Risk in review
Global risk in the transformation age

Widespread business transformation is complicating the global risk landscape by exposing companies to risks from multiple directions.

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About the cover image:

We live in transformative times, where economic, market, social, technological, and environmental forces have coalesced to create a more complex and uncertain global business environment. Adapting to this new reality requires a leap, but it can't just be a leap of faith. Instead, companies must embrace new methods and strategies to get them out ahead of today's converging risks and prepare them for both the risks and opportunities of tomorrow.

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The heart of the matter

Changing markets, changing business

Companies are reconsidering their risk thinking and approaches, but they're also transforming to align with changing market imperatives—and in the process, exposing themselves to multi-directional risks.

In 2012, the forces of change that had shaped business over the previous decade coalesced to become the new normal. Globalization, the rise of emerging markets, the ever-deeper penetration of data technologies and third-party service providers, the increased influence of external stakeholders, and continued repercussions from the global recession of 2008–09 combined to produce a new environment of uncertainty and complexity, where exogenous risks could come swiftly and unexpectedly, with far-reaching ramifications. To cope with these new market realities, senior executives began to rethink their risk attitudes and approaches. Many companies initiated business transformation efforts to position themselves for success in a fast-changing marketplace.

In 2013, executives remain concerned about external market risks even as they retool their organizations to meet new challenges. Our survey of more than 800 executives and risk managers shows that continued recessionary pressures, global financial shocks, increased taxation, and excessive government austerity are seen as likely risks that could have serious consequences for business in the year ahead. But with the world economy showing some signs of recovery, executives should be prepared to seize new opportunities should a global upturn come later in the year.

Widespread business transformation is adding further complexity to the global risk landscape, as senior executives respond to global market shifts by making fundamental changes to their companies' strategies or operations via avenues such as mergers/acquisitions/divestitures, large-scale outsourcing/offshoring, enterprise-wide IT change or organizational restructuring, value-chain optimization, etc. Our survey found that since mid-2011, more than two-thirds of our responding companies have undergone a major business transformation, while another 10% plan to do so over the next 18 to 24 months. Corporations are building new business models, tapping into digital channels, and expanding into new geographic markets. At the same time, they're rethinking globalization strategies, including where to source supplies and locate production and R&D facilities. Some companies are reshoring operations to home markets to take advantage of cost differentials and logistical benefits.

These changes in business direction can expose companies to new risks, including data security, intellectual property abuses, and political and regulatory pressures in emerging markets, not to mention the possible failure of the new strategies themselves. Further complicating matters, the interplay of market and business transformation is creating complex risk linkages that can be unpredictable, fragile, and difficult to detect. Simultaneously, the demands and expectations of external stakeholders are gaining ever more power: Investors have less tolerance, customers are demanding more for less, and digitally empowered consumers are pushing companies on issues such as sustainability, fair-labor, and local sourcing. Such stakeholder influence further complicates the risk environment, and accelerates the speed and severity with which companies are punished for their mistakes, in both the media and the marketplace.

This study, carried out in November and December of 2012, presents insights from our survey of more than 800 executives and risk managers with businesses worldwide, highlighting companies' views of the current risk landscape and the steps they're taking to address that new environment. Our survey findings indicate that in the coming year, companies' key strategic responses will relate to:

- **Resilience.** Companies are pushing harder to build resilience to emerging risks. Over the next 18 months, more than half of our responding companies will be applying horizon scanning, early-warning systems, scenario planning, and flexible risk appetite statements.
- **People and organization.** More companies are taking organizational measures such as developing risk-related performance incentives and conducting talent audits to identify skills gaps. Our survey respondents plan increases of 79% and 69%, respectively, in their use of these measures.
- **Technology.** To address growing risks from digital technology and social media, companies will nearly double their use of intellectual property, brand, and reputation audits over the next 18 months and take measures to mitigate the risks that are uncovered.
- **Next-generation risk analytics.** Across industries, companies will draw on more sophisticated techniques to identify hidden patterns and risk linkages in large sets of data. The fastest growing tools will include integrated risk data warehouses (whose use is expected to double) and risk dashboards (which will increase by 50%).

An in-depth discussion

In an uncertain environment, business transformation can be both remedy and risk

Across industries, the depth of market change has required new risk thinking—a move toward risk-aware cultures that accept risk as an integral part of the business.

2012: Adapting to new market realities

In 2012, companies continued to adjust to market shifts created by rapid technological change, globalization, the rise of emerging economies, and the economic fallout from the 2008–09 global recession. Over the course of the year, as earlier norms failed to reassert themselves, companies began to accept that uncertainty and complexity were not just short-term effects of recent economic and financial crises, but hallmarks of a new business environment.

In response, companies not only changed their risk thinking, but also recast business strategies and models through accelerated cycles of transformation—and this in itself produced another fundamental change with which senior executives had to contend: Not only had external events become more unpredictable and far-reaching, but business transformation itself was creating new and more complex internal risks. To cope, a fresh approach to risk management was needed.

Unexpected, cascading risks

In today's business ecosystem, where organizations and markets form a complex, interlocking, global web, risks can emerge and metastasize quickly, cascading across markets. In 2012, for example, the effects of Hurricane Sandy spread far beyond the storm's impact zone, as the two-day shutdown of Wall Street upset financial activities worldwide, the closing of Northeast ports and airports disrupted global supply chains, and power outages and flooding at data centers disrupted Internet linkages. In the same year, cyber-attacks on the biggest US banks showed that even the most protected computer systems were vulnerable to unforeseen shocks.

During the year, executives also saw some much-feared potential cataclysms fail to materialize. Despite predictions of a contagion effect from the Greek financial default, weaker Eurozone countries such as Spain, Italy, and Portugal avoided their own economic collapse. Similarly, China sidestepped its own economic crisis by turning a burst real estate bubble into a soft landing. And as the year drew to a close, the US Congress managed to hammer out a solution to the so-called "fiscal cliff" of automatic tax hikes and spending cuts that were to take effect on January 1, 2013.

Against this backdrop, corporate boards pushed for better risk systems to cope with shocks and increased complexities. As a result, risk executives across industries expanded their repertoire of risk management techniques, from scenario analysis to stress testing. Because of the apparent increase in unknown risks, many companies put greater emphasis on building organizational resilience and contingency planning.

Ongoing economic uncertainty

Executives realized last year that the market had entered a sustained period of global economic instability and structural change. The long-held assumption that emerging markets were inherently riskier than developed markets began to be called into question. Faced with low growth, heavy debt, and high unemployment in the industrialized world, economic influence was shifting to the emerging markets, which, despite greater operating difficulties, continued to gather strength as centers of economic activity.

In 2012, companies began to incorporate this new reality into their planning. Working in conjunction with senior management, risk executives adjusted their assessments and strategies for coping with the reverberations from these changes, which could include economic and financial volatility, political and regulatory change, and market pressures on resources from commodities to human capital.

External stakeholder pressures

Even as companies adjusted their risk strategies to cope with black swan events and global market changes, they were also faced with increased demands and expectations from outside stakeholders—a powerful, cumulative force that elevates the risks associated with globalization, data technology changes, and other trends.

The slow recovery of the US economy, economic and fiscal worries in Europe, and other forces have made investors more risk-averse, even as companies make transformational decisions that require an expanded risk tolerance in pursuit of greater growth. Regulators, empowered by governments reacting to recent economic events and business scandals, are expanding their oversight. Customers are becoming more demanding as their options increase. And digitally empowered consumers are pushing companies on issues such as sustainability, environmental standards, fair-labor, and local sourcing. Such stakeholder influence has further complicated the risk environment, and accelerated the speed and severity with which companies are punished for their mistakes, in both the media and the marketplace.

A fresh approach to risk

Across industries, the depth of market change required a move from rigid risk cultures focused on identification and compliance to risk-aware cultures that accept risk management as an integral part of business. To nurture this new culture, companies began to adopt a more holistic risk management approach, ensuring that the full management team worked together to integrate risk into its strategic thinking. Boards became more active in the governance of risk, and the role of the chief risk officer (CRO) expanded to encompass new areas that required new expertise, including digital business acumen and collaborative management skills.

At the same time, senior management teams pushed forward with initiatives designed to cope with market shifts brought on by economic realignment, globalization, and technology disruption—but that very process of business transformation opened the door to new threats, including heightened risk of cyber-security breaches, reputational risks from social media, and shortages of talent to drive new strategic imperatives. Market and business transformations were working together to create a convoluted web of risk interrelationships.

