unit's required capital instead of being treated as a reduction to available capital. This allows the required capital amount to increase at higher confidence levels, whereas the amount of available capital would remain the same for each confidence level. Based on the 2013 year end BCAR model where the most common potential catastrophe loss utilized in the BCAR model was the 1 in 100 year wind loss, the potential catastrophe loss component generated approximately 9% of the gross required capital. However, the proportion of gross required capital attributed to potential catastrophe loss in the current model will likely increase at the confidence levels that are higher than the 99.0 percent confidence level.

Collectively, these seven risk components have typically generated more than 99% of a rating unit's gross required capital, with the business risk component (B7) typically generating minimal capital requirements for off-balance-sheet items. A rating unit's gross required capital, which is the sum of the capital required to support its eight risk components, reflects the amount of capital needed to support all risks were they to develop simultaneously. The first six of these individual components (B1 through B6) are subjected to a covariance calculation within the BCAR formula to account for the assumed statistical independence of these components. This covariance adjustment essentially says that it is unlikely for these six risk components to develop simultaneously and serves to reduce a rating unit's overall required capital by about 35% to 45%.

A.M. Best utilizes a "square-root rule" covariance calculation that reflects the assumed statistical independence of the first six risk components. A.M. Best recognizes the distortions caused by this "square root rule" covariance adjustment, whereby the more capital-intensive underwriting risk components are accentuated disproportionately, while the less capital-intensive asset risk components are diminished in their relative contribution to net required capital. Nevertheless, by using other distinct capital measures, A.M. Best can counterbalance this apparent shortcoming.

Typical Adjustments to Available Capital

A.M. Best's capital model makes a number of adjustments to a rating unit's available capital to provide a more economic and comparable basis for evaluating capital adequacy. These adjustments are related largely to equity, or economic values, embedded in unearned premium reserves, loss and loss adjustment expense reserves, and fixed-income securities. They serve to even the playing field and compensate for certain economic values not reflected in the filed financials. Available capital is adjusted further to reflect other non-balance sheet risks, including debt-service requirements, goodwill, and other intangible assets.

Other Features

In addition, the model can be adjusted in response to various market issues. Some examples that can impact capitalization include rate changes; the stage of the underwriting cycle; changing reinsurance products; and dependence on reinsurance. The ability of the model to respond to these market issues makes it a robust tool that assists in the evaluation of the rating unit's balance sheet strength.

For a detailed discussion of the key features, adjustments and issues related to the BCAR model, please refer to "Technical Review of the BCAR Formula," on page 11.

Interpretive Guidance

The basis of risk measurement for A.M. Best's U.S. property/casualty BCAR model is Value at Risk (VaR). A.M. Best adopted the concept of Value at Risk to more consistently calibrate the model's risk factors across the various risk components in the model. This concept will be applied to the risks that are typically the most material to a property/casualty insurer.

Value at Risk (VaR)

Value at Risk is a statistical technique used to measure the amount of risk within an organization over a selected time horizon. The amount of risk can be evaluated for an individual item, a portfolio of items, or for the organization as a whole. The VaR concept requires 3 pieces of information to evaluate the item at risk: a time horizon, a confidence level, and a probability distribution of possible outcomes that can occur over the selected time period. The key component of the VaR concept is the probability distribution of potential outcomes and that probability distribution can be based on a collection of observed historical outcomes, a theoretical distribution, professional judgment, or a combination of these.

The VaR concept looks to find the value on the probability distribution such that the chance of observing an outcome less than or equal to that value equals the confidence level. For example, suppose a rating unit has estimated the potential for an underwriting profit or loss on a portfolio of auto policies as shown in the graph "UW (Profit)/Loss as Percent of NPW." If management wants to hold enough capital to be confident that it can cover 95% of all potential outcomes, then it needs to find the value on the probability distribution such that 95% of all potential outcomes are less than or equal to that value. In this example, the size of loss where this occurs is at 23% of NPW. As shown in Exhibit B.2, if the NPW amount is \$100,000 then the VaR 95 value in dollars is \$23,000 (23% of \$100,000). This means that 95% of all potential losses will be less than \$23,000 and that there is only a 5% chance that an underwriting loss of more than \$23,000 could occur, and therefore a 5% chance of insolvency.

If management wanted to be more conservative than a 5% chance of insolvency, then a confidence level of 99% could be chosen to set a target capital level. At this point, management would have to find the value on the probability distribution such that 99% of the potential outcomes are less than or equal to that value. Exhibit B.3 shows the value where this occurs is 30% of NPW, and this means that for the same \$100,000 of NPW, management would need to hold \$30,000 of capital to be 99% confident that

the actual observed underwriting loss would be covered. In this case, there would only be a 1% chance that an underwriting loss of more than the VaR 99 value of \$30,000 could occur, and therefore only a 1% chance of insolvency.

Capital adequacy models based on value at risk concepts tend to be based solely on the probability of ruin, or insolvency. The drawback to using VaR as a metric for measuring risk is that VaR only looks at a single value on the probability distribution and provides no information about the other potential values that are beyond that single value (i.e. in the tail of the distribution). For the assessment of relative financial strength, it is important to know what those other possible outcomes could be. A.M. Best addresses this issue by calculating required capital at five different confidence levels using the VaR metric: the 95th percentile, the 99th percentile, the 99.5th percentile, the 99.8th percentile, and the 99.9th percentile. By calculating BCAR at multiple confidence levels, A.M. Best can gain insight into the balance sheet strength of the rating unit and the rating unit's ability to withstand tail events.

Exhibit B.2

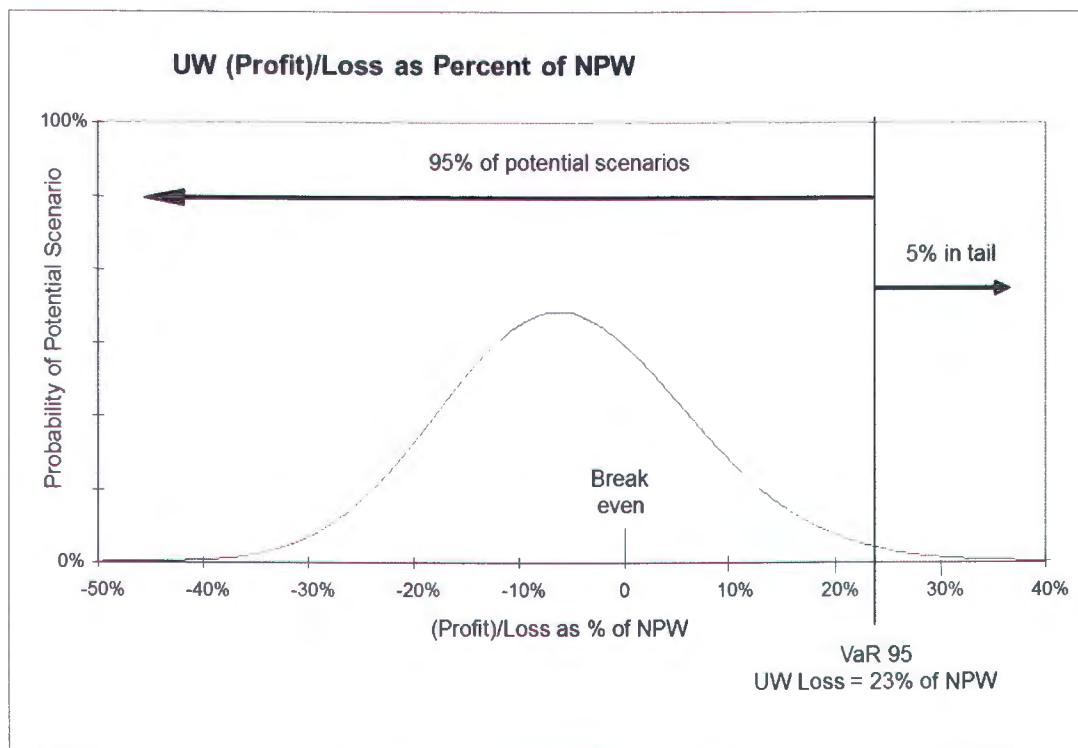


Exhibit B.3: Value at Risk (VaR) Illustration

(1)	(2)	(3)	(4)	(5)	(6)
				(1) * (4)	100.0% - (3)
Statement		Confidence	Capital	Loss Amount	Exceedance
Amount	Metric	Level	Factor	at Confidence Level	Probability*
100,000	VaR	95.0%	0.23	23,000	5.0%
	VaR	99.0%	0.30	30,000	1.0%
	VaR	99.5%	0.34	34,000	0.5%
	VaR	99.8%	0.38	38,000	0.2%
	VaR	99.9%	0.41	41,000	0.1%

*Probability that an actual observed loss will exceed the loss amount of the confidence level.

Formula Drivers

Approximately sixty percent of a property/casualty rating unit's gross capital requirement within A.M. Best's capital model usually is generated from its net loss reserve (B5), net premiums written (B6), and potential catastrophe loss (B8) components. Consequently, a property/casualty rating unit's absolute BCAR value reflected in A.M. Best publications is influenced largely by the capital required to support its net underwriting commitment, which in turn is largely a function of a rating unit's mix of business, size of portfolio, stability of loss development, profitability, loss reserve adequacy, length of claims payout, and catastrophe exposure. All things being equal, a rating unit's absolute BCAR value will be lower because of higher capital requirements associated with higher underwriting leverage, greater indicated reserve deficiencies, unstable or unprofitable business, and larger net catastrophe exposures.

While only about forty percent of the gross capital requirement is generated from the investment risk (B1/B2), interest rate risk (B3) and credit risk (B4) components, a rating unit that maintains a more aggressive investment portfolio, contains a large amount of affiliated investments, has excessive credit risk or depends excessively on reinsurance will likely generate a lower BCAR value.

Sensitivity Calculations

A.M. Best analysts may supplement their initial assessment of a rating unit's baseline capital position by performing various sensitivity calculations. These analyses can quantify the capital required to support future business plans, reflect the effect of pro forma transactions or reflect the current quarter-ending capital position. Finally, the analyst can use the model to incorporate a number of stress scenarios into the rating analysis. These sensitivity calculations would quantify the extent of the impact a scenario could have on a rating unit's capital position after such an event occurs.

If a rating unit's capitalization were to deteriorate after a reasonable stress test such that its capital position fell considerably and the potential for recovery from the capital shortfall was unlikely, the sensitivity analysis would contribute to a lower assessment of balance sheet strength. The extent of sensitivity analysis performed on a rating unit's capitalization will vary by rating unit and situation. The analysis will include the extent of the shortfall; the rating unit's liquidity and potential to sustain itself through market fluctuations; the rating unit's ongoing earnings potential; and the ability to raise capital.

C. Integration of BCAR in the Rating Process

Clearly, BCAR is an important quantitative tool that helps A.M. Best differentiate financial strength between insurers and indicate whether a rating unit's capitalization is appropriate for its risk profile. However, BCAR by itself is insufficient as the sole basis for determining the final rating. In many cases, insurers with similar capital positions might be assigned different ratings based on the integration of other important considerations unique to each insurer: operating performance, business profile, enterprise risk management, and rating enhancement/drag.

In addition, the quality of capital is another issue that will qualitatively differentiate one rating from another, even though two insurers might have similar BCAR scores. Many soft capital transactions are admitted as surplus under statutory accounting rules but ultimately drain cash, place a drag on earnings or only provide contingent capital, thereby compromising policyholder security and negatively impacting financial strength ratings.

However, for insurers that maintain capital near the BCAR guideline, BCAR may become a more important rating component. Additionally, rating units that are expecting material changes over the next year are evaluated on both an "as is" and an "as will be" basis to better gauge the direction in which capital adequacy is moving.

D. Availability of BCAR Output

Because of the sensitive nature of the underlying adjustments and qualitative information incorporated in a rating unit's BCAR calculation, adjusted BCAR output including the details of A.M. Best's analytical view for a particular rating unit is made available only to that rating unit's management. Often, a discussion of A.M. Best's capital model is included in rating meetings when capitalization is an important rating issue. The final BCAR scores which contain A.M. Best's current view of a rating unit's risk adjusted capital position at each of the five confidence levels will be published in the insurer's credit report.

Exhibit D.1: BCAR Is an Absolute Measure

The BCAR model produces an absolute score, which is the difference between the rating unit's available capital and the rating unit's net required capital taken as a ratio to its available capital, at each of five different confidence levels. A rating unit's absolute capital adequacy ratio at a particular confidence level indicates whether its available capital is in excess of its net required capital or whether its available capital falls short of its net required capital for that confidence level. In addition, the extent of the excess or shortfall is shown as a ratio to available capital. In considering whether a rating unit's balance sheet strength supports a particular balance sheet assessment, a rating unit's absolute BCAR at each confidence level is compared to a ratio of 0%.

BCAR provides an integrated evaluation of a rating unit's investment, credit and underwriting risk as compared to the rating unit's level of available capital. Within this evaluation, A.M. Best includes many adjustments that recognize the rating unit's specific risk and available capital. Because of this integrated evaluation of various operating risks, BCAR is an important tool in evaluating a rating unit's balance sheet strength.

The exhibit below provides a reasonable guide for the BCAR levels needed to support consideration for a particular balance sheet assessment. If a rating unit's BCAR at the 99.9th confidence level is above a ratio of 0%, it is reasonable to assume that the current capital position is "Strongest". If a rating unit's BCAR at the 99.9th confidence level is a negative ratio but the rating unit's BCAR at the 99.8th confidence level is above a ratio of 0%, it is reasonable to assume that the current capital position is "Very Strong". If a rating unit's BCAR at the 99.8th confidence level is a negative ratio but the rating unit's BCAR at the 99.5th confidence level is above a ratio of 0%, it is reasonable to assume that the current capital position is "Strong". If a rating unit's BCAR at the 99.5th confidence level is a negative ratio but the rating unit's BCAR at the 99th confidence level is above a ratio of 0%, it is reasonable to assume that the current capital position is "Adequate". If a rating unit's BCAR at the 99th confidence level is a negative ratio but the rating unit's BCAR at the 95th confidence level is above a ratio of 0%, it is reasonable to assume that the current capital position is "Weak". If a rating unit had a ratio below 0% at the 95th confidence level, it would be reasonable to assume that the capital position is "Very Weak".

Metric	Confidence Level (%)	BCAR	Implied Balance Sheet Strength
VaR	99.9	> 0 at 99.9	Strongest
VaR	99.8	> 0 at 99.8 & ≤ 0 at 99.9	Very Strong
VaR	99.5	> 0 at 99.5 & ≤ 0 at 99.8	Strong
VaR	99	> 0 at 99 & ≤ 0 at 99.5	Adequate
VaR	95	> 0 at 95 & ≤ 0 at 99	Weak
VaR	95	≤ 0 at 95	Very Weak

E. The Technical Review of the BCAR Formula

Below are summaries of key features and issues related to adjusting reported capital and each of the eight distinct risk components (B1 through B8) within the BCAR model.

Treatment of Key Risk Components

Investment Risk (B1 & B2)

In order to calculate the risk factors at various confidence levels for the most frequently owned assets of U.S. property/casualty insurers, A.M. Best uses the output from a third party economic scenario generator (ESG) as the basis for those risk factors. An ESG is a computer model that will randomly simulate thousands of possible values for a variety of economic or financial variables over a series of selected future time periods. Some examples of the variables simulated in an ESG are interest rates, credit spreads, stock market returns, bond rating transitions, and bond defaults. These models are designed to reflect the observed and/or perceived relationships among the different economic or financial variables of the particular economy being modeled. An ESG does not predict the path an economy will take, but instead produces a collection of possible paths that an economy can take. A.M. Best uses the output from ten thousand simulations produced by the ESG to develop probability distributions for the potential movements in the market value of specific assets, the potential defaults on specific fixed income assets, and the potential movements in interest rates.

