Thinking Through Uncertainty

CFOs Scrutinize Non-Financial Risk

A report prepared by CFO Research Services in collaboration with IBM Corporation

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About this Report

An interview program among senior finance executives across a broad range of industries provides a new understanding of CFOs' contribution to non-financial risk management.

In October 2006, CFO Research Services (a unit of CFO Publishing Corp.) launched a research program to examine the role of the CFO and the finance function in management of non-financial risks. In collaboration with IBM, our research partner and sponsor, we developed a set of hypotheses and then tested them by conducting desk research and interviewing the following senior finance executives on the record:

- Denise Albano, former Director of Finance, Centex Hospitality Group
- Paula Brock, CFO, Zoological Society of San Diego
- Michael Burke, former CFO, Intermagnetics General Company
- Breht Feigh, Executive Vice President and CFO, American Dental Partners
- Steve Flack, Senior Vice President and CFO, Concentra Network Services
- Thomas Hund, Executive Vice President and CFO, Burlington Northern Santa Fe Corporation
- Ron Kaplan, CFO, The Brookwood Companies
- Thomas Kiraly, Executive Vice President and CFO, Concentra Inc.
- Greg Wright, Executive Vice President and CFO, Tesoro Companies
- Isaac Murciano, CFO, Owens Steel Company

In addition, we spoke with several senior finance executives who asked not to be mentioned by name.

Sponsor's introduction

All risk is ultimately financial. Every risk can be expressed in financial terms, and every risk can end up hitting the top and bottom line. This in itself is perhaps not news. But the major news of this report—an exploration of risk management practices at ten diverse organizations—is that the finance function is getting far more involved in the art—and increasingly the science—of non-financial risk management.

Why is that? This report offers a number of reasons. For one, the finance function extends into every part of the organization, collects information from every part, and thus has a view of the entire company. This allows and encourages the pan-organizational view central to any encompassing risk management approach.For another, the finance function alone has the resources and analytical ability to put non-financial risks in financial terms. Another still is that the savvy finance functions understand that by attempting to identify risk, measure it, explain it, and prepare response plans, they are increasing their strategic importance—their value—to the organization.

This is one significant theme of the report. There are others, related, and they are well worth noting. Most of the respondents cited September 11 as a watershed—a moment when they became far more cognizant of non-financial risks of every kind. These range from scandals, to natural disasters, to disease outbreaks, to outsourcing discontinuities, to aging workforces—indeed, to just about everything when you get right down to it. What is the best response? As this report makes plain, it can and does vary in its precise form, but all of the firms queried attempted to identify the risks, collect as much qualitative and quantitative information as they could, analyze the information, and formulate contingency plans. The exercise itself tends to tear down silos, build corporate cohesiveness, and solidify human relationships – all conducive not just to better risk control, but to better performance generally.

Interestingly, the very best firms tend to see risk management not just as a grim exercise in disaster avoidance. They see it as a chance to build and extend the business. That is how the Zoological Society of San Diego, one of the organizations profiled in this report, views it. When an attendance slump struck in the wake of September 11, it began to open its wild animal park to new kinds of activities and to beef up its Internet presence. In response to the Avian flu threat, it developed a "skeleton" that other organizations could use to prepare their own plans. The point is that risk planning in its broadest sense can spur innovation and reinvention. By responding positively to potential threats, the society raised its operating performance and public profile.

So read this report both for specific guidance about non-financial risk management and for the inspiration these examples provide. Finally, perhaps, keep a sense of proportion about risk. It is always going to be there – and truly, just about anything can be categorized as risk. The trick is to understand it and optimize it without being paralyzed by it. The ten firms shown here have managed to do just that.

Stephen Lukens
Partner
Global and Americas Financial Management Leader

IBM®

Key Findings

- **Companies seek a more expansive view of the risks** that place their business performance in jeopardy, say senior finance executives interviewed for this report. In recent years, companies have witnessed a combination of marketplace scandals, financial and end-use market collapses, and natural and man-made disasters that have raised their awareness of risk. As a result, say executives, companies have expanded their definitions of risk to include a wider array of non-financial factors. Playing a pivotal role in this effort is the chief financial officer and his or her senior team.

- Finance executives say their new, **broader risk calculus considers uncontrollable disasters along with factors that are linked to companies' strategic and operating decisions.** In an interview program across a broad array of industries, executives cited explicit, finance-led analyses of the risk posed by workforce turnover, information security, unknown employee histories, natural and man-made disasters, legal and regulatory risks, and operating risks such as customer selection and customer satisfaction. No single factor dominates this new consideration of risk—rather, each company considers the factors specific to its business.

- Companies have greater difficulty using traditional risk management instruments such as insurance, say executives, **forcing them to retain more risk themselves and devise internal mitigation strategies.** Reacting to a string of disasters extending from the September 11, 2001 terrorist attacks to Hurricane Katrina, many insurers have sought to lessen their exposure to certain types of risk or have required higher premiums. As a result, say some executives, companies are less able to transfer risk through third-party insurance. Companies also report having to supply more detailed risk-related information to their insurance carriers. Accordingly, many are taking measures to better understand the drivers of risk and to prepare themselves for possible disruptions.

Executives say the finance function has the unique analytical ability and organizational scope that allows it to understand the internal and external factors that can compromise performance.