2013: The risks ahead

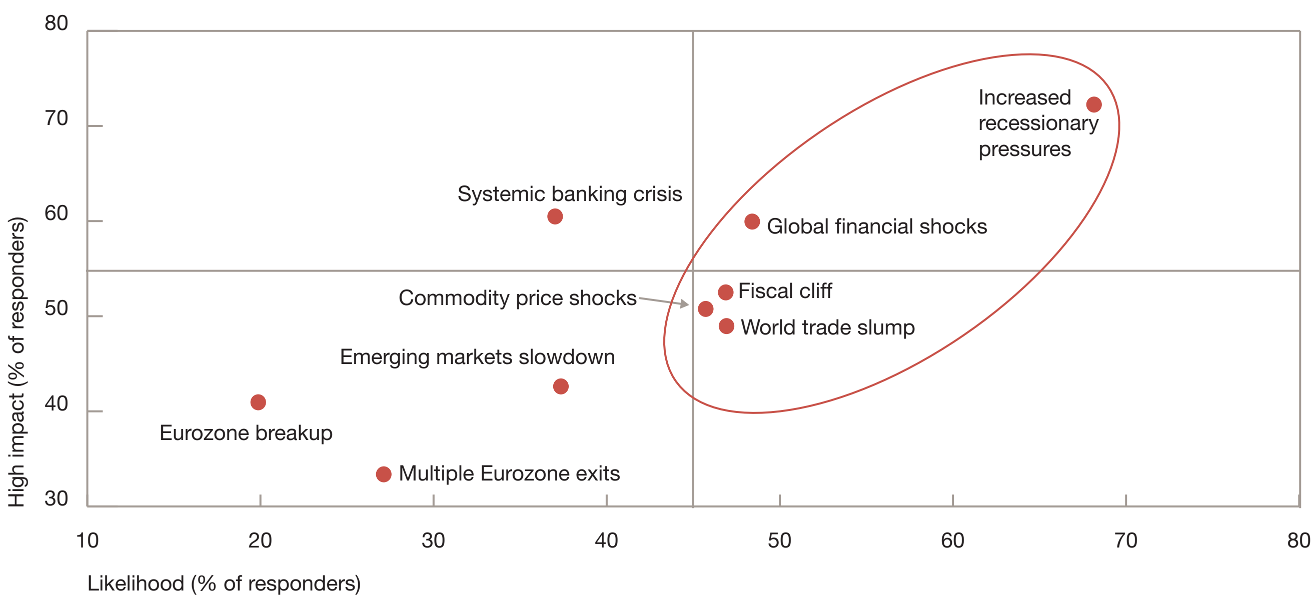
As we move through the early months of 2013, some of 2012's key global market risks are behind us (the US fiscal cliff) or showing signs of abating (e.g., a potential Eurozone breakup and a China hard landing). But with the Eurozone, the US, and Japan still facing tough fiscal challenges, and the potential for taxation, austerity, and regulatory changes lying ahead, executives continue to keep a watchful eye on the future.

Global economic and political pressures remain high

Among the respondents to this year's risk survey, a major global economic downturn is again seen as the most serious risk over the next 18 months: Nearly two-thirds of respondents cited such a downturn as likely, and nearly three out of four said it would have a major impact on their organization (see Figure 1).

Chief executives responding separately to PwC's *16th Annual Global CEO Survey* were equally apprehensive, with 81% saying they were either somewhat or extremely concerned about economic uncertainty and nearly a third expressing worries about a recession in the US. Unsettled economic conditions around the world, combined with fiscal measures to address them, will continue to dominate the corporate risk agenda, and executives see future economic and financial shocks as a distinct possibility.

Figure 1. Global economic risks: Likelihood and impact



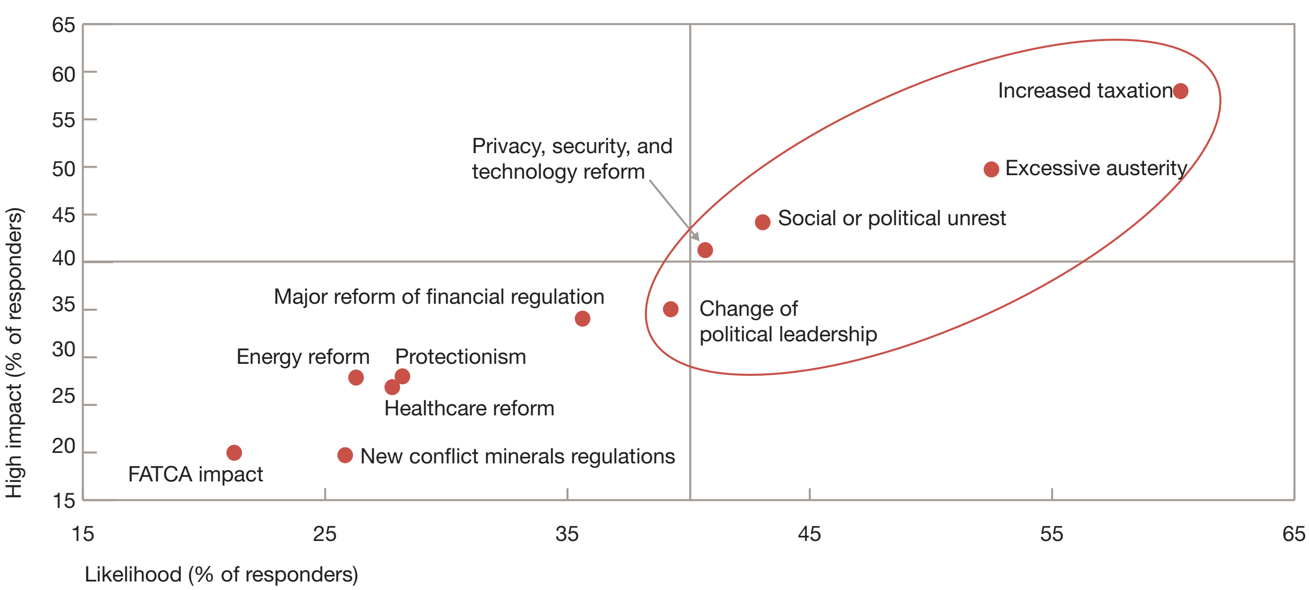
> *"There is a danger that if executives stay focused on an economic downturn, they may not be able to move fast enough if a market upturn comes."*
>
> *—Ken Coy, Partner, US Assurance GRC Leader, PwC*

But some believe the global market turned the corner in 2012, and that these executive concerns about the economy may be rooted in a moment that's now passed. According to Ken Coy, Partner, US Assurance GRC Leader at PwC, "Executives may be worrying about last year's world, when they should be musing over this year's opportunities. There is a danger that if executives stay focused on an economic downturn, they may not be able to move fast enough if a market upturn comes. Additionally, companies may not notice the upturn early enough to gain a first-mover advantage over their competitors."

Regardless of where the economy heads, executives continue to fear that regulators will exercise greater influence over the next 12 months. They are most apprehensive about increased taxation in industrialized markets, which some 60% consider a probable event with serious consequences (see Figure 2).

Similarly, about half of respondents view excessive government austerity measures as a powerful threat, particularly as more nations move to reduce their heavy debt burdens. Executives also remain uneasy about the related risks of social or political change, including potential military flare-ups in the Middle East and greater social unrest in Europe, the latter stemming from record high unemployment rates and anger over government austerity measures.

Figure 2. Political and regulatory risks: Likelihood and impact

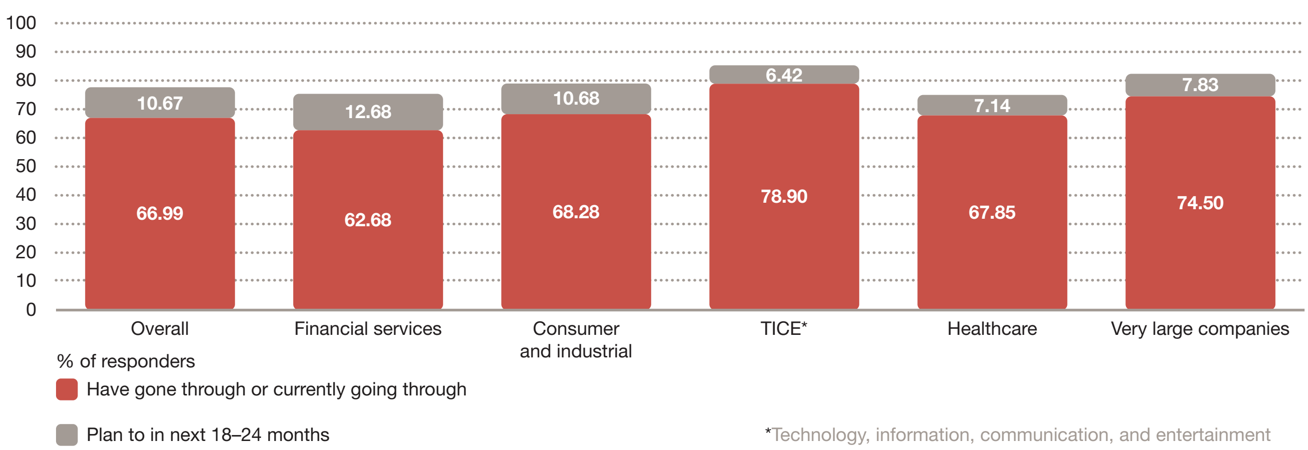


Business transformation makes risk management more complex

To adjust to changing global market conditions, senior management teams will continue over the next year to transform their global business strategies, structures, and operating models. Our survey found that more than two out of three companies have undergone business transformation over the past 18 to 24 months, while another 10% are planning such changes over the next 18 to 24 months (see Figure 3). In some industries, such as consumer and industrial products and services (consumer and industrial) and technology, information, communication, and entertainment, and among larger multinationals, the extent of transformation is even greater.

