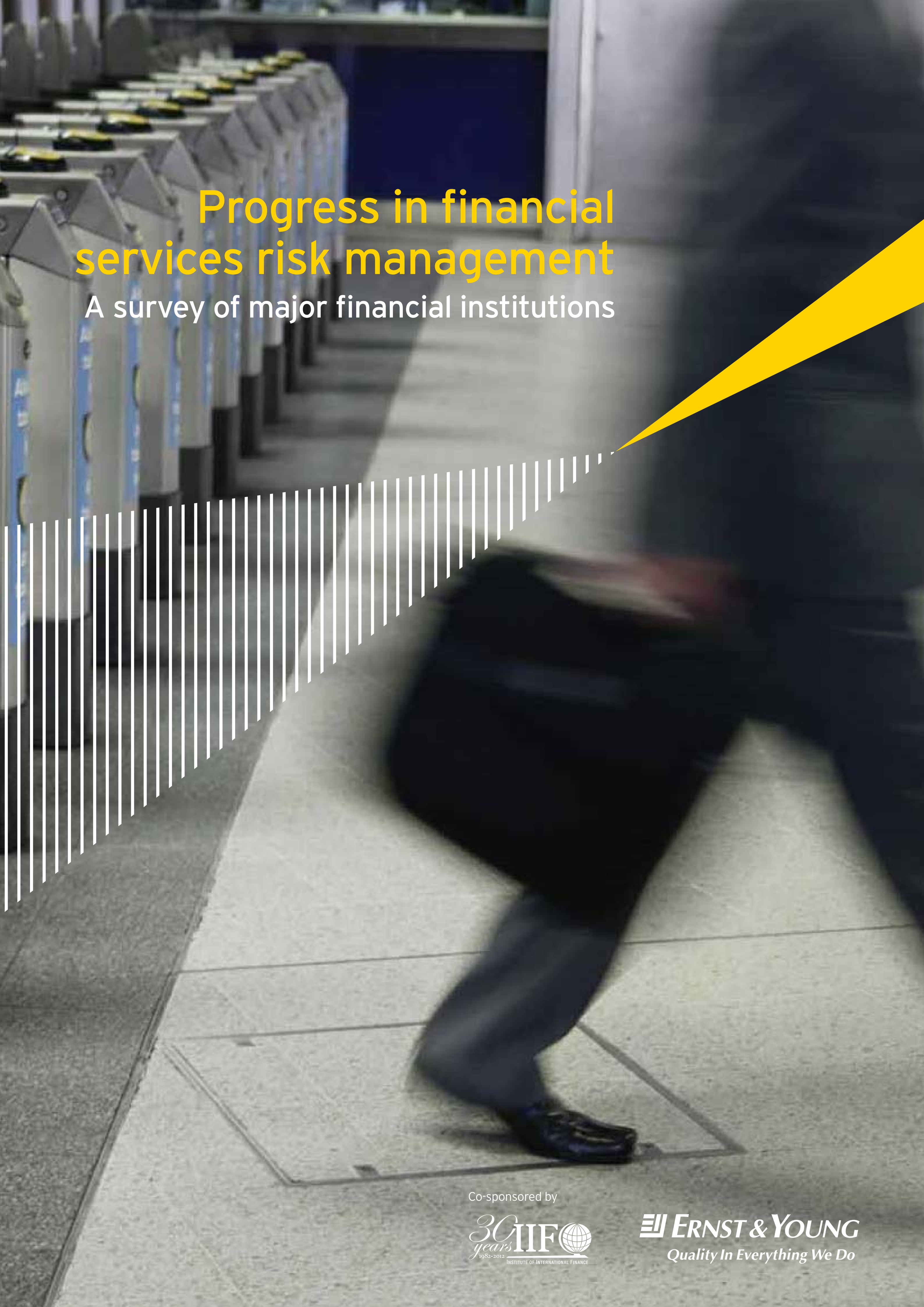
Progress in financial services risk management

A survey of major financial institutions



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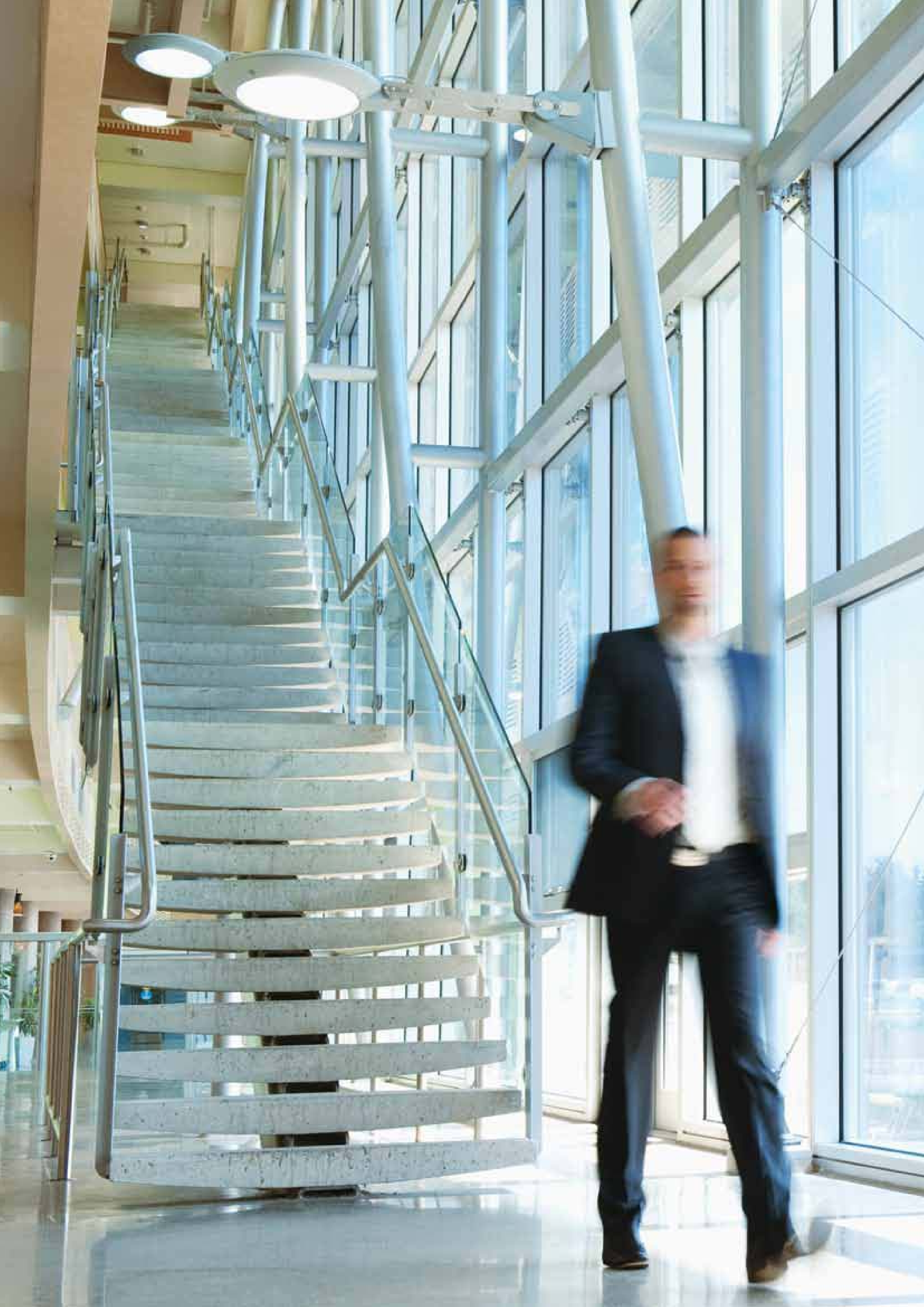

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Executive summary

Progress in financial services risk management is the third annual study on risk management conducted by the Institute of International Finance (IIF) and Ernst & Young since the 2008 crisis. This year's study took place against a backdrop of global issues — continuing economic pressures in the US and Europe, the European sovereign debt crisis and a fast-changing regulatory environment. Responses from the 69 banks and six insurance companies that participated in the study highlight the degree to which agendas in the industry have been influenced by this picture.

The scope, timing and potential impact of the still-evolving global and national regulatory reform was the top challenge cited by almost three-quarters of respondents (see Exhibit 1) and is driving a reshaping of the financial industry. The challenges from the regulatory environment are further complicated by the continued market, macroeconomic and geopolitical volatility.

Despite these challenges, firms in this year's survey reported continued progress on risk management improvements. When the IIF and Ernst & Young's annual study of risk management practices was first launched in mid-2009, the financial services industry was still recovering from the brunt of the 2008 crisis. The inherent weaknesses in risk management exposed by the crisis were very apparent. Study participants at that time were in the process of conducting firmwide assessments to identify gaps against risk management recommendations from the IIF and the Basel Committee on Banking Supervision, and plans were being developed and resources deployed to address areas targeted for improvement. Last year's study found organizations in various stages of progress against these plans, and this year's study shows continued effort and achievement.

> *"During the crisis, we probably learned more about risk in our company than we had in the previous 10 years. I'm sure everyone felt the same way."*

Overall, the results of the three surveys demonstrate that the structure of risk management has undergone a significant change since before the crisis. However, there is still much to be done to change and fully embed new methodologies and processes. Risk appetite, which post-crisis emerged as a critical foundation of the risk management process, remains a key challenge for many firms. While most have established an enterprise-wide risk appetite, many have not yet been able to embed it into their businesses, with only 37% of this year's survey participants indicating they have linked it to day-to-day business decisions. The methodologies and approaches to monitor compliance and enforce risk appetite are still evolving and must be further addressed. Data and systems are persistent impediments to risk management. And while many are investing substantial time and resources to improvement initiatives (77% reported an increase in IT spend post-crisis and 63% predict it will continue for at least the next several years), it will be many years before all these upgrades are fully operational. Changing the culture to make risk "everyone's business" is an ongoing effort.

Key areas of change in risk management include:

- Role of boards. One area of criticism post-crisis was that boards were not sufficiently engaged in challenging the risk profile. Since 2008, the involvement of the board on risk has increased substantially, with board risk committees now almost universal. The amount of time devoted to risk has increased, as has the range of risk reports provided to the board. The composition of the board has been changed in a number of firms to upgrade the skill level and experience in banking and risk. Respondents to this year's survey reported that boards are playing an influential role in several key areas of risk management, including: risk appetite, liquidity, culture and compensation. However, there are still challenges to overcome. Board members complain of too much undigested material, high expectations from regulators and difficulties challenging business models.
- Role of CROs. There has been a similar shift in terms of the role and seniority of the CRO. One finding post-crisis was that many CROs had only partial coverage of risk decisions and did not always have the stature to challenge business heads. Today, over 80% of CROs report either directly to CEOs or jointly to CEOs and board risk committees. The breadth and scope of responsibilities has expanded well beyond the traditional focus areas of credit and market risk, with CROs now involved throughout the chain of decisions from new products through to strategy.
- Size and skill level of risk team. Post-crisis, the industry has invested substantially to expand the size and level of sophistication of the risk function at both the group and business unit levels. This is particularly apparent in this year's study results. While many firms are reducing headcount to adjust to both economic and regulatory pressure on profitability, 57% of respondents reported an increase in group risk headcount, and 48% reported an increase in business unit risk headcount over the past 12 months.
- Models. Another area of focus has been to upgrade the methodologies to identify risks, particularly concentrations of risk. Many agree that the economic capital models in place before the crisis often underestimated the size and risk of some exposures, particularly across business units. Correlations were far too optimistic and many models ignored risk types that proved to be at the center of some of the pressures during the crisis. Almost all firms have changed economic capital models since the crisis, with 70% of

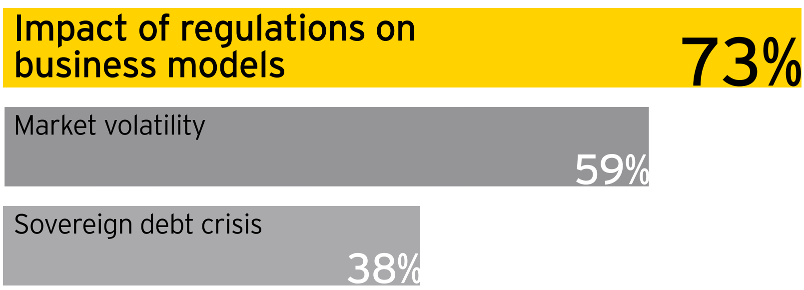


Exhibit 1

Top challenges

respondents reporting changes in the past 12 months. There is now much more coverage of business risks and risks not in VaR, consolidation across groups and conservatism in correlations. Increasing internal transparency has also been a heightened area of focus with stress testing, stress VaR, counterparty risk and liquidity risk cited as top areas of progress.

- Liquidity management. In a separate risk management study conducted by Ernst & Young released in December 2008, 88% of firms interviewed cited better liquidity management as the number one lesson learned from the crisis. In the IIF/EY 2011 study, 92% of firms interviewed reported they had made changes to their approaches to managing liquidity risk: increasing buffers of liquid assets; enhancing liquidity stress testing; introducing more rigorous internal and external pricing structures; elevating the discussion and approval of liquidity risk appetite and contingency planning to the board level; and giving the CRO more responsibility and involvement in liquidity management.
- Stress testing. The crisis clearly demonstrated a need for a more robust enterprise-wide assessment of risk. Improving stress testing has been considered central to improving risk governance, and over the past three years, the industry has made many changes and improvements to its capabilities. In Ernst & Young's 2008 study, only 13% of participants indicated they had formal enterprise-wide stress-testing processes in place. In last year's IIF and Ernst & Young report, 93% reported they had created and implemented new enterprise-wide stress-testing methodologies — a dramatic difference. The evolving regulatory and business environment has heightened management's attention to strengthening internal stress-testing strategies and processes, with 75% of this year's respondents reporting they have created and implemented new processes in the past 12 months. Perhaps the most significant shift is the growing interest in utilizing stress tests as a strategic management tool rather than for purely compliance or risk management purposes.

  However, there are still challenges, the most prominent of which is the sheer amount of time it takes to conduct bottom-up stress testing. Many are struggling with demands on resources needed to execute what is often a manual process of conducting tests and gathering results across portfolios and businesses. Many firms have major programs under way to address data aggregation and IT issues, but advances are needed to enable stress testing to become a flexible tool.
- Culture. Progress has also been made on softer areas such as culture, but these changes are hard to make quickly and are difficult to quantify. Post-crisis there has been widespread recognition that embedding an effective risk culture supported by a sustainable risk and control framework must be one of the top agenda items for senior management. In the past three years, attention to risk

culture has clearly increased and remains high, with 96% of respondents overall reporting a heightened and continued focus on risk culture since the crisis. Many initiatives have been launched to instill a strong and unified risk culture throughout all levels of the organization, not just in the risk function. However, for many firms, balancing the sales-driven business unit culture with a risk-control focus is still a challenge. And most agree that making risk everyone's business represents a significant shift in mindset, policies, systems and processes and requires an ongoing, long-term commitment and investment.

The impact of regulatory reform

The survey also highlights the severe strain of dealing with the magnitude of regulatory change. Basel III and the Dodd-Frank Act were both singled out for their potential fundamental effects on the business.

- Effect on costs. The combination of higher capital and higher liquidity buffers is changing the economics of many businesses. Fifty-four percent of respondents predict that the liquidity coverage ratio will have a significant effect on costs. And many predict some painful consequences from both the liquidity and capital requirements proposed under Basel III: returns on equity will go down, costs and leverage will have to be reduced, and margins will have to go up. Of those firms that estimated the effect on margins on corporate loans, 40% saw increases of over 50 basis points and 25% over 100 basis points.
- Systems and data. Over 80% of respondents listed data quality and availability and over 70% listed data and systems as the top challenges to complying with the new regulatory requirements. Current systems are not designed for the new calculations inherent in the regulatory reforms, and everyone anticipates an enormous expenditure to make the necessary changes. The majority of respondents predict an increase in IT investment over the next two years, with 83% anticipating up to a 40% increase in spend.
- Effect on business models. The proposed regulations have already led to changes in business models. Some are selling assets to increase capital; some are exiting businesses that will no longer be profitable; some are exiting geographies to avoid trapped capital and liquidity; others are retrenching, merging legal entities and activities to consolidate in core locations; while others are exploring new products, markets and acquisitions (see page 48 for a discussion of the impact of Basel III and page 51 for a summary chart of changes). Many are concerned that the appetite for investing in the industry has been seriously eroded by the pressures of the new regulations on cost and return on equity. Many executives discussed the challenges to effective strategic planning and management that result from the growing lack of alignment between regulatory capital requirements and internal measures of how much capital is needed to profitably run the business. Over 60% listed aligning economic capital with regulatory requirements as a key driver for changes to capital management.

> *"Basically, the business model is being challenged by what is happening in the market, the regulatory environment and the political sphere."*

Overview of 2012 results

Risk culture. Survey responses confirmed that strengthening risk culture is a critical area of management focus, particularly for firms most severely impacted by the 2008 crisis. Strengthening risk roles and responsibilities, enhancing communication and training, and reinforcing accountability were the key initiatives reported to strengthen risk culture. Making risk "everyone's business" throughout the organization is an ongoing effort.

58%

increased attention on risk culture in the past 12 months, and 41% (vs. 23% in 2011) say they are pleased with progress to achieve a strong risk culture.

Roles and responsibilities. The involvement of boards in risk management and oversight has increased dramatically since the 2008 crisis and continues to grow. Liquidity risk, risk appetite, capital allocation and stress testing are the top areas of focus. The responsibilities and influence of the CRO continued to expand significantly post-crisis, and most are playing an active role in all key strategy and planning decisions.

51%

of boards have increased focus on risk management in the past 12 months, and 87% now have separate risk and audit committees. 58% of CROs report to the CEO, and 90% have direct access to the board or risk committee.

Risk appetite. Developing, implementing and embedding risk appetite ranked in the top three areas of focus for board members and CROs. All firms are under way to some degree with the risk appetite process. While many have been successful establishing a risk appetite at the enterprise level, many are struggling to effectively cascade the risk appetite through the operational levels of the organization and embed it into decision-making. For those furthest along in the development process, risk appetite is increasingly viewed as an important strategic management tool.

51%

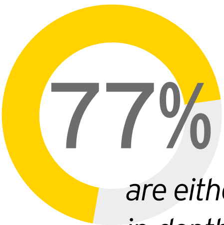
report progress in setting risk appetite at the enterprise level, but only 26% believe they have embedded it into the businesses and only 37% report a link to day-to-day decision-making.

Liquidity management. Liquidity and capital management are at the top of senior management agendas for most participants. Complying with the new costly and complex liquidity coverage ratio (LCR) requirements proposed under Basel III, together with multiple local liquidity requirements, are driving a host of initiatives to review and adjust business models and upgrade liquidity management systems and processes. The majority have made changes to both internal and external charging for liquidity and most are shifting the level at which liquidity is managed across group and local entities.

65%

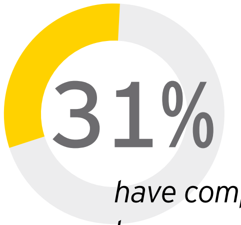
are evaluating portfolios to understand how new LCR requirements will impact each segment and product, and 54% predict the proposed LCR requirements will significantly impact the cost of doing business.

Capital management. The impact of the proposed Basel III regime on capital management will be substantial for most firms. Senior management teams are strategically reviewing their capital management priorities across geographic and political boundaries, legal entities and business lines, and the majority have changed their approaches to allocating capital across business units to more accurately reflect the risks taken throughout the enterprise. Aligning economic capital with regulatory requirements and reallocating capital with new risk-weighted asset goals are the key drivers for changes to capital allocation.



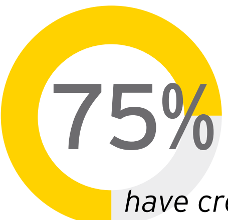
are either under way or finished with in-depth reviews to identify and assess risks taken across businesses. And 57% have made changes to capital allocation across businesses in the past 12 months.

Recovery and resolution planning (RRP). RRP, often called living wills, is a work in progress for most of this year's participants. Regulators have moved at different speeds in requiring implementation of recovery and resolution plans, which has resulted in widely varying industry actions across jurisdictions. While many believe that recovery plans are a beneficial management tool, the overall view of resolution planning was varied. Confusion over regulatory expectations and variances in cross-border requirements and timelines, particularly for geographically dispersed firms, were the top challenges cited.



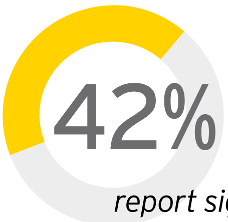
have completed recovery plans and 10% have completed resolution plans in line with local deadlines.

Stress testing. The evolving regulatory and business environment has heightened managements' attention to strengthening stress-testing strategies, systems and procedures. Scenario planning in particular has become an increasingly important tool to help boards and senior management consider and assess the full range of market factors and macroeconomic events that could potentially influence revenue streams and stability.



have created and implemented new stress testing in the past 12 months, while 49% say that stress-testing results are incorporated into strategic decision-making.

Internal transparency, data and systems. Improving internal transparency of information is an important initiative for study participants. Many firms face challenges extracting and aggregating appropriate data from multiple siloed systems, which translates into fragmented management information on the degree of risk facing the organization. The new regulatory regime is driving an increased investment in data and IT systems to support risk management. These projects, however, require multiyear investments of management time, people and resources.



report significant enhancement to risk transparency, vs. 26% last year, while 63% predict IT spend will increase over the next two years.

Insurance firms

This year's study includes six insurance firms that are among the main players in the global insurance industry. While it is impossible to draw robust conclusions on the overall industry, these responses provide valuable insights regarding challenges and developments within the sector. Insurance firms are facing some challenges similar to the banking industry: evolving and more stringent regulatory demands, economic volatility and the continuing complexities of the European sovereign debt crisis. However, the low interest rate environment as a consequence of loose monetary policy coupled with poor equity market performance presents a particular challenge to the insurance sector. While respondents believe that, in general, their firms showed high resilience during the 2008 crisis, they are nonetheless implementing initiatives to further strengthen risk management.

