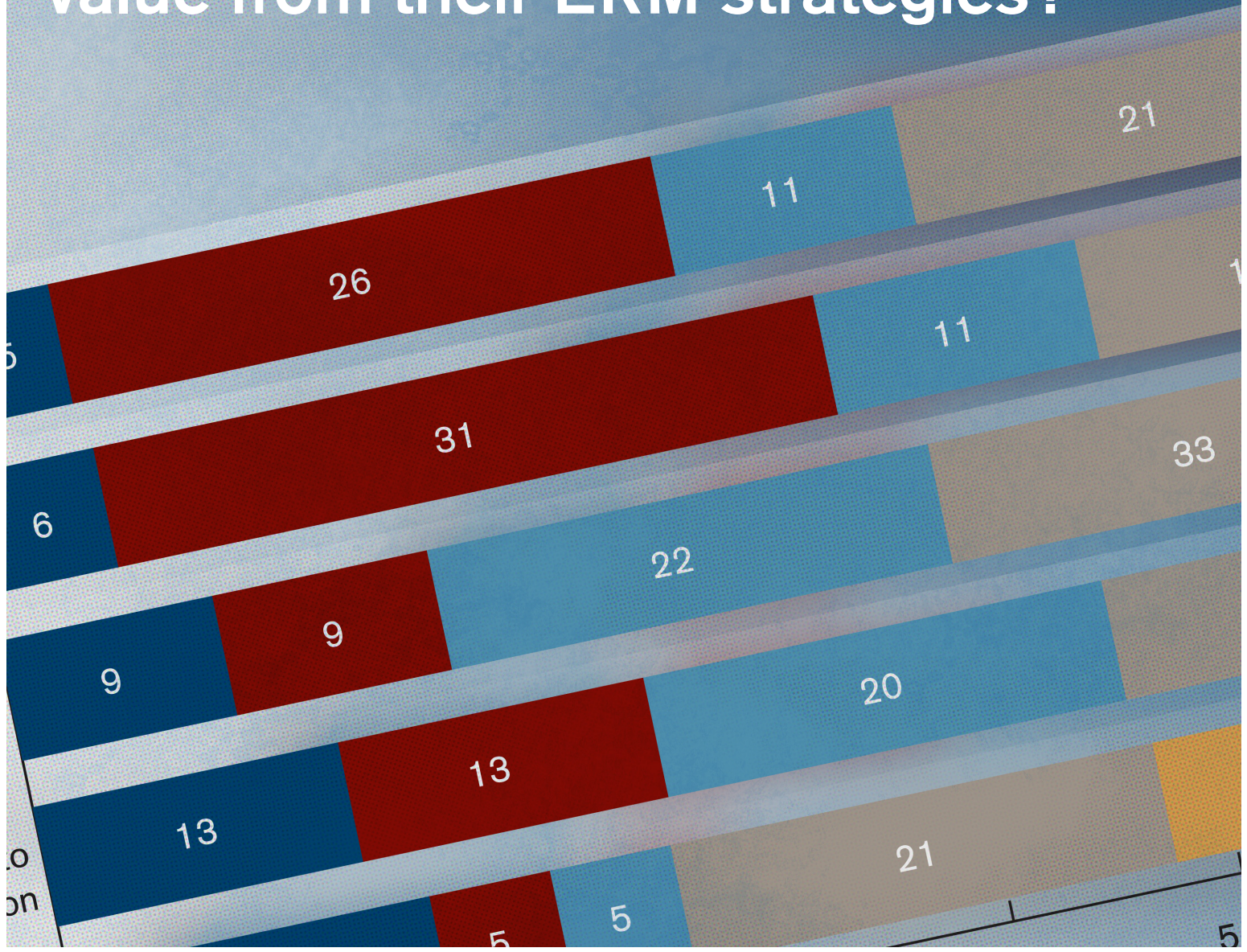


The inaugural survey from the Milliman Risk Institute

April 2012



Enterprise risk management: How are companies gaining value from their ERM strategies?





Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in healthcare, property & casualty insurance, life insurance and financial services, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe. For further information, visit milliman.com.

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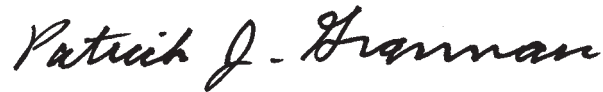
WELCOME FROM THE CEO

In January we announced the formation of the Milliman Risk Institute (MRI), which will provide scientific-based thought leadership to executive management on all facets of enterprise risk.

For the purpose of this survey, we used a definition of ERM developed by James Lam, president of James Lam & Associates and author of *Enterprise Risk Management: From Incentives to Controls*. James serves on the Milliman Risk Institute Advisory Board and has defined ERM as follows:

"First, ERM must address the core risks facing the organization—including strategic business risks, operational risks, and financial risks. Second, ERM must encompass the key levers of risk governance and policies, risk analytics, risk-return optimization, and monitoring and reporting. Finally, ERM must consider aggregate exposures and risk interdependencies across the organization's risk portfolio and the overall business ecosystem with respect to systemic risks."

This survey focused on the second component of this definition: The maturity of governance, policy, monitoring, and approach to risk management. We appreciate the participation of the many senior risk managers who responded to this survey, and look forward to supplying the ERM community with in-depth, evidence-driven perspectives on this and many other salient topics.



President and CEO
Milliman, Inc.

ABOUT THE SURVEY AND MILLIMAN RISK INSTITUTE

Enterprise risk management (ERM) has been with us now for about 12 years and has evolved from an interesting discussion to a critical requirement for many companies. While ERM has become far more prevalent, different companies are at different stages in the maturity of their ERM strategy. Companies may be motivated by business performance, regulatory requirement, or rating agency review, among other reasons; how these motivations are manifested in an actual ERM strategy is largely situational. An empirical analysis of where different companies are in their ERM maturity, and how they got there, can prove useful for risk managers as they chart their own company's way forward.

With this in mind, we are pleased to release our first (ERM) research effort on behalf of the Milliman Risk Institute. This research is a result of a survey sent to more than 1,000 CFOs, CROs, and ERM directors in the first quarter of 2012. We saw a 5% response rate, which was about what we expected. We aggregated the survey responses by size of company and also grouped the data by financial services and general corporates including energy. Rating agencies, regulators, and economists look at industries using different labels and sometimes disparate groupings. Some of the results are discussed in terms of company size and some are discussed in terms of the two industry groupings.

The breadth of the risk managers we surveyed should prove useful. If you ask many actuarial professionals about ERM they will think in terms of solvency and economic capital modeling, but an ERM director in the retail industry might think in terms of risk assessments and registers full of operational and strategic risks. Therefore, as you move across different industries, organization sizes, and countries, the description and relevance of ERM can be quite different—although no one disputes that risk is discussed more than ever by boards of directors, senior executives, shareholders, regulators, rating agencies, joint venture partners, etc.

Many of the survey findings were expected to show the higher levels of sophistication and requirements in the financial services group than in the general corporate group. However, we did uncover some very interesting findings around ERM challenges, risk appetite utilization, growth of the CRO title, and ERM benefits. We appreciate any feedback or recommendations you might have for future research efforts.



Milliman Risk Institute Executive Director

The Milliman Risk Institute was founded in 2011 to support science-based ERM research to better understand the successes and challenges around this rapidly developing business process. The advisory board for the Milliman Risk Institute will guide our research efforts; its members are listed at the conclusion of this report.

EXECUTIVE SUMMARY

The survey was distributed to more than 1,000 U.S. CFOs and CROs involved in the ERM function within their organizations. The respondent results in Figure 1 are broken out by size of organization and also by two industry groupings: financial services and general corporates. Although some industry groupings have a separate category for energy, we have included energy alongside general corporates in order to simply distinguish all industries that are non-financial.