At some companies, transformation is viewed as an ongoing process. "Transformation is a bit of an overused word," says Michael Monahan, CFO at Pitney Bowes, "but it is part of how you do business every day now. You just continue to evolve your portfolio and business processes to stay ahead of the competition."

Figure 3. Broad-based business transformation
Is your organization transforming its business to respond to market shifts?



*Technology, information, communication, and entertainment

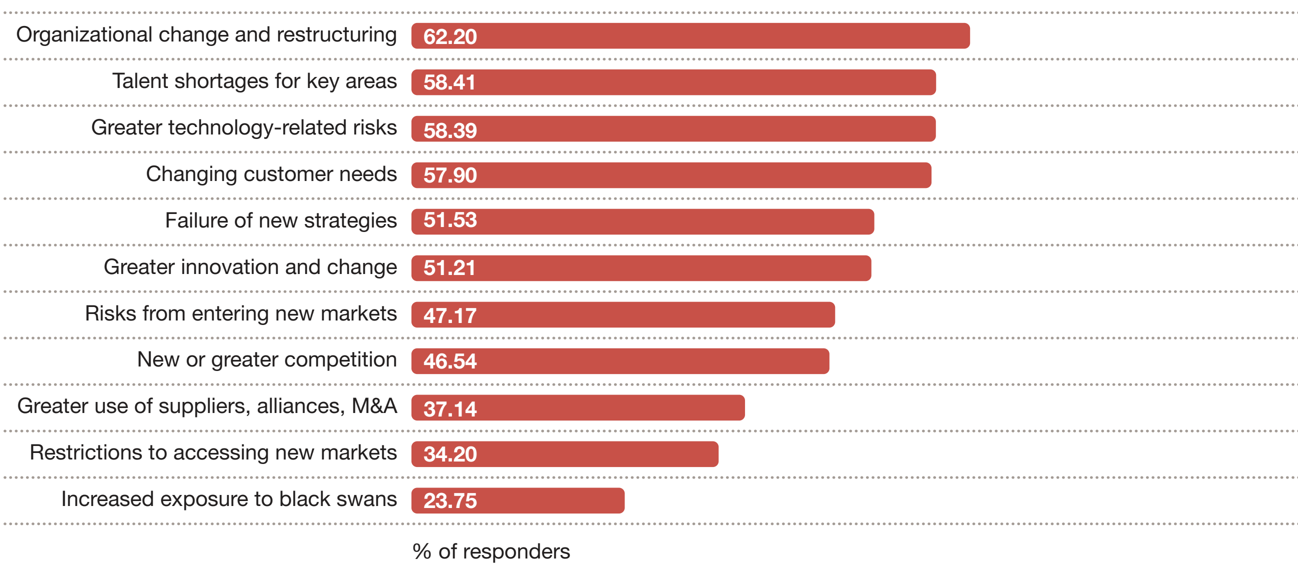
"We're doing more than we ever have, as people and managers. Our skill sets are being stretched as never before."

—Michael Loughlin, CRO, Wells Fargo

For others, transformation can be sweeping and challenging. Organizational change and restructuring, talent shortages, and greater technology risks are just some of the key transformation-driven risks identified in our survey (see Figure 4). "We're doing more than we ever have, as people and managers," says Michael Loughlin, CRO at Wells Fargo. "Our skill sets are being stretched as never before."

"Ultimately, successful companies are driven by the right people with the right talent brought to bear at the right time," says Jason Pett, Partner, US Internal Audit Services Leader at PwC. "The most successful companies are constantly evaluating their talent needs, both for today and tomorrow. These companies are not afraid to add skills when and where they are needed, whether by hiring new resources or by looking outside the organization to source the skills needed, even if it sometimes appears that individual additions are slightly ahead of the curve."

Figure 4. Risks of business transformation
To what extent has business transformation created risks for your business in the following areas?



Coping with globalization risks

The deeper companies wade into global markets, the broader their risk exposures become. With the costs of production rising fast in emerging markets like China, India, and Brazil, many companies are now electing to pursue investments in low-cost frontier markets such as Malaysia, Vietnam, Indonesia, and the Philippines. In accepting the challenges inherent in navigating these markets—unfamiliar operating environments, extended supply chains, complex service interconnections, and a range of cultural issues—companies open themselves up to numerous political, regulatory, commercial, social, and economic risks.

Almost half of the respondents to our survey are concerned about risks from entering new geographies and markets, particularly regulatory compliance risks. For Nigel Williams, CRO of Australia's ANZ Banking Group, the difference between compliance laws across countries is especially vexing: "Some compliance regimes are principles-based, some rules-based, some in conflict with each other. You've got to have business executives who are thinking about how to deal with those conflicts."

For many companies, longer and more complex supply chains are a paramount concern. As an example, Williams notes the recent surge in sales of flat-screen TVs in Southeast Asia: "A large number of companies in various industries contribute to the supply chain for such products," he points out, "not just the manufacturer whose brand is on the final product. All are affected if one falls victim to a supply-chain disruption."

According to Dean Simone, Leader of PwC's US Risk Assurance practice, "Risks from insufficient buffer inventory levels can also arise when companies strive to eliminate supplier redundancies through lean manufacturing, or rationalize suppliers and costs through third-party-vendor risk management."

On the flip side of globalization, a growing number of companies, among them some large players in the Internet, technology, industrial, and auto segments, are "reshoring" part of their manufacturing back to the US to take advantage of favorable cost differentials and logistical benefits. According to a new study from the Massachusetts Institute of Technology (mit.edu/pie), realizing the advantages of reshoring may be a slow process, since the US must rebuild much of its manufacturing infrastructure and re-create networks of domestic suppliers and subcontractors to accommodate them.

Digital transformation presents new risks

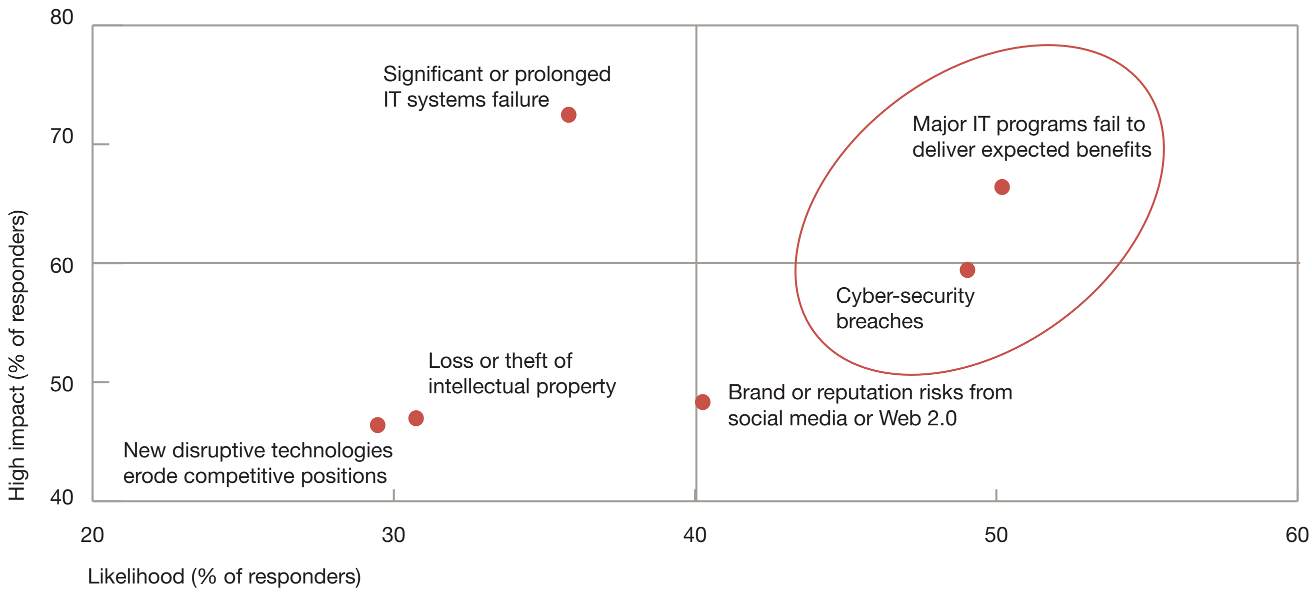
The continuing evolution and ever-wider adoption of new digital technologies across industries will expose individual companies to a broad range of risks in 2013. Close to 60% of executives think that business transformation will make their companies more vulnerable to technology risks in general. The danger that major IT programs will fail to deliver expected benefits was the biggest specific risk cited by survey respondents (see Figure 5, page 11).

Cyber-security threats—including potential theft of sensitive information and other cyber-crimes—are becoming "a very big issue" for the utility sector, says Anil Suri, chief risk and audit officer at Pacific Gas and Electric (PG&E). "This year in our risk metrics that go to our CEO, we've included metrics that track performance related to cyber-security controls that, if compromised, could impact safety and reliability."