- **The finance function is often in the best position to provide the "analytic engine"** for enterprise-wide risk initiatives. Executives say finance has the analytical ability and resources to take a comprehensive view of the company and the internal and external factors that can compromise performance. CFOs' broader role in risk management has taken various forms among the companies interviewed for this report. Some are consolidating areas of non-financial risk directly under their control. Others are becoming more active as risk analysis advisors—highlighting areas of risk, assessing potential impacts, and offering recommendations to other parts of the organization about how to control and mitigate risk.

- **Risk management is gradually emerging as an organization-wide discipline** to which both functional and line-of-business executives contribute. This may well accelerate the erosion of organizational silos and encourage inter-unit cooperation.

- Decisions about non-financial risk depend on qualitative analysis prepared and discussed with those closest to both the business and to the risk in question. Accordingly, executives in this research program endorse **close collaboration between finance and business unit management to evaluate and measure this risk.** Quantitative tools for non-financial risk analysis are useful, but executives say they are best used to support and inform decision making.

Increasing Attention to Non-Financial Risk Is Driving an Expanded Role for the CFO

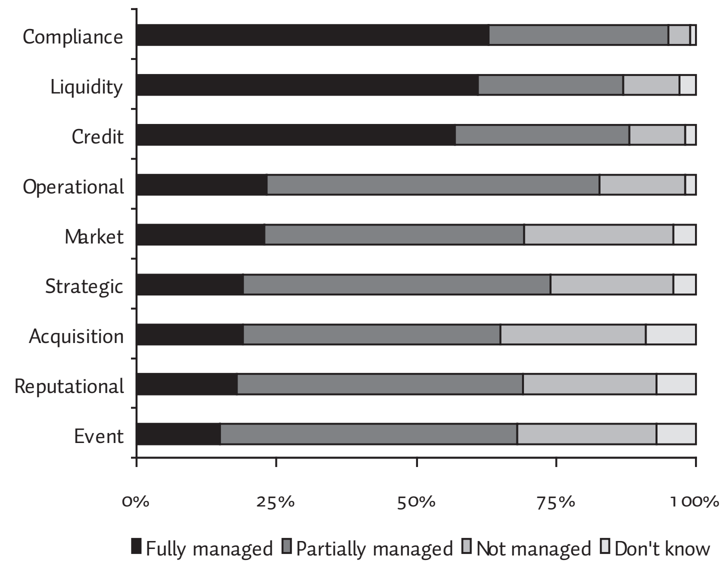
In the wake of terrorist attacks, natural disasters, and financial scandals, many large U.S. companies have begun to expand their view of the types of risks that can put their businesses in jeopardy. "Anything non-financial eventually becomes financial," notes Denise Albano, former director of finance at Centex Hospitality Group, a resort operator. Adds Ron Kaplan, CFO of Brookwood Companies Incorporated, a New York-based textiles firm that is a subsidiary of the Hallwood Group Incorporated, "There's pressure to disclose more and more things on the balance sheet, and some of those things aren't specifically financial. They're risks that for all kinds of reasons you want to be able to tell the interested parties about in advance."

With this broader view of risk starting to take hold, risk management is evolving into an enterprise-wide process to which all parts of the organization contribute. "Risk management has to be blended with the planning process because we don't want to put our heads in the sand," says Paula Brock, CFO of the nonprofit Zoological Society of San Diego. "In order to plan for the future with a vision, you've got to be aware of what your risks are so that you can chart your course in a way that's going to be in concert with your mission but can sustain you through the tough times."

Companies are looking to their finance organizations and CFOs to take on more aspects of this enterprise-wide risk assessment and management. Finance has historically contributed to risk oversight—especially management of core financial risks such as liquidity and credit risk and also compliance with equity market regulation. Recent research confirms finance's focus on financial risk, and also shows its broad but limited engagement with non-financial risk management (see figure). But as internal and external forces pose newly visible threats to business performance, companies are increasingly calling on their finance teams to aid and often lead risk management.

Finance function fully manages core financial risks and contributes to non-financial risk management.

To what extent are the following risks managed by your finance organization?



(Percentage of respondents)

Source: Survey of finance executives around the world by the Economist Intelligence Unit and CFO Research Services. Published by IBM in *The Agile CFO: Acting on Business Insight* (2005).

Interviewees attribute this shift to the finance function's unique ability to look across an entire organization and all its operations. To identify the most significant risks to business performance, and then manage them effectively, a company must be able to take a comprehensive and integrated view of both financial and non-financial risks. Traditional organizational and decision-making silos can only limit a company's ability to identify and manage risk.

Finance typically is the primary function that touches every aspect of a company and its operations. Whether taking direct responsibility for managing an integrated approach to risk assessment, or serving as the central point of collection and analysis for company-wide data, finance is becoming more visible in a wide range of comprehensive risk management strategies.

Non-Financial Risks Include Both External and Internal Dimensions

Senior finance executives interviewed say they and their companies have come to include a broader array of risks in their thinking about threats to financial performance. This rise in finance's consideration of risk coincides with a recent tightening of the market for insurance. Many insurers, say finance executives, now seek to lessen their exposure to certain types of unpredictable risk or require much higher premiums to provide coverage. "Historically, [non-financial] risks were just transferred off to an insurance company," says Breht Feigh, executive vice president and CFO of American Dental Partners, a public company that provides business services to dental groups across the United States. "But after what happened in 2001—although it didn't become really clear until the 2003 insurance year—insurance companies decided they want to take a lot less risk, so they raised their deductibles and retentions." As a result, "insured [parties] were forced to retain more of the risk," Mr. Feigh says.

Finance executives note that external disruptions—whether natural or man-made, market-driven or demographic—can pose performance risks in unexpected ways.