When asked about ERM program maturity, the survey confirmed that larger organizations are more apt to have formalized, established, and embedded programs. However, we did find that many small cap companies have established and embedded programs, and we think that's because most companies of this size have lower complexity when it comes to product lines, business units, and geographic reach. When asked about critical barriers to success, the very large organizations noted that operational and business complexity has been the biggest challenge. The smaller the organization, the more difficulty it has with the ability to demonstrate ERM value and data and system constraints.

As expected, we found a wide disparity in the use of economic capital models (ECMs) between financial services and general corporates. Many organizations use partial capital models for pricing, product design, and project approval but still don't model all cash flows through to the balance sheet. We think the use of ECMs will continue to grow across all industries, especially as more assessment and loss event data accumulates for operational and strategic risks.

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The use of risk appetite and risk tolerance methodologies continues to grow across all industries. We see a wide range of maturity in these processes. We also see a disparity between those organizations who have stated risk appetite and risk tolerance policies and those that actively manage these processes and link them to incentives.

Chief risk officer (CRO) acceptance continues to grow and the survey data confirms that financial services are far ahead of general corporates in this trend. In addition, the survey found that as the size of the organization grows, so does the acceptance of the CRO.

Most companies have not developed any framework for understanding the return on investment (ROI) for spending on risk mitigation and controls. Since there can be internal competition for business unit investment vs. mitigation and control improvement, we think this could be an important developmental area for many ERM programs. As expected, risk assessments are primarily used for board reporting and compliance. However, we think that ERM programs will increasingly be guided by questions of value as companies utilize more performance management, capital allocation, and stakeholder management.

During the early years of ERM, very few companies measured the cost of these programs vs. benefits received. Now we see more and more companies trying to gain some understanding of the cost/benefit of these programs and some that don't measure at all, accepting that they will use these programs irrespective of the cost-benefit analysis. For companies that understand the cost/benefit of ERM, there is a need to see reduced risk levels in addition to the historical benefits of board reporting and compliance.

When we asked about ERM program linkage to other processes, we found that the linkage to risk transfer strategy, strategy development, and capital management led the way.

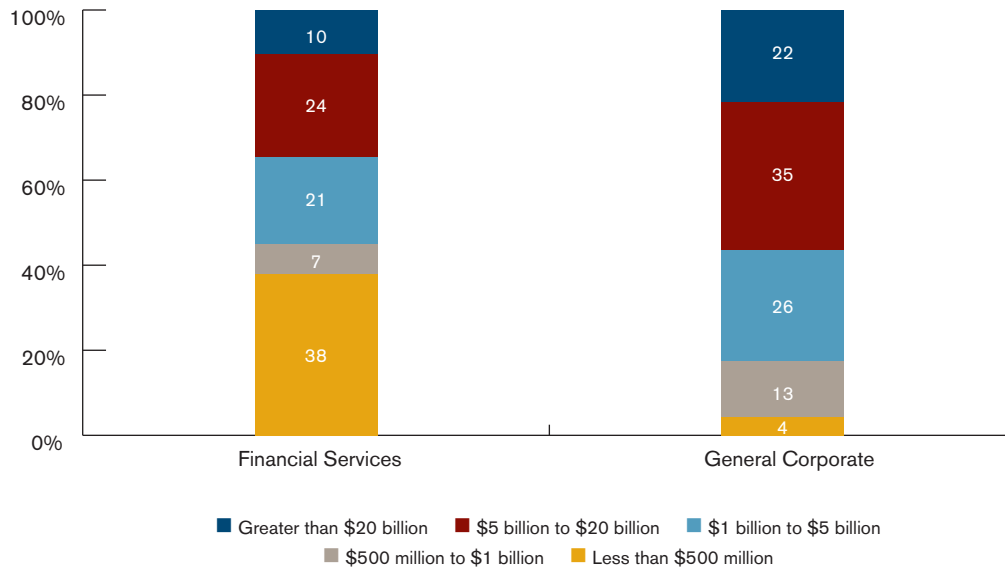
Finally, when it comes to getting more benefits from their ERM program, companies are looking to:

- Link ERM with strategy development
- Develop an emerging risk process
- Integrate ERM with performance management
- Introduce risk appetite and risk tolerance

The full survey results are quite interesting and provide yet another insight into the growth of ERM and its acceptance by U.S. corporations. The data confirms the trend that these programs are here to stay. As

they continue to develop, the tangible business value of ERM activities is becoming more important. The distribution of revenue by industry group, as shown in Figure 1, confirms this development.

FIGURE 1: REVENUE BY INDUSTRY GROUP



SURVEY FINDINGS

ERM PROGRAM MATURITY

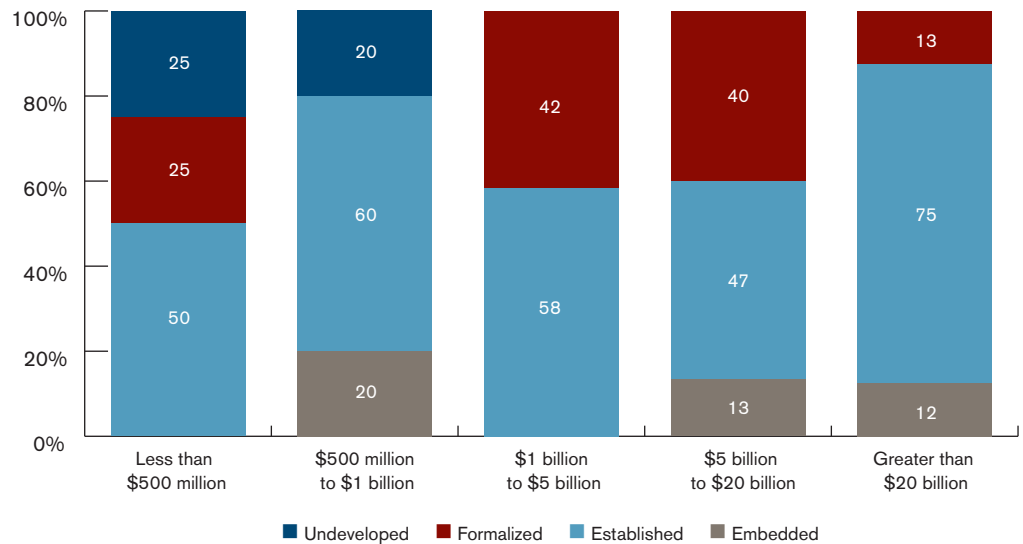
An ERM maturity model is a useful way to gauge an existing ERM process. However, organizations should not be focused on achieving a desired maturity level. Rather, they should have a full understanding of business goals and the operating culture and decide on the most suitable activities to reach a desired level of ERM program maturity.

A foundational ERM program consists of risks being managed in silos throughout an organization without a unified approach to data management and utilization, assessment methodology, risk governance, and risk communications. As more companies seek to demonstrate value from their ERM efforts, the question becomes “How mature is my approach relative to the industry?” A formalized ERM program would consist of collaboration with the audit and compliance functions and the development of a standard risk assessment process. It will also add accountability and transparency through more formal processes to manage and mitigate risks.

In general, we see a trend that companies with revenues of \$1 billion and above have moved from the undeveloped ERM program to formalized, established, and embedded programs. Participant responses to the question of maturity are displayed in Figure 2. Based on these survey results, most organizations with less than \$1 billion in revenue have a mix of formalized and/or established ERM programs.

As more companies seek to demonstrate value from their ERM efforts, the question becomes “How mature is my approach relative to the industry?”