Social media has also led to new anxieties. While companies see social media as a valuable way to reach stakeholders and track opinion, they worry that it opens them up to brand or reputational damage. More than 40% of survey respondents say social media is likely to put them at risk in the next 18 months. The issue is especially pressing for banks, which face tighter regulations regarding the marketing of their products and services over social media.

> *“Globalization, technology, political risk—all of these dimensions are playing out in ways we’ve not seen in this combination.”*
>
> *—Michael Monahan, CFO, Pitney Bowes*

Figure 5. Technology risk: Likelihood and impact



ANZ, a market leader in mobile banking, has invested in controls to protect its data in today’s open digital environment. “You have to participate, and you actually have to lead in that,” says CRO Nigel Williams, “but you also have to make sure you’ve got the controls and protections in place.”

“Companies will not continue to make long-term investments in technology unless they know their intellectual property is protected,” says Melvin Flowers, chief audit executive at Microsoft. Flowers sees this as one reason for the recent trend for companies to locate operations in developed countries, where laws governing intellectual property offer better protections than are available in emerging-market countries.

Executives also worry about emerging technologies that can dramatically shift a company’s competitive position. PG&E’s Anil Suri gives an example: “As battery technologies improve and solar becomes cheaper, traditional energy management business models are not as effective, both financially and operationally. We continue to monitor technology shifts and try to figure out how to be a part of a changing technological landscape, in order to provide the highest level of reliability while being financially competitive.”

"We're trying to get a risk culture that asks, 'What could be wrong about the current thinking? What assumptions are built into our current thinking that, if altered, might give us different outcomes?'"

—Nigel Williams, CRO, ANZ Banking

Intersecting risks from market and business transformation

In 2013, market and business transformation will coalesce to create more complex, interconnected risks for business. "Globalization, technology, political risk—all of these dimensions are playing out in ways we've not seen," says Pitney Bowes' Michael Monahan, who believes that traditional risk patterns and assessments shed little light on today's seemingly random events. "My colleagues at other companies feel their ability to predict with certainty between one or two scenarios is diminished."

The shift in economic influence from West to East, and corporate strategies to capitalize on this trend, are also leading to new risk linkages and dependencies. According to Nigel Williams of ANZ, the rapid growth of the Asian middle class has made the region more economically resilient. "Rising wages in China are unlikely to dampen East Asian growth," he says, "since companies seeking lower labor costs are tending to shift production to other countries in the region—like Vietnam, Indonesia, and the Philippines. Chinese investment, too, is now an important ingredient in their growth."

Understanding today's risk complexities requires companies to develop what Williams calls a more questioning culture. At ANZ, he says, "Our greatest concerns are big, unexpected losses—not the bell-curve-type risks. We're trying to get a risk culture that asks, 'What could be wrong about the current thinking? What assumptions are built into our current thinking that, if altered, might give us different outcomes?'"

PwC's Jason Pett adds, "Successful companies assess the risk of both action and inaction, over-reaction and under-reaction, and then weigh these risks to make the best risk- and opportunity-informed decisions. When evaluating these complex decisions with multiple layers of risk and opportunity, leading companies are leveraging data analytic models and tools to inform their decisions, measure success, and adjust as necessary as the chosen strategy plays out."

The risk impact of business transformation at Pitney Bowes

Pitney Bowes recently completed a three-year strategic transformation that saw the manufacturer shift emphasis from its traditional postal equipment business to offering web-based, high-value solutions. As part of this move, says CFO Michael Monahan, "We were also driving toward a more variable cost structure and an integrated service model that would allow us to evolve more quickly as opportunities present themselves."

Becoming a more agile company enhanced the role of risk management as well. Pitney has a decentralized structure that places ownership of risk with its functional and business leaders. Scenario planning, for example, is done at the functional level, with stress testing reserved for risks related to financial and other corporate-wide activities. A risk council of senior executives meets once a month to review 16 company-wide risk categories. The council can decide to shift emphasis depending on its changing views of each category's impact on the company.

"We also try to make sure that if a risk is being addressed in one area, that there isn't redundancy in another," says Monahan. Over the past year, however, as the strategic transformation effort concluded, the company has made changes in risk management that reflect the fact that it is now in a wider range of businesses with potentially greater exposure to new and interlinked risks—for example, through the web.

Explains Monahan: "We've regrouped our risks to align more with things that are interrelated, such as anything with an IT association, so we can look more comprehensively at their interdependencies and streamline the mitigation process."

When transformation fails

Not every business transformation is well timed, properly executed, successful, and free from unintended consequences. Inevitably, some transformations fail, opening companies up to additional risk. In our survey, more than 62% of respondents cited risks arising from organizational change and restructuring as a key hazard of business transformation for 2013, and more than half cited the failure of new strategies and business ventures.

Senior management can set the stage for failure by neglecting to establish a common understanding of the initiative's goals throughout the organization and by failing to play an active, continuing leadership role during the transformation process. Companies often ignore the examples of other business transformations, overlook risk management tools that could help them anticipate and mitigate risks, or fail to anticipate the resources needed to carry out change smoothly.

"It's not hard to think of industries whose business models are under stress or broken—big box retail, for example," says PwC's Dean Simone. "The big box format was transformative 20 years ago, but e-commerce and mobile technologies changed the game. Now, brands that once led the industry are either gone or struggling to evolve. It's all about adaptation, finding the strategy that will allow you to thrive in today's environment, and tomorrow's. Some industries and companies have done it very well—the Detroit automakers, for example, and domestic oil and gas producers. They've looked down the trend lines, seen where their worlds are going, and made the right choices to ensure success."

Risks by industry

External market shifts and business transformation are having a marked effect on most of the companies that responded to this year's risk survey. However, the magnitude of those impacts and companies' strategic response varies by industry. Below, we summarize the trends affecting the four primary industry groups examined in this year's risk survey.

Technology, information, communication, and entertainment

Companies in these sectors are perhaps the most dependent on new and innovative technologies. As a result, they arguably face the biggest and most urgent risks from business transformation. Technology has upended long-standing business models at many of these companies, and failing to replace them with more apposite and sustainable approaches has led in some instances to market erosion and business failure.

More than 75% of respondents in these sectors say coping with changing customer needs is a major danger of business transformation, and over 70% cite technology-related risks. Most telling, almost two out of three are concerned about the risk that new strategies and business ventures could fail, underscoring the thin margin for error many of these companies face as they attempt to transform.

Figure 6. Key external and business transformation risks: Technology, information, communication, and entertainment
(% responded high risk)

External risks		Business transformation risks	
Increased recessionary pressures	70.4	Meeting changing customer needs and behaviors	76.1
Increased taxation	61.5	Technology-related risks	71.7
Global financial shocks	56.5	Internal and market risk related to greater innovation and faster change	67.4
Systemic banking crisis	54.7	Failure to respond to new or increased competition	66.3
Excessive austerity or public spending cuts	51.0	Failure of new strategies and business ventures	65.2

Healthcare

The most immediate challenge for the healthcare industry centers on government reform. In the US, for example, the 2010 passage of the Patient Protection and Affordable Care Act triggered a multi-year process that will substantially redefine the nation's healthcare market. A staggering 98% of executives in this industry see major reform of healthcare legislation as a high risk, while more than 70% cite excessive austerity or cuts in public spending. Similarly, almost three out of four healthcare executives worry about major reform of data privacy and security regulations, by far the highest for any industry in our survey. Changing customer needs represent a high risk for over 66% of healthcare organizations, whose consumer bases are expanding due to healthcare reform, aging populations, and globalization. Technology, such as remote health monitoring, is playing a vital role in how the industry addresses these new pressures. It is no wonder that about 62% also cited technology-related risks from business transformation as a major threat.

Figure 7. Key external and business transformation risks: Healthcare
(% responded high risk)

External risks		Business transformation risks	
Major reform of healthcare regulation	98.2	Failure to meet changing customer needs and behaviors	66.7
Major reform of data privacy, security, and technology	74.5	Talent shortage for key business areas	64.3
Excessive austerity or public spending cuts	70.4	Technology-related risks	61.9
Increased recessionary pressures	69.8	Failure of new strategies and business ventures	59.5
Increased taxation	61.1	Negative consequences from organizational change and restructuring	57.2

Financial services

Systemic banking risks, global recessionary pressures, global financial shocks, and major regulatory reform top the list of external risks for financial services executives, while risks relating to data security and customer privacy are top-of-mind as their companies adopt transformative strategies to navigate today's technological landscape.

ANZ's Nigel Williams says digital risk, government regulation, and the influence of Chinese capital are the three critical risk areas financial services companies will face in 2013 and beyond. "Executives at financial institutions are still coming to terms with a much more real-time, digital world—and most executives haven't fully considered the implications," says Williams, whose company last fall announced plans to spend A$1.5 billion on initiatives that make it easier to bank with ANZ, including improvements to its mobile banking services. "Fraud has basically shifted from cash and check fraud to Internet-based and mobile fraud. So a lot of financial institutions have tended to view these new tools as a risk, rather than saying, 'Is this an opportunity to understand our customers better?'"