Nonaffiliated Bonds: Using information provided in the rating unit's supplemental rating questionnaire (SRQ), A.M. Best will generate risk charges for potential bond defaults based on the credit quality and maturity distribution of the rating unit's bond portfolio by applying the ESG's simulated bond defaults to the rating unit's portfolio. The ESG assumes lower rated bonds have greater default risk than highly rated bonds, and since defaults are simulated at annual intervals into the future, bonds that have maturity dates further out into the future have more opportunities to default and therefore will show greater default risk than bonds with shorter terms to maturity. The model will simulate potential defaults each future year for a period of no more than ten years. The simulated defaults will be discounted to present value based on the number of years into the future that the simulated defaults occur and will be discounted using an annual discount rate of 4%. In addition, the risk charges have been reduced to reflect an assumed recovery rate on the value of bonds defaulted. The assumed recovery rate will vary based on the credit quality of the bonds that are simulated to default. The recovery rates will vary from an assumed 55% recovery for the highest rated bonds to an assumed 20% recovery on the lowest rated bonds. The portfolio specific bond default risk charges will be calculated at five confidence levels – the 95th percentile, the 99th percentile, the 99.5th percentile, the 99.8th percentile, and the 99.9th percentile.

U.S. Government Bonds: There will not be a capital charge for U.S. government bonds.

Publicly Traded Common Stocks: Insurers who invest in equities are exposed to fluctuations in the market value of those assets. A.M. Best will generate risk charges for market volatility based on the Beta

of the rating unit's common stock portfolio relative to the S&P 500 index. The ESG will create ten thousand simulations of possible one year changes to the S&P 500 index, and the rating unit's portfolio Beta will be applied to these changes after adjusting the rating unit's Beta for the reliability of the calculated Beta. The Beta represents the level of movement in the market value of the common stocks owned by the rating unit relative to the stock market as a whole over a specified period of time. A.M. Best uses the R-Squared statistic to measure how reliable the calculated Beta is (see Exhibit E.2). These adjusted market returns are then used to determine the portfolio specific risk charges which will be calculated at five confidence levels – the 95th percentile, the 99th percentile, the 99.5th percentile, the 99.8th percentile, and the 99.9th percentile. The same risk factors will be used for both affiliated and non-affiliated common stocks that are publicly traded. The calculation of the portfolio Beta should exclude the effect of any hedging programs, as credit for hedging programs will only be given after analyst review of the hedging program (see commentary on derivative assets). A.M. Best uses the Beta and R-Squared provided in the rating unit's SRQ. Exhibit E.1 shows the baseline risk factors for publicly traded common stocks at the five confidence levels assuming a Beta of 1.00.

Exhibit E.1: Publicly Traded Common Stocks*

(1) Metric	(2) Confidence Level	(3) Baseline Capital Factor
VaR	95.0%	25%
VaR	99.0%	38%
VaR	99.5%	43%
VaR	99.8%	48%
VaR	99.9%	50%

*Traded in U.S. Stock Markets

Exhibit E.2: Common Stock Portfolio "Beta" and "R-Squared"

Beta can take on any value, positive or negative, but a value of 1.00 means that if the stock market index increases X%, then the value of your stock portfolio will increase the exact same X%. A Beta of 1.50 means that if the stock market index increases X%, then the value of your stock portfolio will increase by 1.50 times X%. A negative 1.00 Beta means that if the stock market index increases X%, then the value of your stock portfolio will decrease by X% (i.e. the value of your portfolio moves in the exact opposite direction of the index). R-Squared is a statistic calculated by comparing historical movements in your stock portfolio versus historical movements in the stock market index and can only take on values from 0.00 to 1.00 where a value of 0.00 implies a poor linear fit of the data (low reliability), and a value of 1.00 implies a perfect linear fit (high reliability).

Preferred Stocks: As a starting point, A.M. Best will assign risk factors to publicly traded preferred stocks based on the simulated bond default risk of NAIC class 4 bonds. For those rating units that have demonstrated their willingness and ability to hold onto these investments for the long term, the publicly

traded preferred stock portfolio can be re-allocated to individual NAIC classes using information provided in the statutory statement and then assigned corresponding risk factors based on the bond default risk factors by NAIC class. For those rating units that have actively traded their preferred stocks historically, or are exposed to sudden shock losses that could force a quick sale, the preferred stocks will receive risk factors based on the market price volatility of publicly traded common stocks.

Mortgage Loans: Risk factors applied to mortgage loans are based on the NAIC Risk Based Capital group's recent study of commercial mortgages. The baseline factors in BCAR are based on the Class 3 Commercial Mortgage risk factor at the 92nd percentile and extrapolated further out into the tail of the distribution to arrive at the factors needed for the various confidence levels used in BCAR. For those insurers with a material exposure to mortgage loans, a closer review could result in lower risk factors if the portfolio consisted of higher rated commercial mortgages, or it could result in a higher risk factor if the portfolio consisted of a large percentage of loans in or near default or restructuring.

Real Estate: Risk factors for real estate are based on simulated movements in a real estate index that is based upon the National Council of Real Estate Investment Fiduciaries Property Index (NPI). The NPI measures the total rate of return of a large pool of individual commercial real estate properties acquired for investment purposes. The same risk charges are applied to real estate occupied by the rating unit as well as real estate held for investment purposes.

Cash: The 0.3% risk charge applied to cash balances represents the risk that cash deposited in a banking institution might be uncollectible if the bank becomes insolvent.

Other Investments: The majority of assets in this category are from Schedule BA of the statutory statement (Other Long Term Invested Assets Owned). A recent review of the types of assets owned by insurers that were recorded in this exhibit has revealed a growing trend toward investments which have reduced transparency and the potential for higher volatility in market value as well as terms and/or structures that make them illiquid. Because of the changing risk profile of this asset class, the baseline risk factors for other investments will be the industry baseline common stock risk factors but adjusted 10% higher. This was selected after a review of the market volatility of more than 30 hedge fund indices simulated in the ESG. The risk factors may be modified lower if the insurer provides more detail on the types of investments, the volatility of the investments, the liquidity of the investments, correlations within the portfolio of investments, correlations to other risk categories such as underwriting risk, and how the rating unit manages the individual and overall risks created by this portfolio of assets. Any investments in affiliates recorded in this asset category will initially be assigned a risk charge of 100%.

Investment in Property/Casualty Insurers: A.M. Best takes a consolidated approach that recognizes the importance of affiliated relationships within a domestic property/casualty group. A.M. Best's consolidated approach applies to all affiliates included in the rating unit through reinsurance or group rating consideration. This consolidation provides a better view of the overall operating fundamentals and capitalization of the operating unit.

However, for those investments in affiliated property/casualty insurers that are not consolidated into a particular analysis (such as sister companies, international operations, insurers in run-off, etc.), a baseline risk charge of 100% will be applied to the investment in affiliates, regardless of which investment schedule it is recorded in (i.e. surplus notes recorded as other investments in Schedule BA, etc.). For equity investments in affiliated property/casualty insurers, the baseline risk charge may be reduced if A.M. Best determines that there is capital in excess of the amount required to support the current rating of the affiliate, and the assets can be transferred on short notice.

If the amount of investments in affiliates represents a material portion of the rating unit's available capital, A.M. Best may perform a supplemental BCAR analysis that removes the affiliated investments from both available capital and investments. This supplemental analysis can be performed regardless of whether the affiliate is a property/casualty or life/ health insurer.

Investment in Life/Health Insurers: The required capital of a domestic life/health affiliate within A.M. Best's formula is charged to the property/casualty parent. A.M. Best's formula is designed to allow the excess of a life/health subsidiary's adjusted surplus over the required capital necessary to support its current rating category to accrue to the parent.

Special Purpose Investment Subsidiaries: The required capital to support the underlying assets and liabilities of a special purpose affiliate is charged to the parent company. For example, a down-stream holding company that holds special-purpose real estate investments would receive the capital charges from the real estate asset category rather than a baseline charge of 100% afforded "other investment affiliates."

Investment in Non-Insurance Affiliates: There are a number of issues considered when determining the appropriate risk charge for investments in non-insurance affiliates. If the investment is publicly traded, it might receive a lower risk charge than a privately placed investment, because privately placed investments generally are viewed as being less liquid. However, if the insurer owns a large proportion of a publicly traded affiliate, it might require regulatory or shareholder approval to sell it, making it less liquid. Lastly, the sale of an affiliated investment in a stress situation could give the buyer leverage during the negotiation of the sale price, resulting in a realized value for the asset that is lower than the reported value.

These issues make these types of assets less liquid than other publicly traded investments, and the risks resemble those of a privately held subsidiary.

A.M. Best charges the full statutory carrying value of the non-insurance affiliate to the parent. Unless a property/casualty insurer is committed actively to selling a non-insurer, with proceeds to be reinvested in the property/casualty operations, the baseline treatment is a 100% capital charge. In this regard, A.M. Best presumes that the net asset value of the affiliate is needed to support its own operations and isn't available to support the property/casualty operation.

Intercompany Loans: If an intercompany loan that normally is recorded as a liability is given credit to the borrower's available capital by A.M. Best, then the amount of credit given to the borrower will be directly removed from the available capital and the investments of the lender. The intent is to avoid giving capital credit in more than one rating unit.

Derivative Asset: The baseline treatment of derivatives shown as an asset will be to apply a 100% risk charge to the asset value reported in the financial statement. However, both the asset value and the risk charge may be modified once information about the derivative itself and the rating unit's derivative program is ascertained. In fact, the asset value may be replaced with the notional value of the underlying investments if that is a better proxy for the exposure. In some instances, when a derivative is considered to be purely speculative in nature, the required capital calculation may be moved to the business risk page, which results in a direct addition to net required capital rather than remaining on the investment risk page and benefitting from the covariance credit when calculating net required capital. Where possible, if the derivative is hedging a specific quantifiable risk captured in the BCAR model, A.M. Best may reduce the required capital for that risk but will also remove the asset value of the derivative from available capital.

In addition to determining whether a derivative is for hedging or speculative purposes, A.M. Best also will review the counterparty credit risk involved; the liquidity of the derivative; the volatility of the asset value; the potential maximum downside loss; the correlation of the derivative asset value with the value of the related index or investment; the remaining term of the derivative versus the term of the associated investments or liabilities; the relationship of the triggering event to current economic environment; the size, purpose, expertise and track record of the rating unit's derivative program, etc.

Securities Lending Reinvested Collateral: The baseline treatment of reinvested collateral is to charge a risk factor of 10%, but this factor can be changed after a review of the types of investments in which the collateral was reinvested.

Catastrophe-Exposed Investments: Investments in sidecars, catastrophe bonds or other investments that are exposed to the sudden loss of value due to the occurrence of a catastrophe will initially be assigned a baseline risk charge of 100% on the investment page, but may be removed directly from available capital when it is a material portion of surplus or added directly to the net PML on an after-tax basis, depending on a review of the investment's exposure, attachment points, perils insured, term to maturity, etc.

Foreign Investments: For those insurers that have a material amount of foreign investments in a particular investment category, the risk charge for that asset category may be increased to reflect the increase in volatility and/or decrease in liquidity associated with those foreign markets, financial systems and economies.

Asset Concentration Adjustment: For asset classes that do not currently reflect concentration risk in its capital factors, such as bonds, preferred stocks, and mortgage loans, A.M. Best doubles the asset risk

charge for single, large investment holdings that are greater than 10% of surplus. This additional capital requirement applies to amounts in excess of the single investment limit, with the baseline charge for that investment type applying to the amount less than 10% of surplus.

Spread of Risk Factor Adjustment: A.M. Best's model generates additional required capital to support investment risk relating to diversification of the portfolio, using a size factor related to the spread of risk among all major asset classifications. Generally, no additional capital is generated from this adjustment for rating units with more than \$500 million in invested assets, while rating units with less than \$10 million in invested assets could receive as much as a 50% surcharge that is added to their baseline capital requirement for investments.

Interest Rate Risk (B3)

Interest rate risk represents the potential loss a rating unit would incur if it were forced to sell its fixed income assets during a period of rising interest rates. As interest rates rise, the market value of the fixed income assets will decline, and if the rating unit needs to sell the fixed income asset, it would be at a price lower than is currently considered in the available capital. Since the BCAR model makes an adjustment to surplus for fixed income equity, the model is effectively putting the fixed income assets on the balance sheet at market value. Rating units that maintain a high level of exposure to short-term cash needs - most likely those with a high gross catastrophe probable maximum loss (PML) - are the most exposed to interest rate risk because they could be forced sell fixed income assets on short notice in order to pay claims.

A.M. Best uses increases in interest rates that reflect the confidence level being used to generate the required capital for interest rate risk. Based upon the economic scenario generator's simulated potential movements in the interest rate on the five year U.S. treasury over the next one year time horizon, A.M. Best selected the following changes in interest rates: 170 basis points at the 95th percentile, 240 basis points at the 99th percentile, 270 basis points at the 99.5th percentile, 290 basis points at the 99.8th percentile, and 310 basis points at the 99.9th percentile. These changes in interest rates will be used to estimate the interest rate risk on the market value of bonds, preferred stocks, and mortgage loans.

The interest rate risk calculation assumes a rating unit's gross PML for catastrophes is the maximum exposure an insurer has to interest rate risk (other potential large losses could trigger the sale of fixed income assets and could be used in place of a catastrophe loss if these potential large losses are greater than the catastrophe exposure). At lower confidence levels, a rating unit's gross PML is often smaller than its total portfolio of liquid assets and the rating unit would not need to sell its entire portfolio of liquid assets if that loss were to occur. Therefore, the interest rate risk calculation will look at the ratio of the rating unit's gross PML to its liquid assets and then apply this factor to the decline in the market value of the total fixed income portfolio following the rise in interest rates. By relating the rating unit's PML to all liquid assets first, A.M. Best assumes a rating unit is no more likely to liquidate a fixed income asset than it is to liquidate any other liquid asset. However, A.M. Best has established a minimum 10% exposure percentage applied against the rating unit's decline in market value after the rise in interest

rates, recognizing that there are other reasons for a rating unit to have a short term need for cash. The interest rate risk will be evaluated at five confidence levels – the 95th percentile, the 99th percentile, the 99.5th percentile, the 99.8th percentile, and the 99.9th percentile - and therefore five separate gross catastrophe PMLs will be needed. The pre-tax gross catastrophe PMLs from the all perils combined per occurrence curve provided by the rating unit are typically the starting point for the maximum loss exposure used in the interest rate risk calculation.

A key assumption in the calculation comes from A.M. Best's process of marking bonds to market using a fixed income equity adjustment to available capital (subject to caps and taxes). Because A.M. Best adjusts fixed income securities to market value each year through its re-evaluation of capitalization, only the incremental risk that a capital loss will be realized over the next year needs to be considered. Any risk of lost future income will be reflected at subsequent evaluations. Therefore, only a rating unit's short-term cash needs—such as the occurrence of its PML—would trigger a decline in capitalization over the next year.

Exhibit G.3 illustrates the interest rate risk calculation at the five confidence levels. In this example, the rating unit has an exposure to a short term need for liquidity due to catastrophe risk. As the confidence level increases, the gross PML increases, and the ratio of PML to liquid assets increases from 10% to 75%. This results in higher required capital for interest rate risk at the higher confidence levels because the rating unit would need to sell a greater proportion of its fixed income asset portfolio if the larger catastrophe loss were to occur. Based on A.M. Best's assumption that asset sales would be distributed evenly across the entire portfolio of liquid assets, the insurer would only need to sell 10% of its fixed income portfolio at the 95 percent confidence level, but it would need to sell 75% of its fixed income portfolio at the 99.9 percent confidence level. As a result, at the 95 percent confidence level, A.M. Best would only charge \$4.9 million of required capital which represents 10% of the total fixed income portfolio's \$48.9 million potential market depreciation, but at the 99.9 percent confidence level A.M. Best would charge \$66.9 million of required capital which represents 75% of the total fixed income portfolio's \$89.2 million potential market depreciation.