Effective risk management combines integrated risk modeling and governance frameworks with the judgment of risk managers as trusted partners. Creating a risk culture that enables an open dialogue and disciplined risk-taking has therefore been a key element for many years in the sector. While the insurers in the survey believe they have already achieved a strong risk culture, they further increased their efforts in this area over the past year. Their focus to strengthen the risk culture has been on enhancing communication and training regarding risk values and expectations; strengthening risk roles and responsibilities; and aligning compensation with risk-adjusted performance metrics.

Over a decade ago, the insurance sector advanced the role of the CRO to the top ranks of the organization to reflect risk management in key decisions. The role of the CRO — who most often reports directly to the CEO — has become increasingly crucial in insurance companies. Most insurance CROs are integrated into business decisions and have good access to and interactions with board risk committees.

The board oversight on risk issues has been high throughout the past years in the insurance sector. This past year, the boards' top focus areas have been risk appetite, stress testing and capital allocation. All insurance companies involved in the survey have stand-alone risk-related board committees that have some overlap with the audit committee. Risk expertise has always been a necessary criterion for insurance board members. In the past year reporting on risk has become more in depth and transparent and board time on risk matters has increased.

In comparison to banks, insurance companies are inherently less exposed to liquidity risk, as liabilities are in general long-term and assets are matched to their maturities. Furthermore, insurers are funded by up-front premiums and are not subject to surrender runs. Nevertheless, liquidity issues may arise when engaging in non-insurance activities (e.g., short-term funding). Therefore, insurers conduct liquidity stress tests and, like the banking executives interviewed, identified data quality and modeling risks as key challenges to liquidity management. Some companies integrate liquidity risk into their asset and liability committee, while others have this on the agenda of their risk committee.

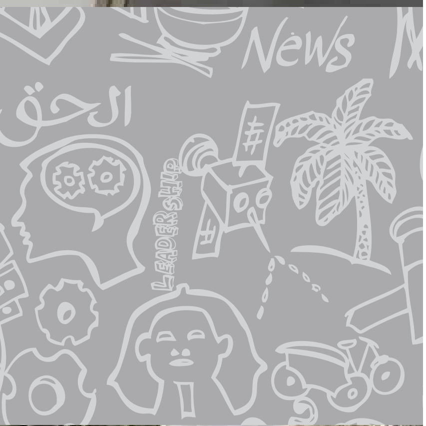
As part of their capital management, most companies have recently reviewed and adjusted their capital allocation approach across entities. The uncertain economic environment and developing accounting and regulatory regimes are seen as top challenges to capital planning.

As with banks, the role of stress tests also increased in insurers, in particular with a focus on groupwide risks. In conducting stress tests, risk management works closely with business units, with a focus on market risks and increasingly on operational risks, with less focus — compared to banks — on liquidity stress tests. The results of stress tests are fully integrated into strategic decision-making and are incorporated into capital planning and risk appetite development.

The development and implementation of risk appetite across all businesses is a management priority for the insurance industry. The risk appetite is determined by the board, based on the strategic goals of the company and taking into account investors, rating agencies and regulatory considerations. The development, implementation and especially the monitoring of risk appetite is driven by the CROs. The main challenge is to effectively cascade the risk appetite statement through the operational levels of the organization and embed it into operational decision-making processes.

While there is controversy about the scope, impact and unintended consequences of the regulatory requirements facing the industry, some believe they will, in the long run, benefit the industry through a risk-based capital management approach. As one executive summed up, "Solvency II, Solvency Modernization Initiative, etc. do, in most ways, align with stakeholder interests and are just some of the ways the industry has been strengthened since the financial crisis." Regulators must, however, carefully consider the specific business model and risk profile of the sector when developing sector-specific regulations.

Research methodology and demographics



From December 2011 through March 2012, Ernst & Young surveyed IIF member firms using two methods. An online quantitative questionnaire was distributed to the top member firms selected by asset size. In addition, the team conducted telephone interviews with CROs and other senior risk executives of the largest global firms. A total of 75 firms across 38 countries participated in the study either online, by telephone or both, which resulted in 32 interviews with CROs, 12 interviews with other senior risk executives and 68 online survey responses.

Africa/Middle East

ABSA Group
Ahli United Bank
Arab Bank
Arab Banking Corporation
BankMuscat
BLOM Bank
FirstRand Bank
National Bank of Abu Dhabi
National Bank of Kuwait
National Commercial Bank
Qatar National Bank

Asia-Pacific

ANZ Banking Group
Bank Mandiri
China Guangfa Bank
China International Capital Corporation
CIMB Group
Commonwealth Bank of Australia
DBS Bank
ICICI Bank
Maybank
Mitsubishi UFJ Financial Group
Mizuho Corporate Bank
National Australia Bank
State Bank of India
Sumitomo Mitsui Banking Corporation
Suncorp Group
The Norinchukin Bank
Westpac Banking Group

Europe

Akbank
Allianz
Alpha Bank
Banco BPI
Barclays Bank
BBVA
BNP Paribas
CaixaBank
Commerzbank
Credit Suisse
Danske Bank
Den Norske Bank
Deutsche Bank
Erste Group Bank
Grupo Santander
HSBC Group
ING
Intesa Sanpaolo
KBC Bank
Lloyds Banking Group
Natixis
Nordea Bank
Piraeus Bank Group
Royal Bank of Scotland
SEB
Standard Chartered Bank
Swiss Reinsurance Company
UBS
UniCredit
Zurich Insurance Company

Latin America

Banco Bradesco
Banco de Chile
Banco de Crédito del Perú
Banco Nacional de Costa Rica
Bancolombia
Itaú Unibanco

North America

Bank of America
Bank of Montreal
BNY Mellon
CIBC
Citi
Manulife Financial
MetLife
Royal Bank of Canada
Scotiabank
State Street Corporation
Wells Fargo

Risk culture

Firms are working to build consistent and unified risk cultures

Survey responses confirm that risk culture is a critical area of focus for senior management teams. While the pattern varies across firms, 58% acknowledge that management attention to building an effective risk culture has increased, in some cases significantly, in the past 12 months (see Exhibit 2).

Not surprisingly, the firms most severely affected by the 2008 financial crisis report the greatest increase in attention to risk culture. Sixty-five percent of severely impacted firms say culture has been an area of increased focus since the crisis, versus 31% of moderately impacted and 24% of least impacted firms.[1] Attention has remained high for those firms most impacted by the crisis, with 53% reporting a significant increase in attention over the past year versus only 10% of moderately impacted firms and 18% of firms least impacted. As one CRO, whose firm was particularly hard hit, explained, "Those of us who were the most seriously threatened by the 2008 meltdown have, of course, been highly motivated to rethink and improve our risk governance philosophy, processes and methodologies. As a consequence, we might be further along the curve with improvements than banks that were not impacted." Firms in a number of countries, which were significantly affected by previous periods of stress in the early 1990s and 2002, have been working steadily on strengthening their cultures and risk governance practices, and some firms believe their cultures have historically always been strong.

There are a host of initiatives under way to institutionalize comprehensive, consistent and collaborative approaches to risk. But change, particularly cultural change, is an arduous, long-term process, and as one executive noted, "I don't think any type of cultural journey in a company is ever finished."

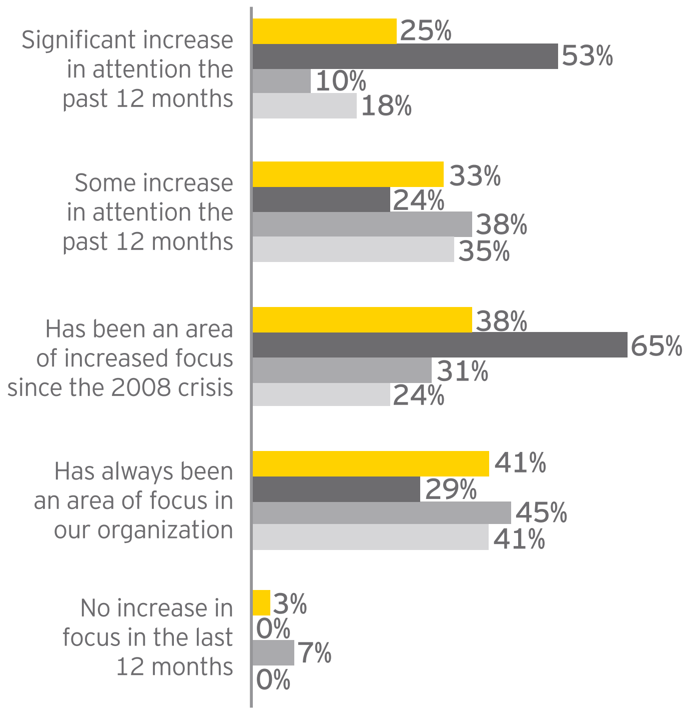


Exhibit 2

Those firms most severely impacted by the 2008 crisis report a heightened attention to risk culture

[1] Degree of impact as reported by survey participants.

Forging, managing and monitoring a unified risk culture across businesses, entities and geographies with very diverse workforces is difficult, if not impossible. However, as discussed in the IIF 2009 report, Reform in the Financial Services Industry: Strengthening Practices for a More Stable System (Appendix III, "Risk Culture"), there is considerable evidence that culture can be deliberately changed given sufficient commitment and time.

Most firms (57%) indicate they are making progress toward a strong risk culture, but the distance of travel varies. Overall, 41% of respondents report their risk culture is strong; however, only 25% of severely impacted firms believe they are close to achieving a strong risk culture, which reflects the sustained effort required for culture change (see Exhibit 3).

All agree that institutionalizing a strong risk culture that creates a tangible sense of risk ownership across the organization requires fundamental and far-reaching changes. For many firms, making risk everyone's business represents a significant shift in mindset, policies, systems and processes and requires an ongoing, long-term commitment and investment.

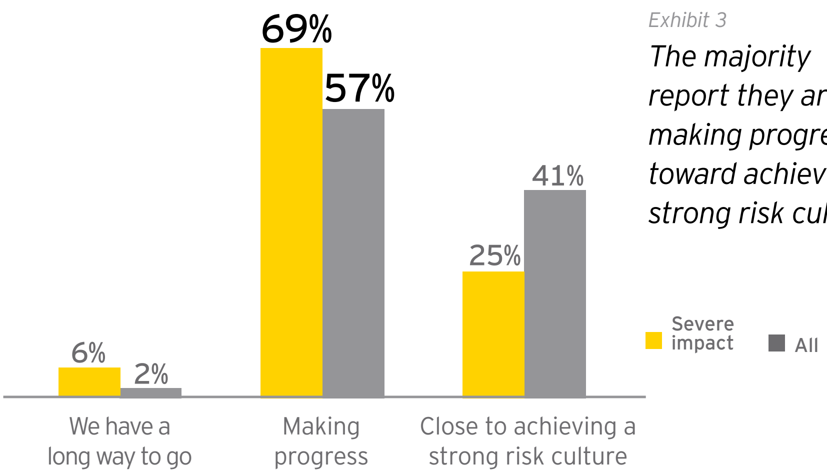


Exhibit 3

The majority report they are making progress toward achieving a strong risk culture

While methods to embed a risk culture vary, opinions on sound practices coalesce around several critical activities:

- Start at the top. Executives agree that commitment to cultural change must start at the top. As one interviewee observed, "If you set the right tone from the top, you are halfway there to building the right culture." Boards and senior management, particularly the CEO, must visibly and consistently demonstrate disciplined attention to risk, and compliance is, as another executive commented, "non-negotiable in whatever we do." Several firms (19%), particularly those severely impacted by the crisis, report changes to the composition of the board and senior management team to bring more risk and banking expertise to the organization (see Exhibit 4).

  Defining, embedding and enforcing the risk appetite across the organization is in many ways the cornerstone of a successful risk culture.[2] The risk appetite reflects the firm's vision and strategy and sets the rules of the road for the entire organization, clarifying the board and senior management's overarching views on what constitutes acceptable risk at all levels of the organization. While risk appetite is still very much a work in progress for many firms (see page 20 for further discussion), many executives increasingly view it as an important management process. As one interviewee stated, "We view the risk appetite as the tool to unify the risk culture throughout the organization."

- Strengthen risk roles and responsibilities. Executives agree that well-defined and clearly articulated risk ownership roles and responsibilities are a critical component of effective risk governance. Sixty-nine percent of respondents indicated they are strengthening risk roles and responsibilities in their organizations (see Exhibit 4). In their post-2008-crisis assessments, many firms found confusion around risk oversight expectations and gaps in risk processes and assignments throughout their organizations. As a result, many made, and continue to make, adjustments to their operating models to strengthen and clarify responsibilities. As one CRO explained, "It is vital that everyone understand their accountability for managing and monitoring risks and escalating concerns, if necessary, in their daily activities." Another executive shared that in his organization, "There is always a clear business owner for all risk positions taken and clarity around who should be informed and who should be consulted." Executives concur that organizations must have a sound risk management infrastructure that clearly delineates both the ownership of risk and the control processes.

- Constantly reinforce culture with communication and training. Sixty-seven percent of respondents indicate they are enhancing communication and training on risk values and expectations (see Exhibit 4). Constant and varied communication through a variety of channels – from CEO communiqués, town hall meetings, written

Exhibit 4

Respondents report several key initiatives to strengthen risk culture

[2] See also IIF reports on *Reform in the Financial Services Industry: Strengthening Practices for a More Stable System (2009)* and *Implementing Robust Risk Appetite Frameworks to Strengthen Financial Institutions* (2011).

statements and publications, to new staff orientations, key performance indicators (KPIs) and performance evaluations – are critical to reinforcing the risk culture. As one interviewee explained, "You've got to keep coming at it from different ways; you've got to emphasize it in every opportunity and in every language."

Training was repeatedly mentioned as one of the most effective tools for raising awareness and understanding of risk and ultimately shifting the culture. Particularly in large complex institutions where people tend to understand risk in silos, training can provide a more comprehensive and integrated view of risk across the enterprise. As one CRO commented, "One can be risk aware but still very limited in understanding our overall risk. And people can miss the big risks, which is very dangerous to the organization."

- Reinforce accountability. Sixty-one percent of respondents report reinforcing accountability regarding risk management as one of their top initiatives to strengthen the risk culture (see Exhibit 4). It is clear to most executives that adherence to the rules of the road in terms of risk parameters, risk management processes and performance expectations will not happen without consistent enforcement. As one CRO observed, "You have to make certain that there is 'consequence management' and that everyone knows he or she will be held accountable in their compensation and ongoing employment. If people breach the rules, they pay a heavy price."

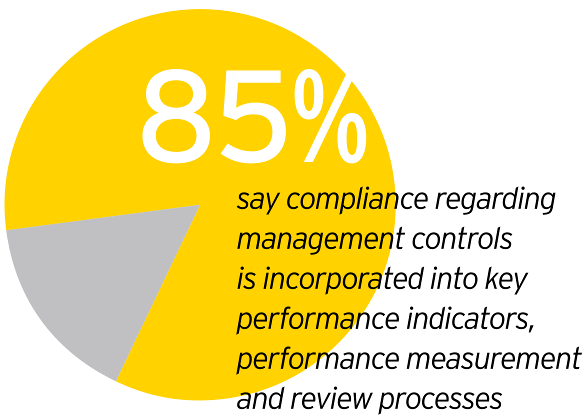


Exhibit 5: Compliance with risk management controls

Aligning performance metrics with business strategy and risk appetite and consistently applying these metrics to compensation decisions is difficult. However, executives acknowledge that linking performance metrics with compensation is a critical component of effective risk management, and many say they are working to align compensation with risk-adjusted performance metrics. Eighty-five percent indicate compliance with management controls, and responsibilities and adherence to core values, are incorporated into KPIs, performance measurements and review processes (see Exhibit 5).

One firm, for example, has developed a two-pronged scale for performance ratings: one dimension looks at performance and the second looks at how the values are lived within the bank. Self-performance ratings on both dimensions are validated with 360° feedback, and final compensation decisions are made by the remuneration committee chaired by the head of risk. According to the executive interviewed, his bank is one of the few institutions to have the CRO head the remuneration committee for the bank. As he explained, "There are a lot of feedback loops which reinforce the position of risk and the culture of the bank in a way that actually hits people in their pockets. Having the CRO heading the committee goes a long way in reinforcing the risk culture."

> *"Risk is everyone's responsibility. Whether you're a teller, a relationship manager, in operations or in IT, risk is your responsibility. It's not just the risk team."*

Several interviewees discussed the challenge of creating a balance between accountability and a culture of fear. As one interviewee explained, "It's a delicate balancing act because you do want people to be accountable for their actions; but if you play that in a wrong way you'll drive people underground, which creates the wrong culture." Finding the "sweet spot" of accountability where people feel comfortable discussing concerns and potential issues when they arise, before they become serious problems, is challenging. As one executive observed, "We need to continue to strengthen and formalize escalation procedures and encourage and reward whistleblowing so that people can comfortably say, 'I see something wrong, nothing is being done about it, and I want to report it.'"

- Monitor adherence to risk principles. There was much discussion about effective processes to monitor and manage adherence to risk parameters and measure the results of risk culture initiatives. Several common practices were cited as key ingredients:
  - *Strong risk teams.* The executives interviewed unanimously agree the risk function must be strong and central to the business and have sufficient stature and clout inside the company with support from the CEO and the board. As further discussed starting on page 30, the risk team is unquestionably playing a strategic role in all key aspects of the business, positioned to have the final say on risk decisions with, as one CRO commented, "no CEO veto power" to override the process in the bank.
  - *Proper metrics.* Several interviewees discussed the challenges of establishing quantitative metrics to measure the level and maturity of the risk culture. As one executive admitted, "We have not yet established a method of monitoring the culture, or even, for that matter, determined what metrics we might want to follow." The struggle for most is finding ways to evaluate whether actual day-to-day behavior on the ground is consistent with the strategic values and code of conduct set by the board and the senior management team. In a separate study conducted by Ernst & Young and Tapestry Networks on risk governance released in January of 2012, the directors and executives interviewed offered an array of areas to consider when measuring the culture (see sidebar, *Suggested measurements to monitor culture*).[3]
  - *Internal transparency of information.* To make sound decisions on risk and to effectively monitor adherence to values, management needs timely, accurate and holistic information across businesses and geographies. There are many initiatives under way to improve the quality and granularity of reporting on risk issues and limits to enable the board, senior management and business leaders to make more informed decisions and more accurately track and review performance on risk parameters. As one executive explained, "We need to have a transparent awareness of risk all the way through the bank."

Top challenges

The challenges to truly embedding a risk culture across the organization are many. Inadequate systems and data is a key issue for many firms, with 73% reporting it as one of the most significant challenges. As discussed specifically on page 57, and mentioned repeatedly throughout this report, the lack of quality, timely data and adequate systems to capture, report and measure the right information across the organization is a fundamental challenge to implementing and sustaining all aspects of effective risk management (see Exhibit 6).[4]

Sixty-three percent of respondents cited the difficulties of aligning the sales-driven business unit mindset with a risk-focused culture where risk is everyone's responsibility. Executives agree that risk must be owned by the whole organization, not just the risk function. Many are challenged with the task of training and motivating the business unit team to look beyond adherence to limits and consider the overarching risk implications of their activities. It's not enough for the business unit simply to remain within the limits, for example. The business unit functions need to be responsible for the analysis of the risks embedded in their transactions. They must also be held accountable to raise issues as volumes or markets change and make certain that risk issues are referred up the chain.

[3] The 2009 IIF report on *Reform in the Financial Services Industry: Strengthening Practices for a More Stable System* also lists the central elements of an effective risk culture.

[4] The challenges firms face, as well as some recommendations on strengthening risk IT, are explored further in the 2011 IIF-McKinsey report on *Risk IT and Operations: Strengthening Capabilities*.

Suggested measurements to monitor culture

For those who are determined to measure culture, directors and executives offered an array of areas to consider as "the way you start":*

- Employee morale surveys (though these are only directional)
- Number of risk limits that are broken – especially without prior approval – and the causes
- Number of problems identified in internal audit reports, the manner in which they are addressed and pre-existing level of awareness of the problems (was management surprised by the findings, or were they already working on corrective action?)
- Percentage of self-reported control or risk problems
- The degree to which information is filtered as it is elevated up through the organization
- Degree to which people focus on information security
- Manner in which the company handles employees who have seriously violated company policies; equally important, the manner in which unintentional mistakes are reported and handled
- How risk and control issues – or adherence to ethical standards – are incorporated into the firm's ongoing people performance, evaluation and compensation systems

* *Progress on the Risk Governance Journey, but Key Challenges Remain*, research study conducted by Ernst & Young and Tapestry Networks, January 2012.

Executives cautioned that, as seen all too often before 2008, there is a tendency for a sales-driven culture to adopt a minimum compliance approach to risk, rather than embracing the broader risk culture now required. Several expressed concern that there is a danger of these cultures reappearing as business improves or as front desks are under pressure to increase revenues or volumes. As one CRO summed it up, "It's not difficult now to get a conversation going on the importance of risk culture, because everybody looks outside the window and doesn't see a very happy world. The challenge is, in good times, how do you convince people that a strong culture and good risk management makes sense when every deal seems to be okay and performs okay, and all boats are rising."

Almost half of respondents (43%) are struggling to enforce accountability, and 25% cited the complexity of aligning group risk parameters with parameters used at both the local and entity level. And of course, people are inherently resistant to change. Shifting the organizational mindset around risk represents a significant long-term change initiative that requires constant attention and vigilance.

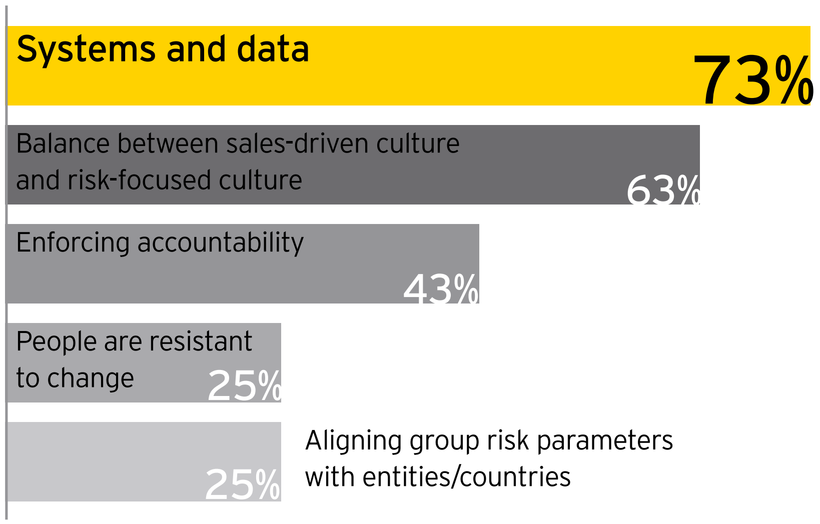


Exhibit 6

Top challenges to strengthening the risk culture

Risk appetite

Still a work in progress

Risk appetite – the amount and type of risk that a company is able and willing to accept in pursuit of its business objectives – has been an important area of focus for senior management teams over the past year. Risk appetite ranked in the top three areas of focus for boards and CROs. Post-crisis, there has been a good deal of work done to advance the industry thinking on approaches to and methodologies for risk appetite, and many firms reported they are working on the process within their organizations. However, while interest and commitment is high across the industry, risk appetite remains a work in progress for most of the 75 firms that participated in this year's study.