FIGURE 2: MATURITY OF CURRENT ERM PROGRAM



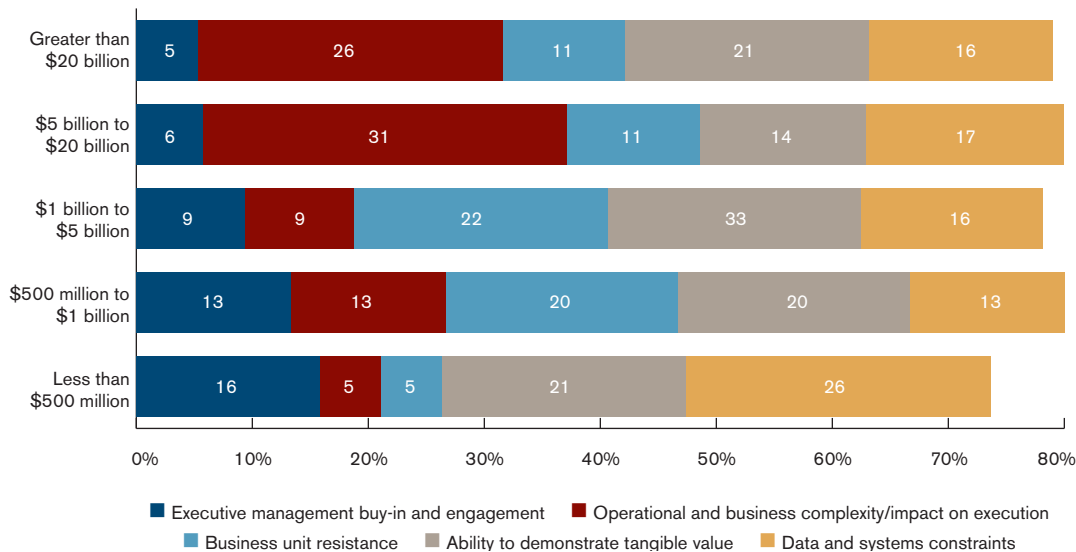
As we look at organizations with more than \$1 billion in revenue, we begin to see the integration of quantitative analysis used in risk assessments and also a more data-driven enterprise risk process. Organizations in these ERM maturity levels are also focused on having risk management drive the strategic decision-making process. Finally, the survey findings show that only 9% of respondents reported having embedded or optimized ERM programs.

CRITICAL BARRIERS TO SUCCESSFUL ERM PROGRAMS

ERM programs are faced with numerous internal challenges, and Figure 3 shows that respondents indicate that the biggest constraints to successful ERM programs are:

- Explaining the value proposition to the business
- Optimizing this process or these findings in our business
- Managing ERM risk data to positive results

FIGURE 3: CRITICAL BARRIERS TO ERM SUCCESS, BY REVENUE



Being able to explain the value proposition of ERM throughout an organization should be a primary focus. Successful ERM programs provide the following:

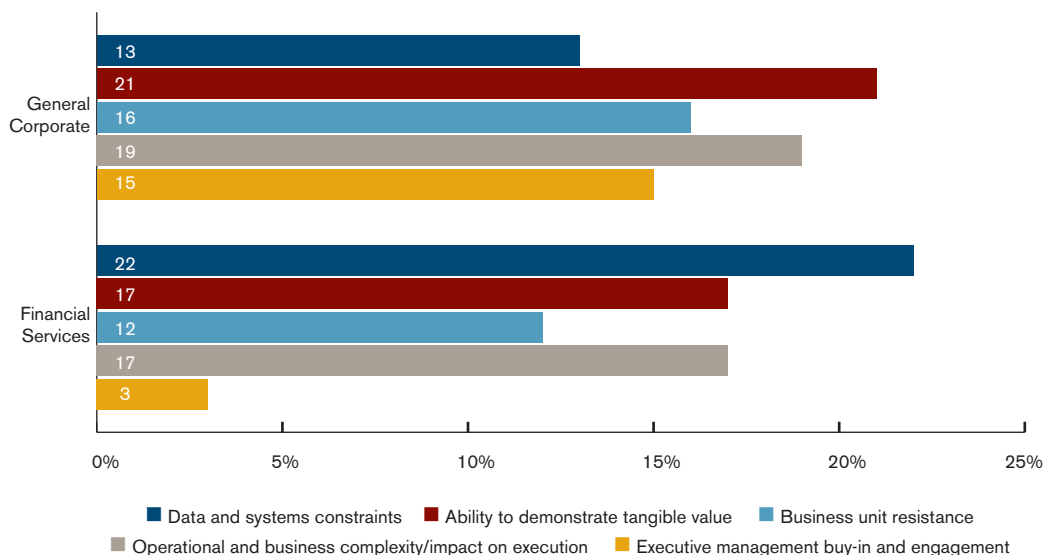
- **Performance management:** Increase certainty to achieving critical key performance indicators (KPIs)
- **Capital efficiency:** Free up more capital and move capital to highest returns
- **Stakeholder management:** More profitable alignment with key stakeholders
- **Operational excellence:** Reduce surprises and give portfolio views of risks

It can be challenging, based on competing business priorities, to optimize the ERM process in any organization. Traditional ERM programs have been compliance-driven, so there has not been a focus on optimizing business value in the process. More and more we are seeing that organizations want a return on their ERM investments so they can provide higher quality inputs to operating and strategic planning.

Last, ERM has traditionally been seen as highlighting the negative aspects within an organization. It can, however, also uncover additional business opportunities.

Differences emerge when the results are separated between financial services and general corporates. Figure 4 shows that the largest number of respondents from financial services selected data and system constraints as a critical barrier to ERM success. In contrast, data and system constraints were not seen as the most critical for general corporates; instead, the ability to demonstrate tangible value was selected by 21% of respondents as a critical barrier to ERM success. The financial services industry is heavily data-driven and relies to a large degree on its systems to store, manage, and communicate its risk data. Because of the numerous systems in use it may seem onerous to develop or buy an additional system for ERM that integrates data with the majority of existing systems.

FIGURE 4: CRITICAL BARRIERS TO ERM SUCCESS, BY INDUSTRY



Note: Low response totals were omitted for simple illustration purposes

ECONOMIC CAPITAL MODELING

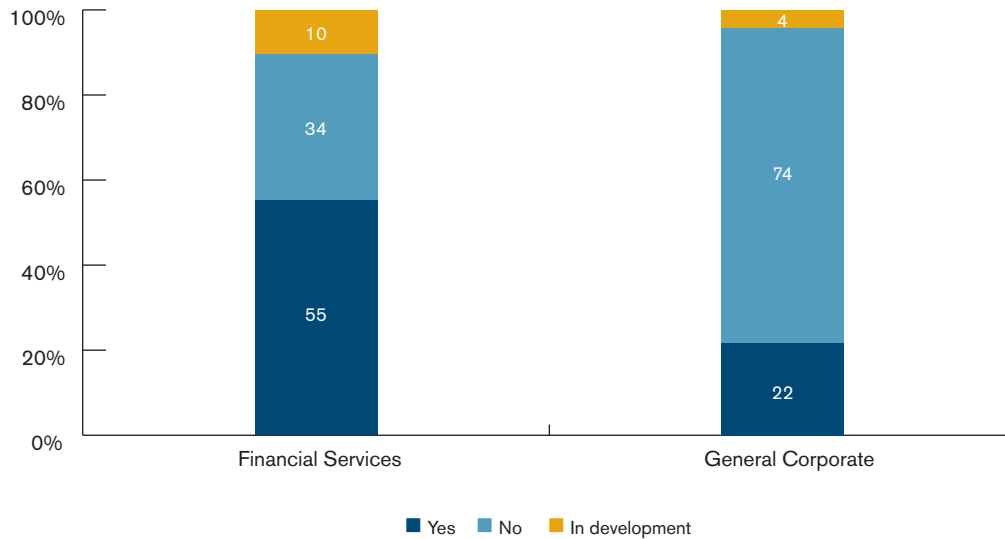
A critical aspect of successfully managing risk is to understand the economic capital requirements necessary to sustain and grow one’s business. For the financial services industry, economic capital modeling (ECM) is required regulation for banking. Figure 5 shows that more than 55% of respondents in the financial services industry have ECM in their organizations; for general corporates it can still be a beneficial tool, but only about 25% of our respondents have or will have ECM in their organizations.