Credit Risk (B4)

Reinsurance Recoverables

The BCAR model will include a charge for the credit risk associated with the potential inability of the insurer to collect from its reinsurers. The following types of reinsurance recoverables are included in the BCAR model for the calculation of credit risk: recoverables on paid losses, paid LAE, known case loss reserves, known case LAE reserves, incurred but not reported (IBNR) loss reserves, IBNR LAE reserves, and unearned premium.

The BCAR model will use stochastic simulations of reinsurer impairments to calculate the credit risk factors to be applied to the recoverables at five confidence levels – the 95th percentile, the 99th percentile, the 99.5th percentile, the 99.8th percentile, and the 99.9th percentile. These credit risk factors will reflect the credit quality of the reinsurers, the type of recoverable, any funds held as collateral, the

future time periods the recoverables are assumed to be collected, a recovery rate of 50% if a reinsurer impairment is simulated to occur, and discount rate of 4% to present value the amount of recoverables uncollected due to the reinsurer impairment.

The process of calculating credit risk factors begins with estimating the percentage of existing recoverables on reserves that will be collected in each future year. The model assumes that recoverables on reserves are collected within 30 years and estimates when those recoverables will be collected based on a combination of industry collection patterns that vary by Schedule P line of business and the rating unit's own mix of ceded reserves by Schedule P line of business. This collection pattern is applied to the ceded reserves for each reinsurer and any recoverables on paid losses, paid LAE, and unearned premium are added to the ceded reserve amounts that are collected within one year. Credit for funds held is given individually by reinsurer up to the point in time where the funds held are exhausted by the associated recoverables from that reinsurer.

The next step is to use the A.M. Best issuer credit rating (ICR) of each reinsurer listed in the rating unit's Schedule F – Part 3 and then, based on the reinsurer's ICR, assign a corresponding set of cumulative impairment probabilities from the table of insurer impairment rates shown in Exhibit E.3. This table of insurer cumulative impairment probabilities is based on A.M. Best's recent impairment rate and rating transition studies. Once the impairment probabilities are assigned to each reinsurer, the model will use stochastic simulation to generate ten thousand possible scenarios of when each reinsurer could become impaired. Separate simulations are done for each reinsurer and reinsurer impairments are assumed to be independent. Simulated impairments that occur beyond year ten are not used but if the reinsurer impairment occurs in years 1 through 10, any recoverables from the reinsurer that were expected to be collected during the year of the simulated impairment and later are assumed to be uncollectible. However, there is an offset of 50% on these impaired recoverables to reflect an assumed 50% recovery rate from impaired reinsurers. These reduced impaired amounts are then discounted to present value based on when the impaired amounts were supposed to be collected using an annual discount rate of 4%. Reinsurers that do not have a published A.M. Best ICR, or have a published A.M. Best ICR of ccc+ or lower, will receive a 100% impairment rate that is offset with the 50% recovery rate, resulting in a net risk charge of 50%. The 100% risk charge for unrated reinsurers may be reduced if adequate additional information is provided to A.M. Best.

Finally, the discounted net impaired amounts from each simulation of each reinsurer are aggregated by simulation to produce ten thousand scenarios of total reinsurer impairment amounts (i.e. sum up reinsurer A's simulation #1 plus reinsurer B's simulation #1 plus reinsurer C's simulation #1, etc. to produce Total reinsurance simulation #1). The ten thousand scenarios of possible total reinsurance recoverable impairment amounts are ranked from smallest to largest and the amounts at the selected confidence levels are divided into the original booked amount of recoverables in Schedule F Part 3 (net of funds held) to produce the risk factors for reinsurance recoverable credit risk. The same process is used for affiliated and unaffiliated reinsurance.

Exhibit E.3: Credit Risk* - Cumulative Impairment Rates and Assumed Recovery Rate on Impairment

Best's ICR of Reinsurer	FSR	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Recovery Rate
aaa	A++	0.08%	0.11%	0.14%	0.18%	0.23%	0.29%	0.35%	0.42%	0.50%	0.58%	50%
aaa+	A++	0.14%	0.21%	0.28%	0.35%	0.43%	0.51%	0.60%	0.69%	0.78%	0.88%	50%
aa	A+	0.20%	0.30%	0.41%	0.52%	0.64%	0.76%	0.89%	1.02%	1.16%	1.31%	50%
aa-	A+	0.22%	0.42%	0.62%	0.82%	1.04%	1.26%	1.50%	1.74%	1.98%	2.24%	50%
a+	A	0.28%	0.62%	0.96%	1.30%	1.65%	2.00%	2.36%	2.72%	3.08%	3.45%	50%
a	A	0.35%	0.80%	1.26%	1.72%	2.18%	2.64%	3.10%	3.56%	4.03%	4.50%	50%
a-	A-	0.45%	1.00%	1.56%	2.11%	2.67%	3.23%	3.79%	4.35%	4.91%	5.48%	50%
bbb+	B++	0.84%	1.87%	2.90%	3.92%	4.94%	5.95%	6.97%	7.98%	8.99%	10.00%	50%
bbb	B++	1.23%	2.97%	4.68%	6.34%	7.98%	9.57%	11.14%	12.67%	14.18%	15.65%	50%
bbb-	B+	1.56%	3.83%	6.02%	8.13%	10.18%	12.15%	14.07%	15.93%	17.74%	19.50%	50%
bb+	B	3.73%	7.30%	10.80%	14.23%	17.60%	20.90%	24.15%	27.35%	30.49%	33.58%	50%
bb	B	4.77%	9.03%	13.08%	16.99%	20.77%	24.44%	28.02%	31.50%	34.91%	38.23%	50%
bb-	B-	10.33%	15.53%	20.41%	25.05%	29.50%	33.79%	37.91%	41.90%	45.75%	49.46%	50%
b+	C++	13.85%	18.59%	23.11%	27.47%	31.69%	35.79%	39.77%	43.65%	47.41%	51.07%	50%
b	C++	19.53%	24.28%	28.87%	33.32%	37.65%	41.85%	45.93%	49.89%	53.73%	57.44%	50%
b-	C+	23.30%	27.55%	31.74%	35.87%	39.94%	43.93%	47.84%	51.67%	55.40%	59.04%	50%
ccc+ and Lower		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50%
Not Rated		100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	50%

*Includes reinsurance recoverables on paid loss & LAE, known case loss & LAE reserves, IBNR loss & LAE reserves, and unearned premium.

For rating units with intercompany reinsurance transactions, A.M. Best will eliminate the recoverables from the credit risk analysis of the rating unit. Recoverables from affiliates that are not in the rating unit will remain in the credit risk analysis. Recoverables from all affiliates will remain in the credit risk analysis when performing a stand-alone BCAR analysis.

Other forms of collateral: A.M. Best will consider other forms of collateral, such as trust funds and letters of credit (LOCs), as an offset to reinsurance recoverable balances. However, these the amount of credit given will vary based on a number of factors such as the quality and liquidity of assets in the trust, access to the funds in trust, type of LOC and whether it is irrevocable and evergreen, etc. At most the amount of credit given will be 90%, and is only given after a thorough review. Since credit is only given after an analytical review and because the amount of credit is unknown until the review is completed, the baseline credit risk factor in the BCAR model will not reflect these other forms of collateral. Offsets that require certain conditions before the collateral is posted might not receive an offset credit until the collateral option is exercised, since there is no access to the collateral until the threshold has been triggered.

Reinsurance Dependence: Most importantly, however, A.M. Best includes an additional capital requirement, or surcharge, for rating units that analysts believe are excessively dependent on unaffiliated reinsurance, given their lines of business and financial resources. For these rating units, A.M. Best increases the overall credit risk charge for their recoverable balances, regardless of underlying credit quality. This additional charge reflects the increased exposure to reinsurance disputes and cash-flow problems the rating unit might face as a result of the higher dependence on reinsurance.

This increased exposure to dispute risk can have a severe impact on surplus. A rating unit with recoverables equal to five times its capital could lose 50% of its capital if 10% of its recoverables are

disputed successfully by the reinsurer. In an effort to recognize this exposure to dispute risk, A.M. Best employs two reinsurance dependence tests. The first test compares the rating unit's unaffiliated recoverables-to-capital ratio to an industry benchmark. The second test examines the rating unit's total ceded leverage to thresholds of five, seven and 10 times capital, resulting in risk charges of 15%, 20% and 25% of recoverables from unaffiliated reinsurers. The rating unit's total ceded leverage is defined as its recoverables plus written premium ceded to unaffiliated reinsurers as a ratio to reported capital. This total ceded leverage test is forward looking, since it includes not only the existing recoverables but also the potential exposure to be added in the upcoming year.

The model does not generate a reinsurance dependence factor for affiliated reinsurance. This assumes that the affiliates have demonstrated a history of substantial support and are expected to continue to provide support. In addition, this assumes the ceding insurer is a significant contributor to the operations of the consolidated organization, and the affiliates are located in jurisdictions that would not hinder the quick transfer of funds that may become necessary to support the ceding insurer. If these assumptions are incorrect and the amount of recoverables from the affiliates are material, a reinsurance dependence factor may be applied to the affiliated recoverables.

Credit Enhancements to Reinsurance Recoverables: With the increased reliance on reinsurance, the ceding insurer faces increased credit or dispute risk exposure. In an effort to offset this increased exposure, ceding insurers traditionally have required reinsurers to deposit funds with ceding insurers, set up trust accounts or obtain irrevocable letters of credit. Recently, ceding insurers have investigated the purchasing of credit enhancements that protect the ceding insurer's recoverables against the possibility of being uncollectible. If these recoverables are insured by an unaffiliated third party, A.M. Best may reduce the risk charges to reflect the reduced credit risk. However, the reinsurance dependence factor might not change if the contract doesn't cover uncollectibility resulting from a dispute.

Federal Programs: Similar to the treatment of default risk on U.S. federal government bonds, the BCAR model assumes that the U.S. federal government will not default on its commitments to its insurance programs and therefore, no risk charge is applied to recoverables from the National Flood Insurance Program and the Federal Crop Insurance Program.

Pools and Associations: For some of the larger pools and associations, A.M. Best may assign impairment probabilities based on the evaluation of the creditworthiness of the pool members or the state's creditworthiness if the pool is backed by the state and then run simulations of impairments using the same process as used on the reinsurers.

Risk Free Servicing Carrier Business: For ceded reinsurance associated with risk-free servicing-carrier business, A.M. Best does not intend to charge for credit risk but the insurer must provide information related to risk-free servicing-carrier business in its SRQ in order for the model to be adjusted properly.

Agents' Balances and Other Receivables: A.M. Best applies a baseline 5% capital charge for agents' balances in course of collection and deferred agents' balances, as well as a 10% charge for accrued retrospective balances, although these balances can be reduced by valid collateral and contractual offsets. Any other uncollected premium balances that are concentrated within a single entity or are approaching the 90-day overdue threshold may be assigned a higher capital charge. Other receivable balances generally are assessed a 5% charge and represent a minor overall capital requirement.

Underwriting Risk Capital Factors

In order to calculate underwriting risk factors for a rating unit at various confidence levels, A.M. Best uses stochastic simulation software and industry adjusted probability distributions by Schedule P line of business and by size. The industry probability distributions were created using curve fitting software applied to data that was created based on the process outlined in the American Academy of Actuaries' Property/Casualty RBC Task Force Report on Reserve and Underwriting Risk Factors. These industry reserve and premium probability distributions were calculated by fitting lognormal distributions to data based on insurers' 2012 NAIC statutory Schedule P and Insurance Expense Exhibits from 2003 through 2012. Four industry probability distributions were created for each of the 21 Schedule P lines of business reflecting volatility that varies with size. The size thresholds were selected after splitting the data for the particular line of business into quartiles to reflect decreasing volatility with increasing size. Finally, the industry probability distributions selected for the rating unit are adjusted for rating unit specific characteristics, creating a rating unit specific probability distribution for each line of business. Ten thousand simulations of potential outcomes are generated for each line of business using these rating unit specific probability distributions, and the capital factors are based on simulated outcomes that correspond to the various confidence levels selected for the BCAR model.

For net loss and LAE reserves, the risk facing the rating unit is the potential for unanticipated adverse reserve development. A.M. Best looked at the discounted ultimate adverse (or favorable) development on the calendar year end booked reserve as a ratio to the discounted original reserve to develop the baseline industry probability distributions for reserve risk. For each of the 2003 through 2010 calendar year end booked loss and DCC (defense and cost containment) reserve amounts, the analysis used each insurer's actual reported loss and DCC development through year end 2012 plus an adjustment for expected future development, to create the industry database of ultimate adverse development. The industry reserve data for each Schedule P line of business was split into quartiles based on the size of the booked reserves for that line of business, and the curve fitting software was applied to generate industry baseline lognormal probability distributions of reserve deviations by line and by size.

For net premiums written, the risk facing the rating unit is the potential to incur an underwriting loss on the book of business written in the next year. The rating unit's current year written premium is used in the model as a proxy for the premium to be written next year. A.M. Best looked at the discounted ultimate accident year underwriting loss (or profit) as a ratio to accident year earned premium to develop the baseline industry probability distributions for premium risk. For each of the 2003 through 2012 accident years as of year end 2012, the analysis used each insurer's calculated underwriting profit

or loss based on the actual reported loss, LAE, and underwriting expenses adjusted for future development and discounted. The industry database of ultimate discounted profit and losses for each Schedule P line of business was split into quartiles based on the size of the net premiums written for that line of business, and the curve fitting software was applied to generate industry baseline lognormal probability distributions of underwriting profit and loss ratios by line and by size.

Underwriting risk factors for both premiums and reserves can be impacted by various reinsurance products. The treatment of these reinsurance products varies by type of contract. By focusing on the amount of risk transferred, the analyst may increase the underwriting risk charges to reflect the disproportionate amount of risk retained vs. the amount of premium retained.

Finite quota-share contracts with loss ratio caps, corridors, sublimits and sliding-scale commissions are examples of reinsurance products that transfer away more premium than risk. This results in underwriting risk factors that are higher than the baseline factors but are applied to the reduced net premiums or reserves. This usually generates a reduction to required capital, but not as much as originally anticipated based on the reduction in premium leverage.

Retroactive adverse development covers could benefit loss and loss-adjustment expense reserve capital factors, but the available limits from the contract must be viewed in relation to any reserve deficiencies. If reserve deficiencies exist, the contract limits are applied to the deficiency first, and any remaining limit then can be applied to the capital factors.

Prospective stop-loss contracts create the need for numerous adjustments to the model, depending on where the coverage layers and limits occur relative to historical ultimates. Any loss and loss adjustment expense layers ceded away that occur below the expected ultimate won't reduce capital factors but might reduce indicated deficiencies.

For each of the above types of reinsurance products, adjustments may be made to available capital, deficiency factors or reinsurance recoverables in addition to the modifications to the underwriting capital factors. The cost of the risk transfer may be used to reduce the credit to risk factors or used to reduce available capital. Furthermore, if there are clauses in the contracts that threaten to cancel or intent to commute the contract and appear likely to be invoked, the contract may be viewed as having no risk transfer in BCAR. Although the adjustments made under these types of contracts numerically might result in a desirable BCAR, the lower quality of the rating unit's reinsurance-enhanced capital will be viewed negatively, resulting in a lower assessment of its balance sheet strength.

Loss and Loss-Adjustment Expense Reserve Risk (B5)

To a large extent, A.M. Best's loss and loss-adjustment expense reserve risk component emphasizes adjusted reserve leverage and stability in loss development as gauges of a rating unit's exposure to reserving errors in its book of business. Consequently, all other factors being equal, A.M. Best's capital model will generate a greater reserve capital requirement for a rating unit that is more leveraged or

more volatile, after adjusting for our view of its reserve adequacy, than its peer companies and vice versa.

