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Evaluating The Enterprise Risk Management Practices Of Insurance Companies

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Evaluating The Enterprise Risk Management Practices Of Insurance Companies

Risk management is at the heart of what Standard & Poor's Ratings Services does when analyzing insurers and reinsurers. Within each category of analysis used to evaluate insurers, Standard & Poor's implicitly and explicitly evaluates risk and how risks are managed.

With the new risk-management evaluation process described in this article, risk management will become a separate, major category of our analysis. In our published full analyses, the new category will be titled "Enterprise Risk Management." The companies that are seen to be the best performers in this category will be those that have robust risk-management processes that are carried across the entire enterprise and that form a basis for informing and directing the firm's fundamental decision making.

Specifically, enterprise risk management (ERM):

- Allows a more prospective view of an insurer's risk profile and capital needs.
- Is a highly tailored analytic process that recognizes each insurer's unique structure, products, mix of business, potential earnings streams, cash flows, and investment strategy.
- Is a process that recognizes the benefits and risks of a diversified base of products, investments, and geographic spread of risk that can quantify the benefits of uncorrelated or partially correlated risks.

The ERM evaluation will provide a more disciplined tool to bring information about this major aspect of management and corporate strategy into the rating rationale. The quality of management in the area of risk and the strategic choices relating to risk and return will be emphasized. Unfavorable operating performance will be viewed in the light of risk choices and risk tolerances that are a part of the ERM evaluation. Favorable operating performance that is driven by higher risk taking will be distinguished from higher returns for the same levels of risk within the ERM evaluation process. Current levels of capitalization have always been compared with risks, but with the ERM evaluation, future comparisons of risk and capital will be emphasized as well as the reasoning for the choices that will determine the future positions.

Vision Of ERM

In the broadest terms, a company that practices risk management will be working constantly to identify risks and regularly monitor the important risks. It will also have standards and limits in place for the amount and form of the risks that it is prepared to retain or tolerate as well as processes to measure and manage its risks so as to stay within the limits formally agreed to by senior management. The impact of effective execution of the risk management will be that any losses that occur from retained risks are within the tolerances of the organization. The company should also have processes to enforce those limits and to learn from mistakes and losses as and when they occur. The result of risk management is therefore a controlled risk-taking environment. A company with risk management is not one where managers believe that they do not take any risks. Rather, a company with risk management is one where managers knowingly take considered risks and understand that losses are probable. In effect, risk management should provide a company with reasonable grounds to believe that it will be able to manage any events and losses

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within predetermined bounds.

Traditionally, risk management in insurance companies has been performed in separate silos for each major risk, with ad hoc efforts to determine when a new risk-management silo needed to be erected. The two basic legacy risk-management systems that exist in most insurance companies are the underwriting and the investment risk-management processes. Furthermore, as interest rates rose and fell dramatically in the late 1980s, many companies built asset/liability management risk-management silos to manage their interest rate risk. By the 1990s, some companies became increasingly aware of the potential impacts of operational risks. With the recognition of each major new risk, another silo was built. Silos also apply to groups of companies in different business lines or countries, each of which might have their own underwriting risk silo.

ERM begins to happen when a company or group of companies commits to doing risk management for all of its important risks. ERM groups will be working to rationalize their risk limits and loss tolerances across their different risks. ERM groups will be working to measure all of their risks on comparable measures so that the risk-management process of managing risk taking and limiting losses to within company tolerances can be performed across all risks and for the total enterprise.

The ERM group that adds the element of risk capital to its ERM program can also get the potential upside benefits of ERM. By linking risk capital values to the actual risk-taking activities, the insurer is then able to assess the projected and historical performance of its different risk-taking activities in proportion to the economic capital required to support those activities. With that information in hand, company management can set targets for the return on economic capital of each activity and can allocate the available capital to optimize the expected return on economic capital and measure the effectiveness of management efforts to achieve those goals. Group managers—armed with this information and the processes to use it—are more likely to make choices that let them use their limited capital in the most effective way to achieve their company's goals.

This is far from saying that there is a single picture of ERM excellence. ERM must be completely tailored to the culture, markets, and businesses that the company operates in if it is to be effective. In addition, it should be noted that if every company practiced the same seemingly excellent risk-management system, the risk-management systems would create their own systemic risk. Indeed, a simple business might not require a complex integrated risk-management framework.

Standard & Poor's aims to incorporate new measures of risk and performance into its rating process, but only through time and delivery of a successful track record can Standard & Poor's rely on outputs from such new tools.

ERM Evaluation And Insurance Company Ratings

Commentary and opinions on ERM can currently be found in existing published rationales. What the new ERM category delivers to investors is greater transparency in that users of ratings will be able to more readily access Standard & Poor's views on risk management and how that affects the rating.

ERM will be one new category of analysis along with the existing categories of Competitive Position, Management And Corporate Strategy, Operating Performance, Capitalization, Liquidity, Investments, and Financial Flexibility. The rating decision is a combination of the views that are formed of the quality of the company's situation in each of these areas. The ERM evaluation will add an element to that synthesis process. For each company, the

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importance of each of the rating factors to the overall financial strength of the company is the driver for the weightings among the factors. ERM will not be the sole determining factor, nor is it likely to be completely unimportant for any insurance company. Because the activity of taking risk is a fundamental part of the business definition of all insurance companies, risk management is a fundamental part of insurance company management.