Companies consequently are examining much more closely a wide range of non-financial risks. While no two companies look at non-financial risk exactly the same way, this research finds two classes in general. External risks can emerge either gradually—from subtle, long-term trends in markets or demography, for example—or unexpectedly from sudden acts of nature or of persons. Internal, company-specific risks often grow out of strategic and operating decisions made by managers.

External Risks

Companies' scrutiny of disaster contingency plans has widened since September 11, 2001, to include disease outbreaks, natural disasters such as hurricanes, and accidents at sensitive facilities such as oil refineries. For example, Brookwood Companies, a textile manufacturer, focuses on non-financial risks linked to production, manufacturing, and emerging global activities. One major concern is environmental risk, as Brookwood relies on the use of chemicals in processing its textiles.

Organizations are becoming more aware of the risk that market trends or discrete external events could damage consumer confidence in their product. Finance executives note that external disruptions—whether natural or man-made, market-driven or demographic—can pose risks to their performance in unexpected ways. The Zoological Society of San Diego, even though it is located on the West Coast, was hit especially hard economically by the September 11 terrorist attacks in the East. (The society is a large nonprofit organization with nearly 3,000 employees, operations in more than 20 countries, and one of the world's best known zoos, which hosts nearly 5 million guests a year.) The zoo suffered a heavy drop-off in visitors after the attacks, compounded by the national economic downturn and a succession of wildfires that later struck southern California.

In response, the society recast its approach to anticipating and managing risk. Now, says CFO Paula Brock, the society emphasizes cooperation and communication across its managerial structure. "We had more of a silo mentality before," says Ms. Brock. "Each risk area was dealt with independently. With our new emphasis on communication, the interdependencies have become clearer and created more collegiality and coordination." The society now has more confidence that it will be able to identify events or risks that could potentially have widespread impacts on its business, and devise mitigation plans and responses appropriately.

Zoological Society of San Diego:

Developing an organization-wide plan to meet the risk of Avian flu

If the Zoological Society of San Diego were a for-profit enterprise, it would qualify as a substantial corporate entity, with nearly 3,000 employees in 20 countries and revenues of over $190 million a year. It also has a priceless strategic asset to conserve and develop: over 8,000 animals, many quite rare. Like a for-profit, the zoo is constantly looking for new ways to enhance the value of that asset. At the same time, it recognizes that any threat to its collection places at risk its ability to achieve its goals as an organization.

The spread of Avian flu virus from the Far East and the probability that it could enter the U.S. became a matter of national concern in fall 2005, prompting Congress to appropriate more than $7 billion to help the country prepare for an outbreak. Executives at the zoo soon after set up a task force including the CEO, CFO, COO, and managers from every corner of the institution, to prepare their response. At risk was the survival of the society's priceless collection of birds, as well as employee and visitor safety.

"If Avian flu were to become a human-to-human transmission, how would we continue?" asks CFO Paula Brock. "If we could not have visitors anymore, how do we keep this collection?"

Five years ago, the society had begun putting processes in place, closely tied to the budgeting process, aimed at breaking down silos and prompting its various departments to work more closely together on strategic and resource allocation and risk management. The Avian flu task force was seen as a major test of that capability. "Not a department has been without a role," says Ms. Brock.

One step in developing a response plan was to seek advice from public health officials and to contact and share information with zoos and other animal organizations around the world. Another step was revisiting a successful effort the society made several years ago to prepare for a possible outbreak of another deadly bird contagion, the Newcastle disease virus. The zoo proactively shut down its aviaries to visitors and implemented biosecurity measures for waste management, spraying tires of incoming vehicles that might have been exposed. And even though Newcastle disease only affects birds, zoo officials talked to the public to reassure them that it was still safe to come to the zoo.

Avian flu is a far more dangerous threat, and so planning has been larger in scale and based around different threat levels that the task force defined. Each department developed its own set of measures to implement as the threat shifts from one level to another. These measures range from limiting physical access to bird areas—because the virus is spread by migratory birds, and the zoo's avian facilities are open-air—to restricting third-party vendors or their employees from entering those areas on the ground. At the extreme end, the zoo is prepared to drain all water areas of the park, covering any wildfowl areas with netting, and closing all bird areas completely.

Finance's role has focused on logistics: working out ways to speed up the acquisition of equipment and materials the zoo would need in the event that the threat becomes more severe. This includes negotiating shorter lead times with vendors for purchasing critical items. "We hope we'll never have to make use of it," says Ms. Brock, "but we've spent an entire year getting together once a week to put this plan together—from veterinary to human resources to every department in the organization."

One of the society's objectives in recent years has been to find ways to turn risks such as this into new opportunities to fulfill its mission. In this case, its Avian flu response plan forms a "skeleton" that other organizations can use to develop their own response to the threat, says Ms. Brock. Keeping in close contact with other zoos and animal organizations as well as public officials around the world helps the society to share the methods it has developed—another way for it to fulfill its institutional mission.

The past year of planning has been beneficial to the society in another way—testing its success at breaking down silos and creating a risk management capability that effectively extends to the entire organization. "It's been a wonderful effort," says Ms. Brock. "A lot of the departments have acquired a much deeper understanding of their interrelatedness and connection with one another."