Required capital for reserve risk at each of the five confidence levels is generated by applying the corresponding capital factors to a rating unit's adjusted loss and LAE reserves for 21 distinct Schedule P lines of business. To ensure equitable capital treatment among rating units, A.M. Best's model places considerable weight on a rating unit's adjusted reserves, which emphasizes reserve adequacy and the time value of money embedded in those reserves. A rating unit that historically has under-reserved will be penalized for maintaining lower reported reserves. A.M. Best's by-line reserve risk factors are based on an integration of the stability of the rating unit's case incurred loss development pattern in the line of business, the size of the rating unit's reported reserve in the line, and the risk inherent in the line of business. Consequently, a rating unit's required capital for reserve risk is driven by these key factors:

Reserve Equity Adjustments: On a line-by-line basis, a rating unit's reported loss and LAE reserves are adjusted to an economic basis that reflects A.M. Best's view of a rating unit's ultimate reserves, which are discounted to their present value, recognizing the time value of money. By-line reported loss and LAE reserves are adjusted to an economic basis through two rating unit specific modification factors: the reserve deficiency factor and the discount factor.

The reserve deficiency factor reflects A.M. Best's view of a rating unit's reserve deficiency expressed as a fraction of its original reserve plus 1.0. For example, a rating unit with a 10% reserve deficiency would show a 1.10 reserve deficiency factor in the model, whereas a rating unit with a 20% reserve deficiency would show a 1.20 reserve deficiency factor in the model. The initial determination of reserve deficiency is based on a number of actuarial techniques used within A.M. Best's proprietary loss reserve model, including paid and case incurred development. In addition to the reserve model, a diagnostic analysis of Schedule P and a qualitative assessment of the rating unit's operating environment and historical reserve development are used to arrive at A.M. Best's view of reserve deficiency. Generally, unseasoned rating units with less than five years of loss experience are assigned a minimum deficiency of 10%, while the reserves of seasoned rating units are determined relative to their own historical experience.

A number of issues can affect A.M. Best's view of a rating unit's reserve position, including the number of reserve adjustments; the size of the adjustments; the lines of business involved; the accident years generating the adverse development; and whether the adjustment was anticipated or unexpected. For companies of concern, the minimum reserve deficiency applied to the reserves will typically be 10% but may be selected higher.

In addition to assessing the rating unit's core reserves, A.M. Best performs a separate analysis of its asbestos and environmental reserves liabilities. Any deficiency in mass-tort reserves is added to the core deficiency. For asbestos and environmental reserves, A.M. Best uses a survival ratio method, a premium market share method and a paid-loss-share method to generate an initial assessment of these reserves. Discussions with company management and a current, third-party, ground-up review then are used to supplement the initial analysis.

A discount factor, based on the payout pattern of the rating unit's reserves and a 4% discount rate, is applied to the estimated ultimate loss and LAE reserves. The resulting deficiency and discount factors are applied to the rating unit's reported by-line loss reserves to derive the rating unit's adjusted reserves. To maintain a consistent treatment of the time value of money, all statutory discounting is treated as reserve deficiency, and credit is given through the discount factor.

Reserve Capital Factors: Once adjusted reserves have been determined by line of business, they can be multiplied by rating unit specific reserve capital factors to determine a rating unit's reserve capital requirement. By-line reserve capital factors are provided at five confidence levels and are based on a probability distribution that reflects the risk inherent in each line of business, the size of the loss and LAE reserve reported by the rating unit for that line of business, and the volatility of the rating unit's case incurred loss development for that line.

As previously mentioned, four industry baseline probability distributions of potential reserve deviations were created for each schedule P line of business based on the size of the reported reserve (see Appendix 1 for size thresholds). The rating unit's amount of reported loss and LAE reserve for a line of business will determine the industry baseline probability distribution that will then be adjusted based on the stability of the rating unit's case incurred loss and DCC development for that line of business. A.M. Best views the variation in a rating unit's loss and DCC development pattern as a strong indicator of the risk inherent in its reserves and of the rating unit's ability to make accurate projections of ultimate losses.

Stability factors are used to differentiate the volatility in a specific rating unit's reserves. The stability factors are calibrated around 1.00—ranging from 0.90 to 1.10—and are calculated by line, based on the stability of the rating unit's case incurred loss and DCC development pattern relative to the rest of the industry. These stability factors are applied to the standard deviation of the baseline industry distribution and will decrease or increase the industry volatility to reflect the rating unit's stability in that line of business. The measurement used to judge the stability of a line of business is the coefficient of variation for case incurred loss and DCC development factors at each stage of development through 72 months. Rating units with less than eight years of loss experience are penalized for their lack of loss experience and loss development history.

To calculate a rating unit's final reserve capital factors for each line of business, ten thousand simulations of potential reserve deviations are generated from the stochastic simulation software using the rating unit specific lognormal probability distributions for each line of business. From the ten thousand simulated reserve deviations for each line of business, the points on the probability distribution that represent the 95th, the 99th, the 99.5th, the 99.8th, and the 99.9th percentiles are used as the reserve capital factors in the BCAR model. These capital factors are applied to the rating unit's adjusted loss and LAE reserves to produce required capital charges for reserve risk by line of business. Appendix 2 shows the typical reserve risk capital factors at each confidence level by size category for a rating unit with average stability.

Diversification Credit: The diversification factor reflects the reduction in overall reserve risk within a well-diversified portfolio of loss and LAE reserves. This diversification factor is calculated using a correlation matrix (see Exhibit E.5 for an explanation of correlation). The reserve correlation matrix determines the level and direction of reserve deviation in one line of business relative to reserve deviation in another line of business. A.M. Best created an industry level reserve correlation matrix using industry aggregated schedule P data reserve development data (see Exhibit E.4). The exhibit shows strong correlations among liability lines which implies only a small amount of diversification benefit for a rating unit with reserves in the liability lines.

Rating units with larger reserve balances for multiple lines of business tend to show correlations similar to the industry level correlations but rating units with smaller reserve balances tend to show lower line-by-line correlations than the industry due to their higher volatility in the individual lines. Because of this observation, A.M. Best adjusts the industry correlation matrix based on the size of the rating unit's total reported net loss and LAE reserve. Rating units with smaller reserve balances will receive more diversification benefit by applying a larger reduction to the industry reserve correlation matrix than the reduction given to rating units with larger reported reserve balances.

Exhibit E.4: Industry Reserve Development Correlation Matrix

	HO	PAL	CAL	WC	CMP	MPL OCC	MPL CM	SPEC LIAB	OL OCC	OL CM	PROD OCC	PROD CM	PROP	PHYS DAM	F&S	OTHER	INTL	REIN A	REIN B	REIN C	WTY
HO	1.00	0.70	0.50	0.25	0.70	0.25	0.25	0.70	0.25	0.25	0.25	0.25	0.70	0.50	0.00	0.25	0.00	0.70	0.25	0.25	0.00
PAL	0.70	1.00	0.85	0.80	0.85	0.85	0.85	0.85	0.80	0.80	0.80	0.50	0.85	0.85	0.00	0.00	0.00	0.50	0.90	0.50	0.00
CAL	0.50	0.85	1.00	0.70	0.95	0.90	0.95	0.95	0.70	0.70	0.90	0.25	0.85	0.80	0.00	0.00	0.00	0.50	0.80	0.50	0.00
WC	0.25	0.80	0.70	1.00	0.90	0.90	0.90	0.70	0.95	0.95	0.85	0.50	0.80	0.70	0.50	0.00	0.00	0.00	0.95	0.50	0.00
CMP	0.70	0.85	0.95	0.90	1.00	0.95	0.95	0.90	0.85	0.85	0.90	0.50	0.90	0.80	0.25	0.00	0.00	0.50	0.90	0.50	0.00
MPL-OCC	0.25	0.85	0.90	0.90	0.95	1.00	0.95	0.85	0.90	0.85	0.90	0.25	0.85	0.80	0.25	0.00	0.00	0.50	0.90	0.50	0.00
MPL-CM	0.25	0.85	0.95	0.90	0.95	0.95	1.00	0.90	0.90	0.80	0.90	0.25	0.85	0.80	0.25	0.00	0.00	0.50	0.90	0.50	0.00
SPEC LIAB	0.70	0.85	0.95	0.70	0.90	0.85	0.90	1.00	0.50	0.50	0.85	0.25	0.90	0.80	0.00	0.00	0.00	0.70	0.70	0.50	0.00
OL-OCC	0.25	0.80	0.70	0.95	0.85	0.90	0.90	0.50	1.00	0.95	0.90	0.25	0.80	0.70	0.50	0.00	0.00	0.00	0.95	0.25	0.00
OL-CM	0.25	0.80	0.70	0.95	0.85	0.85	0.80	0.50	0.95	1.00	0.80	0.50	0.70	0.70	0.50	0.00	0.00	0.00	0.90	0.25	0.00
PROD-OCC	0.25	0.80	0.90	0.85	0.90	0.90	0.90	0.85	0.90	0.80	1.00	0.25	0.85	0.80	0.25	0.00	0.00	0.25	0.90	0.50	0.00
PROD-CM	0.25	0.50	0.25	0.50	0.50	0.25	0.25	0.25	0.25	0.50	0.25	1.00	0.25	0.25	0.25	0.00	0.00	0.00	0.50	0.00	0.00
PROP	0.70	0.85	0.85	0.80	0.90	0.85	0.85	0.90	0.80	0.70	0.85	0.25	1.00	0.90	0.25	0.00	0.00	0.70	0.50	0.25	0.00
PHYS DAM	0.50	0.85	0.80	0.70	0.80	0.80	0.80	0.80	0.70	0.70	0.80	0.25	0.90	1.00	0.25	0.00	0.00	0.25	0.50	0.25	0.00
FID & SURETY	0.00	0.00	0.00	0.50	0.25	0.25	0.25	0.00	0.50	0.50	0.25	0.25	0.25	0.25	1.00	0.00	0.00	0.00	0.50	0.00	0.00
OTHER	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
INTL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
REIN A	0.70	0.50	0.50	0.00	0.50	0.50	0.50	0.70	0.00	0.00	0.25	0.00	0.70	0.25	0.00	0.00	0.00	1.00	0.25	0.50	0.00
REIN B	0.25	0.90	0.80	0.95	0.90	0.90	0.90	0.70	0.95	0.90	0.90	0.50	0.50	0.50	0.00	0.00	0.00	0.25	1.00	0.50	0.00
REIN C	0.25	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.25	0.25	0.50	0.00	0.25	0.25	0.00	0.00	0.00	0.50	0.50	1.00	0.00
WTY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00

Exhibit E.5: Correlation

Correlation is a statistic that measures whether two variables tend to move together and the strength of that movement. Correlation can take on a value from +1.00 to -1.00. A value of +1.00 means that when an observed outcome from the first variable shows a movement in a certain direction, an observed outcome from the second variable will also show a similar level of movement in the same direction. A value of -1.00 means that when an observed outcome from the first variable shows a movement in a certain direction, an observed outcome from the second variable will show a similar level of movement but in the opposite direction. A value of 0.00 means that there is no correlation between the two variables, and that the observed outcome from the first variable and the observed outcome from the second variable show no discernible pattern of movement in the same direction, opposite direction, or in the level of the movement. Correlation matrices using financial data are frequently created using observed historical outcomes from the two variables at regular intervals over a specified time period and measuring how those outcomes tend to move together over the time period.

The graphic below shows a sample correlation matrix. From this matrix we can observe that line of business #1 shows very strong positive correlation to line of business #2, weak positive correlation to line of business #3 and no correlation to line of business #4. Line of business # 4 shows strong negative correlation to line of business #2.

Sample Correlation Matrix

	LOB 1	LOB 2	LOB 3	LOB 4
LOB 1	1.00	0.95	0.20	0.00
LOB 2	0.95	1.00	0.80	-0.90
LOB 3	0.20	0.80	1.00	-0.30
LOB 4	0.00	-0.90	-0.30	1.00

Growth Charge: The reserve growth charge reflects the additional risk that typically comes from growth and is based on the growth in a rating unit's exposures. The growth charge applied to the loss and LAE reserve aggregate required capital reflects the substantial risk a rating unit faces in the claims and reserving areas during a time of significant growth.

A growth charge is applied when a rating unit's growth in exposure is in excess of industry thresholds. Comparisons to the industry thresholds are made on a one-year basis and a three- year annualized basis. The growth charge will be based on the comparison that generates the greatest amount in excess of the industry thresholds. Growth in exposures can be based on policy count information as disclosed in A.M. Best's Supplemental Rating Questionnaire or based on company-supplied exposure information.

Even though the growth charge is intended to be based on exposure growth, this information isn't available in the annual statement. Therefore, the model initially calculates the rating unit's growth charge based on the growth in unaffiliated gross premiums written. The initial calculation compares the rating unit's most recent year premium growth rate to an industry one-year premium growth threshold and then compares the rating unit's three-year annualized premium growth rate to the industry three-year annualized premium growth threshold. The comparison that generates the greatest amount of premium growth in excess of the corresponding industry threshold will generate the growth charge that is used in the analysis. These thresholds are chosen based on rate changes in the industry during those time periods plus an allowance for moderate growth in exposure.

Exhibit E.6 shows the impact that rate changes can have on calculating the growth factor. In this example, the rating unit's premiums grew at a substantial 25% during the most recent year, generating an initial growth charge of 1.16. However, subsequent examination of policy counts shows that the exposure really only grew at a rate of 10%, which only generates a growth charge of 1.04. Since policy counts are believed to be a better proxy for exposure growth for this rating unit, the 1.04 growth factor is the growth charge to be used in the model for this example.

When rates are declining, the growth factor based on declining premium would be lower than the growth factor based upon exposures. In this situation, the growth factor based upon exposures would once again replace the indicated growth factor based on premiums.

Exhibit E.6: High Premium Growth Example

Calendar Yr	Gross Premiums	
	Written (000's)	Count
2011	\$100,000	1,000
2012	\$100,000	1,000
2013	\$100,000	1,000
2014	\$125,000	1,100

One Year Growth Rate:	25.0%	0
Three Year Avg Growth Rate	7.7%	0

	Industry Growth Thresholds:	
One Year Growth Rate:	9.0%	6.0%
Three Year Avg Growth Rate	9.0%	6.0%

	Indicated Growth Factors:	
One Year Growth Rate:	1.16	1.04
Three Year Avg Growth Rate	1.00	1.00

Loss Sensitive Business: A rating unit's reserve-risk factor may be adjusted within the casualty lines for loss sensitive business (i.e. retrospectively rated).

Retroactive Reinsurance: Any time-value-of-money gain on retroactive reinsurance is removed from available capital, because the model has already credited the gain to available capital through the reserve-equity adjustment. The reserve equity adjustment represents the embedded value in reserves because of the discounting of those reserves for the time value of money. Failure to remove the gain booked by the insurer would result in a double counting of the embedded equity.

Because BCAR already gives credit for loss-reserve equity, retroactive reinsurance provides little benefit unless it also includes adverse-development protection. There is no true economic gain other than the risk protection awarded for stop-loss protection above the expected ultimate, and that benefit is reflected with a risk factor adjustment. In fact, in some cases where investment yields above those earned by the insurer are guaranteed to the reinsurer, these contracts can be punitive in A.M. Best's view of capitalization.

Long Duration Contracts: Long duration contracts are defined as contracts having terms in force for more than 13 months and for which the insurer cannot cancel or increase the premium during the life of the contract. Long duration contracts create larger unearned premium reserves than contracts with one-year terms. This creates a larger pricing risk in the unearned premium reserve than anticipated for contracts having terms of one year or less. In order to capture this increased risk, the long duration unearned premiums will be included on the loss reserve page. The unearned premiums are included on the loss reserve page instead of the pricing risk page in an effort to reflect diversification from business being written in the future versus business written in the past. Baseline factors are applied at each confidence level and will be applied to the net unearned premiums and may be adjusted based on the profitability of the book.