Companies will be viewed as having weak, adequate, strong, or excellent ERM. This view will be formed in a similar manner to the way the overall ratings view is formed. Standard & Poor's will evaluate several aspects of the company's ERM program and form separate views on each part of the program. The major components of ERM are risk-management culture, risk controls, extreme-event management, risk and capital models, and strategic risk management. Views will be formed regarding each of these five components in the same quality levels of weak, adequate, strong, or excellent. A company with excellent ERM will have excellent or strong quality for all five components of ERM. A company with weak ERM will have weak or adequate quality for all five components. Companies with adequate or strong ERM quality will be those with a range of quality in the five components, with the strong companies having a preponderance in the excellent and strong areas and the adequate companies having the majority in the adequate or weak areas.

Table 1

Definitions Of ERM Classifications

Classification	Definition
Excellent	Insurer has extremely strong capabilities to consistently identify, measure, and manage risk exposures and losses within the company's predetermined tolerance guidelines. There is consistent evidence of the enterprise's practice of optimizing risk-adjusted returns. Risk and risk management are always important considerations in the insurer's corporate decision making.
Strong	Insurer has strong capabilities to consistently identify, measure, and manage risk exposures and losses within the enterprise's predetermined tolerance guidelines. A strong ERM insurer is somewhat more likely to experience unexpected losses that are outside of its tolerance level than an excellent ERM insurer. There is some evidence of the enterprise's practice of optimizing risk-adjusted returns, though it is not as well developed as those of leading industry practitioners. Risk and risk management are usually important considerations in the insurer's corporate decision making.
Adequate	Insurer has capabilities to identify, measure, and manage most major risk exposures and losses, but the process has not been comprehensively extended to all significant risks facing the enterprise. Insurer loss/risk tolerance guidelines are less developed. Execution of its existing risk-management programs is sufficient, albeit less comprehensive, than are strong and excellent ERM practices. Unexpected losses are more likely to occur, especially in areas beyond the scope of the existing ERM practices. Risk and risk management are often important considerations in the insurer's corporate decision making.
Weak	Insurer has limited capabilities to consistently identify, measure, and manage risk exposures across the company and, thereby, limit losses. Execution of its risk-management program is sporadic, and losses cannot be expected to be limited in accordance with a set of predetermined risk/loss tolerance guidelines. Risk and risk management are sometimes considered in the insurer's corporate decision making. Business managers have yet to adopt a risk-management framework, are satisfying regulatory minimums without regularly applying risk management to their business decisions, or have very recently adopted a risk-management system that has yet to be tested.

Although the views of company ERM quality have fixed definitions, the exact practices that will be viewed as excellent, strong, adequate, and weak would vary according to the risks of the company. For example, a company with high concentrations of coverage with a single-event probable maximum loss that is a high percentage of surplus would be expected to have a diversified reinsurance program to be considered to have strong ERM, while another company without such concentrations might not need the same sort of reinsurance for its ERM to be considered strong.

In addition, the importance of ERM in the overall rating on an insurer will vary according to the insurer's situation. Two important factors in determining the importance of ERM are the ability to absorb risks—as demonstrated by the capital and access to capital of the insurer—as well as the complexity of the risks of the insurer. A complex risk is a risk that could change significantly in a short period of time with little obvious evidence of the change. Insurance

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contracts that cover highly uncertain, long-term, or multiple-contingent payments are usually complex risks. Many insurance products with embedded options and investment instruments that involve contingent financial claims—such as options, futures, derivatives, and many types of structured securities—also involve complex risks.

ERM will also be seen as a leading indicator. Insurers might develop strong ERM programs during hard market cycles. A weakening of ERM standards will be seen as a leading indicator of future problems. Hard markets and soft markets occur in all types of risk. During soft markets, compensation for risk taking goes down, risk-control standards weaken, or both. The opposite happens in hard markets. This can be seen in credit markets, equity markets, interest markets, and the insurance markets where the terminology originated. An excellent ERM insurer is not bound to do exactly the same thing in a hard market that it does in a soft market, but it will have mentally prepared for the soft market and knows in advance what its risk limits and risk/reward standards will be in the face of the softening of the each of the risk markets that it is involved with.

Evaluation Criteria

For the purpose of evaluating risk management, Standard & Poor's will look at a company's processes in five areas: risk-management culture, risk control, extreme-event management, risk and capital models, and strategic risk management.

Risk-management culture

Underpinning the effectiveness of the entire risk-management processes is the company's risk-management culture. Risk-management culture is the degree to which risk and risk management are important considerations in all aspects of corporate decision making. Risk-management culture encompasses the policy dimensions of ERM. The company's philosophy toward risk and its risk appetite, the governance and organizational structure of the risk-management function, the risk and risk-management external disclosures and internal communications, and the degree to which there is broad understanding and participation in risk management across the company are all aspects of risk-management culture.