There remain differing views on the definition, implementation and use of risk appetite, and many are challenged as to how to embed the risk appetite throughout the business. For some, risk appetite is a one-page high-level guidance system to measure what one executive called "inadvertent strategic drift." Others have hundred-plus-page documents outlining in detail the limits for all types of risks across businesses and entities. But document size doesn't necessarily translate into strategic value and use. For the firms that are furthest along the path in the development process, risk appetite is increasingly viewed as a very powerful framework and foundation for strategic decision-making across the enterprise. As an executive from one such firm put it, "Risk appetite has become central to how we run the institution. It takes time for people to buy into, but once you have gone over that hump, it is a very powerful tool."

All agree that developing and implementing risk appetite, as with culture, is a multiple-year project that is never really finished. Part of the challenge, according to some, is that there is still not a clear, generally accepted methodology for

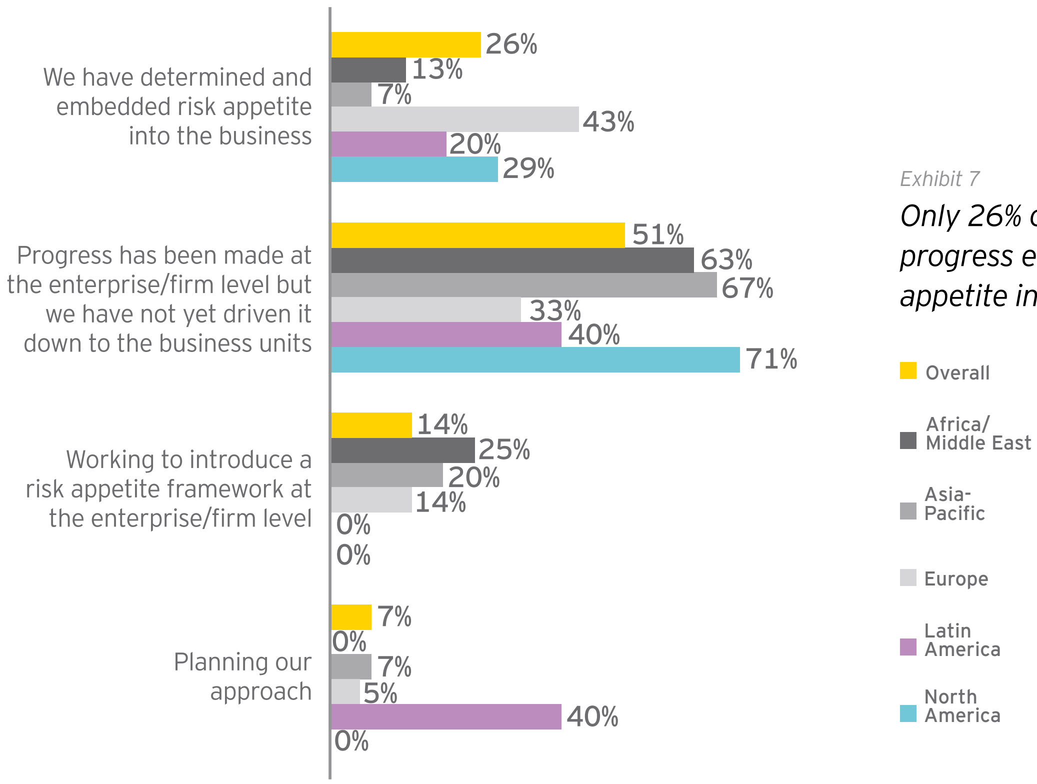


Exhibit 7

Only 26% overall report good progress embedding risk appetite into the business

the process. And most recognize that ultimately there can never, nor should there be, a one-size-fits-all approach.

Although virtually all executives interviewed indicated they were under way at some level with the risk appetite process, only 26% indicated they had made good progress embedding the risk appetite into the businesses, with European firms reporting the most progress. However, of that group, none are confident they have achieved a fully operational, fully integrated risk appetite framework across the firm.

While there is some disparity across regions, the majority overall (51%) report good progress establishing the risk appetite parameters at the enterprise level but have not yet driven it into the businesses. Fourteen percent — predominately firms in Africa and the Middle East — are still working to introduce a risk appetite at the enterprise level, and a few firms, mainly in Latin America, are just planning their approach (see Exhibit 7). Unquestionably, many firms are struggling with the process of cascading the top-level risk appetite statement through the operational levels of the organization. Seventy-five percent of respondents listed this as their top challenge to risk appetite development and implementation (see Exhibit 8).

Critical success factors

Based on their varied experiences and stages of progress on risk appetite, executives shared their perspectives on the critical success factors to effectively embed risk appetite into the organization. Opinions converged around several main components.

- Buy-in and collaboration at the top. As with risk culture, the tone at the top is key for a successful organizational risk appetite effort. Ownership of the risk appetite development and implementation must be a collaborative

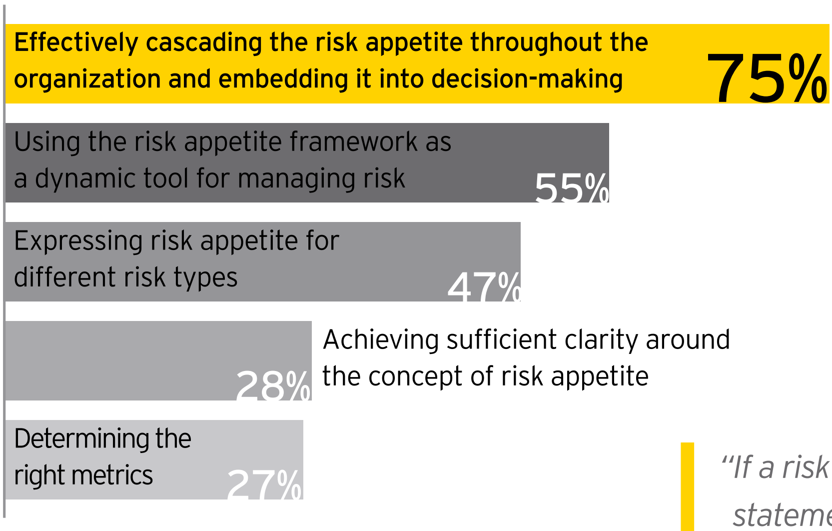


Exhibit 8

Cascading the risk appetite throughout the organization is the top challenge

> *"If a risk appetite merely becomes a statement that you dust off every year with a perfunctory review process, it is a wasted effort. It has to become a living document that you can relate to in everything you do."*

Roles and responsibilities in the firmwide risk appetite process

CROs and risk teams are seen as the primary drivers of the risk appetite process from development to implementation and enforcement.

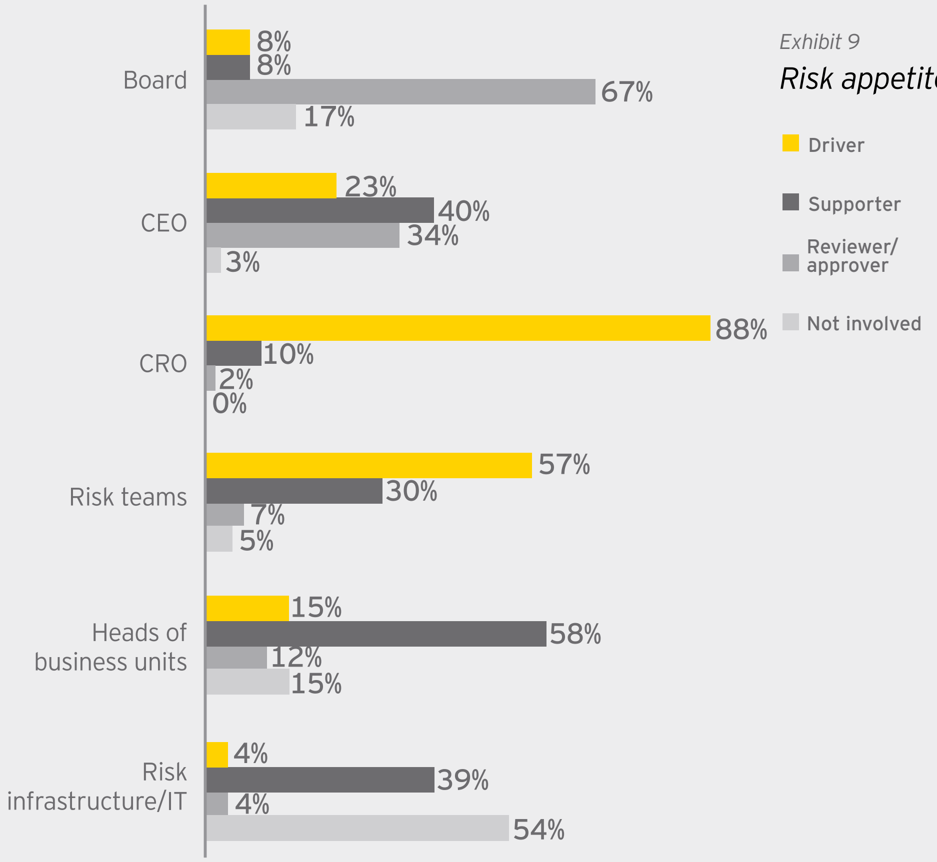


Exhibit 9

Risk appetite development

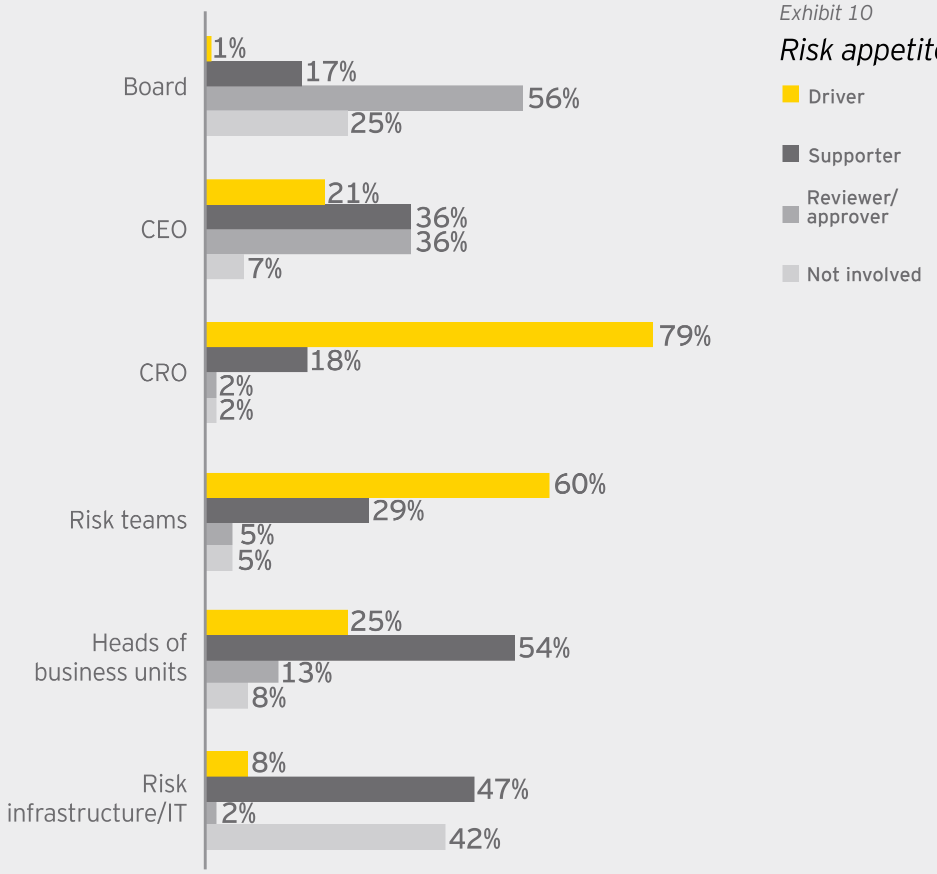


Exhibit 10

Risk appetite implementation

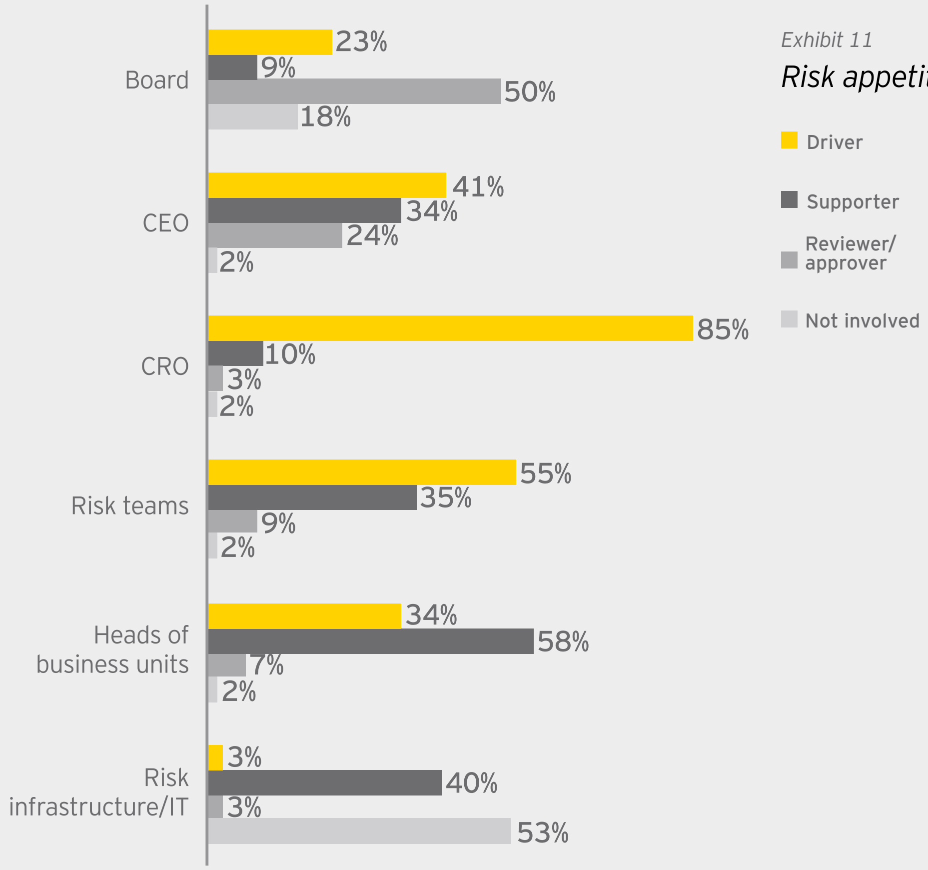


Exhibit 11

Risk appetite enforcement

top-down and bottom-up effort of the senior team, including the board, CEO, CRO, risk teams and business unit leaders. All play important roles in the process. While the details of how each organization is progressing through the development and implementation stages vary, there is fairly consistent agreement on the roles and responsibilities of the key players in the process.

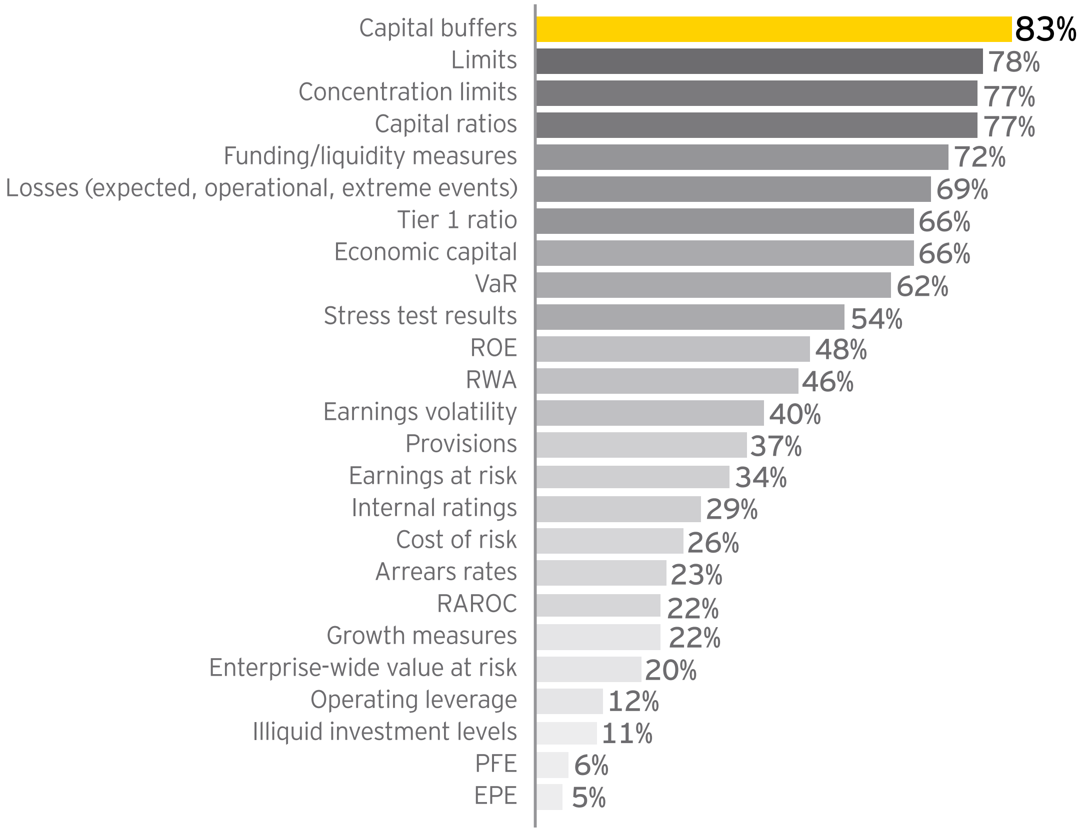
As depicted in the sidebar, "Roles and responsibilities in the firmwide risk appetite process" (Exhibits 9-11), the opinion of the executives surveyed is fairly unanimous that the CROs and their teams are the primary drivers of the risk appetite development, implementation and ongoing enforcement effort. The board of directors, who are unquestionably increasing their attention and involvement in risk appetite (see page 28 for further discussion), are positioned in the critical role of "reviewers and approvers" of the process from development through implementation. CEOs and the heads of business units are vital supporters and, to a lesser extent, drivers of the initial development and progression through the various stages. And approximately half of the interviewees indicated that the risk infrastructure and IT groups play a supporting role in their organizations.

One CRO described what appeared to be a fairly typical role for the risk function in the risk appetite process: "My job is to articulate and then propose the risk appetite statements to the board for their consideration, discussion and approval. Once the enterprise framework has been agreed to, the risk team works jointly with the business units along with the finance team to define the appropriate limits for each business consistent with the global view of risk and the general metrics established. I am responsible for monitoring all of the tactical aspects of adherence to the risk appetite and for ongoing reporting to the CEO and the board on progress and compliance."

Many executives stressed the importance of having the buy-in and participation of the business unit leaders throughout the process, and most agreed that the business unit leaders must bear responsibility for applying and enforcing risk appetite within their business. As one executive emphasized, "The business leaders must believe in what is on the piece of paper, and be able to articulate to their teams why it's on the piece of paper. Otherwise it doesn't work."

Exhibit 12

Top quantitative metrics for setting and monitoring risk appetite at the group level



- **Clarity on definition and metrics.** As discussed earlier in this section, definitions of risk appetite vary across the industry. Many executives emphasized the importance of clearly defining the organizational view of risk appetite — what it means, how it will be used and what the expectations are. As one CRO explained, "This sounds really basic, but you've really got to have clarity throughout the organization as to what risk appetite fundamentally means. Does it mean your limits? Does it mean your plan for any given year? Is it a through-the-cycle metric? Is it all of the above?"

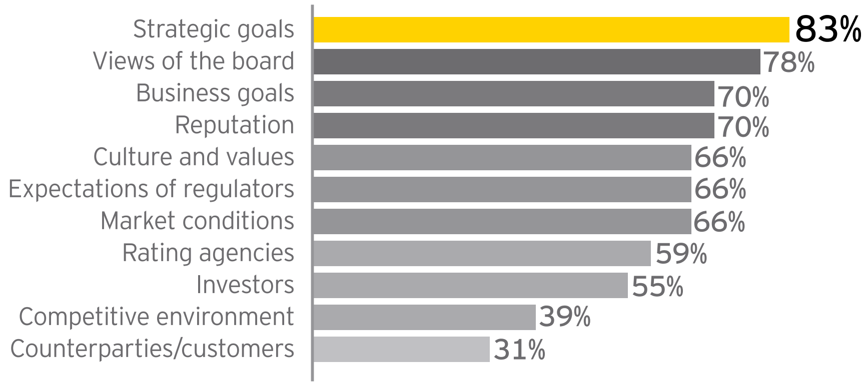
  An equally critical success factor is agreeing on the metrics that will be used to set and monitor the risk appetite. Over one quarter (27%) of interviewees listed "determining the right metrics" as one of their top challenges in the risk appetite effort (see Exhibit 8). Defining the organizational risk appetite is a quantitative and qualitative process that requires careful review of both external and internal factors. Exhibit 12 prioritizes the quantitative metrics that respondents are using to set and monitor risk appetite across the group. Capital buffers, limits, capital ratios and funding/liquidity measures topped the list, followed by metrics on losses, which include operational and expected losses and loss in extreme events. There is evidence that the largest firms in the industry are moving toward some form of loss as a core metric to measure risk appetite.