Ms. Brock also notes that this new perspective on risk management can lead to new revenue sources and new ways to fulfill aspects of the enterprise's mission. "I think this has enabled us to be more effective in turning risks into positive things, rather than just holding them at bay," she comments. For example, in response to the attendance slump, the society expanded the zoo's activities to reach more people through new and enhanced programs, such as opening its wild animal park to overnight camping trips, photo caravans, and behind-the-scenes tours. The society also began using its Internet presence to offer long-distance education programs on wildlife to schools and to increase its outreach to donors. And it expanded the zoo's activities to provide a more meaningful, in-depth experience to better connect people to wildlife. "These programs were extremely successful from a financial standpoint," says Ms. Brock, "and the number of people saying they would come back shows that we are better fulfilling our mission."

In addition, in coping with the potential of an Avian flu outbreak to impede or even shut down the zoo's operations (see sidebar, page 7), the society is looking for ways to turn its procedures for responding to such an event into a template it can offer to other zoos and animal organizations that will help them address similar attacks.

Internal Risks

Strategic decisions, business performance, and changing organizational structures have also contributed to finance's new consciousness of non-financial risk, say executives. For example, fast growth driven by acquisitions at Concentra Inc. has led its finance team to broaden its risk oversight company-wide. Three years ago, says Steve Flack (SVP and CFO of Concentra Network Services, a division of Concentra, Inc.) the company decided to expand its internal audit function—in part as a response to tougher reporting requirements, but primarily to help senior management gain a deeper knowledge of the business it had put together through acquisitions. This new internal audit group now produces an annual risk portfolio assessment that extends into non-financial areas and "helped spur us to make sure we understood our risks across the various businesses that make up Concentra," says Mr. Flack.

Companies in mature industries or remote locations face long-term human capital risk as their workforces age and eventually retire. Burlington Northern Santa Fe Corporation (BNSF), the nation's largest railroad operator, and Tesoro Companies, the Texas-based oil refiner, both have aging workforces that they are attempting to manage proactively. Thomas Hund, BNSF's CFO, says that railroads are perceived as part of an "older" and perhaps declining industry, and as a result, BNSF and its peers are not often top-of-mind among young, well-educated people. "We need to be attracting and developing people to make sure it's a smooth transition as our workforce retires," he says.

Similarly, Tesoro targeted human capital risk as it executed its roll-up growth strategy. Tesoro "grew through acquisition," notes executive vice president and CFO Greg Wright, "and the plants we acquired had an aging workforce. We identified it as a risk fairly early on and decided in some cases to just add positions. So where we might have had three operators on a shift at a refinery, we now have four, including a young person in training learning from the others. It's a costlier way to go about it, but we think it's best to have them learning from those years of experience."

At Intermagnetics, which develops, manufactures, and markets magnetic resonance imaging technology, risk had long been considered "something that the company bought insurance against," notes CFO Michael Burke, particularly in the areas of workers' compensation, litigation relating to product development, and protection of intellectual property. But tighter regulatory requirements, acquisitions, and rapid growth in revenue and valuation in recent years (from a $150 million market capitalization five years ago, the company was sold to Philips for $1.3 billion last June) have driven the company and its finance team to link financial and non-financial risk much more closely. This focus on M&A and strategic growth drove the executive team at Intermagnetics—notably, the CFO and heads of HR and engineering R&D—to broaden its working definition of risk to include the company's ability to manage the human capital risk in product development.

Human capital risk—tied to broad demographic trends, to labor market dynamics, and to employee behavior—emerged as a persistent theme among finance executives.

In that vein, Mr. Burke and his team reviewed risks to the company's ability to develop new products on time and then market them effectively. Most notable, says Mr. Burke, were recruiting, retention, and organizational risks in the product development function. The CFO participated directly in the effort to build the right kind of organization, Mr. Burke says, through his role as a "strategic partner" to the chairman and CEO in which he combined his traditional functions with a focus on M&A and its long-term growth strategy.

Finance executives also report a new level of vigilance in their scrutiny of prospective and current employees. The September 11 attacks prompted service-oriented companies such as Marriott International and Centex Hospitality Group to heighten their screening and drug-testing of prospective employees. At a large data storage company, a finance executive says backup tapes containing personal information about clients' customers were recently stolen out of the company's locked storage vaults. The incident revealed the risk of major financial exposure as well as damage to an important client relationship. "In any industry, customer information has to be very well protected and looked after," says this company's CFO. "But because of the way in which information is exchanged today [and the potential for misuse], we're looking for risks in places we never thought of in the past."

The well-documented growth of business process outsourcing also creates new risks, as companies come to rely on third parties to manage proprietary data—payroll records, medical histories, employee information, customer account data, and much more. Concentra Network Services sees a greater desire on the part of its clients to monitor and control the risks this transfer of responsibility creates. "We do business with some of the largest insurance carriers, managed care organizations, HMOs, and PPOs in the United States," says Mr. Flack. And those companies' finance and other management teams "want to know that when they're sending us claim information that impacts on their members and their membership base, we're protecting it and getting it back to them in a secure manner. And they will come in and independently review it to make sure." Increasingly, Concentra's clients—typically through their finance organizations—are building risk controls into their business terms with the provider. "They're using contractual provisions, confidentiality clauses, performance guarantees, and requesting a lot more SAS 70-type audits to understand our processes and controls," according to Mr. Flack.

Finance Takes a Leadership Role in Expanded Views of Risk

As we have written in several recent research reports, boards of directors and CEOs increasingly are viewing the CFO as a partner in formulating strategy for the organization. As part of this evolving role, many CFOs are also getting more and more involved with risk assessment as their companies expand their views of non-financial risk.