Standard & Poor's will tend to look for the following indicators of risk-management culture:

Table 2

Risk-Management Culture Indicators

Most Favorable Indicators	Least Favorable Indicators
Company's governance structure supports effective risk management through board access, authority, and management reporting relationships for risk managers.	Risk management has a purely advisory role, is solely a response to regulatory requirements, or is nonexistent as a discipline. Access to board is completely ad hoc.
Company has a clearly articulated risk tolerance that is consistent with the goals and resources of the firm and the expectations of the board and other stakeholders.	Company's risk tolerance is unclear and seems to vary from situation to situation.
Corporate risk management responsibility rests with an influential high-level officer.	Corporate risk management responsibility given to middle-level officer or dispersed among a group of officers (or is nonexistent).
Board regularly receives, discusses, and understands reports on risk positions and the company's risk-management programs.	Board hears about risk and risk management only after a loss event.
Risk-management staff is highly and appropriately qualified.	Risk-management staff is learning on the job or there is no risk management staff per se
Risk-management objectives are highly coordinated with business-line goals.	Risk-management objectives are set independent of business-line goals and often directly conflict.

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Table 2

Risk-Management Culture Indicators (cont.)	
Company incentive compensation supports the achievement of risk-management objectives.	Company incentive compensation pays for activities that are directly opposed to risk-management objectives.
Risk-management policies and procedures are clearly stated and widely known.	Risk-management policies and procedures are not fully documented.
Information on risk management is widely communicated internally and externally to company management and stakeholders.	Risk-management activities and information are disseminated on a need-to-know basis.
Management views its risk-management capabilities as providing a competitive edge.	Management views risk management as a frustrating constraint imposed by external parties.
Insurer actively learns from mistakes and loss situations. Policy and procedural changes are made to improve future risk management.	Insurer avoids mention of unpleasant experiences. Management response to a loss situation is often to make sure that it will not repeat that very specific mistake.
Company makes limited changes to expectations when situations dictate.	Management is required to meet goals with no exceptions or excuses.
Management understands the basis for risk measures and risk-management programs and understands the strengths and limitations of those values and processes.	A small number of technical specialists understand the basis of the risk measures and risk-management programs and have not been able to communicate that understanding to management.
Individual senior company managers have public responsibility for the management of specific major risks of the company.	Responsibility for risk management is a delegated function with no clear expectation of senior management responsibility.
Risk measurement and monitoring is independent from risk taking and management.	The same area or person prepares the risk monitoring reports and approves or executes the risk taking and risk management.
Remote offices and diverse business units all have approaches to risk taking and risk management consistent with the corporate views.	Approach to risk and risk management are completely localized and varies among different business lines.

In a company with an effective risk-management culture, every manager contributes to the risk-management process without specific direction from the risk-management staff. In that manner, every corporate decision can reflect the firm's risk-management standards.

Standard & Poor's will be looking for the signs of an embedded and effective risk-management culture in its discussions with the general managers of the company as well as with dedicated risk-management staff.

Discussions with CEOs, CFOs, and business unit managers will be important to develop a complete assessment of risk culture. Openness about mistakes and how lessons were learned and changes made to risk appetite and process will be viewed favorably. Standard & Poor's will be looking for managers to demonstrate a confidence in risk management, which leads to it being a leading indicator of future financial strength. Anecdotes on how ERM helped companies avoid risks demonstrate a strong buy-in by management and a strong risk culture.

Risk control

The risk-management process mentioned above is actually a risk-control process. For each insurer, Standard & Poor's will develop an opinion concerning the important risks of that insurer within the general areas of credit risk, market risk, insurance risk, and operational risk. For example, an insurer with a large U.S. variable annuity business or a U.K. life with-profits business will doubtless be highly exposed to equity market risk. Any insurer with a predominantly long-tail book of business would be highly exposed to insurance risk and interest rate risk arising from possible reserve inadequacy. An insurer with very highly automated back-office systems would be exposed to IT operational risk, and an insurer with a low-tech back office would have a high exposure to people and process operational risk.

Control processes for each of the company's major risk categories will be evaluated: the quality of the risk identification, risk monitoring, standards and limits for retained risks, processes to manage risks to stay within

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limits, and the effective execution and results of those programs. Similarly, the processes to enforce those limits and the way in which the company learns from its losses will be analyzed, and their combined quality and effectiveness will drive Standard & Poor's opinion.

Standard & Poor's will look for the following indicators of risk controls:

Table 3

Risk-Control Indicators

	Most Favorable Indicators	Least Favorable Indicators
Risk identification	Company management has performed a process of identifying risks exposures and the most significant of those exposures.	Not all significant risk exposures have been identified.
Risk monitoring	Company monitors all significant risks on a regular basis, with timely and accurate measures of risk.	Company's risk monitoring is informal, irregular, and of questionable accuracy.
Standards and limits	Company has clearly documented limits and standards for risk taking and risk management that are widely understood within the company.	Risk limits are not documented or are so broad that they do not have any impact on operational decision making. Risk limits and policies are not widely known or understood.
Risk management	Company has clear programs in place that are regularly used to manage the risks the company takes.	Risk-management activities are situational, ad hoc, and driven by individual judgment.
Risk limit enforcement	Company has a process in place to see that risk limits and risk-management programs are followed as planned. Exceeding limits has clear, predetermined, and effective consequences.	Review of compliance of limits is irregular, and often there are no consequences for exceeding limits.
Risk learning	Company has a loss post-mortem process to determine if its processes need improvement.	Company quickly puts loss situations behind it without review or with a review of extremely limited scope.