Economic capital modeling generally consists of projecting the financial statements into the future on a risk-adjusted basis. Economic capital models can be costly to establish initially and can be quite challenging in the determination of accurate parameterization and assumptions. If a company has many business units and operates in different country economies and regulatory environments, then these challenges increase substantially. Nonetheless, the ability to project risk-adjusted financials and to stress the projections under multiple scenarios can prove quite valuable. Many companies are now using economic scenario generators in conjunction with their models that introduce future indication levels for inflation, unemployment, GDP, etc. We also have seen more requests from boards of directors requesting these types of projections.

Nonetheless, the ability to project risk-adjusted financials and to stress the projections under multiple scenarios can prove quite valuable. Many companies are now using economic scenario generators in conjunction with their models that introduce future indication levels for inflation, unemployment, GDP, etc.

Model management policies, model governance, assumption management, model risk guidelines, model documentation, and model control programs are becoming more prevalent for financial services.

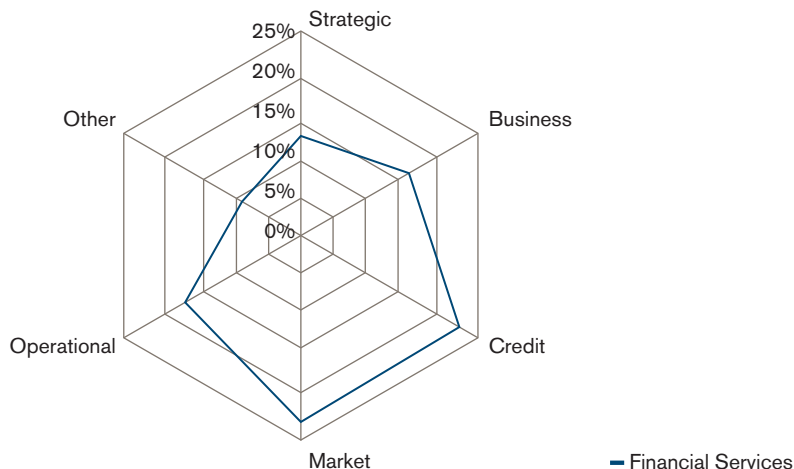
FIGURE 5: MODEL ECONOMIC CAPITAL



Of the more than 55% of respondents in the financial services industry that indicated they modeled economic capital, about half model credit and market risks (see Figure 6). Business, operational, and strategic risks can be more challenging for organizations to include in their ECMs, as they have limited loss event histories. As ERM programs mature and more quantitative risk metrics are collected in this industry, the models should begin to include operational, strategic, and business risks. Companies across all industries are becoming more adept at the assessment techniques for business, operational, and strategic risks and there is more consideration by senior executives about how to introduce these risk exposures into economic capital models.

As ERM programs mature and more quantitative risk metrics are collected in this industry, the models should begin to include operational, strategic, and business risks.

FIGURE 6: RISKS INCLUDED IN THE ECONOMIC CAPITAL MODEL



RISK TOLERANCES AND APPETITE METHODOLOGIES

Risk appetite is the variation in results that an organization is prepared to accept in support of its stated strategies. It should include the perspectives of all key stakeholders. Risk appetite provides the foundational linkage for strategy, risk, and finance:

- **Strategy:** Where should we make our strategic commitments? How should we measure value creation?
- **Risk:** What risks are required for these commitments? Can we optimize the risk-return trade-offs?
- **Finance:** How much capital do we need? Where do we allocate excess capital? How leveraged do we want to be?

If a risk occurs at the lower end of a stated range, then this could be an indication that the organization is taking too little risk in this particular area. Establishment of ranges is extremely beneficial to show both high-risk areas and potential untapped opportunities to take on more risk.

Figure 7 shows that, of the respondents who do utilize a risk appetite methodology, 67% are in organizations with revenues of \$1 billion and higher.

FIGURE 7: RESPONDENTS USING A RISK APPETITE METHODOLOGY

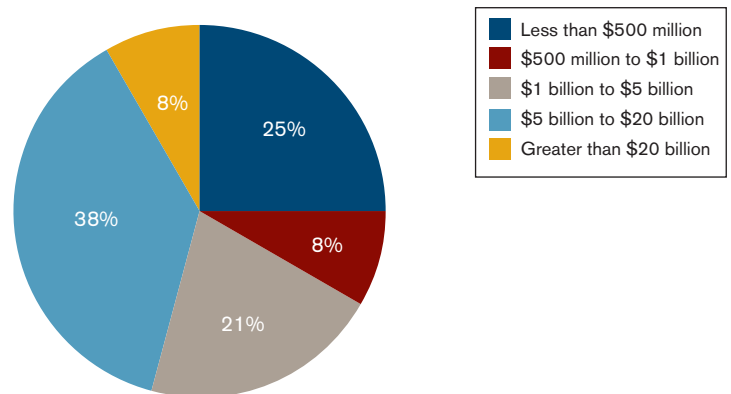
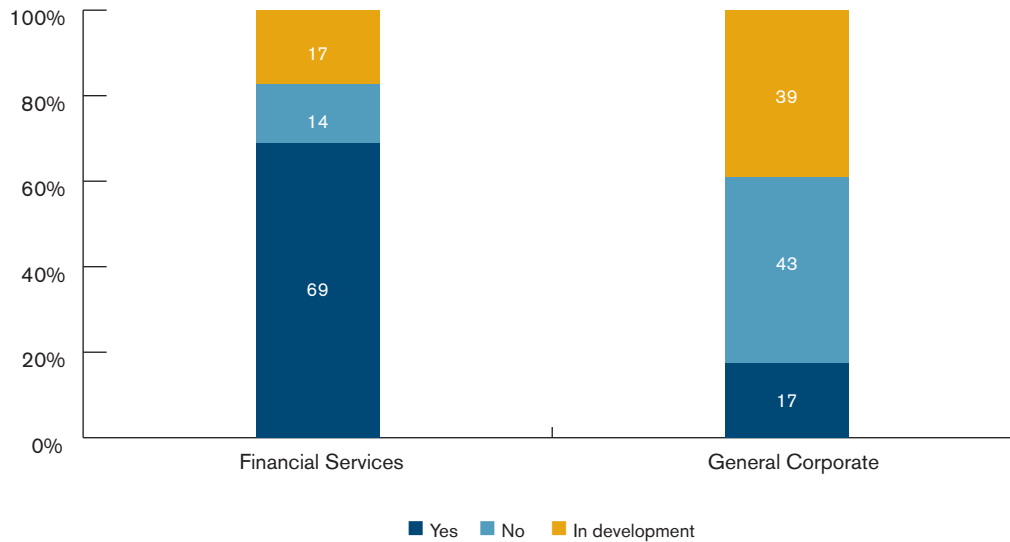