  On the qualitative side, firms are striving to balance internal strategic business and cultural goals with stakeholders' opinions and expectations (see Exhibit 13). Viewpoints of the board, regulatory authorities and rating agencies must be balanced with the business goals and objectives of investors, counterparties and customers. Organizational philosophy, culture and values set the tone for risk tolerances and must play a pivotal role in the decision-making.

  While opinions vary on the optimum number of parameters that strike the right balance between the comprehensive and the comprehensible, most firms consider approximately 11 quantitative and 7 qualitative metrics at the board level, with increasing detail at the business and operational levels. However, there is wide disparity, particularly around quantitative metrics, with

Exhibit 13

Respondents consider several key qualitative issues in setting risk appetite



some firms including more than 20 metrics and others as few as 5. Several agree that too many metrics make it difficult to hold business units accountable and hamper the embedding process, and there is evidence that some of the larger firms in the industry are shifting to a smaller number of metrics to reduce complexity.

Fifty-five percent of interviewees admit that utilizing the risk appetite as a dynamic tool for managing risks, rather than just as another way to set limits or strengthen compliance, is one of their top challenges (see Exhibit 8). While limits and risk policies are important ways of delivering the risk appetite framework, they are only one aspect of the process. Several cautioned that it can be dangerous to get bogged down setting multitudes of limits that are not well understood or accepted by the businesses. One CRO commented, "You don't want to create a system that will fall under its own weight. You have to be reasonably granular without being too granular. You've got to be able to go to the function level without trying to dictate it to individuals." Forty-seven percent of interviewees say they are struggling to find the most effective way to express risk appetite for different risk types (see Exhibit 8). Some risk types, such as credit and market risks, where there is abundant historical data, are relatively easy to quantify. But more qualitative risks, such as operational and reputational risk, are much more difficult to quantify. A few mentioned the challenge of establishing a common language across the organization, which they believe is necessary to successfully embed and enforce risk appetite.

- Link to business planning and drill it down into the organization. Executives from those firms that report progress in incorporating risk appetite into the businesses warn that it is critical that risk appetite not be viewed as an independent senior team exercise unconnected to the strategic and business discussions of the firm. As one executive commented, "I think that one of the reasons why we have been successful so far in implementing risk appetite is because it is not a stand-alone parallel world alongside the business process, but an integral part of the business planning, follow-up and review process." Many report progress at the enterprise level in incorporating risk appetite into the planning process, with 66% claiming significant linkage to the annual firmwide business planning process (see Exhibit 14).

However, only 37% indicate that risk appetite is largely incorporated into day-to-day business decision-making (see Exhibit 15). Drilling down to "where the rubber meets the road" remains an ongoing challenge for many firms. Taking a broad risk appetite framework and applying it to the day-to-day operations is difficult. As one CRO explained, "How do you take a document which is by definition general, and practically apply it to the derivative business or the trading or asset servicing businesses? It is not easy to do."

Most agree that embedding the risk appetite requires attention to all of the activities addressed throughout this report: shifting the cultural mindset around risk; strengthening governance roles and responsibilities; adjusting performance requirements and compensation; and upgrading processes and systems to test, track, report and assess progress. The process for most is a long-term effort to develop and implement, and sustaining it over time is an ongoing program.

- **Monitor, measure, review.** Tracking status, reporting on progress, and regularly reviewing and adjusting the risk appetite framework were all discussed as important components of a successful program. As one CRO summed it up, "We need to make certain that when the board turns the steering wheel, the car is following." Fifty-four percent of respondents report significant progress in their ability to track adherence to risk appetite, up from 37% in the IIF/EY 2011 report (see Exhibit 16). And as discussed on page 32, stress testing is an increasingly important tool for the senior team to monitor and manage adherence to risk parameters. Despite this progress, respondents cited lack of clarity around metrics, ill-defined methodologies for capturing and reporting information, poor data quality and inadequate systems as continued challenges to effective monitoring.

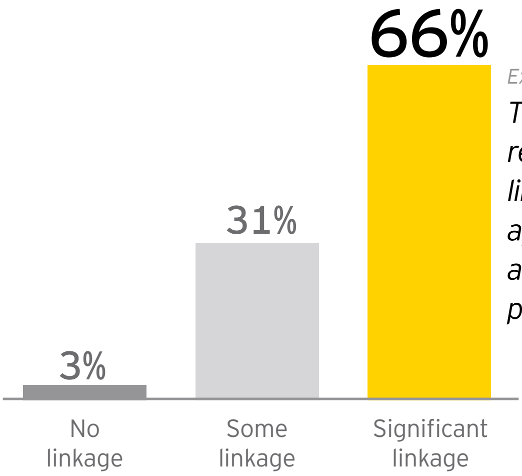


Exhibit 14

The majority report significant linkage of risk appetite to annual firmwide planning

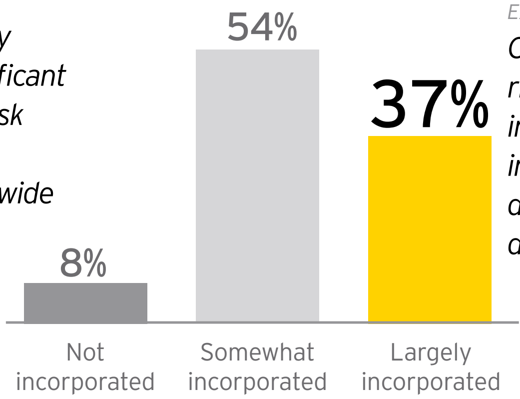


Exhibit 15

Only 37% say risk appetite is incorporated into day-to-day business decision-making

Conducting periodic risk appetite reviews to test compliance and reconfirm or adjust the framework is yet another critical success factor. Only 11% of interviewees indicated they do not have a regular process in place to review the risk appetite, an improvement from 22% in the IIF 2011 report (see Exhibit 17). Over half of the firms review, assess and update risk appetite on an annual basis, up from 35% in 2011, with several indicating they report quarterly to the board on the status of adherence combined with an annual in-depth review of the risk appetite framework.

Enforcing business decisions; holding people accountable; putting proper early warning systems and triggers in place to flag a problem before it becomes material; and making certain that results are transparent, consistent and regularly reviewed were all cited as critical to effective implementation of the risk appetite process.[5]

"Unless you really believe that the risk appetite statement has bite, and actually constrains your business in some way if you step out of it, it's a reasonably meaningless tool."

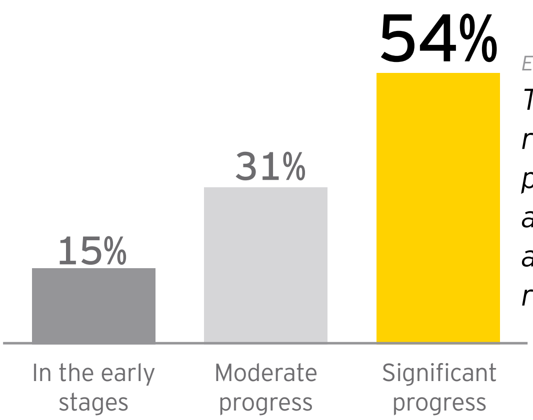


Exhibit 16

The majority report significant progress on their ability to track adherence to risk appetite

The frequency of risk appetite review processes varies

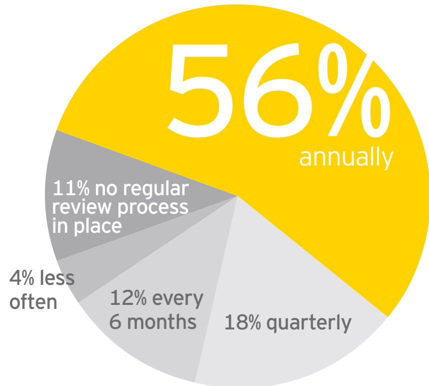


Exhibit 17: Risk appetite review process

[5] The IIF is preparing an additional report on risk governance with the intention of developing practical guidelines for firms on sound practices for strengthening risk management. The objective of the report is to illustrate the experience of IIF members in moving along the continuum to better risk governance. The report will draw on some of the IIF's previous work, including the June 2011 report, *Implementing Robust Risk Appetite Frameworks to Strengthen Financial Institutions*. The report is intended to be published in June 2012.

Governance roles and responsibilities

Boards increase focus on risk while CROs expand influence

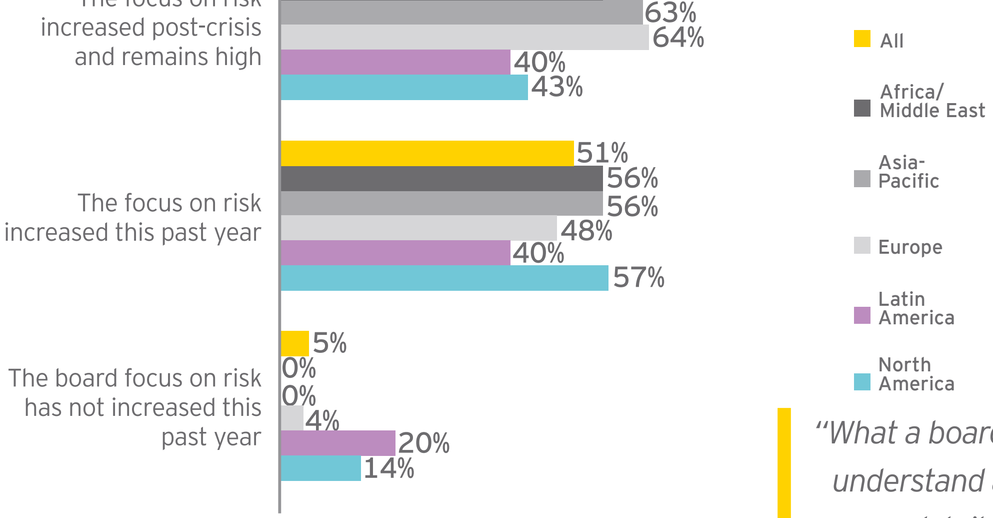
The involvement of boards in risk management and oversight has increased significantly since the 2008 crisis and continues to grow. While 57% of respondents say the board increased its focus on risk post-crisis, over half (51%) of the respondents across all regions report that board focus on risk has increased in the past 12 months (see Exhibit 18). The majority stated that their boards are more actively engaged and involved in risk policy setting and governance, spending more focused, higher-quality time on risk issues. Many report changes to their boards since the crisis to upgrade the level of experience and skill on risk, banking and the regulatory environment (see Exhibit 19).

Not surprisingly, liquidity and risk appetite topped the list of areas of board focus, followed by capital allocation and stress testing (see Exhibit 20). As discussed on page 20 of this report, risk appetite is clearly a heightened area of focus for boards and senior management teams as they work to establish and embed risk appetite into their businesses and incorporate it into day-to-day decisions. Seventy-four percent of interviewees listed risk appetite as the area where the board is most influential in their organization. However, over 50% also listed an impressive assortment of key areas where the board plays an influential role, including: liquidity, risk culture, compensation, reputational risk, risk compliance and capital allocation (see Exhibit 21).[6]

An overwhelming majority of respondents (87%) report that their firms have stand-alone, board-level risk committees. Of those firms with risk committees, 77% say there is some overlap in membership between the audit and risk committees (see Exhibits 22 and 23). The role and scope of responsibilities of the risk committee are still evolving and vary across firms. There is some divergence of opinion on the risk committee's and the board's roles in risk decisions. Some see the committee as having a role in setting risk policies, while others believe it's not the board's role to make decisions on risk. All agree that the committee is an important part of the firm's control network and provides valuable advice, challenge, oversight and support to the CRO and risk team.

Exhibit 18

Board focus on risk



"What a board member is asked to understand and do today is at a much more detailed level. The accountability of board members is much greater."

[6] Greater board involvement in risk was one of the recommendations made in the IIF report, *Final Report of the Committee on Market Best Practices,* July 2008.

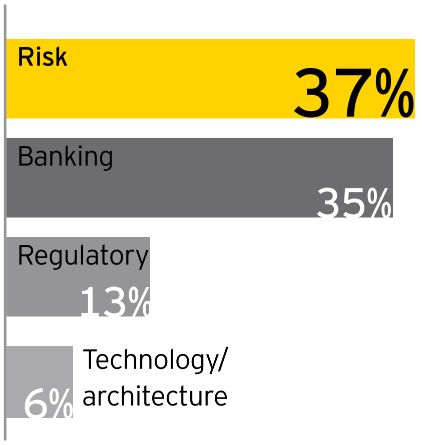


Exhibit 19

Expertise added to boards

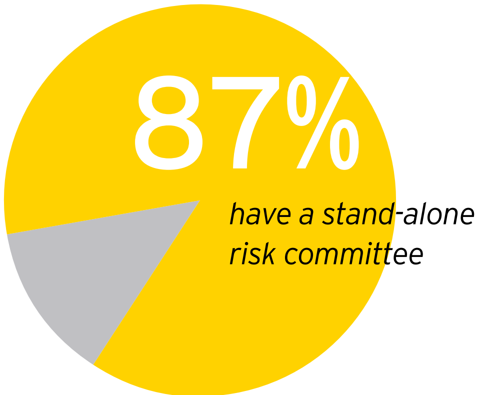


Exhibit 22: Status of risk committees

Exhibit 20

Boards' top areas of risk management focus

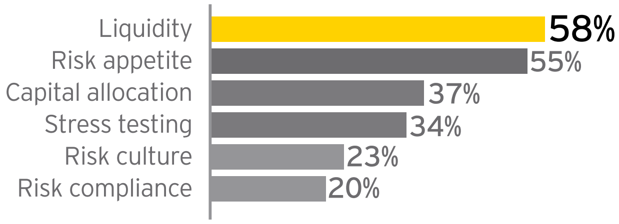
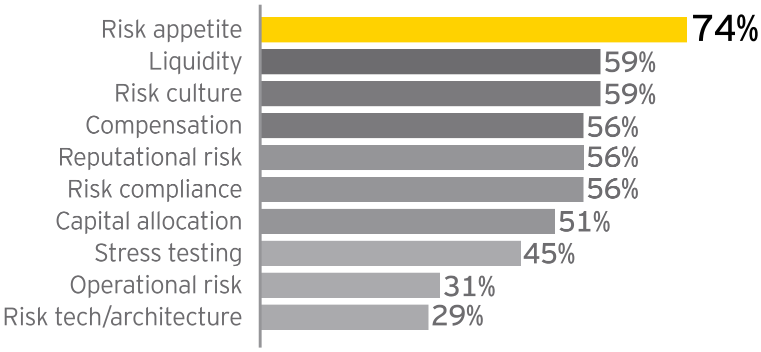


Exhibit 21

Areas where board is most influential



The majority report some overlap in membership between the risk and audit committees

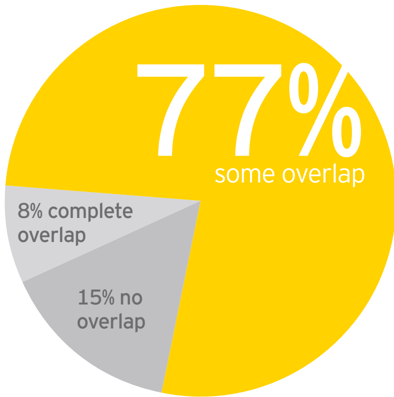


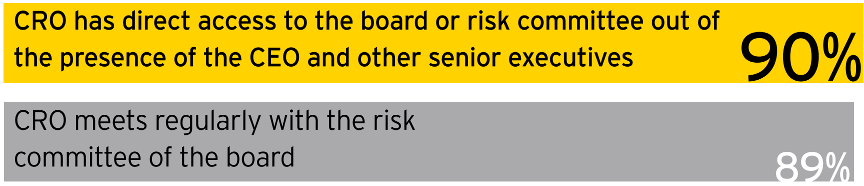
Exhibit 23: Common membership between risk and audit

The majority of CROs report directly to the CEO

Exhibit 24: CRO lines of reporting

Exhibit 25

CROs' access to board



Many firms have put programs in place to train and educate board members in key areas of responsibility. Virtually all have provided more focused information on risk issues; however, even after several years of progress, firms are still challenged to get the right amount of relevant and distilled information to directors.

Regulatory expectations have of course markedly impacted the board's involvement in the organization, and there is a belief that the burden on boards and risk committees is too high. As one executive commented, "What a board member is asked to do today, and understand today, and goes through today with the management team is at a much more detailed level. The accountability of board members is much greater." There is ever-increasing pressure for risk committees to approve risk limits and decisions, sometimes on matters that directors and executives view as management's role. Several respondents cautioned that while shifts in the regulatory environment have and will continue to necessitate changes in the roles of management and boards, the traditional delineation between these two groups must be preserved. Said one respondent, "In extreme cases, you could create a shadow management team within the board, which would be a disaster."

Chief Risk Officers

Unquestionably, the role of the CRO has changed significantly since the crisis. In Ernst & Young's 2008 report on risk governance that was released in the heat of the crisis, the CRO's role was described as, "framing risk agendas for senior management and acting as a sounding board for front-line risk professionals." While this may have underplayed the role for some, most CROs at the time did not have an end-to-end involvement in risk decisions. Today, CROs, together with their skilled risk teams, are generally involved throughout the chain of strategic decision-making. The CRO's influence is evidenced by, among other things, reporting lines. Fifty-eight percent of those surveyed say the CROs at their firms report to the CEO, and close to one quarter (24%) have dual reporting to the CEO and the risk committee (see Exhibit 24). Ninety percent report that CROs have direct access to the board or risk committee, and 89% say that CROs meet regularly with the risk committee of the board (see Exhibit 25). The majority (78%) of business unit risk officers now report to group risk, which is yet another significant shift post-crisis (see Exhibit 26).[7]

When asked to discuss their areas of responsibility and committee participation, most CROs described wide-ranging responsibilities and involvement in diverse areas of the business, including strategy, product development, acquisitions and compensation. Credit risk, liquidity risk and risk appetite topped the list of risk issues requiring the most attention; however, close to 15 other risk-related issues made the "top five list" (see Exhibit 27). Respondents offered a variety of insights when asked to describe the characteristics of an effective risk function. Many agreed that it was vital to have support from both the CEO and the board for risk initiatives. As one CRO explained, "You have to have a very clear mandate, so that when you talk to business management, what you say carries weight." Another agreed: "Getting respect from regulators, internal constituents and from business is key."

The majority report increases in both group (57%) and business unit (48%) headcount over the past 12 months, even as staffing levels have been reduced in other areas. However, predictions for headcount increases for the next 12 months appear to have leveled off and some believe they will actually decline (see Exhibits 28-31). One explanation for this is that risk functions are becoming more effective and efficient as CROs and their teams de-layer and streamline processes. As more effective systems are put in place to support risk management, many are hopeful that headcounts will continue to remain steady.

The majority of business unit risk officers report to group risk

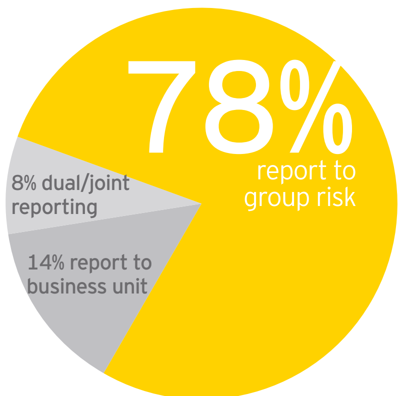
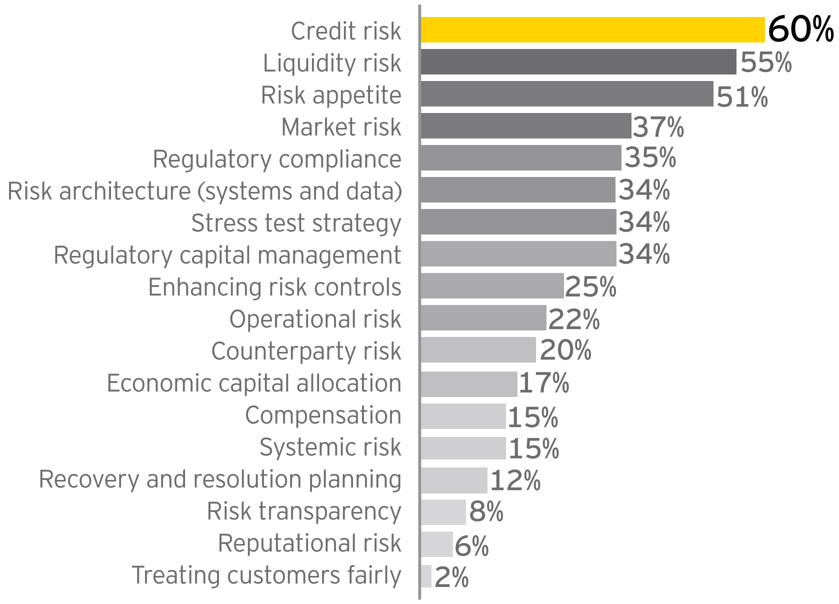


Exhibit 26: BU lines of reporting

[7] A reporting line to the CEO or board was also one of the recommendations in the IIF report, *Final Report of the Committee on Market Best Practices,* July 2008.