Companies studied for this research program have taken various approaches to expanding their consideration of risk, ranging from instituting ad-hoc reviews through establishing formal enterprise risk management (ERM) functions. While no single model prevails in these initiatives, the CFO and senior finance team play a pivotal role in nearly all structured, company-wide risk management programs.

Increasingly, companies are recognizing that finance's ubiquitous reach makes it uniquely suited to managing a more integrated, enterprise view of risk. For example, oil refiner Tesoro reorganized itself in 2003, in part to "pull us along into the new era of risk assessment," says Mr. Wright. This reorganization included creating an ERM department that reports to the CFO, which includes internal audit, corporate security, and trading controls as well as the company's formal risk assessment function.

In many companies, it is the finance function that has the resources to assemble a comprehensive, analytically sound view of financial and non-financial risks. "Typically, your finance group has better resources, better access to information, and can pull together data and run charts quickly," notes Denise Albano. "And it touches all areas of the company: operations, sales, marketing, and everything else."

At American Dental Partners, the tightening insurance market in recent years, together with its fast growth since it went public in 1998, prompted the company to create an executive-level risk management group that monitors both financial and non-financial risks. In part because finance had responsibility for managing American Dental Partners' insurance arrangements, the CFO was the key figure in putting together the risk management group—which includes the company's chief operating officer and chief professional officer, the heads of human resources and facilities management, external counsel, and the company's insurance broker, along with the third-party claims administrators for some of its insurance programs. Another participant is the company's director of risk management—a new position created three years ago, which reports to the CFO.

> Finance has better access to information and "touches all areas of the company—operations, sales, marketing, and everything else"—and as a result, it is able to build an independent, analytically sound view of non-financial risk.

American Dental Partners' EVP and CFO Breht Feigh notes, "All risk boils down to finance, the probability of something occurring, and what's the expected loss if it does occur." What finance brings to the task of managing risk of all kinds, he says, is "an ability to think in the long term and put it in the framework of dollars and cents." While the operational parts of the company still take direct responsibility for the risks most closely associated with them, finance has the ability to tie them all together in quantitative terms, and so has become the "orchestrator"—bringing together all the resources needed to control risk in the form of the company's executive-level risk management group.

The finance function also plays a pivotal role in risk management at the Zoological Society of San Diego. The society splits the non-financial portion of risk management into two segments: legal and safety risks (such as workplace and visitors' safety, workers' compensation, and federal and state regulatory compliance, which are managed by the operations division and correspond to the "traditional," pre-9/11 definition of risk); and "intangible" risks that threaten or potentially threaten the society's balance sheet or revenues, such as the risk of not responding effectively to a natural disaster or economic downturn.

Finance takes a more active role in forecasting and addressing the latter group of risks, says Ms. Brock, because "ultimately, dollars do matter. The COO is aware of many of the risks that stem from operations matters, but to try to put them into financial terms, finance must come into it."

The finance function's ability to monitor activity throughout the organization from a centralized vantage point also makes it the logical focal point for increasing concerns about security risk. A large paper company's insurers and external auditor recently began asking more detailed questions relating to fraud. Says the CFO of this company, "They're looking at what happens when a person walks away from his computer: How long until it locks?" This has prompted the company's external auditors and the finance function at large to acquire a better understanding of information technology. This appreciation of risk has also pushed the company to improve its IT systems in an effort to make fraud more difficult and to provide further protection in case of data breaches.

The CFO and the finance function were seen as the logical leadership providers for this company's initiative to control and mitigate the impact of fraud and possible business disruptions. Finance also already managed the company's relationships with its business interruption insurance provider, and so it was well positioned to understand the nature of the risks and take actions to address them.

"The COO is aware of many of the risks that stem from operations, but to try to put them into financial terms, finance must come into it," says one CFO interviewed for this study.

Even when finance lacks direct oversight responsibility for risk management, it still can provide the information and insights the C-suite needs to manage risk on an enterprise-wide basis. Brookwood Companies, as a division of a public company, does not have its own formal risk management office. Understanding the threats posed by potential competitors in the company's Asian markets, for example, is something that sales and R&D tackle through developing close relationships with government officials and suppliers. But a higher profile of Brookwood within its parent company, coupled with the imperatives of more stringent reporting to regulators, has drawn CFO Ron Kaplan more closely into the parent's strategic planning process, including non-financial risks. This closer involvement has in turn made Mr. Kaplan one of his firm's top risk strategists.

Mr. Kaplan affirms finance's central role in risk management, saying his group brings skills, perspectives, and credibility to risk management that other parts of the organization, including operations, often cannot. Since Sarbanes-Oxley passed into law, "our relationship to the audit committee is key," he says. And, he says, finance professionals tend to view the company as a whole more than operations, marketing, and administrative managers. "It's the way financial folks think and operate. We have an 'audit mentality' and a controls background."

Finance Provides the "Analytic Engine" for Evaluating Risk Across the Enterprise

Responsibility for actually managing risk may fall variously to operating units, a centralized ERM function, finance, or the C-suite, depending on the organization. Regardless of who is ultimately responsible for risk management, finance frequently serves as the "analytic engine" driving decisions.

For example, at Tesoro, the task of managing non-financial risk falls mainly to the operations department. Tesoro's formal, structured approach to risk identification and management, however, revolves around finance. As Tesoro's Mr. Wright puts it, "We highlight, we observe, we make recommendations, and we report to the audit committee."

An oil refiner's "heat map" grades the likelihood and impact of more than a dozen financial and non-financial risks, reports one CFO.