In the case of a contractual liability policy (CLIP), where the insurer guarantees the liabilities of another entity for a fee, the underlying unearned premium that is being guaranteed will be added to the loss reserve page instead of the unearned CLIP premium.

Other adjustments to credit risk, unearned premium equity and written premiums will be made in an effort to capture all of the risks associated with writing long duration contracts. These adjustments will vary based on the terms of the contracts and the structure of the business.

Net Premiums Written Risk (B6)

Required capital for premiums written risk within A.M. Best's capital model is calculated at each of the five confidence levels by applying premium capital factors to a rating unit's net premiums written for 21 distinct Schedule P lines of business. Premium risk capital factors are obtained from probability distributions of potential underwriting profit and losses based on the integration of the risk inherent in a particular line of business, the rating unit's profitability in that line of business, and the size of net premiums written by the rating unit in that line of business.

Premium Capital Factors: The calculation of premium capital factors for a rating unit begins with the selection of an industry baseline probability distribution for each line of business based on the size of the net premiums written by the rating unit in that particular line of business. Appendix 1 shows the premium thresholds used to determine which industry baseline curve to use for each line of business. In developing the industry baseline probability distributions for the property lines, A.M. Best limited the volatility of the historical data in an effort to remove volatility due to catastrophe losses, since catastrophe risk is captured in a separate risk component of the rating unit's required capital (B8). The industry probability distributions for each line of business are then shifted to reflect the rating unit's profitability in each line of business after adjusting for industry movement in the underwriting cycle. A.M. Best believes the profitability of a rating unit's business and the overall industry pricing levels are good indicators of the level of risk margin expected within a rating unit's future business. Those rating units with better historical profitability are expected to maintain a greater risk margin in the pricing and underwriting of future business and, therefore, require a lower premium capital factor.

The rating unit's premium adequacy is reflected by shifting the industry probability distributions as much as 10 points of premium in either direction, based on whether the rating unit is higher or lower than an industry expected break even combined ratio for each line of business. An extremely unprofitable book of business would shift the industry distribution to the right by adding 10 points to each point in the industry probability distribution and thereby increasing capital requirements for an unprofitable rating unit. In contrast, an extremely profitable book of business would shift the industry probability distribution to left by reducing each point in the industry probability distribution and thereby reducing capital requirements for a profitable rating unit. The measurement used to judge the rating unit's profitability in a line of business is the rating unit's three year average reported accident year combined ratio in that line of business, using the rating unit's overall underwriting expense ratio.

To account for any changes in current market pricing, the model uses an underwriting cycle adjustment that reflects the impact current pricing has on underwriting risk. The underwriting cycle factor is applied when calculating the premium adequacy adjustment, which can increase or decrease premium capital factors to reflect the current market conditions. This adjustment is necessary because the profitability adjustment uses a three year history which is looking at past results, whereas the premium risk is looking forward one year.

To calculate a rating unit's final premium capital factors for each line of business, ten thousand simulations of potential underwriting profits and losses are generated from the stochastic simulation software using the rating unit specific lognormal probability distributions for each line of business. From the ten thousand simulated underwriting profits and losses for each line of business, the points on the probability distribution that represent the 95th, the 99th, the 99.5th, the 99.8th, and the 99.9th percentiles are used as the premium capital factors in the BCAR model. These capital factors are applied to the rating unit's net premiums written in that line of business to produce required capital charges for premium risk by line of business. Appendix 3 shows the typical premium risk capital factors at each confidence level by size category for a rating unit with break-even profitability.

Similar to the loss reserve component, A.M. Best may adjust a rating unit's premium risk factor within A.M. Best's model to reflect reduced charges for loss-sensitive business, retroactive reinsurance, aggregate stop loss or finite quota-share reinsurance.

Two final adjustments are made to the aggregation of the by-line required premium capital charge. These adjustments the benefit typically derived from a more diversified book of business and a charge to reflect the additional risk that typically comes from excessive growth.

Diversification Credit: The diversification factor reflects the reduction in overall pricing risk within a well-diversified book of business. This diversification factor is calculated using a correlation matrix (see Exhibit E.5 for an explanation of correlation). The premium correlation matrix determines the level and direction of underwriting profits and losses in one line of business relative to underwriting profits and losses in another line of business. A.M. Best created an industry level premium correlation matrix using industry aggregated schedule P accident year data and the Insurance Expense Exhibit (see Exhibit E.7). The exhibit shows strong correlations among commercial liability lines but little or no correlation from the liability lines to the property lines. This implies only a small amount of diversification benefit for an insurer writing in only the liability lines, but a larger diversification benefit for writing a mix of property and liability lines.

Rating units with larger books of business covering multiple lines of business tend to show correlations similar to the industry level correlations in underwriting profits and losses but rating units with smaller books tend to show lower line-by-line correlations than the industry due to their higher volatility in the individual lines. Because of this observation, A.M. Best adjusts the industry premium correlation matrix based on the size of the rating unit's total reported net premiums written. Rating units with smaller net premiums written will receive more diversification benefit by applying a larger reduction to the industry premium correlation matrix than the reduction given to rating units with larger books of business.

Exhibit E.7: Industry Premium Correlation Matrix

	HO	PAL	CAL	WC	CMP	MPL OCC	MPL CM	SPEC LIAB	OL OCC	OL CM	PROD OCC	PROD CM	PROP	PHYS DAM	F&S	OTHER	INTL	REIN A	REIN B	REIN C	WTY
HO	1.00	0.70	0.70	0.70	0.70	0.50	0.50	0.70	0.70	0.70	0.50	0.50	0.70	0.70	0.00	0.50	0.25	0.50	0.50	0.50	0.00
PAL	0.70	1.00	0.85	0.70	0.50	0.25	0.25	0.50	0.50	0.50	0.70	0.70	0.25	0.80	0.00	0.50	0.50	0.00	0.70	0.50	0.00
CAL	0.70	0.85	1.00	0.95	0.90	0.90	0.90	0.80	0.90	0.85	0.85	0.80	0.50	0.85	0.00	0.50	0.25	0.25	0.90	0.80	0.00
WC	0.70	0.70	0.95	1.00	0.85	0.85	0.85	0.80	0.95	0.90	0.90	0.90	0.50	0.80	0.00	0.70	0.25	0.00	0.85	0.70	0.00
CMP	0.70	0.50	0.90	0.85	1.00	0.80	0.80	0.85	0.85	0.80	0.70	0.70	0.70	0.80	0.00	0.50	0.25	0.25	0.80	0.70	0.00
MPL-OCC	0.50	0.25	0.90	0.85	0.80	1.00	0.95	0.50	0.85	0.80	0.90	0.70	0.50	0.70	0.00	0.50	0.25	0.00	0.85	0.85	0.00
MPL-CM	0.50	0.25	0.90	0.85	0.80	0.95	1.00	0.50	0.90	0.85	0.90	0.80	0.50	0.70	0.00	0.50	0.25	0.00	0.95	0.85	0.00
SPEC LIAB	0.70	0.50	0.80	0.80	0.85	0.50	0.50	1.00	0.70	0.70	0.50	0.50	0.85	0.85	0.00	0.50	0.50	0.25	0.70	0.70	0.00
OL-OCC	0.70	0.50	0.90	0.95	0.85	0.85	0.90	0.70	1.00	0.95	0.90	0.85	0.50	0.80	0.00	0.70	0.50	0.00	0.90	0.85	0.00
OL-CM	0.70	0.50	0.85	0.90	0.80	0.80	0.85	0.70	0.95	1.00	0.85	0.80	0.50	0.85	0.00	0.70	0.25	0.00	0.85	0.85	0.00
PROD-OCC	0.50	0.70	0.85	0.90	0.70	0.90	0.90	0.50	0.90	0.85	1.00	0.80	0.25	0.80	0.00	0.50	0.25	0.00	0.85	0.80	0.00
PROD-CM	0.50	0.70	0.80	0.90	0.70	0.70	0.80	0.50	0.85	0.80	0.80	1.00	0.25	0.70	0.00	0.70	0.50	0.00	0.85	0.70	0.00
PROP	0.70	0.25	0.50	0.50	0.70	0.50	0.50	0.85	0.50	0.50	0.25	0.25	1.00	0.50	0.00	0.25	0.25	0.70	0.25	0.70	0.00
PHYS DAM	0.70	0.80	0.85	0.80	0.80	0.70	0.70	0.85	0.80	0.85	0.80	0.70	0.50	1.00	0.00	0.50	0.25	0.00	0.70	0.85	0.00
FID & SURETY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER	0.50	0.50	0.50	0.70	0.50	0.50	0.50	0.50	0.70	0.70	0.50	0.70	0.25	0.50	0.00	1.00	0.25	0.00	0.70	0.50	0.00
INTL	0.25	0.50	0.25	0.25	0.25	0.25	0.25	0.50	0.50	0.25	0.25	0.50	0.25	0.25	0.00	0.25	1.00	0.00	0.25	0.25	0.00
REIN A	0.50	0.00	0.25	0.00	0.25	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.00	1.00	0.00	0.25	0.00
REIN B	0.50	0.70	0.90	0.85	0.80	0.85	0.95	0.70	0.90	0.85	0.85	0.85	0.25	0.70	0.00	0.70	0.25	0.00	1.00	0.80	0.00
REIN C	0.50	0.50	0.80	0.70	0.70	0.85	0.85	0.70	0.85	0.85	0.80	0.70	0.70	0.85	0.00	0.50	0.25	0.25	0.80	1.00	0.00
WTY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00

Growth Charge: This charge reflects the substantial risk a rating unit faces when bringing in substantial new business based on weaker underwriting and pricing standards or lack of market knowledge. The calculation of the premium growth charge is identical to the calculation of reserve growth charge and is applied directly to the aggregate required capital for premium risk.

In the cases of both the premium and reserve growth charges, adjustments are made to reflect issues within growth such as substantial, historical control of the book of business, as well as the historical profitability and stability of the book of business.

Business Risk (B7)

A.M. Best applies a nominal 1% capital charge to several off-balance-sheet items, including balances associated with non-controlled assets, guarantees for affiliates, contingent liabilities, long-term lease obligations and interest-rate swaps. This charge represents a starting point for business risk capital charges assessed based on qualitative assessments of off-balance-sheet liabilities that might encumber a rating unit's surplus growth or preservation.

After gaining an understanding of the inherent risk relating to off-balance-sheet items, the analyst will modify the capital charge to reflect the appropriate level of risk. An example of this is the risk associated with credit default swaps, for which the analyst will assess the credit quality of the underlying portfolio of counterparties to determine the appropriate capital charge.

In such an example, the capital charge could be increased to as high as 100% if recovery is unlikely from the various counterparties.

Pension plans and other post-employment/retirement obligations will be charged for the unfunded portion of these obligations in the baseline calculation of required capital for business risk. However, this charge can be reduced for any liabilities already shown on the rating unit's balance sheet that are designated for the unfunded portion of these obligations. The charge also may be reduced to reflect the rating unit's planned annual reduction of the remaining unfunded obligations. For those insurers whose unfunded obligations reside at an affiliated company, the rating unit's share of the unfunded obligation will not be factored directly into the rating unit's BCAR analysis but will be factored into the balance sheet evaluation.

Derivatives with a liability value on the balance sheet will initially be placed on the business risk page with a 100% risk factor. However, the rating unit's entire derivative program will be evaluated in the manner discussed earlier with the treatment of derivative assets.

Although many of these items are classified appropriately in the business risk component, adjustments for these items may alternatively be included in the available capital component.

Catastrophe Risk (B8)

Occurrence of a Catastrophe: A standardized incorporation of a rating unit's PMLs in the model highlights A.M. Best's concern that catastrophes are a severe threat to solvency in the industry because

of the significant, rapid and unexpected impact that can occur. While many other exposures can affect solvency, no single exposure can affect policyholder security more instantaneously than catastrophes. To reflect this concern, A.M. Best adds the rating unit's modeled catastrophe losses directly to required capital at each confidence level, and the catastrophe losses are excluded from the covariance calculation. This is a more conservative treatment of catastrophe risk than in many insurers' internal capital models which give diversification credit to catastrophe risk in the calculation of the overall net required capital at a particular confidence level. A.M. Best believes requiring insurers to maintain capital for catastrophe risk without the benefit of diversification from other risks is the appropriate treatment in the assessment of financial strength.

The net PML used for each confidence level will be taken from the per-occurrence all-perils combined information provided to A.M. Best. The net PMLs, which are based on worldwide exposures, are net of reinsurance, include reinstatement premiums, and are tax-affected with the maximum potential federal income tax rate for the appropriate jurisdiction. The determination of these losses will be provided through A.M. Best's Supplemental Rating Questionnaire and through discussions with management. The information filed by rating units within the Supplemental Rating Questionnaire is critical to the assessment of their capital strength. However, like any other component within BCAR, the PML responses can be adjusted downward to reflect additional information provided by management. The PML response also can be adjusted upward if A.M. Best determines additional conservatism should be taken into consideration based on a review of the catastrophe study.

There are several models and approaches that may be used to assist management and A.M. Best analysts to assess a rating unit's catastrophe exposure at the various confidence levels. It is important that the assessment go beyond the model output of a catastrophe model, or the average of several models, and include a thoughtful process to determine the rating unit's potential losses.

For those rating units that do not provide modeled PMLs, A.M. Best may use other information to estimate potential large losses, such as total policy limits, total insured value by state, region or county, actual historical catastrophe losses, etc.

PMLs are quite often stated on a "return period" basis, such as a 1-in-100 year loss or a 1-in 200 year loss. The BCAR model will use the PML for a particular return period at its corresponding confidence level. Exhibit E.8 shows the return periods and corresponding confidence levels for each of the PMLs used in the BCAR model.

Exhibit E.8: Return Periods vs. Confidence Levels

Return Period	Annual Probability (%)	Confidence Level (%)
20 Years	5.0	95.0
100 Years	1.0	99.0
200 Years	0.5	99.5
500 Years	0.2	99.8
1000 Years	0.1	99.9

Casualty Catastrophes: For casualty writers, an estimate of a catastrophic casualty loss may be used in the analysis of balance sheet strength.

Terrorism: Information on terrorism risk is also provided to A.M. Best in its Supplemental Rating Questionnaire. This information is provided both gross and net of reinsurance and the federal backstop. From this information, A.M. Best will calculate a charge to reported surplus that will be included in the published BCAR if the terrorism charge is greater than the natural catastrophe PML. The terrorism charge considers the probability of a large-scale attack, the location of the attack, the number of exposure concentrations, the size of the exposures relative to surplus, data quality and any available loss mitigation.

F. Available Capital

A.M. Best makes a number of adjustments to a rating unit's reported capital within the BCAR model to provide a more economic and comparable basis for evaluating capital adequacy. These adjustments even the playing field and compensate for certain economic values not reflected in the statutory financials. Reported capital is modified for equity adjustments related to unearned premiums, loss reserves and fixed income assets on an after-tax basis, based on a three year average effective tax rate that can be modified to reflect the rating unit's projected medium term tax rate.

Unearned Premium Equity: In the case of unearned premiums, A.M. Best increases available capital to include an estimated asset for deferred acquisition costs similar to that reflected in GAAP (generally accepted accounting principles) financials. This equity adjustment enables A.M. Best to place a growing rating unit, which is penalized for heavy pre-paid acquisition costs, on a comparable basis with a mature rating unit, which has flat or declining acquisition costs.

To the extent that a rating unit's book of business generates a discounted accident year loss and LAE ratio in excess of 100%, A.M. Best won't recognize any equity in unearned premiums. For rating units with discounted accident year loss and LAE ratios below 100%, but still higher than their pre-paid underwriting expense structure will allow, A.M. Best will recognize only a pro-rata share of the deferred acquisition costs as equity.