Although Standard & Poor's will not be require predetermined specific risk-control processes as a prerequisite to a favorable opinion, we shall nonetheless be paying particular attention to control practices that are currently of high concern across both industry sectors and geographic regions, including:

- Reserve risk—risk that reserves will develop adversely.
- Catastrophe risk—both natural and man-made.
- Reinsurance-recoverable risk (i.e., counterparty credit risk).
- Equity risk arising from embedded guarantees in insurance products.
- Interest rate risk, which stems from historically low interest rate environments and could add significant risk if rates rise or fall.
- Insurance concentration and event risks.
- Underwriting cycle management.
- Corporate governance.
- IT data security risk.

Although some risk-control activities are best done locally within the business unit or subsidiary company where the risk-taking decisions are made, some must be done on an aggregate basis. In particular, concentration risk must be attended to at a group-wide basis to ensure that total group exposure to particular credit, market, or insurance risks are within group risk tolerances.

Table 4 shows an example of risks, risk monitoring, risk limits, and risk-management activities for a company with active and robust risk-control processes. (In this example, there has been no process to limit the list to the most significant risks.)

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Table 4

Risk-Control Practices

Risks	Risk Monitoring	Risk Limits	Risk Management
Credit risk			
Bonds and CDOs, mortgage loans, reinsurance ceded, and other assets	Concentrations, credit value at risk, name exposure, and compliance reports	Concentration limits, underwriting guidelines, counterparty limits, and portfolio value at risk	Diversification, hedging, selling discipline, and underwriting
Market risk			
Interest rate; equity and derivatives; international, sovereign, and foreign exchange; and property real estate	Value at risk, greeks (delta, gamma, vega, etc.), duration and convexity, and notional value	Value at risk limits and imbalance tolerances	Asset/liability matching, hedging, and selling discipline
Insurance risk			
Pricing/underwriting, reserving, catastrophe, claims, policyholder behavior, and new product	Claims reporting, compliance reports, exposure reports, and lapse and renewal studies	Per-risk limits, per-market limits, per-case limits, and authority limits	Reinsurance, contract design, benefit design, customer communications, market avoidance, and underwriting
Operational risk			
Distribution, process and people, fraud and internal control, outsourcing, reputational, information technology, human resources, regulatory and compliance, change management, and business continuity	Compliance reports, exception reports, loss-event reports, self assessment, heat maps, unusual transactions, risk register, and environmental monitoring	Processing lags, complaints, and supplier limits	Action triggers, training, documentation, policies and procedures, contingency plans, codes of conduct, codes of ethics, and corporate insurance

Extreme event management

Whereas risk control is concerned with everyday risk taking, extreme event risk management is concerned with the impact of low-frequency adverse events. Low-frequency events cannot easily be managed via a control process because the monitoring is not expected to show any results in most periods.

A good risk-management program includes a process of envisioning the impact of likely disasters through stress testing and scenario analysis. This would evaluate the potential impact on the company's reputation, liquidity, and overall financial strength of specific catastrophic events, offset by the implementation of contingency plans. At the same time, at the purely financial level, it is essential to assess the reliability and adequacy of catastrophe risk reinsurance and retrocession so that the impact of most conceivable disasters on the company is sufficiently reduced in magnitude so as to ensure survival of the enterprise.

Extreme-event management also includes the consideration of terrorism, natural disasters, an IT failure, a power failure, a stock market crash, an interest rate spike, etc., while including a process of early warnings that could allow company management to anticipate the disasters, however short the period of notice. Finally, a company with good extreme-event management would expect to perform thorough post-mortem analyses of problem situations and would feed the results of that analysis back into its ongoing disaster-planning process.

Standard & Poor's will look for specific evidence that the extreme-event management processes are being regularly performed by a company. However, the extreme-event management process is not well served by a routine checklist. A company with excellent extreme-event management practices will instill and sustain a decidedly nonroutine, imaginative flavor into its process.

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Risk models

For most of the credit, market, and insurance risks, the degree of exposure to risk is not readily apparent from the company accounting system. To monitor, control, and manage risk exposures, indicative, predictive, and sensitivity risk measures need to be used.

Indicative measures are obtained from information that might be directly available from the accounting or administrative or underwriting systems. Indicative measures give a broad indication of the trend in risk. Indicative measures are items such as life insurance sums insured, probable maximum loss, premiums earned, asset values, staff turnover rates, audit exception reports, etc.

Predictive measures are estimated using complicated and powerful simulation models. Predictive risk models usually directly or indirectly presume that the future is probabilistic and that risk can be measured as the loss that arises under a certain probability or other criteria. Predictive measures take into account the expected shortfall and value at risk (see "Chasing Their Tails: Banks Look Beyond Value-At-Risk," published on July 12, 2005, on RatingsDirect).