Tesoro compiles three levels of research and reporting on risk. Its ERM office, which reports to the CFO, conducts regular interviews—a "deep dive" in which they talk to executives once a quarter and to lower-level managers once a month about where they see risks emerging for the company, and whether any long-recognized risks have fallen off in importance. Operations, meanwhile, creates a series of scorecards each month highlighting the metrics that drive safety, environmental performance, reliability, and, ultimately, income from the company's core operations. These include some areas of risk, such as inventory loss.

"We construct our scorecards by modeling and analyzing company and industry data to arrive at an expected range of severity and likelihood of occurrence for over 100 risks," Mr. Wright explains. "We do extensive internal surveys and create lists of known risks affecting the industry. Then we track our performance against these risks by assessing the completeness and effectiveness of the mitigants we put in place for the individual risks." Growth of the company and changes in its geographic footprint, resulting in greater or lesser concentration of employees in a few places, affect its performance against some risks. So Tesoro reevaluates each time it makes an acquisition or divestment.

Finally, the ERM office a year ago started producing an annual "heat map" of areas of risk, grading the likelihood of an event occurring in any one of them. This provides a snapshot for the board audit committee of where risks are located and how likely the company is to experience adverse effects from a risk. The heat map covers 13 or more different risk areas, both financial and non-financial, color-coded from red (highest risk) to green (lowest risk). These areas range from trading contracts to plant security to workforce succession planning.

"All of this is scrubbed through the more senior people on our risk committee to see [whether] it make sense, how it should be assessed, and how they feel about the mitigating factors around these risks," Mr. Wright explains. The result is the CFO's report to the audit committee. Making the system work requires finance to work with operations to make its managers more conscious of risk and help them to integrate risk into their scorecards.

At BNSF, the combination of corporate scandals at other companies making headlines, September 11 and other disasters, and the economic downturn changed the way the company looks at risk, thrusting the CFO and the finance function into more direct responsibility for risk. Says BNSF's Mr. Hund, "It became apparent to us that a lot of things going on in the world have an impact on the company and a lot of things within the company put us at risk. We had risks, but didn't analyze them through an integrated risk control effort."

In 2002, the BNSF finance team sponsored the launch of annual "risk identification exercises" that embrace non-financial matters, such as such as major service interruptions, asset protection, and regulation, along with traditional financial risks, such as balance sheet leverage and credit ratings. BNSF's yearly exercise is expansive and includes knowledge risk (including intellectual property and information management systems), governance and shareholder relations, market structure, and regulation. It has moved so far from traditional finance-focused risk management that "the majority of the risks that we look at may end up being non-financial," Mr. Hund says (see sidebar, page 14.)

The Zoological Society of San Diego has taken a similarly formal approach. Three years ago, as part of its effort to promote greater cooperation on risk management within the organization, it created a forecasting plan that includes unique templates for 145 separate departments. These provide finance with a 13-month rolling forecast that helps finance and the C-suite make strategic and resource allocation decisions. A major purpose of this forecasting model is to gather information from every corner of the organization about future risks and decide in advance what resources are needed to tackle them.

"Risk management is about being adaptable," says Ms. Brock. "If, all of a sudden, veterinary services says, 'We're going to have to handle a problem up here and it's going to impact us because we're going to have to carry out X, Y, and Z protocols in order to avoid this,' it blows through on the financials and we say, 'What's going on? What kind of impact does this have on the organization?' When that red flag goes up, it's a signal to examine the situation and then say, 'How do we have to allocate resources organizationally to deal with this?'"

At BNSF's annual risk identification exercise, "the majority of risks that we look at end up being non-financial," says the company's CFO.

Ms. Brock, as the coordinator of the forecasting process, also speaks to managers throughout the organization once a month about their concerns on financial matters. "An organization needs to have that kind of dialog and information loop set up so it can be apprised of potential risks out there," she stresses. "But I don't think that communication would be as strong if it were not tied to this periodic, cyclical budgeting process."

Technology can improve communication and strengthen the finance function's role as an aggregator and analyzer of information about the broad range of risks the company faces. Centex Hospitality Group, for example, has created and installed a new system that brings together the company's accounting and property management functions. The system collects all accounting information generated by its various resort properties, as well as all customer data from every point of sale in the system, down to the cash-register level. This creates a centralized repository that finance can use to develop its reports and analysis, and that accounting and points of sale at each resort draw from as well for their activities.

Many other companies have also started using some form of scenario analysis or modeling to help plan appropriate risk strategies. Marriott International, the hotel chain, now creates financial and operating scenarios in which the economy turns down and every area of the company cuts its expenditures by 10 percent. Departments create contingency plans to manage their portfolios of projects—that is, to push back the start dates on some projects, to mothball others, and to let some employees go.

Burlington Northern Santa Fe:

Creating an Enterprise-Wide Risk Assessment Model

Four years ago, Burlington Northern Santa Fe Corporation (BNSF), the nation's largest railroad operator (by volume of freight), found itself confronted with a new economic world. The tragedy of September 11, 2001, the imposition of stringent new reporting requirements in the wake of a series of financial scandals at other companies, and an economic downturn that did not appear to be easing quickly all combined to persuade BNSF management that it needed a new and more holistic approach to mapping and assessing risk.