Exhibit 27

Top issues requiring most CRO attention



The majority report group risk size increased in last 12 months

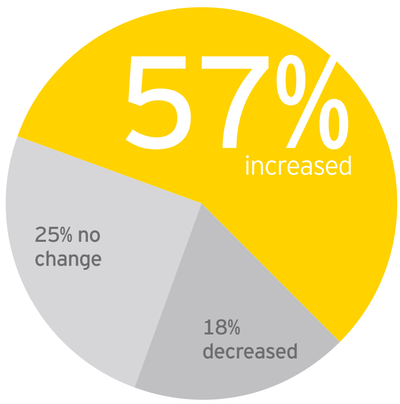


Exhibit 28: Group risk function size last 12 months

Almost half report an increase in BU risk size in last 12 months

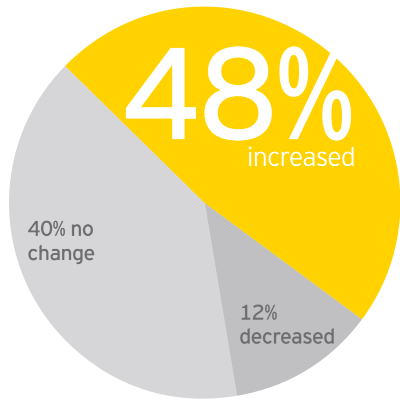


Exhibit 29: BU risk function size last 12 months

Predictions on group risk size in next 12 months vary

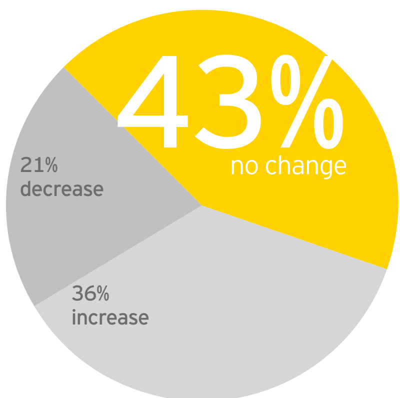


Exhibit 30: Group risk function size next 12 months

Predictions on BU risk size in next 12 months vary

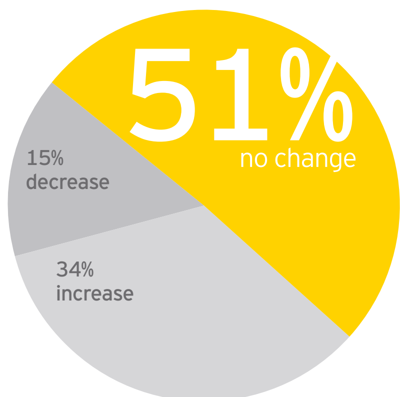


Exhibit 31: BU risk function size next 12 months

Stress testing

Firms are increasingly using stress testing as a strategic management tool

The evolving regulatory and market environment has heightened managements' attention on strengthening internal stress-testing strategies, systems and procedures. Seventy-five percent of respondents report they have created and implemented new stress-testing methodologies in the past 12 months (see Exhibit 32). Most of the interviewees agree that stress testing has become a very valuable tool to help steer the business through the volatile global and economic landscape. For some of the participating firms, stress testing for internal management needs has outpaced regulatory demands. As one executive explained, "Our internal stress tests go way beyond what is required by the regulators."

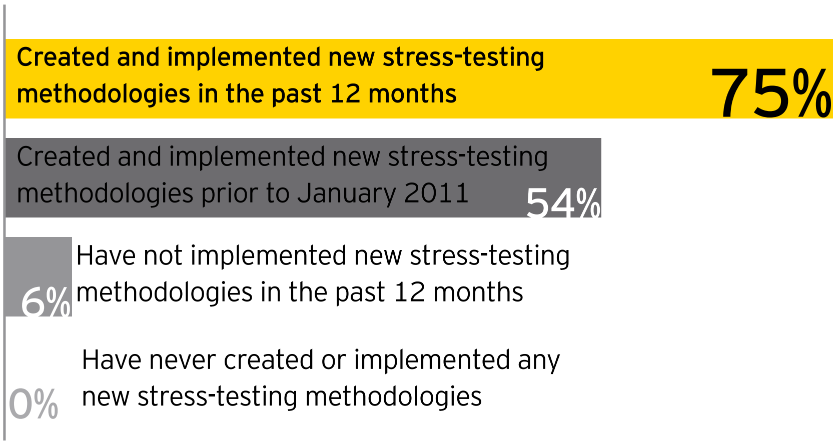


Exhibit 32

Firms continue to implement new stress tests

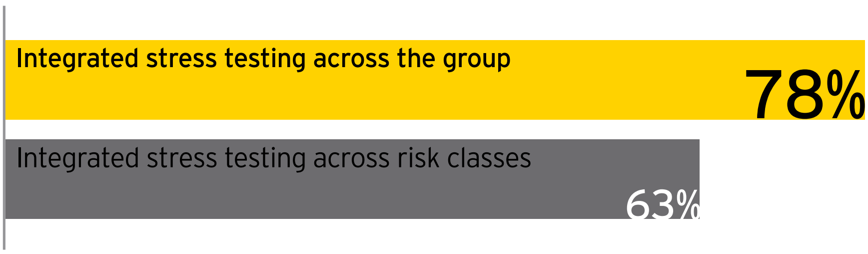


Exhibit 33

Stress testing is being integrated across the organization

Changes to focus and methodologies

Seventy-eight percent of respondents emphasized they are working to integrate internal stress testing at the group level of the organization (see Exhibit 33). Several discussed initiatives to move beyond "siloed stress testing" to develop enterprise-wide integrated models that run stress scenarios across all risk classes on a globally consistent basis. As one CRO explained, "I think the single biggest improvement we have made is to develop enterprise-wide models that apply similar scenarios across the retail and wholesale credit book, the trading room and counterparty and credit risk simultaneously and consistently." The goal, according to another executive, is to take stress testing from an ad hoc activity to something that is "institutionalized and productionalized."

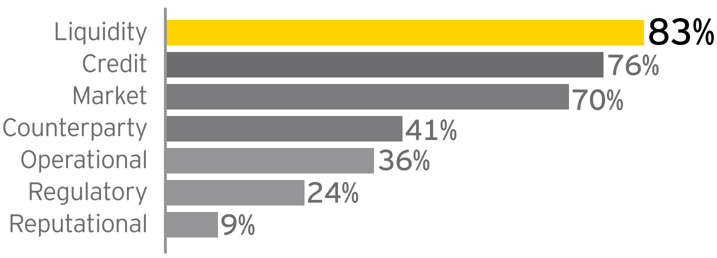
While credit risk has been a traditional area of focus for stress testing, respondents say they have enhanced stress testing across a number of key risk areas over the past 12 months. Not surprisingly, liquidity risk has been the top area of increased focus for 83% of respondents, followed by credit, market, counterparty and operational risk (see Exhibit 34).

Executives use a number of methods for running internal stress testing and calculating outcomes. Seventy-six percent set scenarios across countries and business units and calculate the effect on each portfolio and business line; 55% stress internal ratings-based (IRB) models for credit portfolios; 48% stress IRB models for sub-portfolios; and 29% run the economic capital model to a higher confidence level (see Exhibit 35).

Scenario planning has become an increasingly important tool to help boards and the senior management teams consider and assess the full range of market factors and macroeconomic events that could potentially influence revenue streams and stability. Executives agree that effective escalation and use of

Exhibit 34

Risk areas of increased focus over the past 12 months



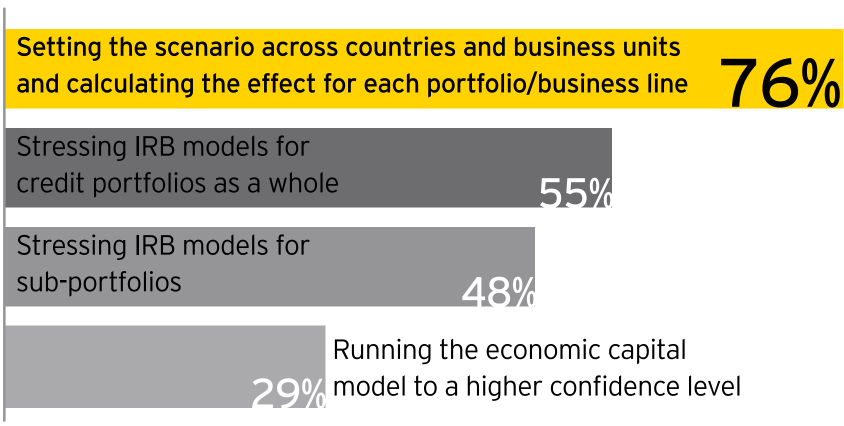


Exhibit 35

Methods for running internal stress testing and calculating outcomes

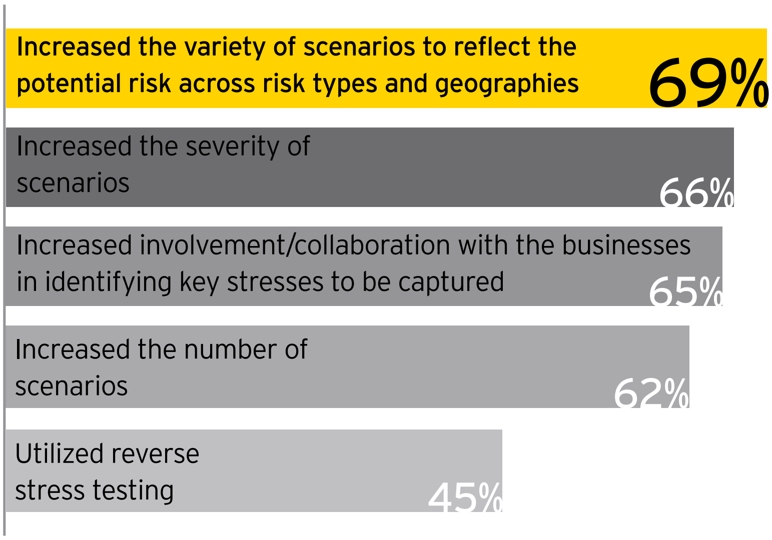


Exhibit 36

Changes to scenario planning

output from a scenario planning process is a critical component of business planning. Many indicated they have increased the number, severity and variety of scenarios to reflect the multitude of potential risk aspects across risk types, businesses and geographies (see Exhibit 36).

Executives emphasized the importance of collaborating with the businesses to appropriately identify the key stresses to be captured in each unit. Several discussed the formation of special cross-functional groups and forums that come together to determine relevant scenarios across the businesses. As one executive described their team, "We formed a think tank that brings together our economic group, the business people and the risk team to think through all of the evolving circumstances that are out there." Close to half (45%) of the respondents use reverse stress testing to test a combination of factors that could cause failure to the firm. While the views on reverse stress testing vary, a number of executives believe that given the appropriate judgments, this can be a valuable exercise to identify risk concentrations and interactions among risks and exposures that could challenge the viability of the organization.

Executives caution that stress testing approaches can get out of hand, becoming overly complex, unrealistic or too difficult to analyze and use effectively. Fifty-three percent of interviewees say that designing plausible but realistic scenarios is one of their top challenges to effective stress testing (see Exhibit 42). As one CRO explained, "The biggest challenge is putting together responsible scenarios for the potential outcomes and then assessing the interconnectedness or the systemic nature of how one event may lead to unintended events or other things you might not naturally think of."

Ownership and link to decision-making

The CROs and risk teams, together with the central stress function, are the primary drivers of the design, execution, analysis and reporting of internal stress testing (see Exhibit 37). Several executives discussed significant restructuring initiatives and investments in manpower to create centralized departments that focus exclusively on stress testing.
One executive, for example, described the formation of a central stress testing group as one of their biggest areas of investment in risk management from a personnel standpoint. Senior management teams, business unit leaders and the risk infrastructure/IT function are important supporters and participants of the stress testing process, and boards are increasingly focused on reviewing scenario and stress testing output. Sixty-six percent say they have created new board and

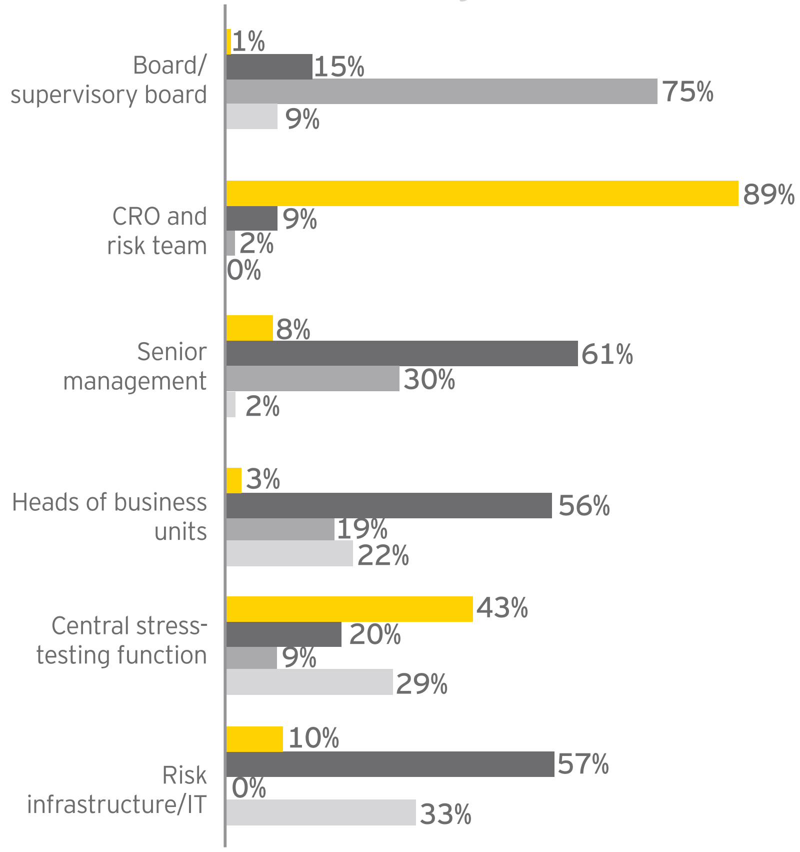


Exhibit 37

CROs and risk teams are the primary drivers of internal stress testing

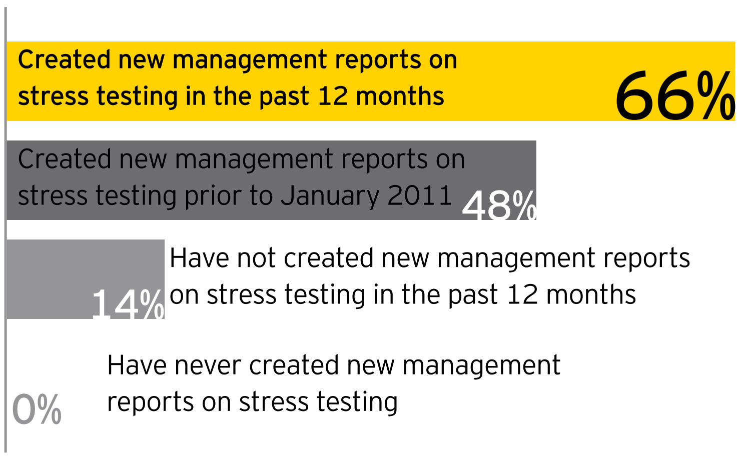


Exhibit 38

Over half have created new management reports on internal stress testing in the past 12 months

> *"Our internal stress tests go way beyond what is required by the regulators."*

management reports on internal stress testing in the past 12 months, and 73% report an increase in challenges from the board on stress scenarios and outcomes in the past year (see Exhibits 38 and 39).

Many executives discussed progress in embedding stress testing into the decision-making process. As one executive summed it up, "What's our single biggest improvement to stress testing? Using the results." Close to half (49%) report that stress testing results are significantly incorporated into strategic management decision-making, and 43% say they are somewhat incorporated (see Exhibit 40).

As shown in Exhibit 41, stress testing is incorporated into many strategic management areas, from risk management and capital planning to decisions on acquisition and new products. Seventy-three percent indicated that stress testing is tied to risk appetite development and management, and several executives described stress testing as "central" to their risk appetite process.

Top challenges to improving stress testing

Extracting and aggregating data and inadequate systems were listed as top challenges to effective stress testing (see Exhibit 42). Many are struggling with demands on the resources needed to execute what is often a manual process of conducting tests and gathering results across the portfolios and businesses. However, as discussed on page 60, firms are addressing these problems. They are making progress in improving their risk aggregation and are upgrading IT systems to support stress testing. The time and dollar costs of improving stress testing capabilities – some say they are looking at five- to seven-year-long initiatives – combined with concerns about the still-evolving pressure from regulators to undertake additional stress testing are increasing challenges for the senior executives interviewed. Some are concerned that the multitude of data-intensive supervisory tests is straining capacity and may take away from conducting internal management tests to run the business.

While there is considerable progress reported this year on strengthening internal stress testing procedures, many interviewees emphasize that, as with many areas of risk governance, effective stress testing is an ongoing process of improvement.[8]

> *"Stress testing is not something that's done on the side. It's integrated with everything we do."*

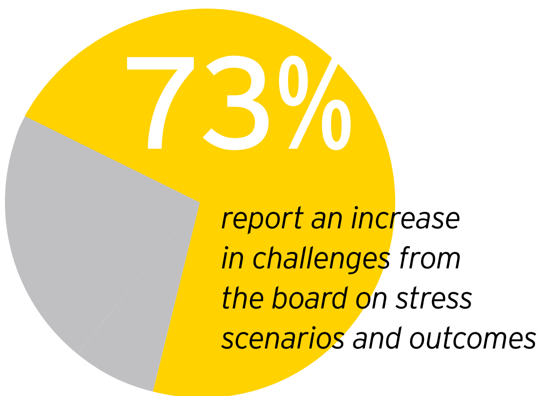


Exhibit 39: Challenges from the board

[8] The IIF is preparing a separate report that will look at stress testing as one of the tools to improving risk governance in firms. The report is intended to be published in June 2012.

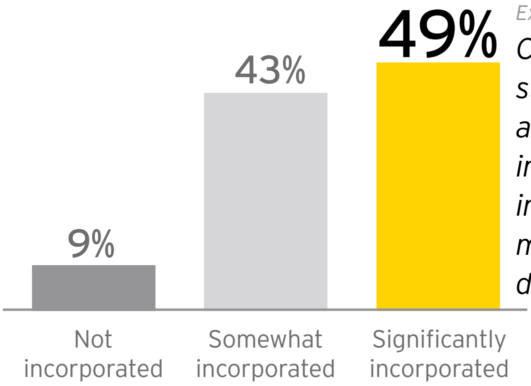


Exhibit 40

Close to half say stress-testing results are significantly incorporated into strategic management decision-making

Exhibit 41

Stress testing is incorporated into many strategic areas of the business

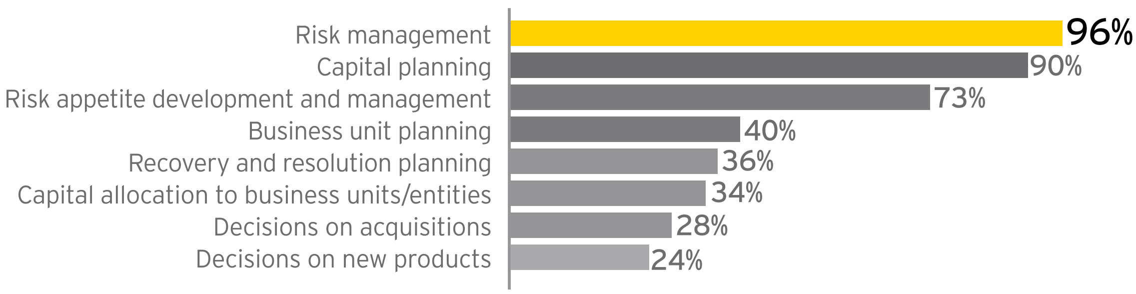
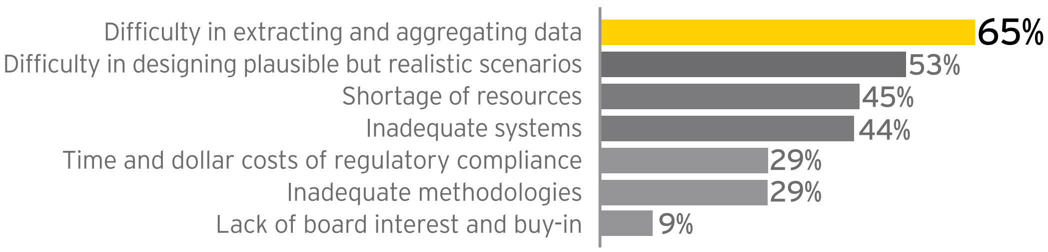


Exhibit 42

Top challenges to improved stress testing



Liquidity management

A top area of focus for senior management

Liquidity management is unquestionably at the top of senior management agendas for most of the organizations that participated in this year's study. As discussed earlier in the report, liquidity topped the list of areas of highest focus for boards and ranked a close second to credit risk as issues requiring the most attention from CROs over the past 12 months. This reflects the response to pressures from the crisis and the continuing funding pressures. Another theme was the complexity and cost of implementing the new Basel III requirements — the liquidity coverage ratio (LCR), net stable funding ratio (NSFR) and new liquidity reporting.

Interviewees described a number of initiatives under way to enhance liquidity governance, policies, processes and systems. Most of the insurance companies that participated in the study acknowledged that, while they are not subject to Basel III requirements, they are nonetheless working to strengthen their liquidity management practices — reviewing liquidity risk tolerances and buffers and incorporating more rigorous stress testing and scenario analysis into business planning.

The survey responses highlight the changes to liquidity management post-crisis. The majority (89%) of executives report that their asset and liability committee (ALCO) is responsible for management and monitoring of liquidity risk (see Exhibit 43). It was clear from our discussions that board risk committees together with the risk function are increasingly responsible for policy, management and oversight of liquidity risk. Several firms report the formation of liquidity risk management groups and dedicated liquidity risk management functions.

There were some heated discussions during interviews about the added burden on boards and risk committees under the new regulations. As one CRO commented, "We have counted about 170 new obligations and issues for the board and risk committees to opine about liquidity. By some estimates, some of our independent directors would have to literally be here two days a week, and the head of the risk committee would almost become a full-time employee."

Exhibit 43

ALCOs are primarily responsible for liquidity risk

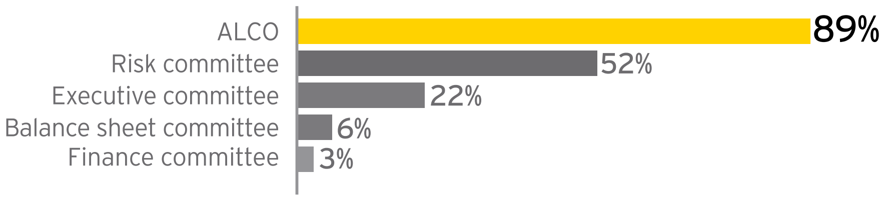
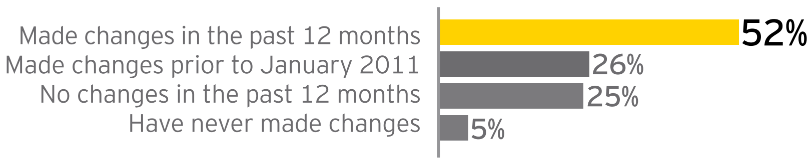


Exhibit 44

Over half have made changes to counterparty/customer liquidity charging structures in the past 12 months



Many firms reported they have instituted a more stringent liquidity-charging structure both externally with counterparties and customers and internally with businesses. Fifty-two percent have made changes to charges to counterparties and customers in the past 12 months, primarily focused on increasing charges on lines of credit and lines drawn — a particular focal point of the Basel III liquidity framework (see Exhibits 44 and 45).