Figure 8. Key external and business transformation risks: Financial services
(% responded high risk)

External risks		Business transformation risks	
Systemic banking risks	73.2	Technology-related risks	66.0
Increased recessionary pressures	70.3	Negative consequences from organizational change and restructuring	62.0
Global financial shocks	66.0	Talent shortage for key business areas	57.5
Major reform of financial regulation	64.9	Meeting changing customer needs and behaviors	53.5
Increased taxation	51.0	Internal and market risks related to greater innovation and faster change	50.5

Williams also believes that “government regulations are becoming a lot more intrusive, and we are seeing a much more extraterritorial reach around risk as well.” That points to Williams’s third area of concern: “The financial industry and regulators must become a lot more Asia-centric. The driver of the world’s economy now is in Asia. China’s largest export is capital, not manufactured goods. And that has a massive impact around the world.”

Given the new and less predictable risks they face, “All banks have changed in the direction of emphasizing resiliency,” says Wells Fargo’s Michael Loughlin. “My assumption is, there are risks that will hit us every day that we can’t anticipate. We should have a moat as deep as possible and walls as high as possible. But now we’re trying to be much, much faster in terms of responding to these risks.”

Consumer and industrial

Commodity price shocks were cited as a high risk by nearly three out of four executives in the consumer and industrial products and services sector, reflecting the interplay between energy prices and customer demands. PG&E, for example, found its profit margins squeezed by government requirements, volatile energy costs, and slack consumer demand following the 2008–09 recession. “We have to work hard to stay within the affordability range on prices,” says Chief Risk and Audit Officer Anil Suri. “If we don’t, we see huge customer pressure.”

But consumer and industrial companies also feel vulnerable to a variety of economic and political risks, including the risk of increased recessionary pressures, greater taxation, a slump in world trade, and lingering fiscal uncertainty in the US following the fiscal cliff showdown. To deal with these rising risks, many companies in the sector are rethinking where and how they produce their products and services.

Figure 9. Key external and business transformation risks: Consumer and industrial
(% responded high risk)

External risks		Business transformation risks	
Increased recessionary pressures	76.0	Negative consequences from organizational change and restructuring	64.9
Commodity price shocks	73.8	Talent shortage for key business areas	57.7
Increased taxation	64.7	Failure to meet changing customer needs and behaviors	54.5
Global financial shocks	60.6	Entering new markets/geographies	50.2
Fiscal cliff in US	58.8	Failure of new strategies and business ventures	50.2

Risks by region

Executives still consider North America, Western Europe, and developed Asia less risky markets for business. Nevertheless, the markets seen as riskier—particularly developing Asia and Sub-Saharan Africa—are projected to post the world's fastest GDP growth rates in 2013.

Figure 10. Executives' perception of risk, by region
(% responded high risk)

Middle East/North Africa	42
Developing Asia	38
Sub-Saharan Africa	37
Eastern Europe	32
Latin America/Caribbean	32
Developed Asia	28
Western Europe	25
North America	21

Middle East/North Africa

Although Oxford Economics predicts a GDP growth rate of 4%, this region remains one of the world's most volatile, as the Syrian civil war rages and political transition in Egypt and other countries underlines the uneasy accommodation between Islamists and secularists.

Developing Asia

According to Oxford Economics predictions, GDP in developing Asia will show the fastest growth in the world in 2013, climbing by 6.4%. While executives viewed the region as the world's riskiest in our 2012 survey, their assessment has improved ever-so-slightly this year, thanks to the reduced chance of a China hard landing.

Sub-Saharan Africa

Oxford Economics expects this region to see brisk GDP growth of 4.9% in 2013, thanks largely to strong commodity prices. With long-term investment flowing from China into Africa's natural resources market, the continent may enjoy stable growth for some time to come.

Eastern Europe

Corporate executives were pleasantly surprised in 2012 by the buoyancy of several economies in the former Soviet bloc. However, concerns remain about the risk of doing business in the region, most particularly in Russia. Oxford Economics predicts GDP growth of 2.2% in 2013, down from 2.8% in 2012.

Latin America/Caribbean

While economic recovery in Brazil is tenuous, the country's linkages to other Latin American markets are relatively light, limiting any contagion effect. Meanwhile, the region's growing relationship with China is positive. Oxford Economics predicts a 3.3% GDP growth rate for 2013.

Developed Asia

Economic prospects in 2013 are inconsistent across the region's economies. Oxford Economics projects negative growth of -0.4% for Japan and a modest 2.1% for Australia. By contrast, it anticipates that Singapore, Taiwan, and South Korea will enjoy GDP growth topping 3%, spurred in part by a continued recovery of regional trade.

Western Europe

Executives have a slightly elevated view of Western Europe's riskiness in 2013 compared to 2012. Oxford Economics expects flat growth this year, but its analysis of alternative scenarios projects that multiple Eurozone exits would sink the region into a deep recession.

North America

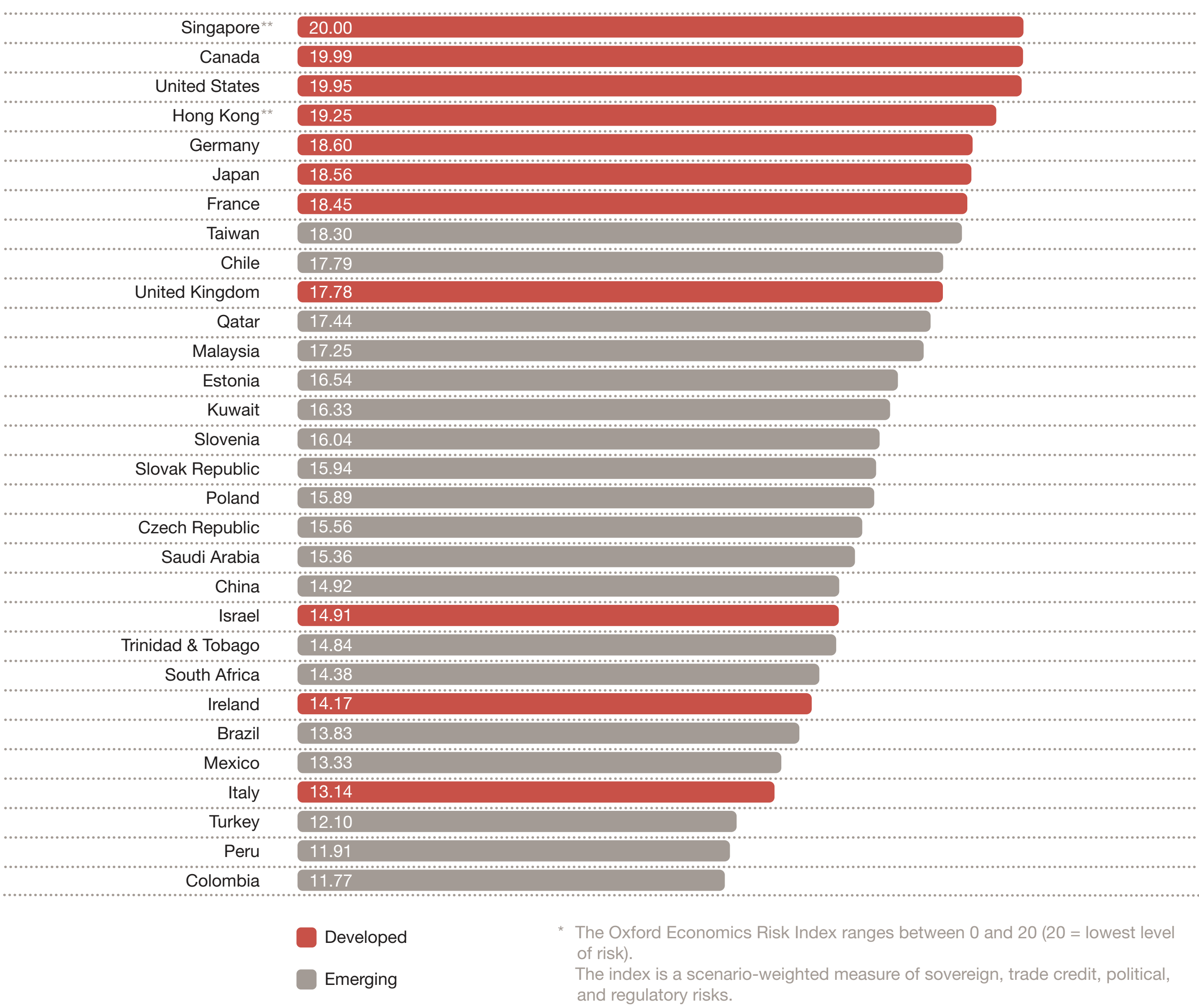
Concerns about slower growth in the US were reduced by the January fiscal cliff agreement, which included mechanisms to raise revenues. With the US economy showing signs of improvement, Oxford Economics is forecasting a 2.3% growth rate in 2013, putting the country well ahead of other industrialized markets.