"We always knew we had risks," says Executive Vice President and CFO Thomas Hund. "But we didn't necessarily think about how they interrelate to one another and what the whole universe of our risks are." Operations had for years been regularly developing winter preparedness plans for the rail system and recovery plans in the event of derailments, floods, mudslides, and other such events. Finance, meanwhile, monitored the company's credit ratings and balance sheet leverage. "But all of these were operating in silos of the individual departments. We didn't talk about risk cross-departmentally prior to 2002," says Mr. Hund

BNSF wanted to combine the financial and non-financial risks in one unified assessment. But to do so, "you have to have more bottom-up feedback," Mr. Hund explains. The answer was to create a risk leadership team consisting of some 50 managers at the levels of assistant vice president and above.

Annual risk assessment starts with an exercise in which the members of the leadership team are interviewed about a set of some 60 separate areas of risk: What their knowledge is of each, how they rate the company's performance in each area they are familiar with, what the likelihood is that something could go wrong, and what controls are in place to mitigate impacts when things do go wrong. Managing the interviews are the CFO and, under him, the head of internal corporate audit and the assistant vice president of risk management. Within the C-suite, the CFO acts as executive sponsor of the program.

Once the responses are in, finance identifies a subset of 5 to 10 risks that attracted the highest level of concern and that the company has the greatest capability of doing something about. "We then assign a senior leader to each of these to make sure that we have steps in place to prepare us for them," says Mr. Hund.

Next, Mr. Hund's team brings the results of the survey and the steps it proposes to take to the full corporate management as well as to the audit committee of the board. "We talk to them about what the top half-a-dozen or so risks are in this company, what group or what individuals are responsible for them, and what actions are planned."

The process does not end with delivery of the report, however. At different points during the succeeding year, the senior executive responsible for each of the highlighted risk areas makes progress reports to the audit committee, ensuring that each element of the report will be addressed during that year.

Finance's close relationship with audit, plus the "controls mentality" that is embedded in the finance function, make it the ideal home for an organization-wide risk assessment, Mr. Hund argues. This also enhances finance's ability to analyze and develop a response to the patterns embedded in the survey results. While the set of risks it measures has remained relatively stable since it was created, after four years of conducting the survey, patterns and shifts in emphasis are starting to emerge. The most noticeable, Mr. Hund says, is concern about workforce aging. Of relatively low concern in 2002, demographics is now considered a major challenge for BNSF going forward.

Denise Albano, who helped create these scenarios while serving as director of trade control and compliance at Marriott, helped develop a similar process at Centex Hospitality Group. Centex now creates three-year rolling budgets that project the unit's performance under normal business conditions and other scenarios that incorporate various risks. Catastrophic events on a national or local scale, for example, could cause households to change their travel and home-buying plans, Ms. Albano explains, and also bring on tighter financial reporting requirements. To gauge the impact of economic disruption, Centex's sensitivity analysis includes a host of variables, from Federal Reserve policy to market- and company-specific variables.

Economic disruption can affect nearly all operating metrics, says a finance executive in the hospitality industry. Accordingly, she and her team build scenario models tied to monetary policy and a vast array of marketplace and company specific variables.

Centex's top executives need to understand how, for example, a housing slump or natural disaster would slow the pace of resort construction, explains Ms. Albano. Such broad economic disruption would probably affect check-in and check-out rates, rental income, occupancy rates, golf course memberships, and other factors that drive revenue on the operating side. By projecting and measuring the sensitivity of the company's operations to the external world, the Centex finance team prepares corporate and line-of-business management to allocate resources dynamically in response to external change. "Finance takes the role of making these projections," Ms. Albano says, "because we're pretty much the ones accumulating all that information."

Finance Works to Raise Risk Consciousness Throughout the Organization

Today, more companies see risk management emerging as a component of performance management—that is, as an integral part of managing the enterprise and delivering exceptional returns to shareholders. Many of the CFOs we spoke to noted that risk management is now seen as an organization-wide discipline to which both functional and line-of-business executives contribute. The mandate to improve risk reporting, say executives, calls for close collaboration among finance and other managers throughout an organization.

Finance has been assuming a more prominent role within the C-suite in recent years in part because of its usefulness as a strategic partner to the CEO. Throughout these interviews, finance emerges as a close collaborator with business management in understanding the qualitative nuances of non-financial risk that operating managers know most intimately. If companies broaden their definitions of risk to include non-financial elements and then seek to create an integrated, company-wide effort to manage and control them, "a very strong partnership has to occur between sales, operations, and finance to bring different expertise to bear," says Mr. Flack at Concentra Network Services. "Finance can play a role as an independent arbiter, a group that can shine the light on different practices, understand if there's a problem, and work collaboratively with the different constituencies to try and improve that situation and lower the firm's risk profile."

For example, at Intermagnetics General Corporation, the word "boundarylessness" has become a cultural trait that the company tries to instill in its managers and executives. "You don't just live in a particular silo defined by a job description or title anymore," says Michael Burke, who recently departed as executive vice president and CFO after Intermagnetics was purchased by Royal Philips Electronics.

At Intermagnetics, the decision five years ago to broaden the CFO's role and to expand its definition of risk also meant that the CFO would have to become "a lot more visible," Mr. Burke says. Because he had to be more familiar with the operations side of the company, "I need to be walking through those facilities. They need to see me. I can't just be the guy they hear on the earnings call or see or hear about at a conference." That means more travel, and also overcoming some past history of suspicion that the CFO's presence on the factory floor is primarily as "a cop coming in and telling them what they're doing wrong."

"I need to be sensitive to areas of risk that may be operational but that absolutely affect the financial results," Mr. Burke says. "I need to be actively involved in making sure that my functional responsibilities are there to assist the operations in delivering those results. From a risk management perspective, we need to make sure we're putting systems in place, or making changes to processes, that are not just compliant with regulations, but support the line-of-business decisions."