Expected shortfall is a risk measure that looks beyond value at risk and into the tail of the loss distribution. Although a 95% value at risk is the minimum potential loss of the 5% worst-case scenarios on a portfolio over a given time horizon, a 95% expected shortfall is the mean loss of the 5% worst-case scenarios on a portfolio over a given time horizon. Expected shortfall looks beyond the value on the left tail of the distribution that is used to compute value at risk. As a result, it is also referred to in the literature as tail value at risk, mean excess loss, or conditional tail expectation.

Predictive risk measures are usually developed with projection systems. They can be deterministic, single-scenario-based calculations or stochastic simulations that are then dependent on a scenario generator. Single-scenario-based measures are most useful on a trend basis over successive periodic tests because it is difficult to attach particular meaning to the result for any individual year. Scenario generators for stochastic simulations will be calibrated to produce a set of scenarios that will have a predetermined set of characteristics. A special case of the stochastic simulation is closed-form calculations where the instrument being modeled is simple enough that modeling is not needed because the average value can be calculated directly using stochastic calculus. The Black-Scholes formula is an example of a closed-form calculation of a stochastic value.

The choice of risk measures should be consistent with the complexity of the risk and the intended usage. Timeliness of availability of the risk measure is also an issue. Extensive predictive models are not always the most effective because of the long processing delays. In addition, with the usage of more complex models comes a significant amount of model risk that can come from the handling of data inputs relating to the company exposures, the model assumptions about the environment, and the applicability of the model's methodologies in a changing environment. Sometimes indicative risk measures that are easier to audit and keep correct and that are available on an almost real-time basis are more effective for risk management than complex indicative measures.

Appropriate sensitivity measures will tell the sensitivity of a value to a change in some important factor to the determination of the value. Duration, convexity, key rate duration, delta, gamma, vega, and rho are all sensitivity measures. Sensitivity measures can be determined with closed-form calculations or with stochastic simulation models, depending on the complexity of the risk.

Excellent measurement and management of risk requires both (1) recognition that risk is multi-dimensional and

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therefore that it cannot be represented by a single value and (2) sophisticated modeling capabilities to develop the multiple risk measures that are then used to manage risk. Indicative risk measures will rarely be viewed as excellent practice when they are the sole measures of risk, but the use of indicative measures can form the basis for a very low-cost, adequate risk-management process.

ERM requires that there is monitoring of all important risks, and it is therefore considered preferable to have a monitoring system based on indicative measures rather than have no monitoring of a significant risk.

Standard & Poor's will review the quality of the risk models and indicative measures used, the assumptions that underlie those models, the treatment of risk-mitigation activities in those models, the infrastructure to feed data to the models, the procedures that are followed to run the models, and the validation process of the models. Models that develop separate values for risks and risk mitigation are generally thought to be preferable to models that only project net retained risk. Models are considered in the context of the risks undertaken by the company.

Economic capital

Economic capital is the amount of capital that is needed by an enterprise to provide support for retained risks of a company in a severe loss situation. Economic capital models are a type of risk model. Economic capital has a number of potential uses. For banks under Basel II and insurance companies under Solvency II, economic capital—as determined by internal company models—may be recognized by regulators as the minimum regulatory capital requirement, superceding any other regulatory requirements. The other uses of economic capital fall under the final ERM category—strategic risk management—described below.

The primary virtue of economic capital is that if determined consistently across all risks of the company, it can be aggregated to obtain the total economic capital required by the company. Because there is believed to be some overlap (correlation) of the risks, this aggregation process might not be a simple addition but could be a statistical combination of probability distributions. This can produce a total economic capital requirement that is less than the simple sum of the parts.

Economic capital can be determined by a single model of all of the risks of a company or, more commonly, by a series of separate models, usually one or more for each separate risk-taking activity. The process of developing and coordinating the model or models is a major undertaking that often takes several years to complete.

For many years, companies have been using a risk capital measure that might be less accurate than a full economic capital model. These risk capital models are usually based on a standardized risk capital formula, such as the Standard & Poor's capital adequacy formula or the U.S. NAIC risk-based capital formula. These formulas are intended to give broad indications of the risk capital needs of a large number of companies on a comparable basis using largely public information. Some companies use versions of these formulas where they have modified one or more of the factors to more accurately reflect the risks as they see them.

If companies use these standard formulas without modification, Standard & Poor's will view this as weak practice for two reasons. First, if the standardized formula significantly understates risk, a company using that value without modification will be subject to abrupt changes in its capital charges when the owner of the formula realizes the inadequacy of the formula. Companies that have written large amounts of business without recognition of an adequate level of risk capital could be in serious trouble with regard to their capital adequacy as viewed by the owner of the standardized formula. Second, companies that use standardized formulas without modifications will be likely to make poor decisions with regard to strategic choices affected by capital usage estimates and will not

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properly reflect the cost of risk capital in product pricing.

Although a customized risk capital formula is seen as better practice than a standardized formula, some companies have risk positions that are so complex that simple linear formulas are not adequate to even estimate risk capital accurately. For these companies, some or even many of their risks will need to be evaluated using complex economic capital models.