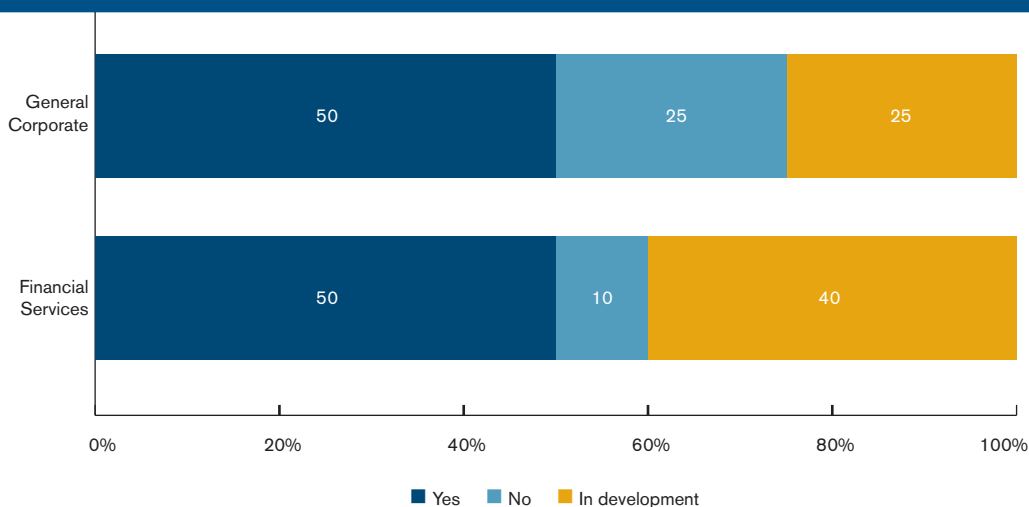
Figure 8 shows that the majority of the respondents who have a risk appetite methodology (69%) are from the financial services industry. It is interesting to note that more than 50% of all respondents do not have a risk appetite methodology.

FIGURE 8: RESPONDENTS USING A RISK APPETITE METHODOLOGY AS PART OF THE ERM PROGRAM



Risk tolerance levels are the individual ranges of outcomes or variations that an organization is willing to accept. Individual risks are assigned risk tolerances, and various risk scenarios will assist an organization in understanding whether these risks are within acceptable limits and supported by risk appetite statements. Scenario planning and modeling are useful techniques for understanding if risk tolerances and overall risk appetite are supporting operating plans, key performance indicators, and incentive structures. Although the use of risk appetite is growing, Figure 9 shows that only half of the respondents in the financial services and general corporate industries, respectively, are linking corporate risk tolerance levels to the risk tolerance levels in the business units.

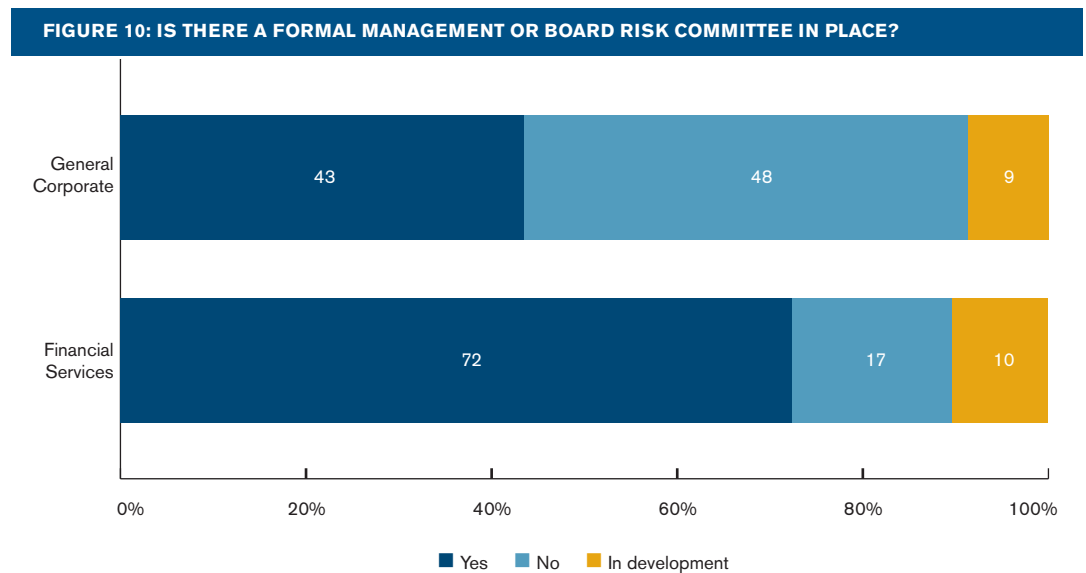
FIGURE 9: ARE CORPORATE RISK TOLERANCE LEVELS LINKED TO THE RISK TOLERANCE LEVELS AT THE BUSINESS AND OPERATING UNITS?



FORMAL MANAGEMENT OR BOARD RISK COMMITTEE

More than 80% of financial services respondents have a formal management or board-level risk committee in place or are developing one, as shown in Figure 10. This contrasts with the slightly more than 50% of general corporates respondents that have a formal management or board-level risk committee in place or are developing one. Case law continues to accumulate about boards of directors' responsibility for risk oversight, and the directors watch these developments closely. The 10 principles that guide directors in risk oversight responsibilities recommended by the National Association of Corporate Directors (NACD) offer an example of how a company can support the board's role in risk oversight.

Firms are finding that it is no longer acceptable to be reactive to risks. Boards are being charged with actively requesting risk information from executives and management and are asking to know how this information is going to be used in strategic decision-making. There are various reporting structures for a risk committee, but in general we see more formal risk committees reporting to the board or executive management, depending on the size and complexity of the organization.



CHIEF RISK OFFICER

The role of the chief risk officer (CRO) is becoming increasingly important. The New York State Department of Financial Services, for example, requires that insurance companies who do business in New York have a CRO. Figure 11 shows that, as revenue size increases, in general we see a trend for organizations to have a CRO.

The role of the chief risk officer (CRO) is becoming increasingly important. The New York State Department of Financial Services, for example, requires that insurance companies who do business in New York have a CRO.

FIGURE 11: IS THERE A CHIEF RISK OFFICER IN YOUR ORGANIZATION?