Assessing risk in emerging markets

According to the Oxford Economics Risk Index—which takes into account future scenarios weighing sovereign debt default, trade credit, political stability, and regulation and expropriation—economic realignment is shifting more risk from developing to developed countries. Numerous emerging markets, such as Taiwan, Chile, and Malaysia, are now ranked in the upper, less risky portion of the index, while some industrialized markets (e.g., Italy and Ireland) are ranked lower. Some industrialized markets, like Singapore and Hong Kong, were considered developing economies until recently.

With country risk profiles in flux, companies in 2013 will need to reassess whether their global risk management approach is in sync with the new markets where they do business.

Figure 11. The convergence of emerging and developed market risk
Oxford Economics Risk Index*: Expected level of risk in 2017 (higher score denotes lower market risk)



Source: Oxford Economics

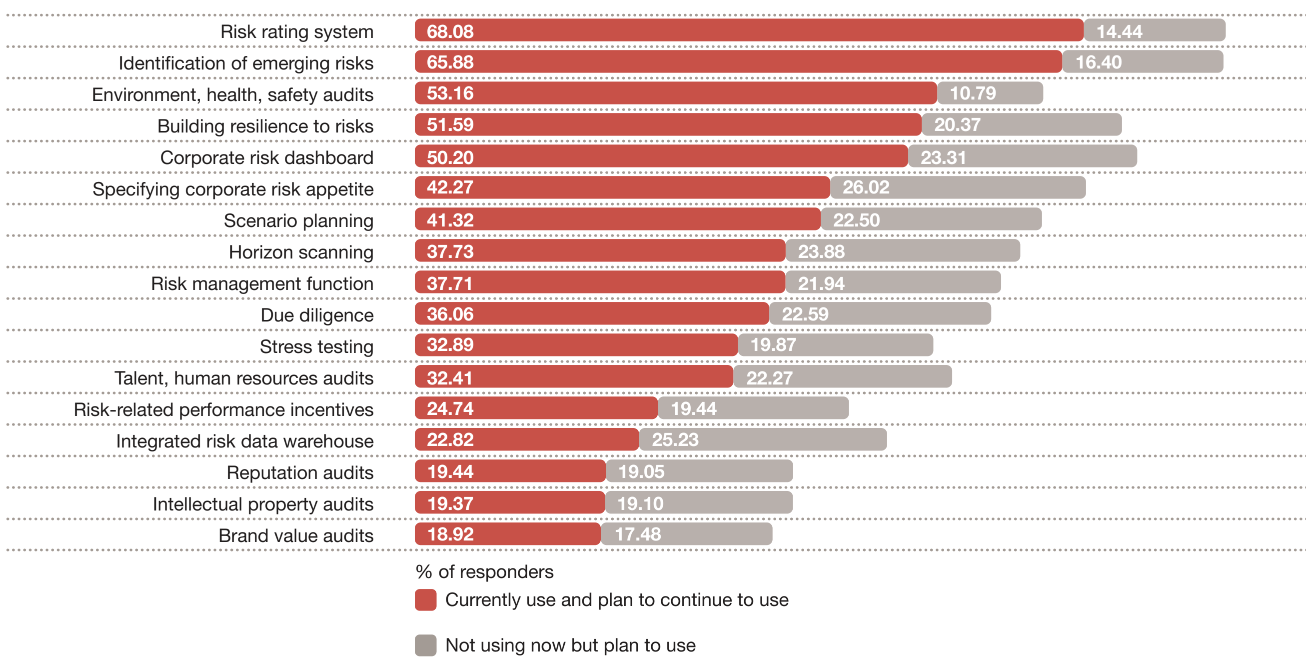
* The Oxford Economics Risk Index ranges between 0 and 20 (20 = lowest level of risk).
The index is a scenario-weighted measure of sovereign, trade credit, political, and regulatory risks.
The forecasts are based on the scenario probabilities defined in the December *Global Scenario Service* report.
** Regarded as emerging markets until recently.

Aligning risk management to business transformation

As companies transform their businesses, they must ensure their risk management systems and techniques align with new strategic priorities. In 2013, it will be critical for corporations to adopt next-generation risk management techniques that can handle the rigors of market uncertainty and business transformation. Figure 12 summarizes the techniques most commonly employed by companies in our survey, along with others they intend to use in the near future.

Each company will need to find risk management methods that best fit with its industry, size, and strategic direction. Most risk responses fall under four categories: resilience, people and organization, technology, and next-generation risk analytics.

Figure 12. Techniques for managing risk in a time of transformation
(% using or planning in next 18 months)



Resilience

In 2013, market uncertainty will prompt more companies to not only improve their ability to identify risks, but to become more risk-resilient—that is, better equipped to anticipate and respond quickly and effectively to emerging threats. Risk-resilient companies are able to rapidly acquire and analyze vast quantities of information and recognize patterns in this information to generate insights. They're flexible organizations that give their local units the autonomy to respond to changing circumstances, but they also maintain strong risk governance procedures at the board and executive level.

Companies are stepping up their use of tools that make it easier for them to spot linkages between risks, particularly those risks that can cascade into wider and more complex crises. Horizon scanning and early-warning systems, which enable systematic monitoring of changes in the risk environment, will grow in use by 63% (see Figure 13). PwC's Ken Coy notes the continued evolution of new technology solutions for spotting emerging risks: "We see great potential to leverage social media information to provide management teams with early indications of critical changes to a company's risk environment."

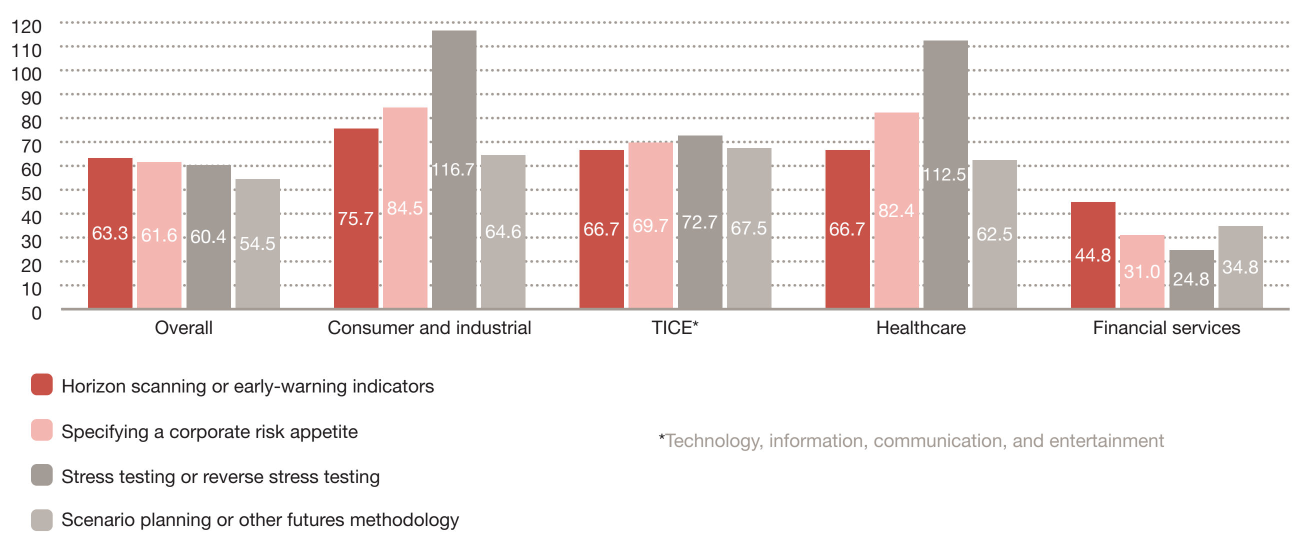
The use of corporate risk appetite statements will rise by 62% as companies seek to provide executives with greater flexibility for dealing with market and business transformation risks. Risk appetite statements can be important for reinforcing consistent risk-based decision making that's aligned with a company's strategy, which is why healthcare, consumer and industrial, and technology, information, communication, and entertainment companies in particular will be putting greater emphasis on these tools over the next year.

Brian Brown, US Risk Assurance Innovation Center Leader for PwC, explains the differences in risk appetite statements across industries: "Risk appetite is a well-established concept in financial services, and it focuses on the allocation of risk capital, often down to a fairly micro level. In contrast, for corporate sectors, risk appetite is significantly impacted by corporate finance and strategic investment and structuring decisions." According to Brown, "Corporate risk appetite is often expressed in terms of an overall financial metric, such as debt rating. It is supported by policy statements related to which critical risks the organization will actively manage and those that it will seek to minimize."

Stress testing and reverse stress testing, developed by financial institutions to assess the ability of a portfolio to withstand market shocks, will also be used by 60% more companies to make their business strategies risk-resistant and uncover hidden vulnerabilities. Because of their sensitivity to external risks such as energy prices and supply chain issues, consumer and industrial companies in particular are planning to more than double their use of stress testing methods. Healthcare companies, too, will more than double their use of these tools in 2013 to help understand the implications of regulatory change.