The primary drawback to economic capital is that it encourages over-reliance on a single model and a single-number measure of risk. Risk is driven by many factors. For practicality reasons, risk models try to represent risk by looking at what appear to be the primary drivers of each risk rather than trying to model the full complexity of reality. The degree of influence of each of the primary drivers and the relationships among primary and secondary factors will likely change over time. Simplifying assumptions (often not explicitly stated) can become invalid. Market, societal, and legal/regulatory changes that are driven by factors completely exogenous to the model could invalidate the model calculations and, ultimately, its conclusions. In addition, risk looks different at various points on the probability spectrum. The time element is also very important to some risks and less so to others. A risk from a long-term illiquid insurance contract could look very different viewed over a single year compared with multiple years, and neither view will be able to provide the sole information to make all risk-management decisions correctly. However, it is usually tempting to use this very expensive economic capital single value for all risk-management problems.

Over the next year, Standard & Poor's will continue to develop robust processes of evaluating companies' economic capital processes to better inform our overall view of financial strength and capitalization in particular. This review will only be performed for companies that are found to have effective and coordinated processes for risk control, business continuity, risk-management culture, and risk models.

Standard & Poor's expects that fewer than 50 groups globally will be viewed as robust based on current perceptions. For such companies, a valid model of economic capital could theoretically provide credible predictive information about the risks inherent in the business of the company. They have effective procedures for maintaining within predictable bounds their risks and their actual losses from risk. Companies that have incomplete risk management that does not fully extend to comprehensive ERM have not yet achieved that level of predictability of risks and losses. Therefore, any economic capital calculations could provide good historical information but might not predict future risk positions because those positions are not fully under management control.

Strategic risk management

Starting with a view of required risk capital and a sensitive process for allocating that capital among products and businesses, a company can develop programs that will support the optimization of risk-adjusted return. (For large, diverse companies with complex risks, that view of risk capital might require economic capital or other similarly complex models.)

Standard & Poor's will look for a number of components of strategic risk management. For a company to be viewed as having excellent strategic risk management, we expect to find that it is executing all of these components. A company with strong strategic risk management will be executing most of these components and planning to put the remainder into place in the near future. A company with adequate strategic risk management will be executing some of these components and planning to add the rest eventually. The company with weak strategic risk management does not effectively use any of these components.

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Company retained risk profile.
The economic capital for each product, business, and risk type shows the retained risk profile of the company. After seeing this profile, management might want to make plans to change the company's concentrations of risks to improve diversification or to increase concentration of risk to take advantage of company expertise in managing a particular risk. The trend of retained risk taking and clear senior management discussion of the decisions that drove those trends will be indicative of the strength of strategic risk management.

Strategic asset allocation.
Allocation of invested assets among major broad classes of investments can be influenced by the economic capital and the desired risk profile so that risk-adjusted return and diversification are modified in the direction that best suits company objectives. Macro investment portfolio positions and clear discussion of the reasons for those positions relative to the exposure generated by insurance obligations are indicative of strong strategic risk management.

Product risk/reward.
The analysis that supports risk-adjusted pricing will provide management with full information regarding the risk/reward tradeoff that is involved in each product. Choices can then be made to adjust that balance in some products or increase or decrease emphasis in the sales of other products. Clear standards and practices for insurance product risk/reward tradeoffs are indicative of strong strategic risk management. In addition, management in a company with strong strategic risk management would be able to discuss the risk/reward tradeoffs that are fundamental to the most important company products.

Optimizing risk-adjusted results.
The capital-budgeting process provides the information to allow management to choose the strategic alternatives that can provide the best return for the scarce capital resources of the company. The use of economic capital modeling as a principal driver of the capital budgeting element in strategic planning is indicative of strong strategic risk management.

Determining adjustments to company dividend payments.
The risk-adjusted return and the capital-budgeting process will provide information on the risk-adjusted return that the company might produce for marginal changes in available capital. The division between retained earnings and dividends (or stock buybacks or other capital management activities) would be set based on a minimally acceptable level of marginal return on risk-adjusted capital. Companies with strong strategic risk management processes will pay attention to the dividend payment decision in their capital budgeting process and be able to discuss how that decision was made.

Rewarding performance.
A risk-adjusted financial measurement system allows a company to monitor its success in achieving expected risk-adjusted returns. Risk-adjusted financial measures also provide the company the information that can be used to reward the managers who are adding value and avoid rewarding managers who are primarily adding risk. Performance recognition and incentive compensation linked to risk-adjusted financial results are indicative of strong strategic risk management.

The processes, standards, and criteria for reviewing enterprise risk management will continue to evolve as industry practices evolve and as Standard & Poor's view of best company practices evolves. Standard & Poor's expects that ERM will grow into an ever stronger part of insurance company financial management in all regions of the world.

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In terms of the overall importance to company financial strength, risk management is of primary importance—along with the company's business plan and infrastructure—in developing and delivering products to markets consistently and effectively and with the ability of companies to deliver, price, and administer those products at a reasonable profit. Risk management provides the assurance that there is some dependability to the company's ability to realize those profits in the face of the fundamental uncertainty of its chosen business. The objectives of risk management and of Standard & Poor's in providing an opinion regarding the financial strength of an insurer are directly aligned, making the evolution and development of risk management a very highly desirable trend for all the participants and counterparties of the global insurance, reinsurance, and financial services industries.