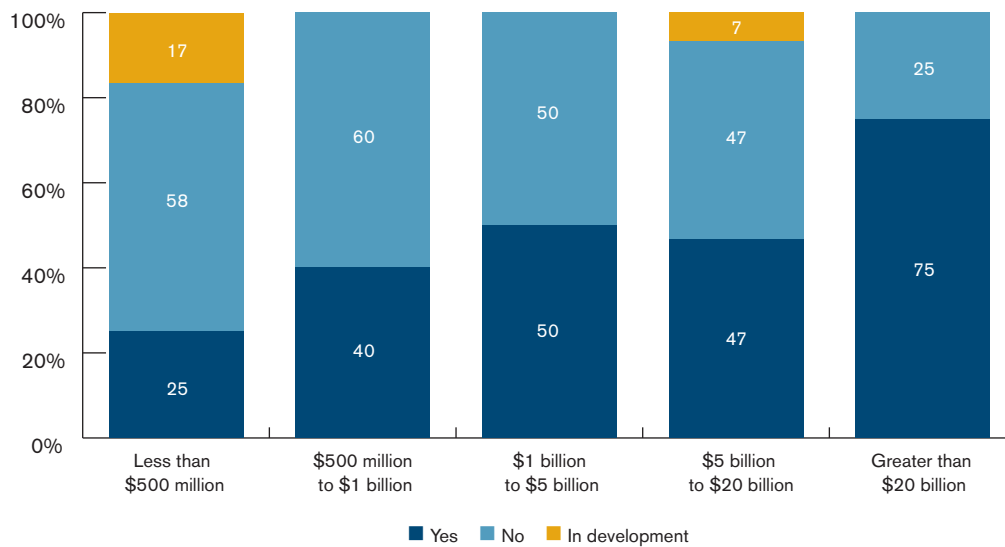
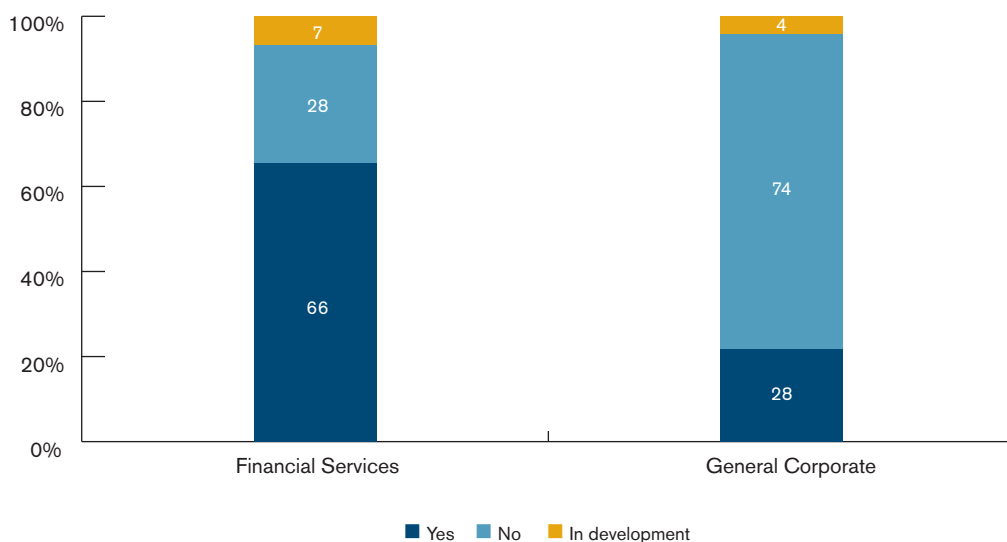


Figure 12 shows an interesting trend: The financial services industry is more developed in terms of the CRO role. The Basel II standard and the New York State Department of Financial Regulation require CROs for certain financial institutions. In addition, a comment paper from the Federal Reserve in December 2011 shows that a Dodd-Frank rulemaking is being considered that requires a CRO for banks of a minimum asset size.

The role of the CRO will continue to grow as companies become more comfortable with the additional accountability, transparency, and governance of the risk function. While the CRO never takes over the ownership of risks, mitigation, and controls, the position can serve very important functions for communications, data management, coordination, education, consistent taxonomy, risk assessment management, and economic capital management.

FIGURE 12: PRESENCE OF A CHIEF RISK OFFICER, BY GROUPING



Measuring the return on mitigation and control activities could be a useful way for an organization to keep track of those activities that are positively impacting the organization versus those that are not.

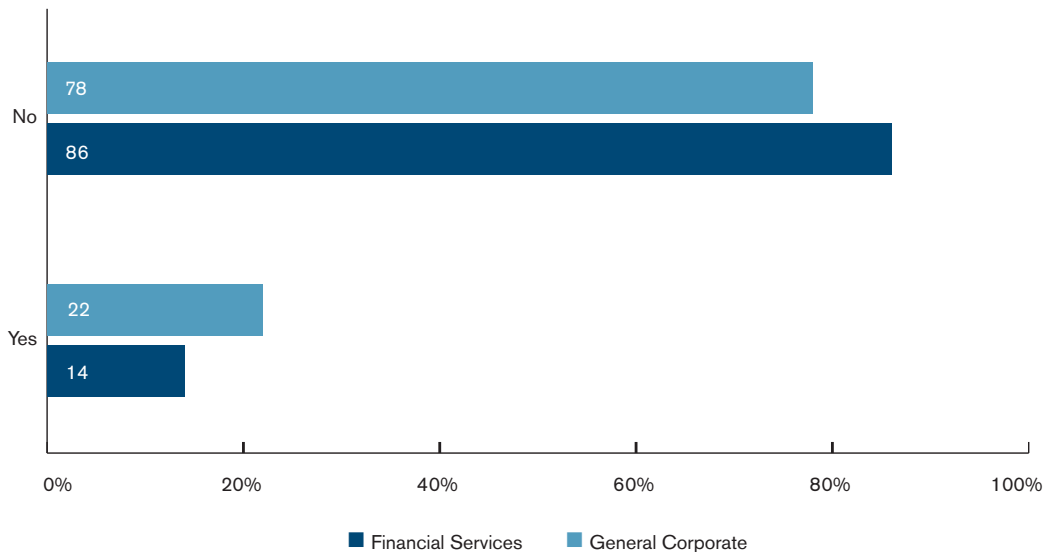
RETURN ON INVESTMENT (ROI) OF MITIGATION ACTIVITIES

Figure 13 shows that only 14% of financial services respondents and 22% of general corporates respondents have a method to understand the ROI on mitigation and control activities. This is an important measure, which many companies do not assess with enough consistency. Measuring the return on mitigation and control activities could be a useful way for an organization to keep track of those activities that are positively impacting the organization versus those that are not. A successful ERM program can free up capital to spend in other business areas, and this is just one calculation that can show the value of an organization's ERM program.

Mitigation and control capital is limited and has associated costs. Developing a framework to assess mitigation capital and ROI can be a key component of an organization's ERM program, and we see that most organizations do not have such a framework or a way to assess their mitigation activities. In many cases, companies will have to establish a foundational risk metric framework in the assessment process that can give them a more complete understanding of:

- Inherent risk
- Expected loss
- Unexpected loss
- Managed risk
- Residual risk

FIGURE 13: DOES YOUR ORGANIZATION MEASURE THE ROI OF MITIGATION AND CONTROL ACTIVITIES THROUGH A DEFINED PROCESS?

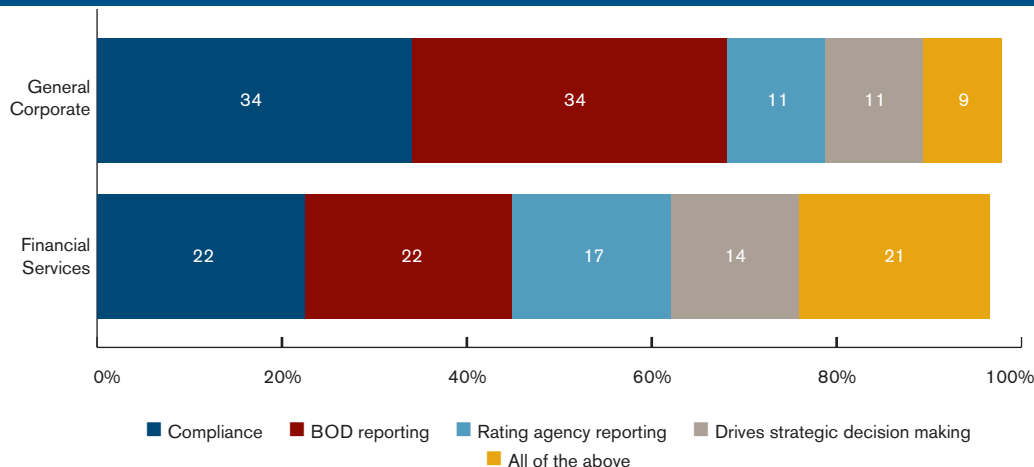


PRIMARY USE OF ENTERPRISE RISK ASSESSMENTS

Compliance and board reporting still dominate the use of enterprise risk assessments. This approach can create a foundational ERM program, but organizations are starting to use their enterprise risk assessments in other areas as well. Figure 14 shows that 21% of financial services respondents also use their enterprise risk assessments for compliance, board and agency reporting, and to drive strategic decision making. ERM programs might be more properly resourced if these programs created tangible business value and generated better results.