At BNSF, a conscious goal of the risk assessment effort that began four years ago was to instill a broader perspective in the company's top managers below the C-suite level. "It takes a group of leaders who are functional experts and gives them a broader view of the company," says Mr. Hund. "It allows them to look at issues which they may normally not look at, and so it makes them better leaders." The result is that about 50 key managers at the assistant vice president level and above are now engaged in an annual exercise that assesses levels of risk throughout the company. Previously, "most of us were operating in silos—within our individual departments. We didn't routinely talk across departments about risk prior to 2002." But with enterprise risk assessment the company is creating a more unified, organization-wide risk management effort, notes Mr. Hund.

Candid discussion and close collaboration between finance and line-of-business management, say executives, provide the complete understanding that's required to manage non-financial risk.

The goal for many companies in bringing together over-sight of financial and non-financial risk is to create not only a more collegial approach, but also a common understanding of risk. The greatest benefit of the risk-comparing heat maps that Tesoro has developed "is that they have promoted tremendous discussion among management and board members as to the relativity of risk—where each risk is placed on the map relative to others," Mr. Wright says. "No one likes to see something in their area shown as high risk. As more discourse takes place, I believe Tesoro becomes better educated toward its overall risk profile."

Similarly, at American Dental Partners, the purpose of setting up an executive-level risk management group was to make sure every relevant executive was aware when a risk arises that could affect more than one part of the company. "When you get people together from multiple disciplines within the company," Mr. Feigh says, "people raise the issues that you talk about and deal with. It's not like the committee needs to try to brainstorm and come up with something to talk about."

Cost-Benefit Analysis Helps in Prioritizing Risks

Concern about risk in all its forms may be growing faster than organizations' ability to track it, say executives interviewed for this report. And companies and their finance functions charged with analyzing and quantifying risk may inadvertently introduce more risk simply by expanding their definitions and analyses of risk. Too much analysis of too many variables can paralyze decision making and force companies perhaps to over-think the true risks to their performance and operations.

"Making the best use of risk assessment work means finding better ways to quantify it," says one finance executive. "That's when you get surprises and a lot of conversation."

Breht Feigh from American Dental Partners explains the cost-benefit tradeoffs that he and his team have encountered and the maturing model they use to make decisions. "We start by thinking about the severity and frequency of loss, just like an insurer would," says Mr. Feigh. "If losses happen frequently, but have a small impact, then we'll most likely just try to bring the incidences down. If they don't happen often but have a large impact—such as directors' and officers' claims—then it probably makes sense to offload them" to third party insurance.

Finding a way to express these tradeoffs in quantitative terms would make prioritization easier. "Making the best use of risk assessment work means finding better ways to quantify it," says Mr. Wright. At Tesoro, once the risk assessment group has populated its heat map, "that's when you get surprises and a lot of conversation. No two people view risk the same way. Quantification, if we can get to that point, will take some of the arguing out of it." Instead, the discussion can change into one about the cost of mitigation, and ultimately help the company to decide whether a particular risk is one it can live with or not.

BNSF has a similar objective. "What we're really doing," says Mr. Hund, "is looking at the probability and the magnitude of risk and then asking, 'What does it cost to put in some type of mitigation?' We do a cost-benefit analysis, because clearly there are lots of things that you could do to mitigate risks that would be cost prohibitive, and you don't do them. That's where you get into making judgments. You want to be saying, 'That's sufficient to protect us against the risk,' and then go from there."

However, not all finance executives place the same emphasis on quantitative evaluation of risks. Mr. Hund believes that the risks the organization must devote the greatest attention and resources to will always have a heavily qualitative element. "These judgments are what the senior people are paid for," he says. "We take the views of the people involved, assess them, and take the results to our executive team. The ultimate priorities are set at the executive level."

Conclusion

At the large U.S. companies interviewed for this research, the traditional wall between financial and non-financial risk is breaking down. These companies have begun to take a broader view of risk, and are creating an ongoing, unified internal discourse about all forms of risk, both financial and non-financial.

In the process, the finance function is often tasked with finding new ways to assess the impact of events in non-financial areas on business performance. The finance function typically has the best resources with which to view and assess the entire company, and so is naturally positioned to orchestrate if not lead these enterprise-wide efforts. CFOs are adding risk assessment and management responsibilities to their already expanding portfolio of strategic tools they contribute to successful business performance.

Executives say that the finance function has the tools and organizational independence that naturally position it to orchestrate and often lead assessment of non-financial risk.

Getting Started

As you've read, and likely experienced, finance's traditional guardianship and risk management roles are expanding to include not only financial risks but also non-financial risks that impact company performance. How to integrate non-financial risks into business strategy is complicated and takes various paths. IBM's Global Business Services Financial Management Practice has a history of helping CFOs and finance organizations with business risk mitigation and assessment support. Our experienced business risk-management professionals help clients identify, assess, manage, and optimize business risks across the enterprise. Drawing on the full breadth of our financial management solutions, we help companies address the changing role of finance, better manage capital and profits, increase visibility of financial information, and maximize benefits of technology.

Leaders of IBM's Global Business Services Financial Management Practice:

Stephen Lukens
Partner; Global and Americas Financial Management Leader
Tel: 917-472-3268
steve.lukens@us.ibm.com

Todd Tueller
Global Business Risk Management Leader
Tel: 877-536-6399
todd.tueller@us.ibm.com

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