A risk charge is applied to the unearned premiums to reflect the pricing risk inherent in the rates charged for business written last year, but still unearned as of the current year end, and the charge is

subtracted from the unearned premium equity. This pricing risk is separate from the risk charged on the premium risk page, which attempts to capture the pricing risk associated with the business that will be written in the upcoming year. The model uses the current year written premium as a proxy for the upcoming year's writings.

Loss Reserve Equity: A.M. Best adjusts available capital to reflect the net equity embedded within loss reserves. This equity represents the difference between a rating unit's economic reserves, which reflects A.M. Best's view of ultimate reserves on a discounted basis, and carried reserves. The adjustment, which can be sizable for a casualty insurer, enables A.M. Best to even the playing field and better differentiate rating units that have historically under-reserved from those that have strong loss reserve positions.

Any reserve equity gain from reinsurance transactions already included in available capital is removed from available capital, since the equity will be awarded through the calculation of loss reserve equity. This is consistent with A.M. Best's treatment of statutory discounting and with efforts to treat loss reserve equity consistently. The best example of this is retroactive reinsurance through a loss portfolio transfer in which a rating unit often pays the reinsurer assets equal to the present value of the loss reserve portfolio plus a risk margin and then cedes the full value loss reserves, producing a gain that is embedded in reported capital. However, because of accounting procedures, these loss reserves remain on the primary insurer's books, and the ceded reserves are treated as a negative liability. Since the ceded reserves remain within the balance sheet reserves, some form of adjustment is needed. Otherwise, the time value of money would be credited twice—once within reported capital and once within the calculation of loss reserve equity. In this case, A.M. Best removes the gain from reported capital, and the equity within these reserves is awarded through the discount factor within the calculation of reserve equity. A reserve risk charge still applies to these reinsured losses. Without additional stop loss, the primary insurer remains exposed to any potential adverse loss development on these reserves.

Fixed-Income Assets: Available capital also is adjusted to reflect a rating unit's fixed-income securities' market value. This allows for a better view of a rating unit's current economic capital position. The pre-tax impact of this adjustment is limited to +10% and -15% of reported capital, and the result is then tax affected. The limits represent the fact that it is unlikely that a rating unit would need to sell all of its fixed-income securities at the current market value. Unrealized losses in excess of the limit would require an additional analysis of whether the loss is believed to be temporary or permanent; whether the underlying assets still are performing; and whether there is a near term cash flow requirement and sufficient cash flow or liquidity to handle this need.

Debt and Surplus Notes: The amount of credit given to available capital in BCAR for surplus notes is addressed in the A.M. Best criteria procedure "Evaluating U.S. Surplus Notes" and varies based on a number of considerations including the remaining term to maturity, whether the note is held by an affiliate or non-affiliate, and the terms of the note. The amount of credit to available capital for other types of debt issued is addressed in the A.M. Best criteria procedure "Equity Credit for Hybrid Securities."

Stress Test Adjustments: A.M. Best will stress a rating unit's available capital further as part of its sensitivity analysis to reflect a number of stress-test scenarios. This analysis measures a rating unit's prospective capital needs stemming from a number of off-balance-sheet items, including commitments or guarantees to affiliates; outstanding litigation; excessive catastrophe losses not contained within a rating unit's reinsurance program; and continued operating losses. Basically, the stress tests show what the rating unit's balance sheet strength looks like after a stress test scenario occurs.

Rating units with a natural catastrophe exposure will be subjected to additional stress tests related to the occurrence of such an event. The stress test assumes an event occurred and the stress test adjusts the rating unit's pre-event BCAR to reflect the impact on its balance sheet using the following adjustments:

- 1) The reported surplus will be reduced by the 1-in-100 year net after-tax PML (incl. reinstatement premium) from the per-occurrence all-perils combined information.
- 2) Reinsurance recoverables will be increased a minimum of 40% of the difference in the 1-in-100 gross and net pre-tax PMLs (excl. reinstatement premiums). Note that this adjustment also might increase the reinsurance dependence factor. In addition, in determining the appropriate risk charge for these recoverables, A.M. Best will assume the ratings of the reinsurers will remain unchanged as a result of the event.
- 3) An amount equal to 40% of the per-occurrence all-perils combined net pre-tax PML (excl. reinstatement premiums) will be added to the loss reserves. This amount may be adjusted based upon the reinsurance structure (i.e. caps, co-participation, etc.).
- 4) If necessary, the net PMLs used at each confidence level for the catastrophe risk (B8) may be adjusted to reflect any changes in the net PML due to changes in the reinsurance structure in place after the first event occurs.

Rating units with an exposure to terrorism also will be subjected to a stress test that looks at the sensitivity of the rating unit's capitalization to the occurrence of a terrorism event, assuming the federal backstop is not available. This test carries greater emphasis as the expiration date of the federal backstop approaches. Details of the terrorism stress test can be found in the A.M. Best criteria procedure titled "The Treatment of Terrorism Risk in the Rating Evaluation."

Although these stress-tested BCAR results are not published, they do impact A.M. Best's view of capitalization.

G. Conclusion

The tools to better allocate capital and understand capital strength continue to evolve. These tools often vary in theory, purpose and outcome. It is important to remember that, while they can add significant value, they are only tools. A.M. Best's proprietary BCAR is one of those tools that looks at capital needs

well above financial solvency. A.M. Best will continue to enhance BCAR to improve its accuracy in measuring balance-sheet and operating risk.

BCAR is important to A.M. Best's evaluation of both absolute and relative balance sheet strength. A.M. Best is quick to caution, however, that although BCAR is an important tool in the rating process, it isn't sufficient to serve as the sole basis of a rating assignment. BCAR, like other quantitative measures, has some limitations and doesn't necessarily work for all rating units. Consequently, capital adequacy should be viewed within the overall context of the operating and strategic issues surrounding a rating unit. Business profile and operating performance are important rating considerations in evaluating a rating unit's long-term financial strength and viability, as well as the quality of the capital that supports the BCAR result. In addition, risk management and any holding-company considerations will play a key role in evaluating the financial strength of a rating unit. A full understanding of how BCAR fits into the rating process can be found in "A.M. Best's Credit Rating Methodology."

A.M. Best believes that well-managed and highly rated property/casualty insurers will continue to focus on the fundamentals of building future economic value and financial stability, rather than on managing one, albeit important, component of A.M. Best's rating evaluation.

Exhibit G.1

A.M. Best's Capital Adequacy Model
Sample Company
(\$ Thousands)

RECAP of NET REQUIRED CAPITAL (NRC)

Risk Component	VaR 95		VaR 99		VaR 99.5		VaR 99.8		VaR 99.9	
	Required Capital Amount	% Gross Required Capital	Required Capital Amount	% Gross Required Capital	Required Capital Amount	% Gross Required Capital	Required Capital Amount	% Gross Required Capital	Required Capital Amount	% Gross Required Capital
Asset Risk:										
(B1) Fixed Income Securities Risk	27,999	10	31,959	8	33,718	7	35,410	5	37,101	4
(B2) Equity Securities Risk	59,265	21	77,875	19	84,925	17	92,455	14	95,915	12
Investment Risk	87,264	31	109,834	27	118,643	24	127,865	19	133,016	16
(B3) Interest Rate Risk	4,894	2	12,956	3	24,292	5	41,746	6	66,937	8
Subtotal	92,158	32	122,790	30	142,935	29	169,611	26	199,953	24
(B4) Credit Risk	9,179	3	15,017	4	24,910	5	37,943	6	49,931	6
Total Asset Risk	101,337	36	137,807	34	167,844	34	207,553	31	249,884	30
Underwriting Risk:										
(B5) Loss & LAE Reserves Risk	76,158	27	115,024	29	130,459	27	149,836	23	164,564	20
(B6) Net Written Premiums Risk	64,202	23	97,350	24	110,441	23	127,186	19	139,540	17
Total Underwriting Risk	140,360	49	212,374	53	240,900	49	277,022	42	304,104	37
(B7) Business Risk	3,080	1	3,080	1	3,080	1	3,080	0	3,080	0
(B8) Catastrophe Risk	40,000	14	50,000	12	75,000	15	175,000	26	275,000	33
Gross Required Capital (GRC)	284,777	100	403,261	100	486,824	100	662,655	100	832,068	100
Less: Covariance Adjustment	119,291	42	171,851	43	204,500	42	246,717	37	287,393	35
Net Required Capital (NRC)	165,487	58	231,409	57	282,325	58	415,938	63	544,675	65

RECAP of AVAILABLE CAPITAL (AC)

Capital & Capital Adjustments	Amount	% to Reported Capital
Reported Capital (Surplus)	400,000	100
Equity Adjustments:		
Unearned Premium Reserve Equity	16,250	4
Loss Reserves Equity	15,433	4
Fixed Income Equity	26,400	7
Other Adjustments:		
Surplus Notes	0	0
Off-Balance Sheet Losses	0	0
Future Dividends	0	0
Protected Cell Surplus	0	0
Goodwill & Intangibles	0	0
AVAILABLE CAPITAL (AC)	458,083	115

Effective Tax Rate = 20.0%

A.M. Best's Capital Adequacy Ratio	VaR 95	VaR 99	VaR 99.5	VaR 99.8	VaR 99.9
BCAR = (AC - NRC) / AC	63.9	49.5	38.4	9.2	-18.9

Exhibit G.2

Investment Risk (B1 & B2)														
(In Thousands)														
	(1)	(2)	(3)	Capital Factors					Required Capital Amount					
				(1) + (2)	(4)	(5)	(6)	(7)	(8)	(11)	(12)	(13)	(14)	(15)
Statement	Value	Adjustment	Adjusted Amount	Var 95	Var 99	Var 99.5	Var 99.8	Var 99.9	(3) * (4)	(3) * (5)	(3) * (6)	(3) * (7)	(3) * (8)	
Investments														
Bonds:														
U.S. Gov't.	90,000	0	90,000	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0
Class 1	343,000	0	343,000	0.7	1.1	1.3	1.5	1.7	2,401	3,773	4,459	5,145	5,831	
Class 2	110,000	0	110,000	4.1	5.4	5.9	6.4	6.9	4,510	5,940	6,490	7,040	7,590	
Class 3	20,000	0	20,000	11.5	13.2	13.7	14.2	14.7	2,300	2,640	2,740	2,840	2,940	
Class 4	5,000	0	5,000	21.0	23.0	24.0	24.5	25.0	1,050	1,150	1,200	1,225	1,250	
Class 5	4,000	0	4,000	48.0	48.5	49.0	49.5	50.0	1,920	1,940	1,960	1,980	2,000	
Class 6	2,000	0	2,000	63.0	64.0	65.0	66.0	67.0	1,260	1,280	1,300	1,320	1,340	
Affiliated	3,000	0	3,000	100.0	100.0	100.0	100.0	100.0	3,000	3,000	3,000	3,000	3,000	
Total Bonds	577,000	0	577,000	2.8	3.4	3.7	3.9	4.2	16,441	19,723	21,149	22,530	23,851	
Preferred Stocks:														
Non-affiliated (Public)	20,000	0	20,000	25.0	38.0	43.0	48.0	50.0	5,000	7,600	8,600	9,600	10,000	
Class 1	14,000	0	14,000	0.7	1.1	1.3	1.5	1.7	98	154	182	210	238	
Class 2	12,000	0	12,000	4.1	5.4	5.9	6.4	6.9	492	648	708	768	828	
Class 3	10,000	0	10,000	11.5	13.2	13.7	14.2	14.7	1,150	1,320	1,370	1,420	1,470	
Class 4	9,000	0	9,000	21.0	23.0	24.0	24.5	25.0	1,890	2,070	2,160	2,205	2,250	
Class 5	8,000	0	8,000	48.0	48.5	49.0	49.5	50.0	3,840	3,880	3,920	3,960	4,000	
Class 6	6,000	0	6,000	63.0	64.0	65.0	66.0	67.0	3,780	3,840	3,900	3,960	4,020	
Non-Affiliated (Private)	5,000	0	5,000	100.0	100.0	100.0	100.0	100.0	5,000	5,000	5,000	5,000	5,000	
Affiliated (Public)	4,000	0	4,000	25.0	38.0	43.0	48.0	50.0	1,000	1,520	1,720	1,920	2,000	
Affiliated (Private)	3,000	0	3,000	100.0	100.0	100.0	100.0	100.0	3,000	3,000	3,000	3,000	3,000	
Total Preferred Stocks	91,000	0	91,000	27.7	31.9	33.6	35.2	36.1	25,280	29,032	30,660	32,043	32,806	
Common Stocks:														
Non-Affiliated (Public)	80,000	0	80,000	25.0	38.0	43.0	48.0	50.0	20,000	30,400	34,400	38,400	40,000	
Non-Affiliated (Private)	5,000	0	5,000	100.0	100.0	100.0	100.0	100.0	5,000	5,000	5,000	5,000	5,000	
Money Market Funds	25,000	0	25,000	0.3	0.3	0.3	0.3	0.3	75	75	75	75	75	
Affiliated (Public)	10,000	0	10,000	25.0	38.0	43.0	48.0	50.0	2,500	3,800	4,300	4,800	5,000	
Affiliated (Private)	5,000	0	5,000	100.0	100.0	100.0	100.0	100.0	5,000	5,000	5,000	5,000	5,000	
Total Common Stocks	125,000	0	125,000	26.1	35.4	39.0	42.6	44.1	32,575	44,275	48,775	53,275	55,075	
Mortgage Loans	1,000	0	1,000	3.3	4.9	5.4	6.2	6.9	33	49	54	62	69	
Real Estate:														
Company Occupied	30,000	0	30,000	12.6	18.5	20.5	23.7	26.1	3,780	5,550	6,150	7,110	7,830	
Investments	10,000	0	10,000	12.6	18.5	20.5	23.7	26.1	1,260	1,850	2,050	2,370	2,610	
Total Real Estate	40,000	0	40,000	12.6	18.5	20.5	23.7	26.1	5,040	7,400	8,200	9,480	10,440	
Contract Loans	1,000	0	1,000	5.0	5.0	5.0	5.0	5.0	50	50	50	50	50	
Cash & Cash Equivalents	25,000	0	25,000	0.3	0.3	0.3	0.3	0.3	75	75	75	75	75	
Short-Term Investments	15,000	0	15,000	1.0	1.0	1.0	1.0	1.0	150	150	150	150	150	
Derivative Asset	3,000	0	3,000	100.0	100.0	100.0	100.0	100.0	3,000	3,000	3,000	3,000	3,000	
Securities Lending Reinvested C	9,000	0	9,000	10.0	10.0	10.0	10.0	10.0	900	900	900	900	900	
Other Investments	10,000	0	10,000	27.5	41.8	47.3	52.8	55.0	2,750	4,180	4,730	5,280	5,500	
Other Assets	5,000	0	5,000	20.0	20.0	20.0	20.0	20.0	1,000	1,000	1,000	1,000	1,000	
Total Investments	902,000	0	902,000	9.7	12.2	13.2	14.2	14.7	87,264	109,834	118,643	127,865	133,016	
Multiply by: Spread of Risk Factor									x	1.00	1.00	1.00	1.00	1.00
Investment-Risk Required Capital									(B1) + (B2) =	87,264	109,834	118,643	127,865	133,016

Exhibit G.3

Interest Rate Risk (B3)
(\$ Thousands)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Average	Estimated	Market	Market	Market	Market	Market	Market
Fixed Income Security	Contract Maturity	Duration	Value	Decline due to 170 BP Rise (2) * (3) * 1.7%	Decline due to 240 BP Rise (2) * (3) * 2.4%	Decline due to 270 BP Rise (2) * (3) * 2.7%	Decline due to 290 BP Rise (2) * (3) * 2.9%	Decline due to 310 BP Rise (2) * (3) * 3.1%
Bonds	4	3.5	600,000	35,700	50,400	56,700	60,900	65,100
Preferred Stocks	8	7.6	100,000	12,920	18,240	20,520	22,040	23,560
Mortgage Loans	10	9.5	2,000	323	456	513	551	589
Totals			702,000	48,943	69,096	77,733	83,491	89,249
Catastrophe Exposure Percentage Calculation:				VaR 95	VaR 99	VaR 99.5	VaR 99.8	VaR 99.9
Gross PML =				70,000	150,000	250,000	400,000	600,000
Liquid Assets =				800,000	800,000	800,000	800,000	800,000
PML To Liquid Assets Percentage (10% minimum) =				10.0	18.8	31.3	50.0	75.0
(B3) Interest Rate Risk Required Capital Amount =				4,894	12,956	24,292	41,746	66,937
				(= 10.0% * 48,943)	(= 18.8% * 69,096)	(= 31.3% * 77,733)	(= 50.0% * 83,491)	(= 75.0% * 89,249)