As ERM programs mature there is more emphasis on operational and capital benefits gained from these processes; as the programs mature there will be increased emphasis on reporting, regulatory requirements, and/or an audit focus. Risk assessments are more often utilized by individual business units to establish a basis for mitigation and control capital, since risk assessments use data and measurement to understand risk levels. Risk assessments are also used as the basis for risk adjusting operating plans and capital requests at budget time. Finally, we see more risk assessment data and a stand-alone and an aggregated basis integrated into the strategic planning process.

FIGURE 14: WHAT ARE THE PRIMARY USES OF ENTERPRISE RISK ASSESSMENTS IN YOUR ORGANIZATION?



Note: Low response totals were omitted for simple illustration purposes

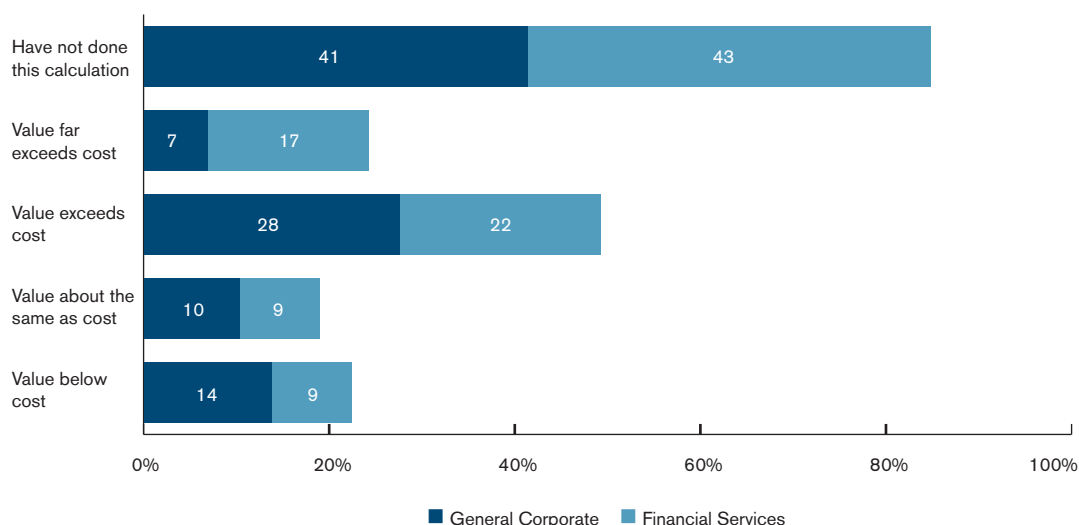
COST VS. BENEFIT OF ERM PROGRAM

Most respondents had not calculated the cost versus the benefit of their organizations' ERM programs. However, approximately 35% of financial services and 39% of general corporates responded that their ERM programs' value exceeded their costs, as shown in Figure 15. As organizations move from using their enterprise risk assessment results solely for board of directors (BOD) and compliance reporting, it is likely that we will see a trend to calculate the cost versus the benefit of ERM programs, especially as it relates to strategic decision-making and performance management.

One organization constructed a *total cost of risk* calculation with several variables and tried to calculate a before and after view of benefit. Yet another company constructed a return on investment calculator that tried to compare ERM costs vs. ERM benefits. However you view or measure costs vs. benefits, the trend is that more and more organizations are perceiving a positive value in relation to cost. We think this trend will continue.

In addition, some organizations are challenged to see risk reduction levels as a metric that might translate into return on investment. One organization constructed a *total cost of risk* calculation with several variables and tried to calculate a before and after view of benefit. Yet another company constructed a return on investment calculator that tried to compare ERM costs vs. ERM benefits. However you view or measure costs vs. benefits, the trend is that more and more organizations are perceiving a positive value in relation to cost. We think this trend will continue.

FIGURE 15: WHAT IS THE COST VS. BENEFIT OF YOUR ORGANIZATION'S ERM PROGRAM?



BENEFITS OF AN ERM PROGRAM

Although compliance and BOD responsibilities for risk oversight still dominate ERM program benefits, risk reduction of likelihood/impact levels is growing quickly. The survey results shown in Figure 16 support this.

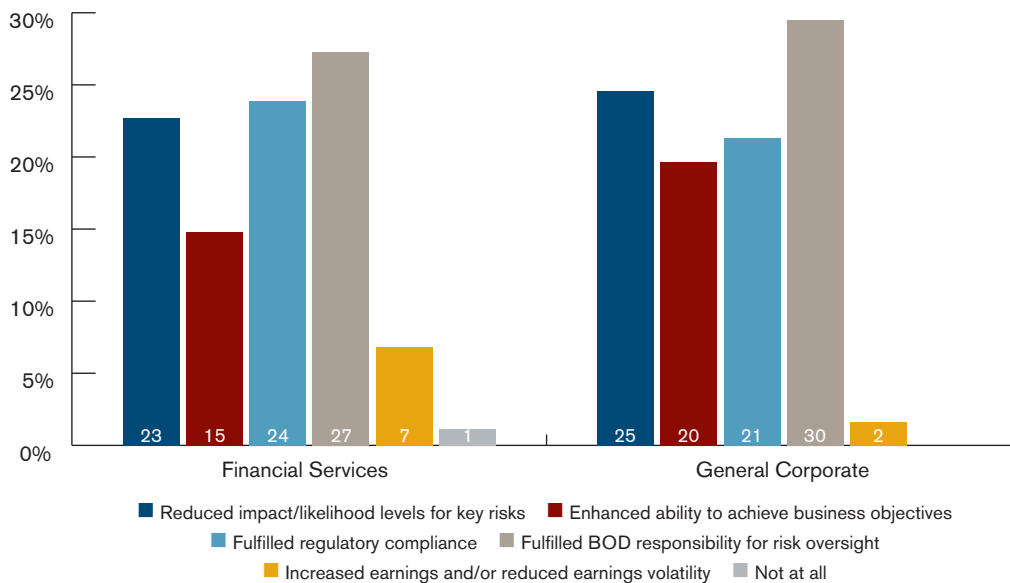
It is interesting to note that none of the respondents linked the benefits of their ERM programs to an increase in stock price or a reduction in stock price volatility. In February 2010, Standard and Poor's (S&P) published the report "Enterprise Risk Management Continues to Show Its Value for North American and Bermudan Insurers," which links effective ERM programs to increases in share value and reduced volatility in earnings. In the report, Howard Rosen, the primary credit analyst, says in part,

"Although average stock prices declined among all public multiline insurers in 2008, companies with more advanced ERM programs experienced smaller stock price reductions. Those companies whose stock performance was better (i.e., those whose price declines were smaller) had received higher ERM scores. On the other hand, those companies whose stock prices had larger declines had lower ERM scores. This is consistent with Standard & Poor's view that more robust ERM programs are the most valuable in times of more pronounced stress. Looking at ERM scores relative to stock performance in 2009 reveals a different pattern...."

“Companies with Excellent and Strong ERM scores—companies whose stock prices performed better during the more stressful 2008—still improved during 2009, but didn’t need to perform as well as companies with lower ERM scores to return to their pre-2008 levels of performance...”

This report was updated in May 2011 with the same results.