Summary

Organizations in all industries are looking to insurance companies to help them meet their own ERM challenges. Whether the need is sophisticated risk assessment, risk modeling, risk mitigation, or risk financing, the financial services industry is assumed to be ahead of the game. A financial institution that can demonstrate that it has, in fact, mastered ERM internally will make itself more credible in the marketplace and, as a result, more likely to attract and retain increasingly sophisticated customers. Moreover, the insurance industry is now experiencing strategic and operational problems that lend themselves to ERM solutions.

Insurers' ERM practices have evolved quickly. Standard & Poor's evaluation process responds to that evolution and will provide an important service to investors and policyholders of insurance companies—both because of how it will enhance the analytic process and how it will provide specific information on this very important aspect of insurance company management. Insurer ERM practices will continue to evolve rapidly, and Standard & Poor's evaluation process will keep pace.

Questions And Answers

Why has Standard & Poor's chosen to introduce this new ERM criteria for rating insurers now?

The primary reason for introducing the ERM evaluation criteria is to improve the rating process for insurers. ERM provides a framework that promotes a comprehensive look at risks and risk management. Although Standard & Poor's has always looked at risks and risk management in the rating review, ERM is an organizing principle that encourages a more integrated approach. At this time, a significant number of insurers have developed and implemented ERM systems to make the evaluation process meaningful. In addition, many insurers have included the development of powerful new risk-measurement and risk-management systems as a part of their ERM program, and the ERM evaluation process will be a framework for discussing those new capabilities with insurers.

When will these criteria be applied to insurance companies, and which insurers will be subject to ERM evaluations?

The ERM evaluation will be a part of each insurer's next annual review with Standard & Poor's. However, some insurers might meet with Standard & Poor's separately to discuss ERM practices. The ERM evaluation process will be applied to all insurers and reinsurers in all sectors and in all parts of the world.

Will these criteria be applied equally to smaller insurers focusing on less-complex risks as to larger insurers, which might have more complex risks?

All insurers have risk-management practices to varying degrees. These new criteria allow Standard & Poor's to evaluate risk management as a discreet rating factor. If an insurer's business is simple and management is risk

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averse, our assessment of ERM is less likely to have a material impact on the final rating conclusion. All companies need to have capabilities to limit their risk exposures and losses to within appropriate tolerances. Those capabilities need be no more intensive than the menu of risk choices that the company regularly considers. Standard & Poor's will apply these criteria to all companies, but the approach will be tailored to the risks of each insurer.

Is Standard & Poor's ERM evaluation framework flexible enough to recognize unique aspects of an insurer's risk-management processes?

The unique aspects of an insurer's risk-management processes will be discussed during the annual review with Standard & Poor's, and an assessment of those processes will be part of the ERM evaluation of the insurer. Standard & Poor's expects to reflect all significant risk-management activity of an insurer in the ERM evaluation process. In addition, we will continue to develop and improve the ERM evaluation process throughout 2005 and 2006. We will especially solicit suggestions for improvement of our process during the first six months of our implementation from companies that have been through the ERM evaluation process.

How will Standard & Poor's recognize the benefits of diversification of risks across an insurer's business?

Standard & Poor's has recognized a qualitative benefit of diversification, in its assessment of both competitive position and earnings. For insurers that use models as part of risk management, Standard & Poor's will look to develop techniques that incorporate quantitative results from insurers' models into its own quantitative interactive analysis. As we hold these ERM discussions with insurers, we will be listening for the various ways that companies have chosen to reflect credit for diversification in their own internal decision making process. From our discussions with companies to date, we have heard a very wide range of approaches and results. We will be listening and learning as we discuss this with companies.

Are complex economic capital or other risk models required by Standard & Poor's?

We expect ERM programs be effective and result in losses that are limited to risk tolerances and lower volatility of results. Ultimately, the quality of an ERM program will be judged by its results. ERM programs that have not been tested in adverse situations will not be judged as favorably as programs that have explicitly demonstrated their value. We also expect that the ERM evaluation process will provide more forward-looking information about the ability of the company to avoid future losses. Economic capital and other complex risk models can be very powerful tools in achieving ERM objectives. However, a good economic capital model without good risk-management processes will not generally drive better results. Companies with complex risks will need complex risk models to achieve risk-management objectives.

How will Standard & Poor's respond to historical lapses in risk management, if they subsequently lead to improvements in current and future risk management?

We have already responded to the historical lapses in risk management. Past losses are sometimes the motivation for the development of ERM programs. After the development of a new ERM program, we will evaluate that program based on its potential to meet its objectives and will emphasize the developing experience that the company is having under that new program. Standard & Poor's will look favorably on insurers that demonstrate an active willingness to learn from their past mistakes. It is very insightful to understand how unexpected losses were missed by risk management and how processes and controls responded.

Does Standard & Poor's expect small insurance companies to have separate risk-management functions?

Small companies might have an inherent advantage over larger groups in the risk-management area: the limited organizational distance between the executives and the employees who perform the day-to-day tasks in the company that would change the company's risk position. This could mean that many small companies do not need to have a

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separate formal risk-management function. Small companies still need to pay attention to their risks, however. In addition, small companies that take on complex risks need to have sophisticated risk-management programs.

What is meant by "complex risks?"