Exhibit G.4

Credit Risk (B4)														
Credit Risk Capital Factors														
Required Capital Amount for Credit Risk														
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Statement Value	Increase For Reserve Deficiency	Other Adjustments	Adjusted Amount (1)+(2)+(3)	VaR 95	VaR 99	VaR 99.5	VaR 99.8	VaR 99.9	(4) * (5)	(4) * (6)	(4) * (7)	(4) * (8)	(4) * (9)	(4) * (10)
Receivable Balances:														
Gross Agents' Balance (1)	90,000	-	0	90,000	5.0	5.0	5.0	5.0	5.0	4,500	4,500	4,500	4,500	4,500
Reinsurance Recoverables:														
Affiliated	10,000	422	0	10,422	4.0	10.0	30.0	45.0	50.0	417	1,042	3,126	4,690	5,211
Unaffiliated	101,000	4,258	0	105,258	3.0	8.0	15.0	25.0	35.0	3,158	8,421	15,789	26,315	36,840
Less: Sch F Provision	1,000	0	0	1,000	3.0	8.0	15.0	25.0	35.0	30	80	150	250	350
Less: Other Funds Held by Co.	0	0	0	0	10.0	10.0	10.0	10.0	10.0	0	0	0	0	0
Less: LOCs & Trusts (2)	0	0	0	0	9.0	9.0	9.0	9.0	9.0	0	0	0	0	0
Net Reinsurance Recoverables	110,000	4,680	0	114,680	3.1	8.2	16.4	26.8	36.4	3,545	9,383	18,765	30,755	41,701
All Other Receivables (1)	1,809	-	0	1,809	4.5	4.5	4.5	4.5	4.5	81	81	81	81	81
Company Totals	201,809	4,680	0	206,489	3.9	6.8	11.3	17.1	22.4	8,126	19,964	23,346	35,336	46,282
Required Capital Amount for Reinsurance Dependence														
(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)						
Indicated Reins Dependence Factor	Adjustment to Reins Dependence Factor	Selected Reins Dependence Factor (15)+(16)	VaR 95 (18)*((17)-1.0)	VaR 99 (19)*((17)-1.0)	VaR 99.5 (20)*((17)-1.0)	VaR 99.8 (21)*((17)-1.0)	VaR 99.9 (22)*((17)-1.0)	Minimum Required Capital for Reinsurance Dependence (23)						
Receivable Balances:														
Gross Agents' Balance (1)	-	-	0	0	0	0	0	0						
Reinsurance Recoverables:														
Affiliated	1.000	0.000	1.000	0	0	0	0	0						
Unaffiliated	1.100	0.000	1.100	316	842	1,579	2,632	3,684						
Less: Sch F Provision	1.100	0.000	1.100	3	8	15	25	35						
Less: Other Funds Held by Co.	1.075	0.000	1.075	0	0	0	0	0						
Less: LOCs & Trusts (2)	1.075	0.000	1.075	0	0	0	0	0						
Net Reinsurance Recoverables	-	-	-	313	834	1,564	2,607	3,649						
All Other Receivables (1)	-	-	-	0	0	0	0	0						
Company Totals	-	-	-	313	834	1,564	2,607	3,649						
Total Required Capital Amount														
(24)	(25)	(26)	(27)	(28)										
VaR 95 (10)+Max((18),(23))	VaR 99 (10)+Max((19),(23))	VaR 99.5 (10)+Max((20),(23))	VaR 99.8 (10)+Max((21),(23))	VaR 99.9 (10)+Max((22),(23))										
Receivable Balances:														
Gross Agents' Balance (1)	4,500	4,500	4,500	4,500										
Reinsurance Recoverables:														
Affiliated	417	1,042	3,126	4,690										
Unaffiliated	4,211	9,474	17,368	28,947										
Less: Sch F Provision	30	80	165	275										
Less: Other Funds Held by Co.	0	0	0	0										
Less: LOCs & Trusts (2)	0	0	0	0										
Net Reinsurance Recoverables	4,598	10,436	20,829	33,362										
All Other Receivables (1)	81	81	81	81										
(B4) Total Credit Risk Required Capital Amount:														
Company Totals	9,179	15,017	24,910	37,943										

Notes:
 (1) Reflects a blended capital factor because of multiple categories that that were collapsed for presentation.
 (2) Credit for acceptable letters of credit for foreign recoverables. Analysis performed by reinsurer and credit cannot exceed amount of uncollateralized recoverable.
 Risk charge for acceptable letters of credit and trusts capped a 90% of the risk factor charged to the corresponding recoverables.

Exhibit G.5

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

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Carried Net Loss and LAE Reserves								
Schedule P Line	Statement %	Allocated \$Amount	Manual Adjustment	Adjusted Manual Adjustment	Adjusted Deficiency (2) + (3) + (4)	Discount Factor	Adjusted Discount Factor	Adjusted Factor (6) * (7)	Adjusted Reserves (5) * (8)
Homeowners/Farmowners	1.7	6,000	0	0	6,000	1.00	0.942	0.942	5,652
Personal Auto Liability	5.5	20,000	0	0	20,000	1.00	0.941	0.941	18,813
Commercial Auto Liability	5.2	19,000	0	0	19,000	1.05	0.930	0.977	18,556
Workers Compensation	11.0	40,000	0	0	40,000	1.15	0.824	0.947	37,886
Commercial Multiperil	4.1	15,000	0	0	15,000	1.10	0.905	0.995	14,927
Medical Prof Liab - Occurrence	5.0	18,000	0	0	18,000	1.00	0.882	0.882	15,873
Medical Prof Liab - Claims Made	6.1	22,000	0	0	22,000	1.00	0.911	0.911	20,039
Special Liability	3.3	12,000	0	0	12,000	1.00	0.914	0.914	10,969
Other Liability - Occurrence	9.1	33,000	0	0	33,000	1.10	0.856	0.942	31,071
Other Liability - Claims Made	7.7	28,000	0	0	28,000	1.10	0.891	0.980	27,449
Products Liability - Occurrence	3.6	13,000	0	0	13,000	1.10	0.832	0.915	11,900
Products Liability - Claims Made	4.4	16,000	0	0	16,000	1.10	0.875	0.963	15,406
Property	2.5	9,000	0	0	9,000	1.00	0.953	0.953	8,581
Auto Physical Damage	1.7	6,000	0	0	6,000	1.00	0.979	0.979	5,871
Fidelity & Surety / Guaranty	2.2	8,000	0	0	8,000	1.00	0.925	0.925	7,398
Other	1.9	7,000	0	0	7,000	1.00	0.952	0.952	6,663
International	3.0	11,000	0	0	11,000	1.00	0.944	0.944	10,381
Reinsurance A	3.3	12,000	0	0	12,000	1.00	0.923	0.923	11,074
Reinsurance B	8.0	29,000	0	0	29,000	1.10	0.843	0.927	26,882
Reinsurance C	1.7	6,000	0	0	6,000	1.00	0.914	0.914	5,482
Warranty	1.9	7,000	0	0	7,000	1.00	0.976	0.976	6,833
Long Duration Contract UPR	6.9	25,000	0	0	25,000	1.00	1.000	1.000	25,000
Total	98.3	362,000	0	0	362,000	1.06	0.896	0.947	342,709

Schedule P Line	Capital Factors					Required Capital Amount				
	(10) VaR 95	(11) VaR 99	(12) VaR 99.5	(13) VaR 99.8	(14) VaR 99.9	(15) VaR 95	(16) VaR 99	(17) VaR 99.5	(18) VaR 99.8	(19) VaR 99.9
Homeowners/Farmowners	0.242	0.364	0.412	0.475	0.521	1,368	2,057	2,329	2,685	2,945
Personal Auto Liability	0.169	0.250	0.281	0.320	0.349	3,179	4,703	5,286	6,020	6,566
Commercial Auto Liability	0.194	0.289	0.326	0.373	0.407	3,600	5,363	6,049	6,921	7,552
Workers Compensation	0.223	0.334	0.377	0.430	0.469	8,448	12,654	14,283	16,291	17,768
Commercial Multiperil	0.239	0.360	0.406	0.467	0.513	3,568	5,374	6,060	6,971	7,658
Medical Prof Liab - Occurrence	0.299	0.456	0.520	0.599	0.661	4,746	7,238	8,254	9,508	10,492
Medical Prof Liab - Claims Made	0.251	0.381	0.432	0.497	0.545	5,030	7,635	8,657	9,960	10,921
Special Liability	0.200	0.299	0.338	0.386	0.423	2,194	3,280	3,708	4,234	4,640
Other Liability - Occurrence	0.283	0.430	0.487	0.560	0.617	8,793	13,361	15,132	17,400	19,171
Other Liability - Claims Made	0.288	0.438	0.497	0.573	0.628	7,905	12,023	13,642	15,728	17,238
Products Liability - Occurrence	0.365	0.558	0.634	0.733	0.804	4,344	6,640	7,545	8,723	9,568
Products Liability - Claims Made	0.289	0.441	0.501	0.578	0.638	4,452	6,794	7,718	8,905	9,829
Property	0.243	0.366	0.415	0.475	0.520	2,085	3,141	3,561	4,076	4,462
Auto Physical Damage	0.188	0.279	0.314	0.357	0.389	1,104	1,638	1,844	2,096	2,284
Fidelity & Surety / Guaranty	0.252	0.381	0.433	0.496	0.545	1,864	2,819	3,204	3,670	4,032
Other	0.206	0.307	0.346	0.396	0.434	1,373	2,046	2,306	2,639	2,892
International	0.239	0.359	0.406	0.465	0.513	2,481	3,727	4,215	4,827	5,325
Reinsurance A	0.256	0.387	0.440	0.507	0.555	2,835	4,286	4,873	5,615	6,146
Reinsurance B	0.332	0.508	0.577	0.667	0.732	8,925	13,656	15,511	17,930	19,678
Reinsurance C	0.274	0.417	0.474	0.545	0.600	1,502	2,286	2,599	2,988	3,289
Warranty	0.188	0.279	0.314	0.358	0.392	1,285	1,907	2,146	2,446	2,679
Long Duration Contract UPR	0.170	0.250	0.290	0.330	0.370	4,250	6,250	7,250	8,250	9,250
Total	0.249	0.376	0.427	0.490	0.538	85,331	128,878	146,172	167,883	184,385
Diversification Factor:	x	0.85	0.85	0.85	0.85	0.85				
Growth Factor:	x	1.05	1.05	1.05	1.05	1.05				
(B5) Reserve Risk Required Capital Amount:	=	76,158	115,024	130,459	149,836	164,564				

Exhibit G.6

Net Premiums Written Risk (B6) (\$ Thousands)

Schedule P Line	Net Premiums Written				
	(1) %	(2) Statement \$ Amount	(3) Allocated Adjustment	(4) Manual Adjustment	(5) Adjusted (2) + (3) + (4)
Homeowners/Farmowners	3.4	11,000	0	0	11,000
Personal Auto Liability	3.7	12,000	0	0	12,000
Commercial Auto Liability	4.9	16,000	0	0	16,000
Workers Compensation	6.2	20,000	0	0	20,000
Commercial Multiperil	7.7	25,000	0	0	25,000
Medical Prof Liab - Occurrence	3.4	11,000	0	0	11,000
Medical Prof Liab - Claims Made	4.6	15,000	0	0	15,000
Special Liability	3.7	12,000	0	0	12,000
Other Liability - Occurrence	6.5	21,000	0	0	21,000
Other Liability - Claims Made	6.8	22,000	0	0	22,000
Products Liability - Occurrence	3.1	10,000	0	0	10,000
Products Liability - Claims Made	4.0	13,000	0	0	13,000
Property	5.5	18,000	0	0	18,000
Auto Physical Damage	5.2	17,000	0	0	17,000
Fidelity & Surety / Guaranty	4.3	14,000	0	0	14,000
Other	4.0	13,000	0	0	13,000
International	3.1	10,000	0	0	10,000
Reinsurance A	6.2	20,000	0	0	20,000
Reinsurance B	5.5	18,000	0	0	18,000
Reinsurance C	3.7	12,000	0	0	12,000
Warranty	4.6	15,000	0	0	15,000
Total	100.0	325,000	0	0	325,000

Schedule P Line	Capital Factors				
	(6) VaR 95	(7) VaR 99	(8) VaR 99.5	(9) VaR 99.8	(10) VaR 99.9
Homeowners/Farmowners	0.263	0.398	0.452	0.520	0.574
Personal Auto Liability	0.210	0.314	0.354	0.404	0.443
Commercial Auto Liability	0.235	0.354	0.401	0.461	0.506
Workers Compensation	0.251	0.379	0.429	0.495	0.540
Commercial Multiperil	0.245	0.369	0.419	0.482	0.528
Medical Prof Liab - Occurrence	0.295	0.452	0.513	0.596	0.650
Medical Prof Liab - Claims Made	0.279	0.427	0.486	0.559	0.613
Special Liability	0.242	0.367	0.416	0.480	0.523
Other Liability - Occurrence	0.259	0.394	0.447	0.516	0.565
Other Liability - Claims Made	0.285	0.435	0.494	0.571	0.625
Products Liability - Occurrence	0.321	0.493	0.562	0.649	0.720
Products Liability - Claims Made	0.297	0.455	0.519	0.598	0.659
Property	0.246	0.373	0.423	0.487	0.531
Auto Physical Damage	0.185	0.276	0.310	0.355	0.389
Fidelity & Surety / Guaranty	0.238	0.359	0.406	0.469	0.510
Other	0.229	0.345	0.390	0.447	0.489
International	0.245	0.369	0.419	0.483	0.525
Reinsurance A	0.258	0.391	0.444	0.511	0.565
Reinsurance B	0.274	0.420	0.478	0.549	0.610
Reinsurance C	0.230	0.351	0.399	0.462	0.511
Warranty	0.194	0.289	0.327	0.373	0.409
Total	0.251	0.380	0.432	0.497	0.545

Schedule P Line	Required Capital Amount				
	(11) (5) * (6)	(12) (5) * (7)	(13) (5) * (8)	(14) (5) * (9)	(15) (5) * (10)
Homeowners/Farmowners	2,893	4,378	4,972	5,720	6,314
Personal Auto Liability	2,520	3,768	4,248	4,848	5,316
Commercial Auto Liability	3,760	5,664	6,416	7,376	8,096
Workers Compensation	5,020	7,580	8,580	9,900	10,800
Commercial Multiperil	6,125	9,225	10,475	12,050	13,200
Medical Prof Liab - Occurrence	3,245	4,972	5,643	6,556	7,150
Medical Prof Liab - Claims Made	4,185	6,405	7,290	8,385	9,195
Special Liability	2,904	4,404	4,992	5,760	6,276
Other Liability - Occurrence	5,439	8,274	9,387	10,836	11,865
Other Liability - Claims Made	6,270	9,570	10,868	12,562	13,750
Products Liability - Occurrence	3,210	4,930	5,620	6,490	7,200
Products Liability - Claims Made	3,861	5,915	6,747	7,774	8,567
Property	4,428	6,714	7,614	8,766	9,558
Auto Physical Damage	3,145	4,692	5,270	6,035	6,613
Fidelity & Surety / Guaranty	3,332	5,026	5,684	6,566	7,140
Other	2,977	4,485	5,070	5,811	6,357
International	2,450	3,690	4,190	4,830	5,250
Reinsurance A	5,160	7,820	8,880	10,220	11,300
Reinsurance B	4,932	7,560	8,604	9,882	10,980
Reinsurance C	2,760	4,212	4,788	5,544	6,132
Warranty	2,910	4,335	4,905	5,595	6,135
Total	81,526	123,619	140,243	161,506	177,194

Diversification Factor: x	0.75	0.75	0.75	0.75	0.75
Growth Factor: x	1.05	1.05	1.05	1.05	1.05
(B6) NPW Risk Required Capital Amount: =	64,202	97,350	110,441	127,186	139,540

Exhibit G.7

Business Risk (B7)
(5 Thousands)

	(1)	(2)	(3)	(4)	(5)
			Adjusted		Required
	Statement		Amount	Risk Factor %	Capital
Off Balance Sheet Item	Value	Adjustment	(1) + (2)		Amount
					(3) * (4)
Noncontrolled Assets	50,000	0	50,000	1.0	500
Guarantees For Affiliates	10,000	0	10,000	1.0	100
Contingent Liabilities	12,000	0	12,000	1.0	120
Long Term Lease	1,000	0	1,000	1.0	10
Interest Rate Swaps	30,000	0	30,000	1.0	300
Derivative Liability	2,000	0	2,000	100.0	2,000
Pension Plan Obligations (1)	50,000	0	50,000	0.0 (3)	0
Other Post Employment Obligations (2)	15,000	0	15,000	0.0 (4)	0
Other	5,000	0	5,000	1.0	50
Totals	175,000	0	175,000	1.8	3,080 = (B7)

- (1) The statement value for Pension Plan Obligations is the projected benefit obligation (PBO) for vested and non-vested employees.
- (2) The statement value for Other Post Employment/Retirement Obligations is the projected benefit obligation (PBO) for vested and non-vested employees.
- (3) A risk factor of zero assumes the pension plan PBO for vested and non-vested employees is fully funded or the company has a liability on its balance sheet for the entire unfunded amount.
- (4) A risk factor of zero assumes the other post employment/retirement PBO for vested and non-vested employees is fully funded or the company has a liability on its balance sheet for the entire unfunded amount.