Scenario planning is particularly important for companies like ANZ, which operate in multiple markets and need the ability to understand how alternative assumptions would affect their business. "We're very focused on the linkages across Asia and the potential impacts in the different countries we operate in," says CRO Nigel Williams. "Scenario analysis tells us, if a variable changes, then how will that impact the local region of those projects?"

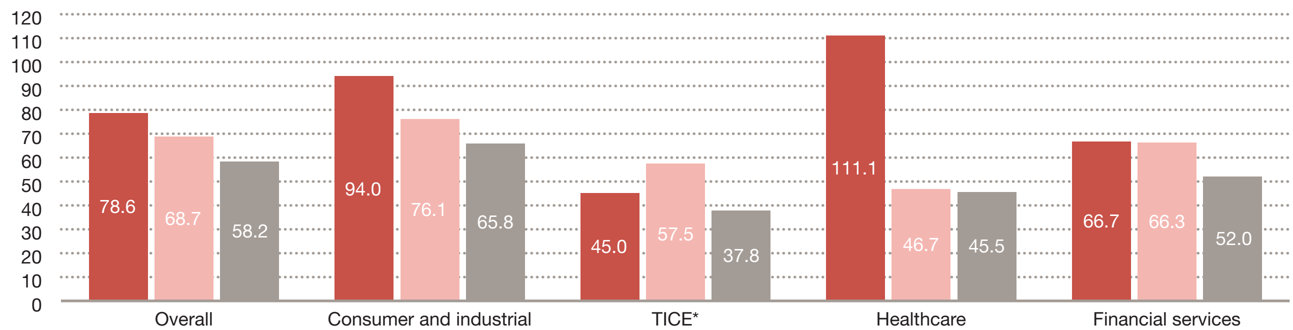
Figure 13. Risk management techniques: Resilience
(% increase in next 18 months)



*Technology, information, communication, and entertainment

In 2013, risk-based performance incentives will grow in use by over 78%, with a pronounced uptick among healthcare and consumer and industrial companies.

Figure 14. Risk management techniques: People and organization
(% increase in next 18 months)



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People and organization

In times of transformation, companies must often reevaluate their organizational structures and performance incentives. In 2013, companies will make further strides to improve processes around talent acquisition, development, deployment, coordination, and performance, and ensure these organizational imperatives are in sync with new strategic objectives. One executive put the challenge succinctly: "We need to make sure we have the right army to fight the next war—not the last one."

According to our survey (see Figure 14), the use of risk-related performance incentives will rise sharply across all industries over the next 18 months. Although such incentives are currently used by only 25% of companies, largely in financial services, their use will grow by over 78% in 2013, with a pronounced uptick among healthcare and consumer and industrial companies.

One indication that incentives are working, says Wells Fargo's Michael Loughlin, is that problems are escalated promptly. "We talk about escalation a lot," he says. "Problems need to be escalated as fast as they can, as far as they can, so that we can assign an owner, come up with a plan, and then fix the problem. We are harsh when there's a problem and someone just assumes it'll go away."

Business transformation can also widen the "talent gap"—the disparity between existing teams' skills and those required to drive the business forward. Since a talent gap can often derail a new business strategy, more management teams are working together to conduct talent and human resources audits. PG&E plans to conduct talent audits to quantify the risk of a changing workforce where many employees are eligible to retire, new employees expect to use newer technologies, and the company needs to train and qualify younger workers to step in. GE also conducts talent audits and is considering using scenario analysis to see how talent requirements change under alternative scenarios. Our survey revealed that the use of talent audits will grow by 69% in the next 18 months.

According to our survey, the organizational integration of the risk management function will grow by over 58% in the 18 months ahead. Consumer and industrial companies will see the biggest increase as they take further steps to integrate risk management into strategic plans and extend risk responsibility to the wider management team. "The number-one issue in risk management is getting the culture right," says Williams of ANZ. "It's critically important that you build a culture that understands which risks are acceptable and which are not."

Technology

In 2013, more companies will integrate digital risk management into their corporate risk agenda. This process will span risks closely related to business strategy, including:

- Erosion of a company's competitive position due to new disruptive technologies or the failure of a major IT system to deliver expected benefits
- Systems vulnerabilities such as to cyber-attacks, significant or prolonged IT systems failure, or theft of intellectual property
- Brand or reputational risks stemming from social media and pervasive use of mobile technologies

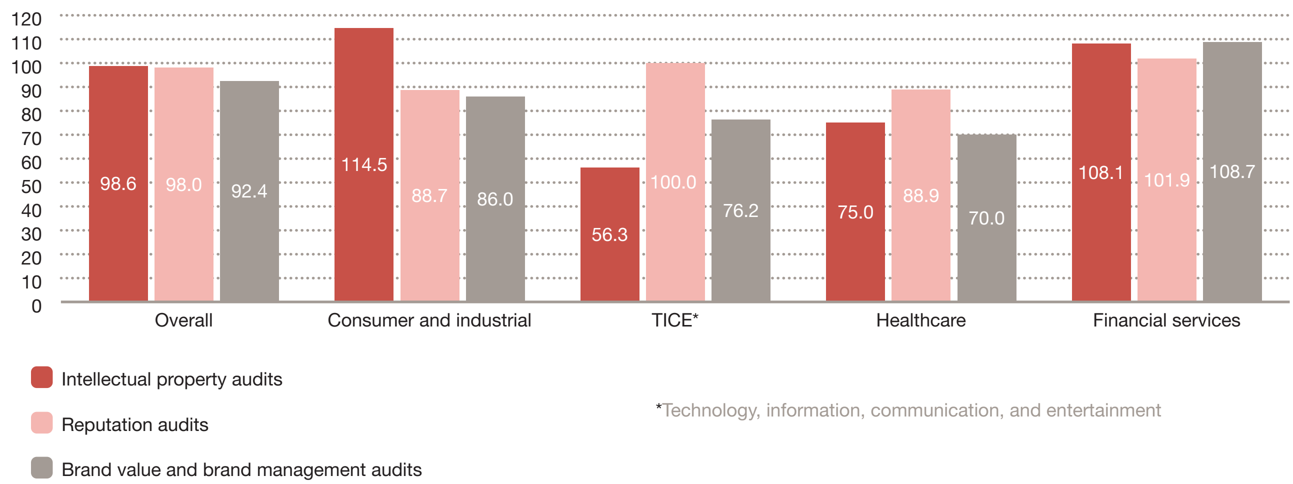
"Companies have a lot of options for managing technology risk," says PwC's Ken Coy. "They can adopt policies governing the use of social media, for example, or incremental IT security measures to ensure intellectual property is protected. They can also use social media to identify quickly arising IP, reputational, and brand value risks."

Risks related to the impact of digital technologies on intellectual property, reputation, and brand value will be of particular concern for companies over the coming year. While intellectual property, reputation, and brand value audits are used by a comparatively modest number of companies today, our survey indicates the use of all three will double over the next 18 months among the four primary industry groups we surveyed (see Figure 15, page 23). Consumer and industrial companies, which are increasingly operating in markets with less rigorous protection for intellectual property, plan to more than double their use of intellectual property audits. Similarly, twice as many companies in the technology, information, communication, and entertainment sectors—where public opinion is critical to acceptance of their products—will perform reputation audits.

"Risks come in many forms and sizes, but often the risks that pack the largest punch are those that affect a company's brand or reputation," says PwC's Jason Pett. "Companies must first assess what could trigger significant damage to the brand, then understand what is in place to mitigate and closely monitor these critical business risks, and what control practices are in place to reduce the risks."

Pitney Bowes is one company that is enhancing its ability to respond to communication on the web that could affect its public profile. While Pitney has not performed reputational audits, it has effectively inserted itself into the online conversation to monitor and protect its reputation. "We have people monitoring not just levels of activity," says CFO Michael Monahan, "but responding to specific customer comments—for example, whether a product is performing well or not—so that we can quickly get a message out to customers."

Figure 15. Risk management techniques: Technology
(% increase in next 18 months)



*Technology, information, communication, and entertainment

Financial services companies, meanwhile, have long been concerned about the security of their data and the protection of their intellectual property, but in 2013 they will pay greater attention to their online profile, with more than twice as many performing reputation and brand value audits. This reflects financial institutions' efforts to bring more of their sales and services into the age of mobile banking and social media.

Cyber-attacks by individual and state-sponsored hackers have been front-page news due to attacks that have hit companies such as Apple, Twitter, Facebook, The New York Times, JPMorgan Chase, and others, as well as government agencies such as the Federal Reserve.

Such attacks are escalating, and carry the potential for large-scale data theft, denial-of-service attacks, and damage to network infrastructure via malware and viruses. Areas of major cyber-security focus for companies include risk and privacy policies, mobile computing security, continuous threat monitoring, crisis response, employee training regarding information security practices, and business continuity planning. Security measures for data loss prevention increasingly revolve around instituting filters that block emails containing personally identifiable information and other sensitive data. Privacy controls include telling customers what information you will collect and how you will use it, then making sure your practices are consistent with these declarations. Controls frameworks for cyber-security need to be tested, in some cases through simulated malicious hacks by "white hat" computer security experts.