Many firms have introduced more rigorous internal funds transfer pricing (FTP) approaches to better allocate liquidity costs to products and business units. Forty-seven percent of respondents overall, particularly in Europe and North America, say they have introduced a new approach to FTP (see Exhibit 46).

Executives admit that their pre-crisis pricing practices — where businesses were typically charged either the average or historic cost of funds — did not accurately reflect the unique liquidity risk posed by different businesses. For example, a corporate lending business with large committed lines might, in some cases, have only been charged on the drawn loans and not on the liquidity risk of having large quantities of committed lines drawn down. Pricing practices have already been changed in many firms and will be subject to further evolution as the Basel III liquidity regime becomes fully implemented. Almost half of participants (49%) report they are now including the cost of the liquidity buffer in their internal pricing, which means that businesses will be charged up front for generating risks that contribute to the buffer (see Exhibit 47).

Exhibit 45

The focus of specific changes to counterparty/customer charges varies

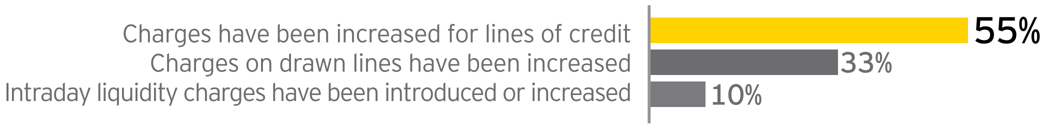


Exhibit 46

Close to half have introduced new approaches to FTP

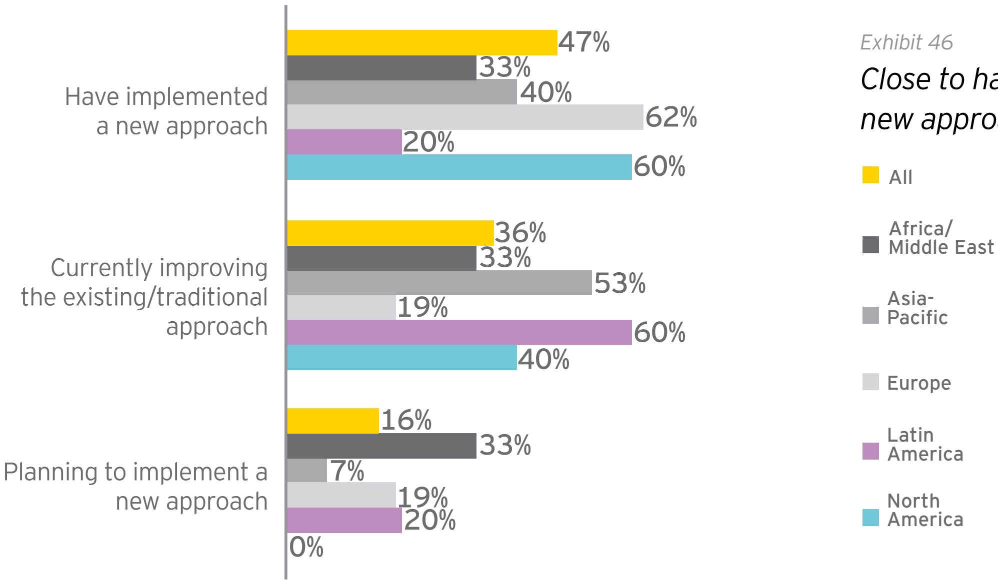
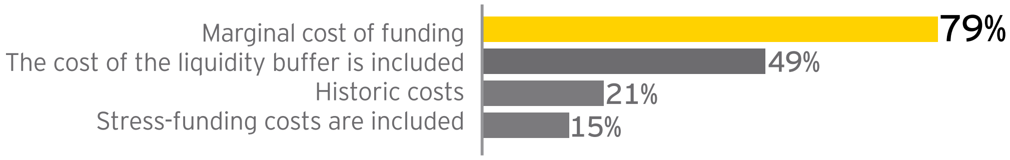


Exhibit 47

The basis of FTP approach varies



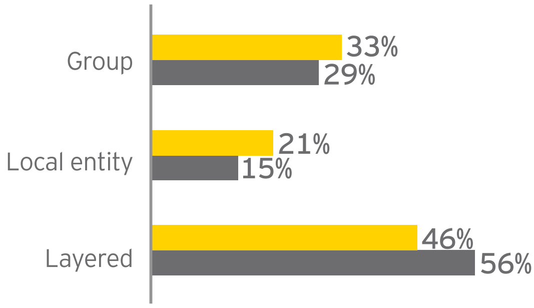


Exhibit 48

Over half are shifting the level at which liquidity is managed

Current Future

Most agree that the repricing process has had a positive impact on the units, raising awareness of liquidity risk and its importance to both their business and the organization overall, clarifying responsibility, incenting accountability and contributing to improved control of liquidity risk.

While a number of executives think stress-funding cost is an important component in their FTP analysis, only 15% report that this measure is currently included in their approach.[9] The majority (79%) use the marginal cost of funding as the primary basis of their FTP approach (see Exhibit 47).

Many executives described initiatives to provide more transparent, frequent and comprehensive reporting on liquidity positions for the management team, CRO and risk teams, treasury functions and funding desks. Stress testing is considered a critical tool to manage liquidity in the new Basel regime and several report they are strengthening their processes to incorporate more sophisticated modeling techniques to better understand and reflect market volatility and comply with regulatory demands. A number of firms are planning to shift the level at which they manage liquidity risk across the firm, with 56% reporting they are working to introduce a more layered approach across the group and entities (see Exhibit 48).

Of course, all of these initiatives require sophisticated systems and quality data and most firms surveyed described considerable investments in data improvements and system upgrades. One firm, for example, has launched a dedicated groupwide liquidity risk data project to meet regulatory and internal liquidity requirements on a daily basis. As the CRO described the initiative, "In order to have a minute-by-minute view, or at least a day-to-day view of cash flows at a fairly detailed level to manage liquidity decisions, the investment to upgrade has to be significant. The systems we have in place are not adequate for what we need today. And as a result, we are spending $50 million on system improvements in corporate treasury and risk management alone."

Experiences and challenges to implementing Basel III and LCR-style requirements

Some firms have had experience implementing LCR-type requirements in local jurisdictions that have already moved to new-style requirements – for example, the UK (FSA and ILAA liquidity reporting); the United States (Basel Sound Principles and 4-G reporting); Canada (Basel Sound Principles and shadow LCR); and in other home countries as appropriate. As shown in Exhibit 49, the UK FSA implemented first, and firms required to comply in the UK are furthest along in implementing the new-style regulations, with 71% reporting they have completed the process. In contrast, the majority of firms required to comply with regulations in the US, Canada or other home countries say they are under way or in the planning stage reflecting later timelines.

While it is too early for firms to know what the cost of implementing the Basel III liquidity rules will be, it may be useful to look at the cost of complying with similar

> *"The systems we have in place are not adequate for what we need today. We are spending $50 million on system improvements in corporate treasury and risk management alone."*

[9] Stress-funding costs take into consideration the possible future cost if the market gets extremely tight or the bank itself is put under pressure.

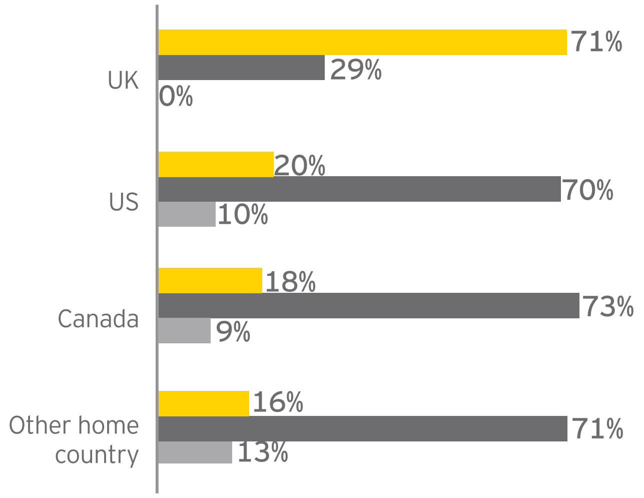


Exhibit 49

UK firms are furthest along in implementing LCR-style requirements

Complete Under way Planned

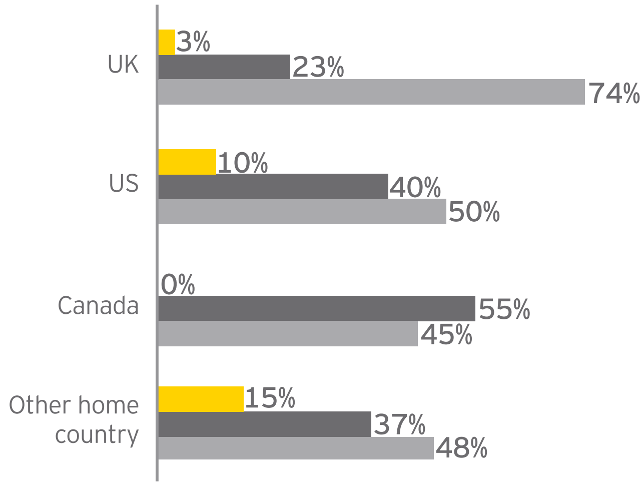


Exhibit 50

Time to implement LCR-style requirements

More than 3 years 2-3 years Less than 2 years

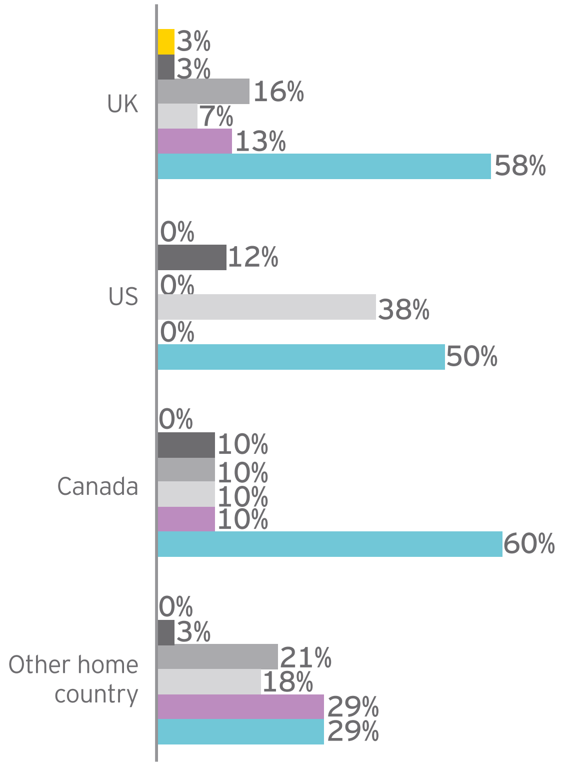


Exhibit 51

Cost of implementing LCR-style requirements

Above US$100m

US$51-US$100m

US$21-US$50m

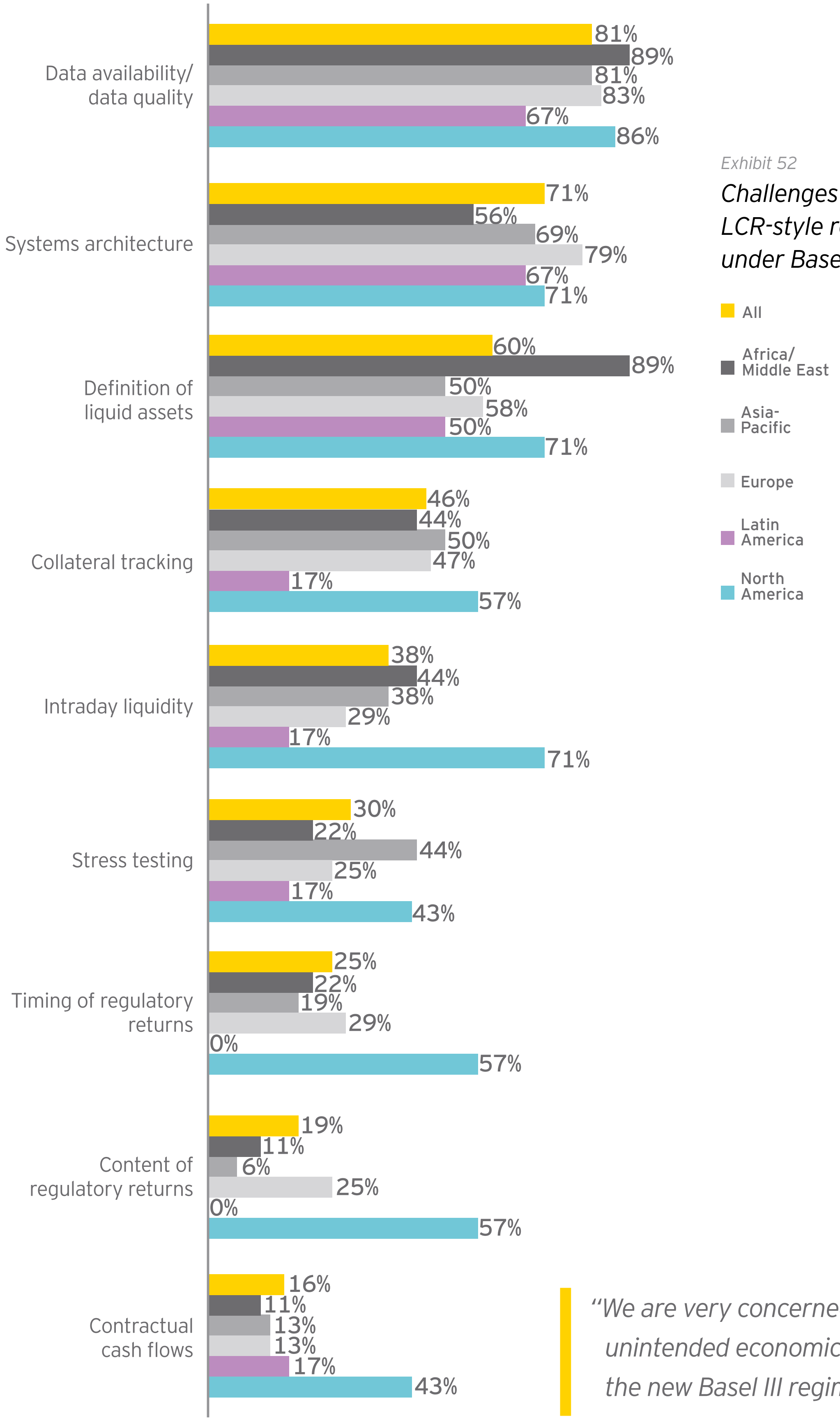
US$6m-US$20m

US$2m-US$5m

Up to US$2m

Exhibit 52

Challenges in implementing LCR-style requirements under Basel III



> *"We are very concerned about the many unintended economic consequences of the new Basel III regime."*

requirements in the UK and the US. Seventy-four percent of firms complying in the UK reported it took less than two years to implement the FSA regulation, and the majority (58%) indicated the total cost to complete was less than US$2 million (see Exhibits 50 and 51). In contrast, firms required to comply in the US, Canada or other home countries anticipate longer time horizons and slightly higher costs to implement.

Overwhelmingly, respondents agreed that data availability and quality (81%) and systems (71%) are the top challenges to complying with the new liquidity requirements (see Exhibit 52). Current systems are not designed for the new calculations and regulatory returns, and everyone anticipates an enormous expenditure to make the necessary changes.[10] One of the problems, according to some, is that the data used in the finance system is net, and while the data in treasury has behavioral components, neither can supply the contractual flow data and estimates needed by the new regulations. One interviewee, for example, discussed the lack of granular data on liabilities. As he explained, "We have always focused on assets. According to the new rules, you can claim that your liabilities are more sticky if they are with clients that have operating accounts, and there is no variable in our system that says operational relationship: yes/no." Another executive in Asia discussed the challenges of creating the appropriate scenarios to estimate runoffs and roll-downs in the event of major withdrawals from a bank-specific crisis when they have never actually experienced such a crisis in their organization.

Other challenges cited include intraday collateral and liquidity tracking, aggregation of data across groups, stress testing, and the timing and content of regulatory returns.

Sixty percent of respondents listed the definition of liquid assets as one of their top challenges to implementing Basel III. There was a good deal of discussion and controversy on the composition and potential impact of the liquidity pool, which some say is unrealistic and subject to onerous and unsupported assumptions. As one CRO commented, "We've got a serious disconnect between regulatory treatment of assets for liquidity purposes and the actual liquidity characteristics of what's on our balance sheet." So far, the rules have called for a high proportion of the pool to be in government bonds, which many pointed out have proved to be either volatile and risky, particularly in the European Union, or in scarce supply in more stable countries with high-rated bonds. Many of the respondents called for a re-evaluation and broadening of the range of eligible assets that can be included in the pool.

The continued uncertainty about where the rules will ultimately land; the competitive impact of uneven implementation of Basel III across regions (including significant goldplating of Basel norms and anticipation of Basel timetables in some cases); and the implications of embarking on long-term significant transformation initiatives in what one executive called "an over-stressed and very volatile universe" are of major concern to the respondents.

Summary of liquidity management changes

- Increasing focus on reporting, stress testing and data quality
- Dramatically improving automation, stress testing and scenario analysis around liquidity
- Creating a global single-point liquidity management
- Implementing a dedicated liquidity risk management function
- Building a dedicated liquidity risk data project to meet regulatory and liquidity risk requirements on a daily basis
- Allocating liquidity costs to products and business units (funds transfer pricing)
- Refining liquidity risk policy
- Updating contingency plan
- Introducing new measures and matrices on calibrating and following up on liquidity risk positions
- Chartering liquidity risk management group

[10] The challenges firms face, and some recommendations on improving risk IT, are explored more in the 2011 IIF report, *Risk IT and Operations: Strengthening Capabilities*.

Capital management

New regulations are driving strategic assessments of the business

The risks that emerged during the crisis, and the still-evolving new regulatory reality are driving senior management to strategically review their capital management priorities across geographies, political boundaries, legal entities and business lines. Seventy-seven percent of respondents report they have either completed or are under way with in-depth reviews to identify and assess the risks taken across business units, and 71% have done the same across entities (see Exhibit 53). As one CRO described their very thorough and systematic process, "We are assessing actual risks by business, by geography, by product, and all the way down to individual customers and facilities." As a result of these firmwide reviews and assessments, over half of the respondents (57%) say they have already changed their approaches to allocating capital across business units to more accurately reflect the risks taken throughout the enterprise (see Exhibit 54).

According to executives, there have been several key drivers of decisions to reallocate capital. Sixty-one percent of respondents listed aligning economic capital with present and future regulatory requirements as the primary driver for changing their approach to capital allocation (see Exhibit 55). Many executives discussed the challenges to effective capital planning and management given the widening gap between internal measures of how much capital is needed and regulatory requirements. Particularly for European and US banks, regulatory capital is now substantially higher

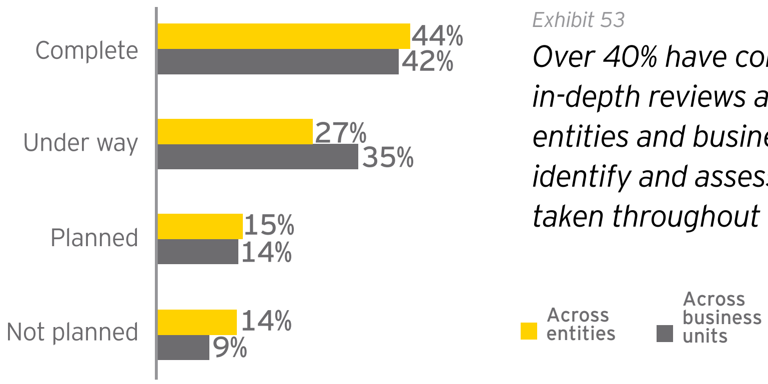


Exhibit 53

Over 40% have completed in-depth reviews across both entities and business units to identify and assess the risks taken throughout the enterprise

than economic capital. As one CRO explained the dilemma, "Economic capital and regulatory capital, instead of converging, are actually diverging. So we have to make choices between what feels inherently right from an economic capital perspective and what needs to get done from a regulatory capital perspective." As firms work to bridge the gap, several are challenging the worth of continuing to invest in economic capital models under the new Basel regime.

The impact of the new rules on risk-weighted assets (RWA) is significant, and 37% of executives report that reallocating capital with new RWA goals is an important focus. As discussed on page 20, risk appetite is very high on management agendas, although execution is still spotty. Close to one-third (31%) say they are including risk appetite parameters in their capital planning decisions. Reallocating capital with portfolio risks (27%) and aligning capital to internal stress testing (22%) are especially important for those firms most severely impacted by the 2008 crisis.

> *"The challenge for capital is that you want to have enough to run the company. You want to have enough to continue to invest in the company — new businesses and acquisitions. You want to have enough capital for the downside — things you can't see coming. But you don't want to hoard capital to the point where you're not rewarding shareholders."*

Exhibit 54

Over half have changed their approaches to allocating capital across business units

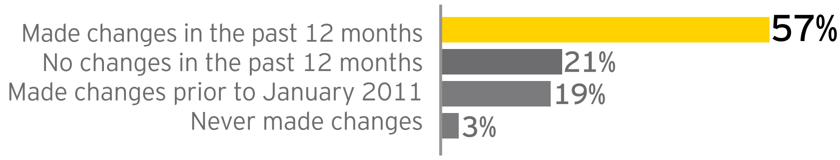
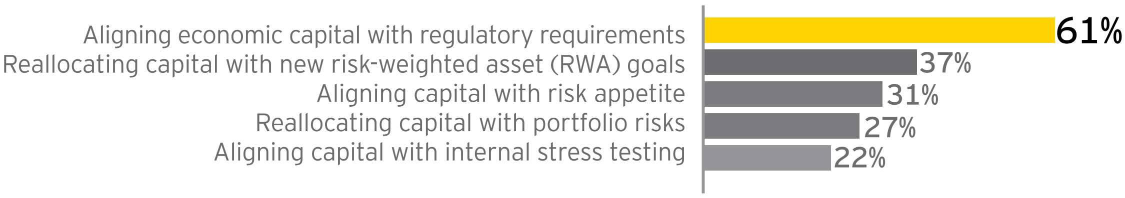


Exhibit 55

Aligning economic capital with regulatory requirements is the key driver for changes to capital allocation



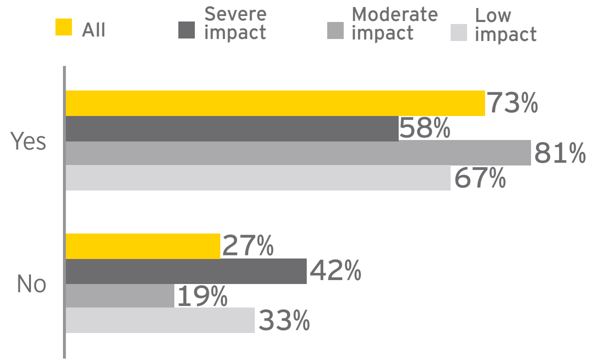
Respondents agree that the complexities of managing capital under Basel III are significant, and many discussed initiatives under way in their organizations to strengthen capital management to adhere to the more stringent regulatory requirements. Seventy-three percent of respondents believe they have the right tools in place to manage capital and business planning under Basel III; however, 42% of firms that were severely impacted by the crisis are not yet confident they are positioned to manage the potential impact of the new rules, which are not yet fully implemented (see Exhibit 56).