FIGURE 16: BENEFITS GAINED FROM YOUR ORGANIZATION'S ERM PROCESS



Note: Low response totals were omitted for simple illustration purposes

WAYS TO IMPROVE THE MATURITY LEVEL AND RESULTING VALUE OF ERM PROGRAMS

As seen in Figure 17, future development of the maturity and value of ERM programs will consist of:

- Linking ERM with strategy development
- Developing an emerging risk process
- Moving from qualitative to quantitative risk assessments
- Integrating ERM with performance management

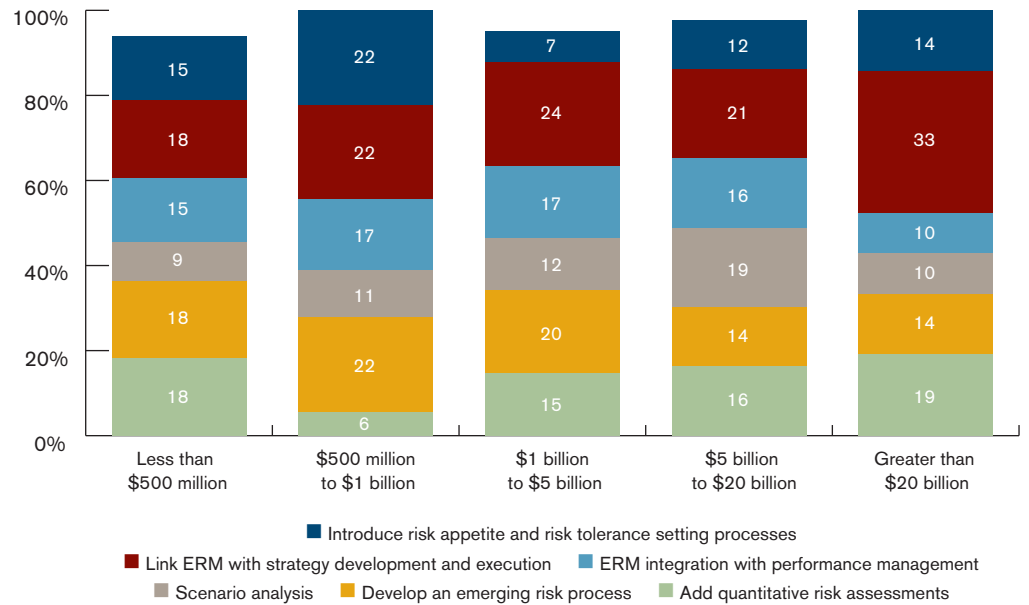
ERM, when done effectively, should support the decision-making process in organizations. Strategic plans should be risk adjusted. A risk-adjusted strategic planning session can be an important component of the annual budget process because it can highlight risks and opportunities not previously considered.

An emerging risk process should be an important component of any ERM program. A simple process to identify, analyze, monitor, report, and communicate future risk information should be developed in all organizations. A complete risk assessment may not be necessary unless the emerging risk impact grows from one assessment period to the next.

As organizations move from qualitative to more quantitative risk assessments, they will start to provide much better information to their decision makers. Not only will they be collecting data on expected loss, but also on unexpected loss, which most organizations do not assess. Many organizations budget for expected loss, but it is the unexpected loss, especially those tail-event losses, that can cripple an organization. Moving from single-loss-distribution to aggregated-loss-distribution modeling can assist organizations with their mitigation capital and strategies. Credit and market losses are modeled by most organizations, and projected losses can be mitigated through hedging and risk transfer strategies. Finally, understanding risk relationships will substantially improve an organization’s ability to understand expected and unexpected loss.

As organizations move from qualitative to more quantitative risk assessments, they will start to provide much better information to their decision makers. Not only will they be collecting data on expected loss, but also on unexpected loss, which most organizations do not assess.

FIGURE 17: WHAT ARE THE PRIMARY WAYS YOUR ORGANIZATION WANTS TO RAISE THE MATURITY LEVEL AND RESULTING VALUE OF ITS ERM PROCESS?



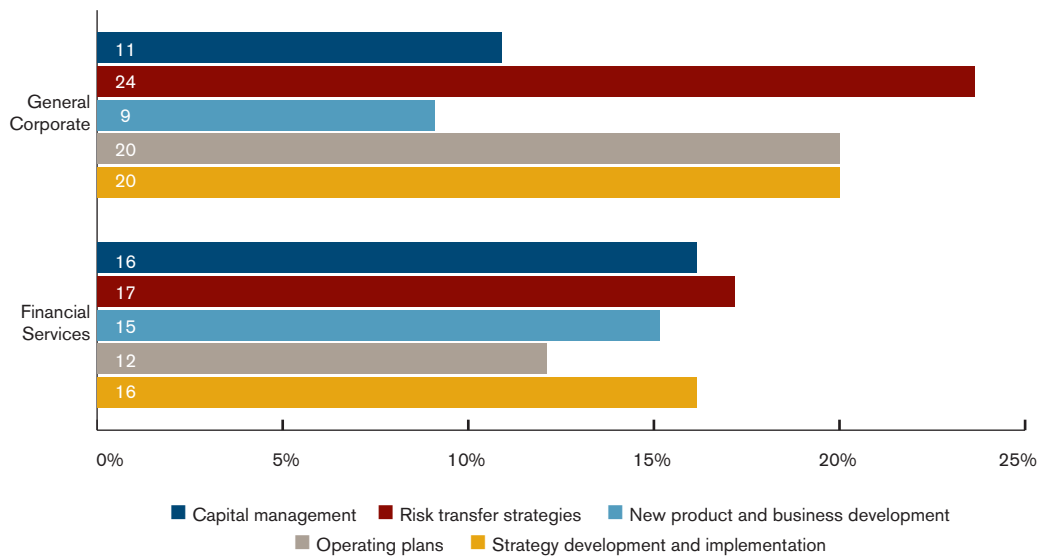
AREAS TO WHICH ERM PROGRAMS ARE EXPLICITLY LINKED

ERM is most frequently linked to risk transfer strategies, capital management, and strategy development. Linkage to performance management, product development, incentive management, and operating plans is lagging, as shown in Figure 18. It is interesting that some respondents indicated that their ERM programs are linked to risk transfer strategies because most operational and strategic risks cannot be mitigated with these strategies. The cost vs. value of ERM programs will appear more favorable once linkage is shown with operating plans, strategic planning, and incentive management.

It is well known that financial services firms use ERM strategies and techniques in conjunction with capital management, new product design, and strategy and financial planning. There is also increased linkage of ERM to operating plans for general corporates. This may signal more acceptance of ERM techniques around risk assessment by the operating companies and business units.

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FIGURE 18: WHAT AREAS ARE YOUR ORGANIZATION'S ERM PROGRAM EXPLICITLY LINKED TO?



Note: Low response totals were omitted for simple illustration purposes

CONCLUSION AND OUTLOOK

This survey highlights the differences from one company to another in ERM approach and maturity, and raises the question: Could some sort of ERM standards play a useful role in the risk management programs of these and other companies? As more regulators, rating agencies, and professional associations understand ERM and its potential benefits, these standards are beginning to emerge. The Enterprise Risk Management Task Force of the Actuarial Standards Board is currently drafting actuarial standards for risk evaluation and risk treatment. After a comment period and final revisions, these new Actuarial Standards of Practice (ASOPs) will set a foundation for minimum standards in ERM design and working ERM frameworks. While there are other standards emerging relating to rating agencies and regulators, these actuarial standards are the first to emerge that pertain to ERM maturity. We also expect that the Internal Institute of Auditors may look to align its standards to the actuarial standards. ERM practitioners will pay close attention to these emerging standards and use them to revise and improve their ERM frameworks.

We hope you found this survey report useful and would appreciate any comments and feedback. Enterprise risk management continues to evolve from an optional management notion into a must-have corporate process. This evolution will continue as boards of directors better understand their responsibility for risk oversight, as regulatory requirements increase, and as investor transparency and accountability demands increase. We expect continued maturity from these programs. ERM programs will continue to develop more robust processes and will identify more ways to add tangible business value.

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