A complex risk is a risk that could change significantly in a short period of time with little obvious evidence of the change. Many insurance products with embedded options and investment instruments that involve contingent claims—such as options, futures, derivatives, and many types of structured securities—involve complex risks. Insurance contracts that cover highly uncertain or long-term contingent payments are also often complex risks.

How much time does Standard & Poor's expect to spend with companies evaluating ERM? Who does Standard & Poor's expect to meet with during this process?

The first assessment of ERM will be done as part of the annual review based on information that has been provided in advance. We will expect to meet people involved with the various aspects of risk management. In addition, discussions with CEOs, CFOs, and business unit managers will be important to develop a complete picture of the importance and role of risk management in the enterprise.

If an insurer cannot afford to spend the time with Standard & Poor's explaining its ERM in detail, will the insurer be penalized with a downgrade?

The ERM evaluation is now a fundamental part of our process for forming a rating decision. The lead analyst for each company will work with the company to find the appropriate amount of time to have each part of the discussion, including ERM.

Does Standard & Poor's expect to take any rating actions—upgrades or downgrades—as a result of these new criteria?

We are already reflecting company risk and risk management in our ratings, so we do not expect to make many changes in ratings as a result of our ERM discussions in the short term. However, because of the more comprehensive nature of the ERM evaluations, we could find that companies that we knew had some weaknesses in risk management are consistently weak. If that happens, that might negatively affect the ratings on that company. We could also find that companies that we knew had some risk-management strengths are actually excellent ERM practitioners, and that could positively affect some ratings.

How would Standard & Poor's view information from insurers that are in the process of developing risk models?

At this point, Standard & Poor's is primarily looking for evidence of risk models that are appropriate tools to support an effective ERM program. At a later time, further criteria will be developed to evaluate the detailed workings of models and eventually will be looking to determine ways to evaluate the results of the models for possible incorporation into Standard & Poor's quantitative views of the insurer. Discussions of developmental projects in process will not have a significant immediate impact on the rating decision but could make future discussions more efficient.

ERM and, particularly, economic capital management are aimed at increasing the efficiency of capital (i.e., less capital). As a result, will Standard & Poor's start to penalize companies with excess capital?

Standard & Poor's ratings address the financial strength of an insurer from the perspective of an obligor. Therefore, excess capital will not be penalized in that it provides a cushion to grant payments in unforeseen situations.

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Does ERM support the best interests of shareholders, debt holders, and policyholders?
ERM is fundamentally about containing risk of loss to within the loss tolerance of the company and maximizing returns from risks taken within that loss tolerance. The best interests of policyholders and investors would be served if they were associated with a company that has a risk tolerance that is consistent with the policyholder/investor expectations and a strong ERM program to stay within those tolerances. A company that cannot articulate its risk tolerance or that cannot make any assurances that it might be able to stay within any particular risk tolerance would by viewed by Standard & Poor's as having weak ERM, which could negatively affect the rating.

Some insurers already use Standard & Poor's well-known capital model. Will this continue to be used as part of the rating analysis, or will it be replaced by a standard ERM-based model?
We shall continue to use our own capital model, though there will probably be some refinements to the existing version. Regarding ERM models, Standard & Poor's initial intention is to develop an understanding of each company's internal model before deciding how best to take this a stage further. Standard & Poor's does not expect to develop a separate economic capital model.

How will Standard & Poor's approach a company that says that it does not need risk management because it is very conservative and does not take any risks?
When a company says that it does not take any risks, that could mean that it is not taking any risks that it knows about. If it does not have any risk-management process, it will not be actively looking for risks and could therefore miss certain risks. Standard & Poor's might consider this company to have poor ERM. However, if the company really is managed very conservatively with a consistent process to ensure that it is not taking risks, then ERM might not be as important to the rating.

If an insurer chooses to take no investment risk because it does not have the skills to manage it, will that be considered good risk management?
An insurer that consciously chooses its risks according to its resources and abilities is doing good risk management. However, if it chooses to avoid all investment risk, it is giving up a significant chance for diversification of risks. Although diversification is the probably the most important element of risk management in insurance companies, diversifying into risks that a company does not have the expertise to manage often does not have a positive outcome. However, we might have issues with the company's earnings adequacy if it chooses to avoid all investment risk. This is not an ERM issue, but it would certainly be a ratings issue. Finally, we need to carefully verify that the insurer really has no investment risk. The only way to have no investment risk is to have no liabilities (or pricing) that depend on the level or timing of investment earnings.

What if an insurer has large risk positions, such as high concentrations of catastrophe coverages, direct equity holdings, or MBS? Does that indicate that it has poor ERM?
An insurer can choose to take risks under a good ERM program. To have good ERM, an insurer must be fully aware that it is taking those risks. It also must have developed, in advance, the limits to those risks and must have a program that will effectively keep those risks to within those limits. Those limits need to be reasonably in line with the company's resources and abilities to manage risk. If an insurer has unusually high concentration in one or more types of risk, it would be important that the analyst be sure that the insurer is carefully appraising those risks using multiple risk measures and carefully validating the assumptions underlying the risk measures. The analyst should be particularly concerned when an insurer's risk position is supported by a view of the risk that is unique to that insurer. Being the only insurer to have a particular point of view does not make the company wrong, but it does place on it a higher obligation to substantiate its views.

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