Appendix 1

Net Loss and LAE Reserve Risk

Schedule P Line	Size Category			
	Very Small	Small	Medium	Large
Homeowners/Farmowners	Under \$2M	\$2M to \$5M	\$5M to \$15M	Over \$15M
Personal Auto Liability	Under \$5M	\$5M to 15M	\$15M to \$50M	Over \$50M
Commercial Auto Liability	Under \$3M	\$3M to \$7M	\$7M to \$20M	Over \$20M
Workers Compensation	Under \$5M	\$5M to 20M	\$20M to \$75M	Over \$75M
Commercial Multiperil	Under \$4M	\$4M to 10M	\$10M to \$20M	Over \$20M
Medical Prof Liab - Occurrence	Under \$3M	\$3M to \$7M	\$7M to \$30M	Over \$30M
Medical Prof Liab - Claims Made	Under \$4M	\$4M to 15M	\$15M to \$50M	Over \$50M
Special Liability	Under \$2M	\$2M to 10M	\$10M to \$60M	Over \$60M
Other Liability - Occurrence	Under \$4M	\$4M to 12M	\$12M to \$40M	Over \$40M
Other Liability - Claims Made	Under \$3M	\$3M to \$8M	\$8M to \$30M	Over \$30M
Products Liability - Occurrence	Under \$3M	\$3M to \$7M	\$7M to \$20M	Over \$20M
Products Liability - Claims Made	Under \$3M	\$3M to \$7M	\$7M to \$20M	Over \$20M
Property	Under \$2M	\$2M to \$5M	\$5M to \$17M	Over \$17M
Auto Physical Damage	Under \$2M	\$2M to \$5M	\$5M to \$17M	Over \$17M
Fidelity & Surety / Guaranty	Under \$2M	\$2M to \$5M	\$5M to \$17M	Over \$17M
Other	Under \$2M	\$2M to \$5M	\$5M to \$17M	Over \$17M
International	Under \$4M	\$4M to 10M	\$10M to \$20M	Over \$20M
Reinsurance A	Under \$2M	\$2M to 10M	\$10M to \$25M	Over \$25M
Reinsurance B	Under \$5M	\$5M to 20M	\$20M to \$100M	Over \$100M
Reinsurance C	Under \$2M	\$2M to \$5M	\$5M to \$15M	Over \$15M
Warranty	Under \$2M	\$2M to \$5M	\$5M to \$17M	Over \$17M

Net Premium Written Risk

Schedule P Line	Size Category			
	Very Small	Small	Medium	Large
Homeowners/Farmowners	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Personal Auto Liability	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Commercial Auto Liability	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Workers Compensation	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Commercial Multiperil	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Medical Prof Liab - Occurrence	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Medical Prof Liab - Claims Made	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Special Liability	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Other Liability - Occurrence	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Other Liability - Claims Made	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Products Liability - Occurrence	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Products Liability - Claims Made	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Property	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Auto Physical Damage	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Fidelity & Surety / Guaranty	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Other	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
International	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Reinsurance A	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Reinsurance B	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Reinsurance C	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M
Warranty	Under \$2M	\$2M to 10M	\$10M to \$30M	Over \$30M

Appendix 2

Typical Reserve Risk Capital Factors

Size Category: Very Small

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.320	0.492	0.560	0.651	0.718
PAL	0.202	0.302	0.341	0.389	0.425
CAL	0.242	0.365	0.413	0.475	0.520
WC	0.292	0.444	0.504	0.579	0.635
CMP	0.342	0.526	0.599	0.696	0.770
MPL OCC	0.383	0.595	0.681	0.791	0.877
MPL CM	0.348	0.539	0.617	0.717	0.791
SP Liab	0.240	0.362	0.410	0.471	0.517
OL OCC	0.379	0.587	0.671	0.778	0.862
OL CM	0.364	0.563	0.642	0.747	0.821
PROD OCC	0.460	0.717	0.819	0.956	1.054
PROD CM	0.359	0.557	0.637	0.739	0.821
Prop	0.322	0.495	0.565	0.651	0.717
PHYS	0.226	0.339	0.383	0.437	0.477
F&S	0.312	0.479	0.546	0.630	0.694
OTHER	0.283	0.430	0.488	0.563	0.620
INTL	0.342	0.525	0.599	0.693	0.770
REIN A	0.344	0.531	0.607	0.705	0.775
REIN B	0.423	0.660	0.755	0.879	0.971
REIN C	0.332	0.512	0.585	0.676	0.748
WTY	0.226	0.339	0.383	0.438	0.481

Size Category: Small

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.281	0.427	0.485	0.561	0.617
PAL	0.184	0.274	0.309	0.352	0.384
CAL	0.215	0.321	0.363	0.416	0.455
WC	0.244	0.366	0.414	0.474	0.517
CMP	0.288	0.439	0.498	0.575	0.634
MPL OCC	0.329	0.506	0.578	0.668	0.739
MPL CM	0.294	0.450	0.513	0.593	0.652
SP Liab	0.225	0.338	0.382	0.438	0.480
OL OCC	0.310	0.474	0.539	0.621	0.685
OL CM	0.321	0.492	0.559	0.647	0.710
PROD OCC	0.414	0.639	0.728	0.846	0.930
PROD CM	0.327	0.503	0.573	0.662	0.734
Prop	0.280	0.425	0.484	0.556	0.610
PHYS	0.205	0.306	0.345	0.393	0.429
F&S	0.270	0.410	0.466	0.536	0.589
OTHER	0.242	0.364	0.412	0.473	0.520
INTL	0.288	0.438	0.497	0.573	0.634
REIN A	0.299	0.457	0.521	0.603	0.661
REIN B	0.381	0.589	0.672	0.779	0.858
REIN C	0.303	0.464	0.529	0.609	0.673
WTY	0.205	0.306	0.345	0.395	0.433

Size Category: Medium

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.242	0.364	0.412	0.475	0.521
PAL	0.169	0.250	0.281	0.320	0.349
CAL	0.194	0.289	0.326	0.373	0.407
WC	0.223	0.334	0.377	0.430	0.469
CMP	0.239	0.360	0.406	0.467	0.513
MPL OCC	0.299	0.456	0.520	0.599	0.661
MPL CM	0.251	0.381	0.432	0.497	0.545
SP Liab	0.200	0.299	0.338	0.386	0.423
OL OCC	0.283	0.430	0.487	0.560	0.617
OL CM	0.288	0.438	0.497	0.573	0.628
PROD OCC	0.365	0.558	0.634	0.733	0.804
PROD CM	0.289	0.441	0.501	0.578	0.638
Prop	0.243	0.366	0.415	0.475	0.520
PHYS	0.188	0.279	0.314	0.357	0.389
F&S	0.252	0.381	0.433	0.496	0.545
OTHER	0.206	0.307	0.346	0.396	0.434
INTL	0.239	0.359	0.406	0.465	0.513
REIN A	0.256	0.387	0.440	0.507	0.555
REIN B	0.332	0.508	0.577	0.667	0.732
REIN C	0.274	0.417	0.474	0.545	0.600
WTY	0.188	0.279	0.314	0.358	0.392

Size Category: Large

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.205	0.306	0.346	0.397	0.434
PAL	0.151	0.223	0.250	0.284	0.310
CAL	0.178	0.264	0.297	0.339	0.370
WC	0.207	0.308	0.347	0.395	0.431
CMP	0.209	0.312	0.352	0.403	0.442
MPL OCC	0.267	0.406	0.461	0.530	0.583
MPL CM	0.211	0.318	0.360	0.413	0.451
SP Liab	0.186	0.277	0.312	0.356	0.389
OL OCC	0.279	0.422	0.478	0.549	0.604
OL CM	0.262	0.396	0.448	0.515	0.563
PROD OCC	0.325	0.493	0.559	0.645	0.706
PROD CM	0.252	0.381	0.432	0.497	0.548
Prop	0.207	0.308	0.348	0.397	0.434
PHYS	0.170	0.252	0.283	0.322	0.350
F&S	0.234	0.353	0.399	0.457	0.501
OTHER	0.188	0.280	0.315	0.359	0.393
INTL	0.209	0.312	0.352	0.402	0.442
REIN A	0.218	0.326	0.369	0.424	0.463
REIN B	0.298	0.452	0.512	0.589	0.645
REIN C	0.246	0.372	0.422	0.484	0.531
WTY	0.170	0.252	0.283	0.322	0.353

Appendix 3

Typical Premium Risk Capital Factors

Size Category: Very Small

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.323	0.496	0.566	0.654	0.726
PAL	0.267	0.404	0.459	0.526	0.579
CAL	0.275	0.418	0.476	0.550	0.606
WC	0.300	0.459	0.522	0.605	0.662
CMP	0.314	0.481	0.549	0.636	0.700
MPL OCC	0.349	0.543	0.619	0.723	0.793
MPL CM	0.321	0.496	0.566	0.653	0.719
SP Liab	0.289	0.445	0.506	0.587	0.643
OL OCC	0.330	0.511	0.583	0.678	0.745
OL CM	0.342	0.530	0.604	0.703	0.772
PROD OCC	0.357	0.554	0.632	0.734	0.816
PROD CM	0.328	0.508	0.580	0.672	0.743
Prop	0.303	0.466	0.530	0.615	0.673
PHYS	0.239	0.361	0.409	0.470	0.518
F&S	0.303	0.466	0.530	0.616	0.673
OTHER	0.303	0.466	0.531	0.614	0.675
INTL	0.314	0.481	0.549	0.637	0.696
REIN A	0.326	0.503	0.572	0.663	0.737
REIN B	0.326	0.505	0.577	0.667	0.743
REIN C	0.321	0.496	0.567	0.660	0.732
WTY	0.248	0.376	0.427	0.490	0.540

Size Category: Small

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.281	0.427	0.485	0.559	0.618
PAL	0.239	0.359	0.406	0.464	0.510
CAL	0.248	0.374	0.425	0.490	0.539
WC	0.270	0.409	0.464	0.536	0.586
CMP	0.267	0.406	0.461	0.532	0.584
MPL OCC	0.324	0.500	0.569	0.663	0.725
MPL CM	0.307	0.471	0.537	0.620	0.680
Sp Liab	0.266	0.405	0.460	0.533	0.582
OL OCC	0.286	0.438	0.498	0.578	0.633
OL CM	0.311	0.477	0.543	0.630	0.691
PROD OCC	0.335	0.517	0.589	0.682	0.758
PROD CM	0.315	0.485	0.553	0.639	0.705
Prop	0.266	0.404	0.459	0.530	0.579
PHYS	0.212	0.318	0.359	0.412	0.453
FS	0.266	0.404	0.459	0.531	0.579
OTHER	0.257	0.390	0.443	0.509	0.558
INT	0.267	0.406	0.461	0.533	0.581
REIN A	0.282	0.431	0.489	0.564	0.625
REIN B	0.300	0.461	0.525	0.605	0.673
REIN C	0.261	0.400	0.455	0.528	0.585
WTY	0.221	0.332	0.376	0.431	0.474

Size Category: Medium

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.263	0.398	0.452	0.520	0.574
PAL	0.210	0.314	0.354	0.404	0.443
CAL	0.235	0.354	0.401	0.461	0.506
WC	0.251	0.379	0.429	0.495	0.540
CMP	0.245	0.369	0.419	0.482	0.528
MPL OCC	0.295	0.452	0.513	0.596	0.650
MPL CM	0.279	0.427	0.486	0.559	0.613
Sp Liab	0.242	0.367	0.416	0.480	0.523
OL OCC	0.259	0.394	0.447	0.516	0.565
OL CM	0.285	0.435	0.494	0.571	0.625
PROD OCC	0.321	0.493	0.562	0.649	0.720
PROD CM	0.297	0.455	0.519	0.598	0.659
Prop	0.246	0.373	0.423	0.487	0.531
PHYS	0.185	0.276	0.310	0.355	0.389
FS	0.238	0.359	0.406	0.469	0.510
OTHER	0.229	0.345	0.390	0.447	0.489
INT	0.245	0.369	0.419	0.483	0.525
REIN A	0.258	0.391	0.444	0.511	0.565
REIN B	0.274	0.420	0.478	0.549	0.610
REIN C	0.230	0.351	0.399	0.462	0.511
WTY	0.194	0.289	0.327	0.373	0.409

Size Category: Large

	Confidence Level				
	95	99	99.5	99.8	99.9
HO	0.257	0.388	0.440	0.505	0.558
PAL	0.189	0.282	0.318	0.361	0.396
CAL	0.214	0.320	0.362	0.416	0.456
WC	0.232	0.349	0.394	0.454	0.495
CMP	0.235	0.353	0.400	0.460	0.503
MPL OCC	0.273	0.416	0.472	0.546	0.596
MPL CM	0.260	0.396	0.450	0.516	0.566
Sp Liab	0.221	0.333	0.377	0.434	0.473
OL OCC	0.242	0.366	0.414	0.478	0.522
OL CM	0.247	0.375	0.424	0.489	0.534
PROD OCC	0.293	0.448	0.509	0.588	0.650
PROD CM	0.279	0.426	0.485	0.558	0.614
Prop	0.237	0.358	0.406	0.467	0.509
PHYS	0.168	0.249	0.280	0.319	0.349
FS	0.220	0.330	0.373	0.430	0.467
OTHER	0.211	0.316	0.357	0.409	0.447
INT	0.234	0.353	0.400	0.461	0.501
REIN A	0.242	0.367	0.416	0.478	0.529
REIN B	0.258	0.393	0.447	0.513	0.568
REIN C	0.231	0.351	0.399	0.461	0.509
WTY	0.176	0.262	0.296	0.336	0.369