Several discussed the complexities of managing the business with multiple capital buffers, such as the capital conservation buffer, the countercyclical buffer and surcharges for systemically important financial institutions introduced under the new regulations. And some discussed the importance and challenges of strategically carrying out a "three-way optimization" of the business across capital, liquidity and leverage.

The focus on legal entities and geographies has increased for the majority of firms (87%) across regions. Seventy-eight percent report they are working to simplify and optimize legal entity structures to streamline complexities and identify trapped capital across geographies (see Exhibits 57 and 58). The question of branches vs. subsidiaries was discussed by several executives who are in the process of assessing, "branch by branch and subsidiary by subsidiary," the trade-offs between efficiency and financial stability for each model. As one CRO summed it up, "There is a lot more pressure to subsidiarize entities, which obviously have capital implications, so we have a lot of work going on to determine the right legal entity structure for our organization." To an important extent, this focus reflects the intersection of Basel III requirements with the recovery and resolution planning that firms are now required to undertake, the contours of which are still unclear as firms and supervisors are new to the process.

Exhibit 56

The majority believe they have the right tools to manage capital and business planning under Basel III



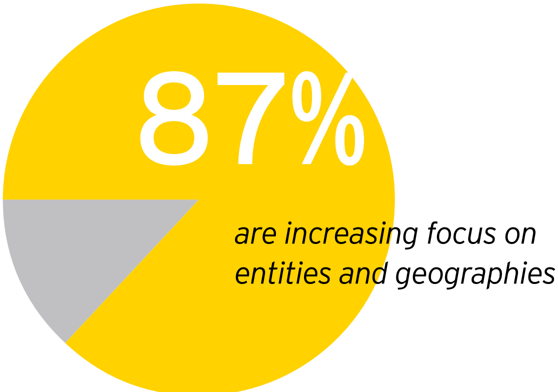


Exhibit 57: Focus on entities and geographies

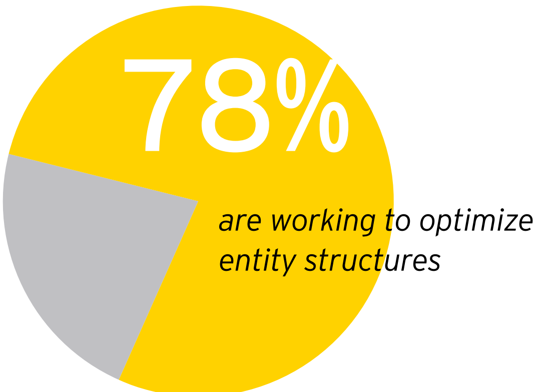


Exhibit 58: Entity structures

> *"I think you will get a stronger banking system but one that is less profitable. Returns will be lower, shareholders will get less. But it'll be more steady and we will be better able to hit the wall and survive."*

As discussed on page 40, stress testing and scenario analysis are increasingly critical tools to manage liquidity and capital under the new regulations. One executive described an initiative to create one consistent groupwide scenario across market and credit risk that is incorporated into strategic management decisions. As the CRO described the system, "We have different levels of stress that range from one – worst case – to five that we use in our internal capital adequacy process. We do a three-year forward-looking P&L and balance sheet to make sure we have enough capital under each of these scenarios on a three-year rolling window. The risk appetite is based on the capital availability on the level two stress scenario, so we set our level two in a way that is commensurate with our risk appetite."

And finally, the continued uncertainty around the new and "still not set in stone" regulations, the lack of harmonization of reforms across countries and the complexities and competitive implications of different timings of compliance across regions, are key challenges to capital management and are recurring themes throughout this report.

Impact of Basel III

Regulatory requirements are driving fundamental changes to the business

There was much discussion and speculation on the ultimate impact of the new regulations unfolding globally under Basel III. The new regulations, combined with the ongoing complications of the European debt crisis, and the continued market, macroeconomic and geopolitical volatility and instability, are creating a very uncertain time for the banking industry. Boards and senior management teams are strategically reviewing and assessing their businesses to determine how best to adapt to this "new normal" environment, and many are making some fundamental changes to how they do business. As one executive summed it up, "Basically, the business model is certainly being challenged by what is happening in the market, the regulatory environment and the political sphere." And another executive commented, "We are facing a significant challenge just to achieve technical compliance with the new rules and ratios, let alone reorient the institution for success."

The majority of firms surveyed believe the more stringent liquidity and capital requirements under Basel III will have a fundamental impact on business models, and ultimately the profitability of the industry. Many respondents believe that the higher capital requirements and key elements of the new liquidity requirements — LCR and NSFR — are placing an enormous amount of pressure on the industry. Although the timelines for introduction are quite long, there is pressure from some regulators and the market for earlier compliance. Executives predict some potentially painful consequences as a result of the new rules: returns on equity will go down, costs and leverage will have to be reduced, margins will have to go up and business models will be changed. Most agree

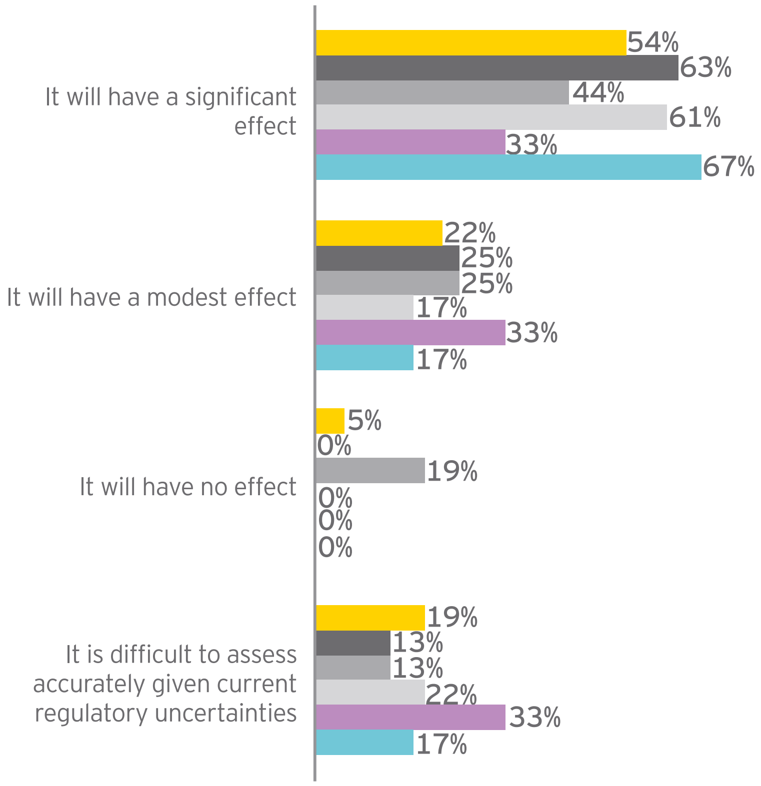


Exhibit 59

The majority overall predict LCR under Basel III will have a significant effect on the cost of doing business

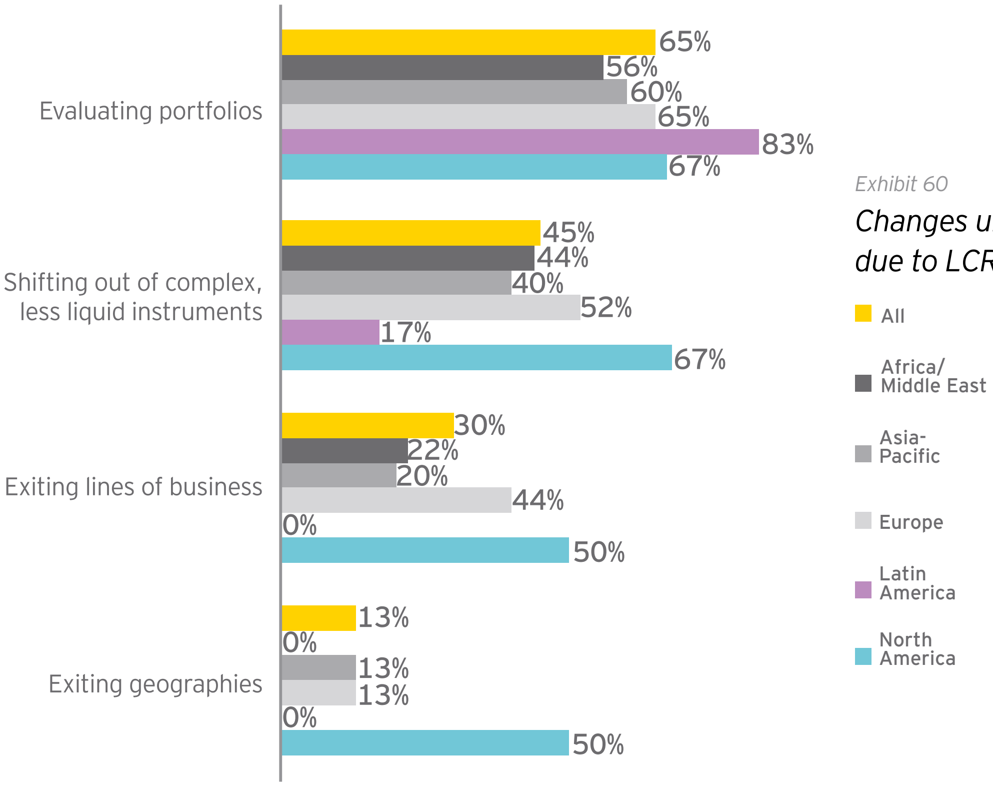


Exhibit 60

Changes under consideration due to LCR under Basel III

that complying with the new rules will require significant investment in people, technology and processes. As one executive stated, "Basel III is taking a huge amount of board and senior management time to figure out what to do, and an enormous amount of employee time and money to implement."

The majority (54%) of respondents overall and across most regions predict that the new LCR will have a significant effect on the costs of doing business (see Exhibit 59). Although a number of firms believe they will be able to increase the portion of their funding that is stable, as anticipated to be defined in the NSFR, this was not the case for all firms and all markets. There was discussion about the highly detailed classification of funding sources required by the NSFR, and many believe it is not achievable for their organizations as proposed. Even more important, there is concern about capacity to increase stable funding sufficiently in an upswing to back necessary expansion of the loan books.

Changes to business models

Firms are under way with a host of initiatives to review and adjust business models. Several executives discussed the importance of these reviews in understanding the links, interdependencies and trade-offs among segments, as well as the relative costs, profitability and strategic importance of each and the consequences of retaining them. The LCR alone is leading to the rethinking of different business areas. Sixty-five percent of firms are re-evaluating portfolios and almost half (45%) report they are shifting out of complex, less liquid instruments into a more stable asset base and more secured funding sources (see Exhibit 60).

Part of the strategy for many firms is deleveraging, which is driven by business imperatives and the Basel III regime. About a third (30%) of respondents indicated they are exiting or selling portions of their businesses to reduce the impact of the new liquidity and capital rules. Deleveraging was mentioned particularly in Europe, where the European Banking Authority has set a June 2012 deadline for the continent's firms to reach 9% Tier 1 capital levels.

Several firms (13%) have exited or are considering exiting certain countries where profitability is lower or where unfavorable regulations could trap liquidity and capital, and some are retreating back to their home countries. Several discussed streamlining legal entity structures to make regulatory changes, including resolution, capital, liquidity and tax changes, less painful. As one executive explained, "We are looking at trapped capital and liquidity based upon local regulations and adjusting our legal and operating business models to try to make us more efficient in the new world." Most agree that retail banks with rich deposit bases are better positioned to comply with the new liquidity regulations, and a few executives candidly admit they are looking for retail banks to purchase to gain the benefits of long-term deposits. Retail banks, however, are not complacent, and executives discussed efforts to raise core long-term deposits in their current markets with aggressive pricing incentives and the introduction of new products.

> *"How do you figure out how to comply with the liquidity coverage ratio? How do you deal with the net stable funding ratio? What are the changes we need to make to our business to manage all this appropriately? How can we do this on a cost-effective basis? These are the questions that are keeping us all awake at night."*

Looking beyond deposit funding, especially in countries where deposit-generation capacity may be lower than credit demand, several firms discussed the importance of diversifying into new investor bases and new markets around the world to tap into new capital and funding sources, especially given the premium put in Basel III on longer-term funding.

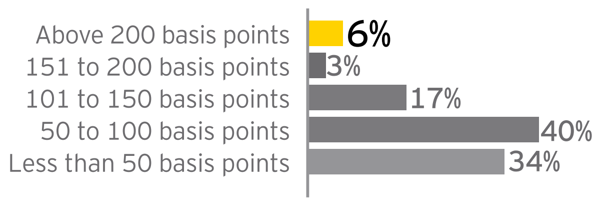
Changes in pricing to reflect the increased costs associated with Basel III were expected — as one executive commented, "Customers will have to understand that there will be extra costs involved in having a safer banking system." However, the realities of raising prices in a highly competitive market will be a constraint for many firms. Executives were asked to estimate how much they thought spreads on unsecured corporate loans would rise because of the new capital and liquidity charges. This is an area where there are clear constraints because large corporates can tap the bond markets. Fifty-eight firms answered the question and 23 said they were uncertain about the future increases in margin. Of the 35 firms that estimated the size of the effect of Basel III on margins, 65% thought the change would be significant — 40% thought that margins would increase by 50 to 100 basis points and 26% saw increases of over 100%. Respondents believe that if spreads cannot be increased, profitability will fall, leading to a cut in this business (see Exhibit 61).

There is concern that the appetite for investing in the industry has been seriously eroded by the pressures of the new regulations on costs and return on equity, and because of the enhanced risks reflected in new resolution processes as recommended by the Financial Stability Board (FSB). For example, the new capital ratios will affect many standard corporate banking products, especially those with relatively high risk weights such as unsecured corporate loans, which will face increased funding costs.

Many say investors are questioning profitability at this point in the cycle as well as the core earnings power of the industry in the future. As one executive summed it up, "If you keep putting on capital charges, at some point the question becomes, why would an investor put money into an industry where the returns are so low because of high capitalization?" According to several executives, the key is to persuade investors that bank equity is safer by improving the quality of the disclosure so that investors can rely on the published capital ratios to judge the relative strength and health of different firms. As one CRO explained their process to keep investors on board, "We have several initiatives under way to increase the transparency of our external reporting and I spend a considerable portion of my time communicating with investors, shareholders and analysts to bolster and maintain confidence in our performance." Consistent industry stress tests, that apply the same standards across different parts of the system, are believed to be an important tool to build investor confidence.

Exhibit 61

Estimates of margin increases caused by Basel III



Changes under way to comply with Basel III requirements

Business model changes

- Exiting countries based upon local regulations to avoid trapped liquidity and capital
- Exiting certain businesses, adjusting product offerings
- Readjusting legal and operating models to improve efficiency
- Purchasing retail banks to access long-term deposit bases
- Decreasing the level of degrees of transformation on the balance sheet
- Reducing complexity — branch by branch and subsidiary by subsidiary
- Shedding noncore businesses and regions to focus on core businesses
- Focusing more strictly on risk-return basis profit of the business to cover higher capital costs
- Reducing headcount

Funding changes

- Diversifying funding from depositors, investors and markets to reduce dependency on any one area
- Incentivizing longer-term deposits
- Pricing more aggressively to encourage longer-term funding
- Increasing loan pricing to reflect liquidity costs
- Derisking the sources of funding and liquidity by tapping into new markets around the world
- Building US dollar funding base by attracting funding from US corporates through wholesale and transactional services

Capital changes

- Reinvesting earnings
- Issuing convertible loan stock to give access to incremental capital subject to certain triggers in a downturn
- Offering rights issues
- Selling assets to comply with Tier 1 capital requirements
- Looking at RWA by product and geography
- Keeping shareholders, investors and analysts confident with more transparency of reporting and communication
- Improving the transparency of internal reporting
- Educating businesses to make certain capital costs are integrated into strategy and business line management

Recovery and resolution planning

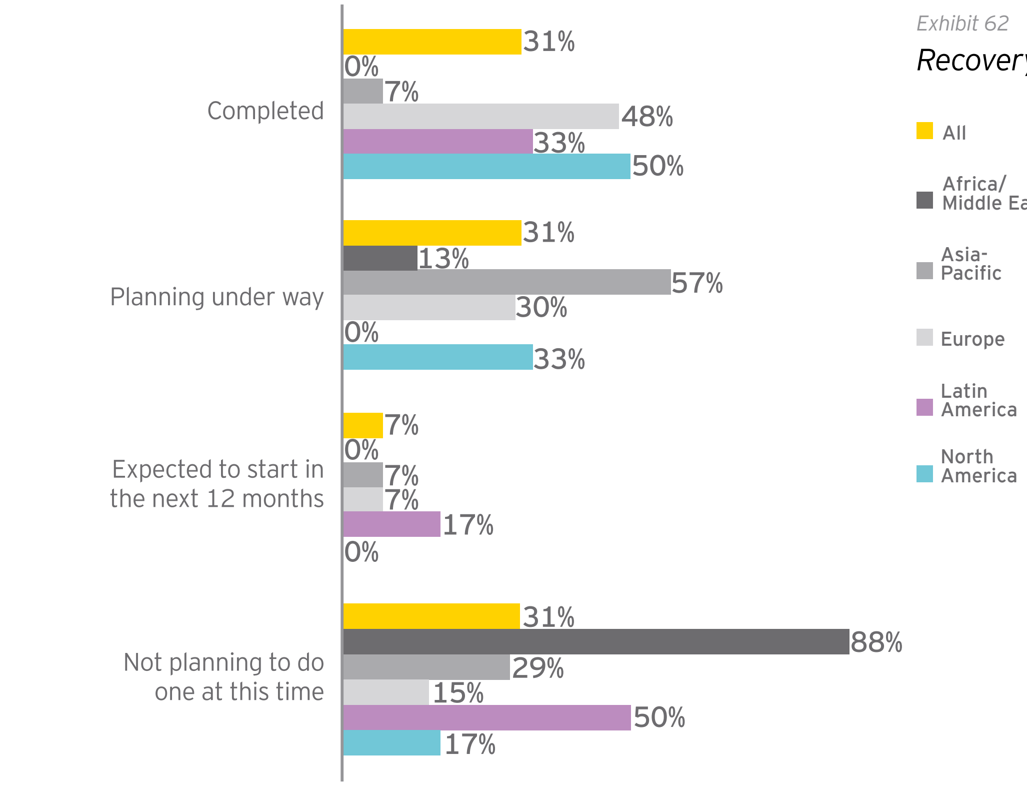
A work in progress

Recovery and resolution planning (RRP), often called living wills, is a work in progress for many of this year's study participants, with around a dozen countries having requested formal or informal pilots. Regulators have moved at different speeds, which has resulted in widely varying industry actions across jurisdictions. Nonetheless, most G20 countries have either required that their G-SIBs (global systemically important banks) submit initial RRPs to local regulators by year-end 2012, with further enhancement scheduled during 2013, or, in the case of those without G-SIBS, started to collect information and are engaging with the industry.

Recovery plans, which set out how the firm will use a series of predefined options to avoid failure, are further along in development than resolution plans. Forty-eight percent of respondents in Europe and 50% of respondents in North America report they have completed some plans (sometimes in advance of being asked to do so by regulators), along with a few firms in Asia-Pacific and Latin America. Resolution plans require firms to submit data to the authorities so they can determine how best to wind down the firm in case of failure. More than one-third (37%) of respondents reported they are under way with initial resolution plans – again, predominately firms in Europe and North America (see Exhibits 62 and 63). While a number of firms in Africa and the Middle East, Asia-Pacific and Latin America report they are not currently planning to develop RRPs at this time, executives interviewed in these countries say they expect that local regulators will soon be requiring nationally important firms to begin implementation.