"As data continues to grow, leveraging technology to get instantaneous results through data discovery tools will be key."

—John Sabatini, Partner, Advanced Risk & Compliance Analytics Services at PwC.

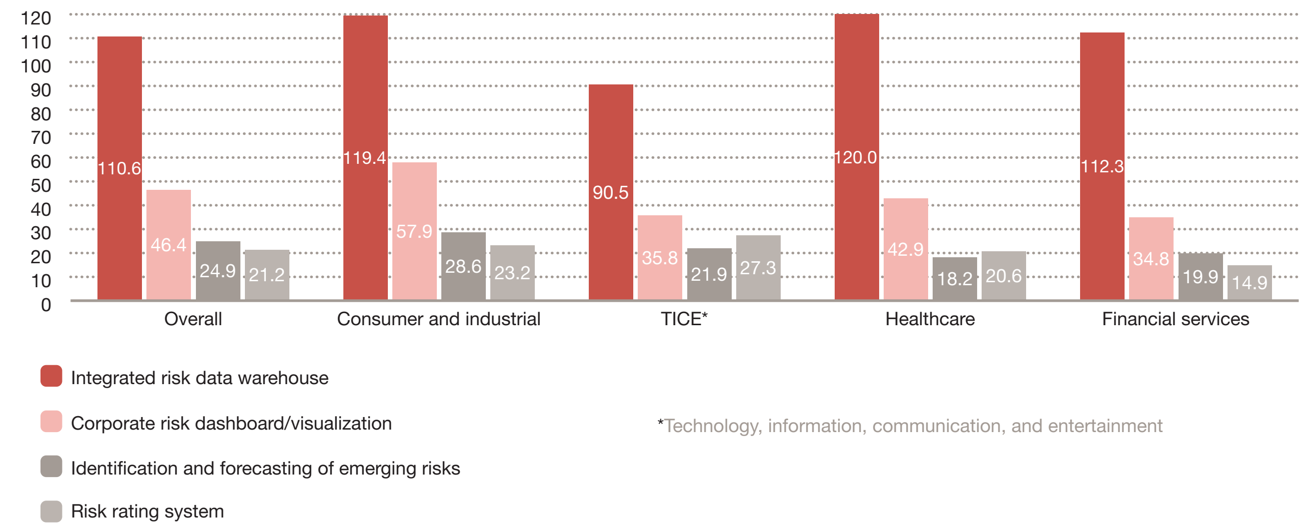
Next-generation risk analytics

Our survey shows that a growing number of companies will draw on sophisticated, next-generation techniques to analyze large sets of data and identify hidden patterns and risk linkages. Indeed, more than twice as many corporations will be using risk data warehouses over the next 18 months to improve risk analysis (see Figure 16, page 25). These new data platforms enable companies such as Wells Fargo and PG&E to integrate risk data from multiple sources throughout their organization and put them into a single consistent format, facilitating faster and better analysis. Integrated risk data warehouses often are paired with risk dashboards, another tool that will become more common as companies move to make data more transparent and broadly available to executives within the organization.

"As data continues to grow, leveraging technology to get instantaneous results through data discovery tools will be key," says John Sabatini, Partner, Advanced Risk & Compliance Analytics Services at PwC. "The challenge that many organizations face is that they must aggregate disparate and complex data from hundreds of source systems, and we've been helping clients apply cutting-edge technology that solves these problems. The data architecture at many companies has resulted in a complex web of data in multiple locations, with different types of systems being used for different purposes. The key is to harness technology to bring that data together and interpret it."

Our study results show that risk executives will also be taking steps to fine-tune traditional risk analysis tools. For example, more than one in four respondents expressed dissatisfaction

Figure 16. Risk management techniques: Next-generation risk analytics
(% increase in next 18 months)



*Technology, information, communication, and entertainment

with their ability to identify and forecast emerging risks. And while risk rating systems are now widely used, their methodological framework can have serious gaps, reinforce linear thinking, and be slow to respond to changing conditions.

For that reason, some companies are not only adding new types of risks (such as digital risk) to their rating system, but seeking to build systems that can quickly identify linkages and cascading effects. At Wells Fargo, Michael Loughlin says, "I need a system where I can either log on or press a button and say, 'We just had a horrible storm called Sandy on the East Coast. Give me what our mortgage exposure is for any home in any of those affected counties.' I can get that now, but it takes me a couple of days and I'd rather be able to get it almost instantaneously."

What this means for your business

Risk imperatives for 2013

Putting greater emphasis on communications and data sharing will be a top priority for companies in 2013.

Business transformation requires a counterbalancing change in risk management attitudes, organization, and approaches. "This is a transformational time for risk management," says PG&E's Anil Suri. "If companies can't learn how to mitigate unforeseen risks and new combinations of risks, especially, it can hurt customer, shareholder, and regulatory confidence. Business and risk managers will have to get used to using more sophisticated, objective, quantitative methods to handle this—it's not just about personal judgment anymore."

PwC Risk Assurance Leader Dean Simone suggests that senior executives ask themselves the following questions to ensure their risk management approach is in tune with their business transformation imperatives.

- **Have you built risk resilience into your organization to respond to unexpected, cascading risks from market and business transformation?** In today's unpredictable, ambiguous, and fast-moving business environment, companies need structures that are resilient to risks when and where they occur. Successful organizations are forging stronger and more direct alignment between risk management and strategic/operational planning and execution to ensure that risk information is transmitted to decision-makers on a timely basis and used to set strategic direction and course-correct as necessary. CROs should increase their use of horizon scanning and early-warning systems to spot trends, and employ stress testing to identify key vulnerabilities. More flexible risk appetite statements, corporate-wide contingency planning, and a risk-aware corporate culture that challenges conventional wisdom can help organizations better manage emerging risks.
- **Have you adjusted performance incentives so that new, transformative business strategies do not expose your organization to undue risk?** Tom Colligan, a former PwC vice chairman and current board member at Office Depot and other organizations, explains the value of risk-adjusted performance incentives: "All too often, performance-based compensation encourages executives to take actions that increase risk. For example, such incentives were certainly a contributing factor in the financial crisis." Creating a more balanced scorecard that includes risk-related performance incentives can reduce this threat, Colligan says, although it requires strong board involvement.
- **Does your risk management system address cyber-risks that can derail a new technology-enabled business strategy?** In today's digital world, business results can be hurt by a minefield of cyber-risks—from system failure and security breaches to intellectual property abuse and reputational damage from the viral effect of social media. Building digital risk into the CRO agenda and driving greater awareness throughout the organization is now crucial. Are you conducting intellectual property, brand, and reputation audits to ensure your assets are properly protected? Do you have programs in place to track and respond to unfavorable social media feedback? Have you set proper controls for new digital approaches such as cloud technology and bring-your-own-device arrangements?
- **Have you developed plans to minimize risks from unsuccessful business transformation initiatives?** For example, have you reviewed similar business transformation efforts by other companies to understand what could go wrong? Have you formalized the review of failed initiatives to identify opportunities or maximize benefits from lessons learned (e.g., via case studies for training, adjusting risk scenarios, etc.)? Have you conducted talent audits to make sure you have the right team to deliver on new strategic imperatives? Is top management proactively driving the change process and building commitment throughout the organization? Do you have strategies in place to cope with potential risks, such as organizational or market resistance?
- **Are you taking full advantage of the latest developments in next-generation risk analytics?** Do you use an integrated risk data warehouse to help integrate data from multiple sources both within and outside your organization, so that you can make faster, better decisions? Have you incorporated business transformation risks, such as those relating to talent and technology, into your risk rating systems? Can your risk systems detect complex linkages and cascading effects? Have you created a risk dashboard to keep executives on top of events-driven changes and emerging risks?

Study methodology

This study, carried out in November and December of 2012, is based on results from a survey of more than 800 executives and risk managers with businesses worldwide. The sample covered both public (64%) and private companies (36%) across a wide range of countries, with 325 headquartered in the US. The sample reflects a wide distribution of global annual revenue: 38% of responding companies had annual revenue below US$1 billion, 29% between US$1 billion and US$5 billion, and 33% over US$5 billion.

The largest category of respondents by industry was consumer and industrial products and services companies, which represented over 38% of the total. Financial services providers were the next largest group, representing more than 33% of respondents. They were followed by technology, information, communication, and entertainment companies (14%) and healthcare companies (7%, including payers, providers, and pharmaceutical makers). The remaining 8% represents respondents from all other industries.

Key areas of the survey included the impact on companies' risk profile of business transformation, political and economic risks, regulatory reform, and technological change; companies' level of concern about risk in key geographic regions; the likelihood and potential impact of political and economic risks; the priority and degree of satisfaction companies attach to particular risk competencies; and the techniques for managing external risk that companies currently use or plan to use. To understand the statistical trends and gain insights into changing risk approaches, we also conducted in-depth personal interviews with CFOs and CROs from a cross-section of industries.

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