Exhibit 62

Recovery planning status



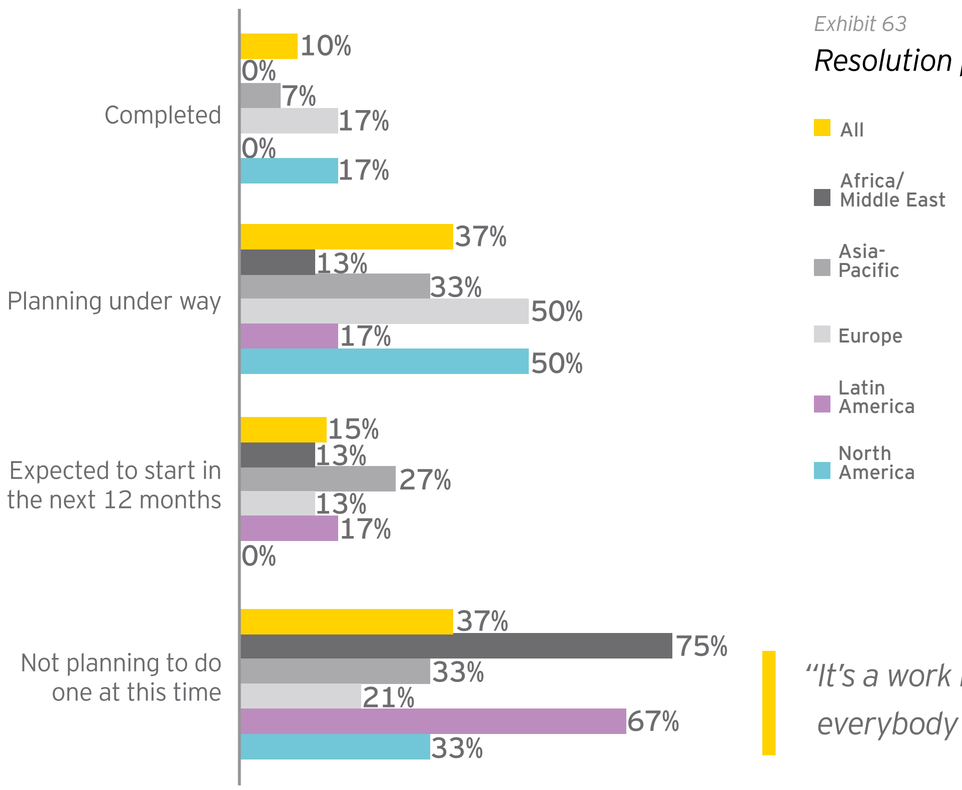
Of the firms that have completed draft recovery plans, 64% report that it took from six months to one year to complete the process; although close to one quarter (23%) say it took up to two years, including early discussions with the regulator. Of the small number of firms that have completed their part of the work on resolution plans, 80% did so within one year (see Exhibits 64 and 65)[11]; however, these are primarily pilots. While the majority of respondents listed the CRO and the risk team as the main drivers of recovery and resolution planning, (see Exhibit 66), many executives interviewed described a collaborative effort between the risk and finance teams, primarily with the group treasury function.

The process for completion and the depth and scope of content of the RRPs varies across firms studied, and several discussed the lack of clarity on requirements. One firm that has completed its resolution plan described a "370-page document, plus 20 appendices" that, according to the executive interviewed, "goes through our entire legal entity structure, assesses any impediments to severability of different businesses across the enterprise, and basically covers everything from legal and technology to accounting practices." Others described a much less detailed process. As one executive remarked, "I'm not certain any of us really know what to do, including the regulators."

Opinions on the pros and cons of completing RRPs are positive overall, particularly for recovery planning. Many believe that the recovery process is a beneficial management exercise. As one executive explained, "It seems very

Exhibit 63

Resolution planning status



"It's a work in progress because everybody is trying to learn on the job."

[11] Results reflect substantial variations of local deadlines; in many jurisdictions, plans are not required to be completed until the end of 2012.

reasonable to ponder these fundamental questions – if something happened, what businesses would we curtail or sell? What actions would we take? Where would we raise capital and liquidity? How would we communicate to our key stakeholders?" And another interviewee described a recent board discussion where everyone was encouraged to think about what they learned from the exercise and consider what they should be doing differently to simplify the legal entity structure. Several discussed the value of one of the key components of recovery plans – establishing a process and oversight responsibility to monitor and update predetermined early warning signs and triggers – which some feel remains a weakness in the industry.

A number of firms saw confidentiality issues with RRP as a whole. One executive was worried about the potential disruption to the firm and to morale if the list of businesses to be sold in the event of a recovery was somehow leaked to employees. The issue of what will be required disclosure from a securities law point of view is still being debated.

In summary, many firms are challenged with aspects of the recovery and resolution process (see Exhibit 67). As already discussed, there is confusion around expectations, and many are worried about regulators moving at different speeds and with different priorities – particularly in the UK, Europe and the US. The requirements that national authorities will impose on nationally important firms remain largely unknown, and some believe that while regulators essentially are working to achieve the same objectives, insolvency and resolution regimes will undoubtedly diverge by country. This will present major challenges to both the authorities and the firms – particularly for geographically dispersed international firms.

Many agree there is a need for clarity on the cross-border dimensions of the RRP process.[12] As one executive commented, "As an international bank, we are exposed to EU, US and national requirements. And on top of that, we are defined as a globally systemically important bank, so there are lots of demands from a variety of regulators and authorities to fulfill." Also unknown is the degree to which firms will have to change their business activities and their legal and operational structures, and the timing requirements to make these changes. And finally, many question how far things will have to go before authorities trigger a resolution.

Those firms that have completed recovery plans did so within one year

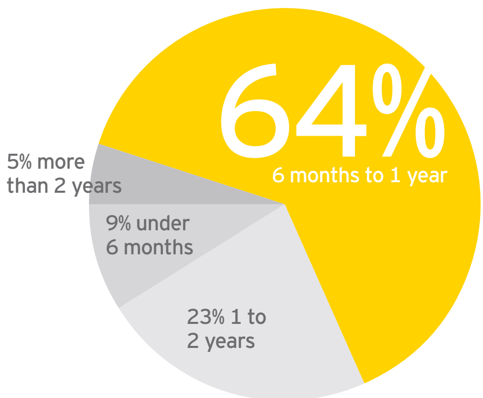


Exhibit 64: Time to complete recovery plans

Those firms that have completed resolution plans did so within one year

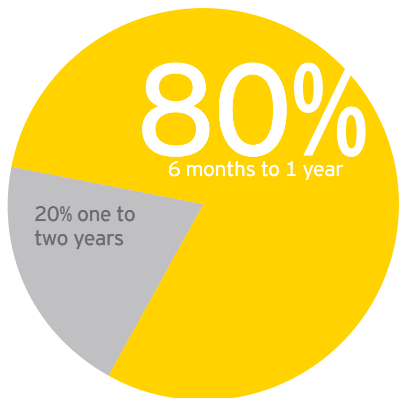


Exhibit 65: Time to complete resolution plans

[12] The IIF will publish in June an extensive report on the cross-border issues of financial institution resolution.

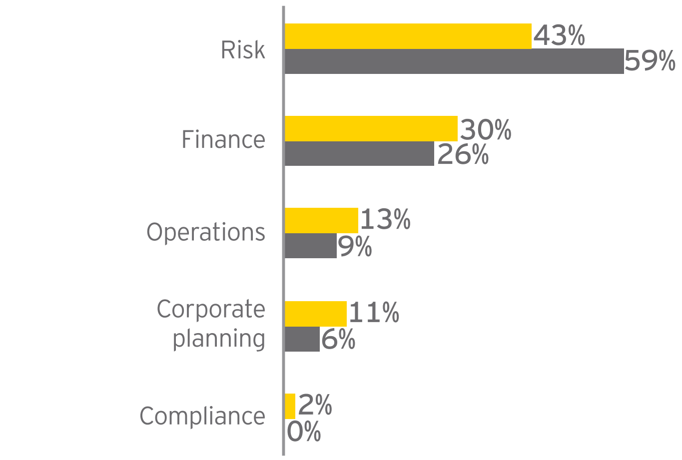


Exhibit 66

Drivers of recovery and resolution planning

Recovery planning
Resolution planning

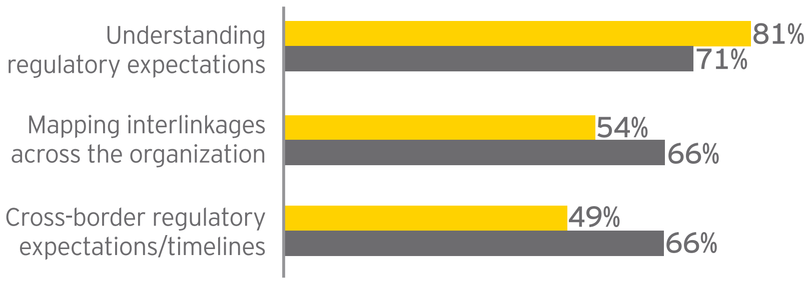


Exhibit 67

Top challenges to recovery and resolution planning

Recovery planning
Resolution planning

Internal transparency, data and systems

Firms are investing substantially in data and systems upgrades

Internal transparency of information has repeatedly been mentioned throughout this report as a critical aspect of risk management. Whether establishing a strong culture, embedding a risk appetite or effectively managing liquidity and capital, senior management needs timely, accurate data and holistic reports, aggregated across businesses and geographies to make appropriate decisions and monitor results. Particularly in today's dynamic regulatory and economic environment, visibility and access to the right information across the organization has become a strategic imperative.

Improving internal transparency of information is an ongoing initiative for most study participants. Forty-two percent report that post-crisis they have significantly enhanced transparency in internal controls across their organizations, and another 44% report moderate enhancement (see Exhibit 68). As one executive described their improvements, "All information on risk, return, performance, audit and control is now readily available to any who need it, including the board. That was definitely not the case in 2007." While progress is indeed under way for the majority of firms, systematically improving transparency is an enormous multiyear investment of management time and resources.

"It is a permanent challenge to have the right information and tools to manage a complex organization. But it is not only to please the regulators. We need to have quality, integrated and timely data to effectively manage risk throughout the enterprise."

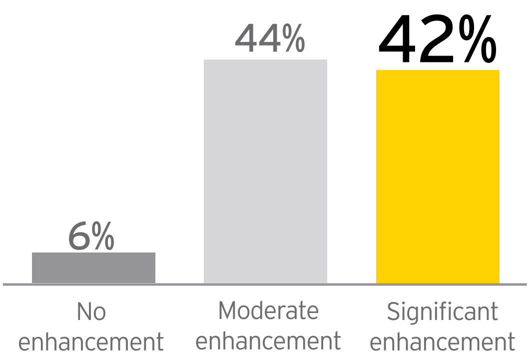


Exhibit 68

Enhancing transparency is a work in progress

The firms interviewed are predominately focused on driving improvements in four critical areas:

1. **Upgrading economic capital models and metrics to measure risk.** Sixty-eight percent of respondents overall indicated they have made changes to their economic capital models in the past 12 months to increase risk sensitivity and transparency. As we have discovered in other areas of risk management discussed in this report, those firms that were severely impacted by the 2008 crisis have made the most changes, with 87% reporting adjustments to their economic capital models this year (see Exhibit 69).

   Many respondents agree that the models in place before the crisis often underestimated the size and risk of some exposures, particularly across business units. Correlations were far too optimistic and models ignored risk types that proved to be at the center of some of the pressure during the crisis. Some of the most prominent changes to economic capital models have been: adjusting correlations to reduce diversification benefits; adding in risks not in VaR and business risk; and consolidating risks across the group.

   Executives report progress on transparency in several areas as noted in Exhibit 70. Stress testing and stress VaR have been the top two areas of improvement, followed by counterparty risk, liquidity of positions, risks not in VaR, valuation uncertainty, and notional or gross positions.

2. **Improving data aggregation, accuracy and quality.** Data and systems vied for the top spot on the challenges to internal transparency, and many initiatives are under way to improve the data management and data infrastructure of the organization. Some firms are reviewing and revising the

Exhibit 69

Changes to economic capital models by impact of the financial crisis

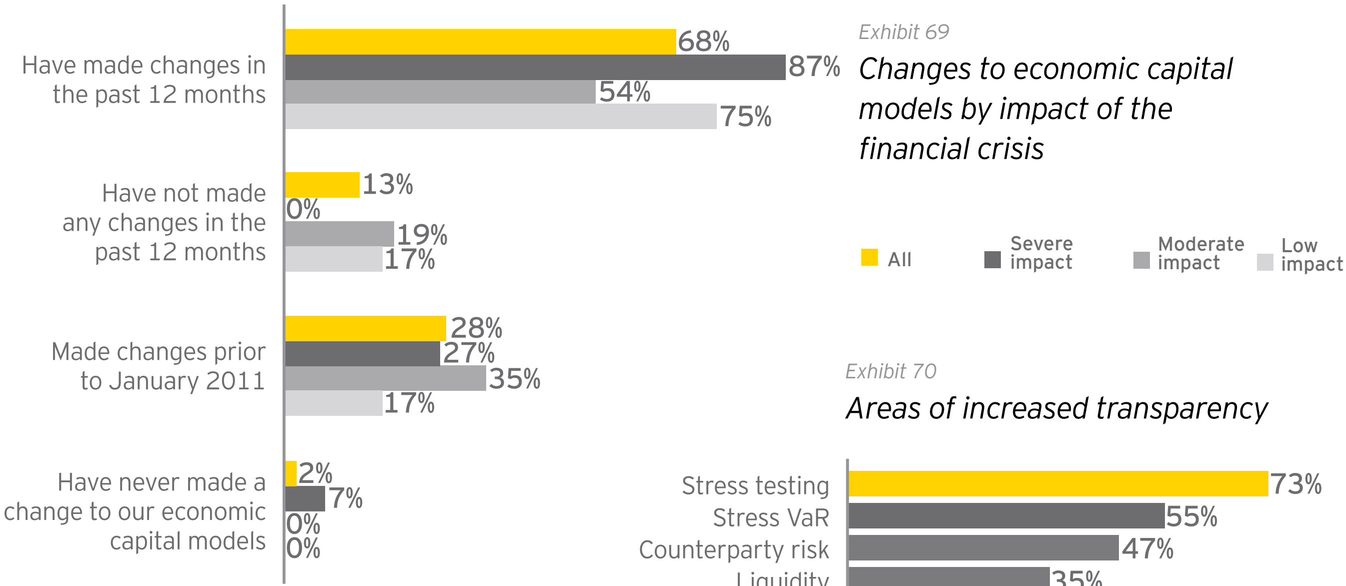
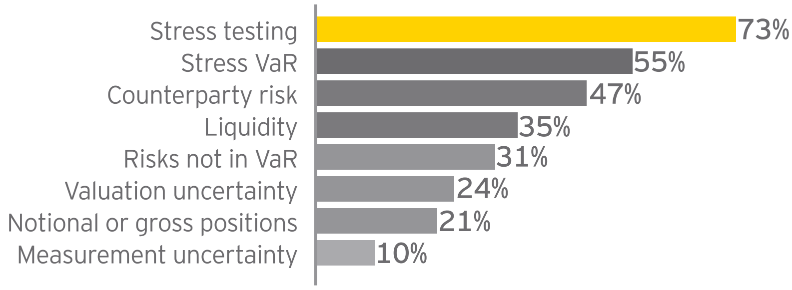


Exhibit 70

Areas of increased transparency



overall life cycle of risk information to improve the underlying data quality, including its governance, data acquisition, analytics and reporting infrastructure. Data aggregation is a particular challenge for many study participants. Extraction and aggregation of key data from multiple siloed systems and applications is difficult – particularly for firms that have grown through mergers and acquisitions.

However, several interviewees described significant advancements in consolidating data across their organization. One executive detailed a "huge multiyear effort" to automate aggregation, cleanse data and automate stress testing and liquidity management. Another CRO discussed establishing local data warehouses for major legal entities that are connected to a central data warehouse. As he explained the benefits of their process, "We have automated feeds in our central database and do not need separate aggregated data deliveries from each entity. We can check data quality at a very early stage to correct it early and make the data available for reporting purposes earlier." And another interviewee summed up their effort, "We are now in the seventh inning of data aggregation. Two years ago we were in the first inning. Our information is accurate and reconciled with fewer systems."

However, while data consolidation is progressing, several executives indicated they are still challenged by the quality of the data and the ability to assess the correlation effects on an integrated basis.[13]

3. Streamlining reporting. All agree that reliable, thorough and timely information is in high demand by both the senior management team and the regulators. Several described efforts to deliver "15 to 20" streamlined daily reports tailored for specific people, and one firm discussed the development of a high-level, more simplified dashboard for the senior team. In separate studies conducted by Ernst & Young in 2008 and 2009, only 9%

Time to aggregate counterparty exposure across business lines improving, but slow for many

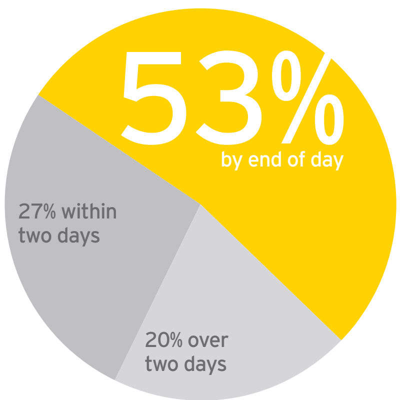


Exhibit 71: Time to aggregate counterparty exposure

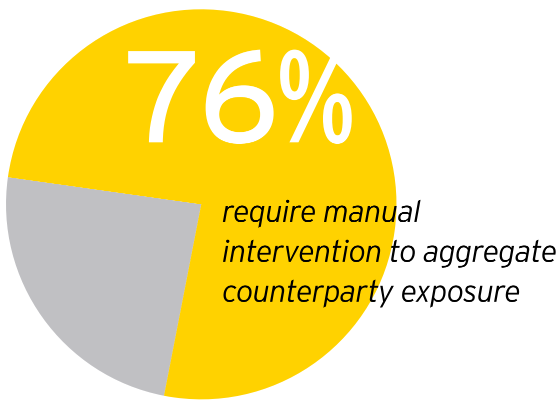


Exhibit 72: Effort to aggregate counterparty exposure

[13] The details of the challenges associated with data and systems, and some principles and recommendations for addressing them, were explored in more detail in the 2011 IIF-McKinsey report on *Risk IT and Operations: Strengthening Capabilities*. The Senior Supervisors Group (SSG), the Joint Forum and the FSB have also touched on the issue of firms' data aggregation capabilities. The FSB report on *Intensity and Effectiveness of SIFI Supervision* (October 2011) outlined five fundamental principles for data aggregation. The Basel Committee on Banking Supervision (BCBS) has been mandated to develop detailed and practical guidance of these expectations, which SIFIs are required to comply with by 2016.

of respondents in 2008, and 29% in 2009, reported they had an enterprise-wide risk reporting process in place in their organizations. While the reporting process is improving in many organizations, persistent problems still cited run the gamut from poor data quality, to gaps in data flow from system to system, to the sheer volume of data, which can result in "phone-book-sized" reports that are not relevant or useful. Executives agree that data aggregation is only the first hurdle; the more difficult step is reviewing, analyzing and synthesizing the reports to understand the correlations and interrelationships across the organization.

Many firms, at considerable cost, have been working toward end-of-day mark-to-market for some time, but the ability to aggregate counterparty exposure across different business lines remains an important area for investment. Fifty-three percent of respondents, primarily smaller size firms, indicated that they can aggregate counterparty exposure across business lines by end of day, up from 37% in the IIF/EY 2011 study. Twenty-seven percent report it takes two days, and 20% report much longer processes (see Exhibit 71). A substantial portion (76%) of firms surveyed require manual intervention to aggregate

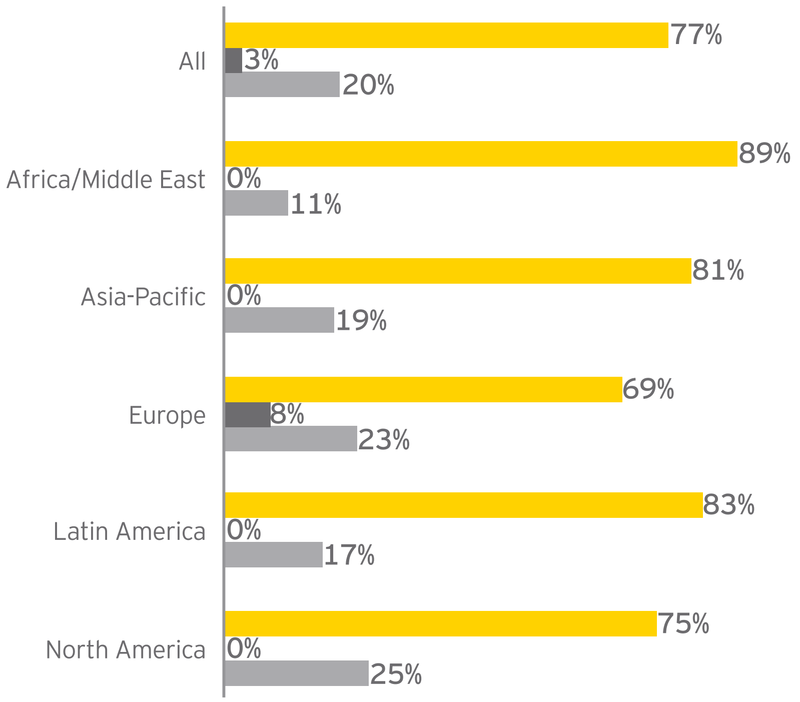


Exhibit 73

The majority report increase in IT spend post-crisis

The percentage of spending increase post-crisis varies

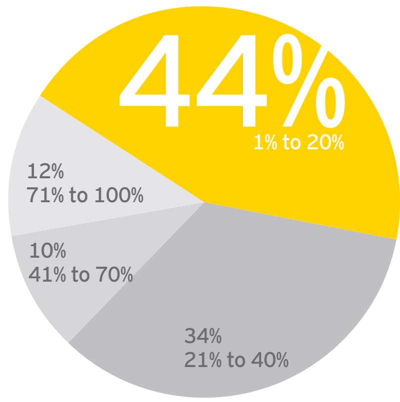


Exhibit 74: IT spend post-crisis

counterparty exposure, which is a slight improvement from 81% in the 2011 study (see Exhibit 72).

4. **Investing in systems.** It is not surprising that investment in IT upgrades to meet regulatory demands has been substantial for all study participants across regions. Seventy-seven percent report an increase in IT investment post-crisis, with 78% reporting spend increases of up to 40% (see Exhibit 73 and 74). And most (63%) anticipate the investment in IT to continue for at least the next two years, with the majority anticipating up to a 20% increase in spend (see Exhibit 75 and 76). As Exhibit 77 indicates, most firms report that work across a range of initiatives is under way. Not unexpectedly given the new Basel III requirements, the top three IT initiatives reported relate to supporting improvements in liquidity and capital management and strengthening internal stress testing processes. Other systems initiatives include: aggregation of group/firm data; convergence and reconciliation of risk and finance data; capture of exposures across the group to single entities; and support of both collateral management and recovery and resolution planning.

In summary, a significant number of multiyear initiatives are under way to improve the aggregation and quality of data and systems needed to meet regulatory demands and support risk governance. But these efforts take an enormous amount of management time, money and resources. Several expressed frustration about the lack of coordination and consistency in regulatory information requirements across jurisdictions, and one executive commented on the challenges of "building systems to support businesses that we may no longer be in." Several questioned the true value of the new regulations from a risk governance perspective. As one executive commented, "We need to gather and analyze information for the regulators and we need to gather and analyze information to manage the business – and they are not always the same thing."

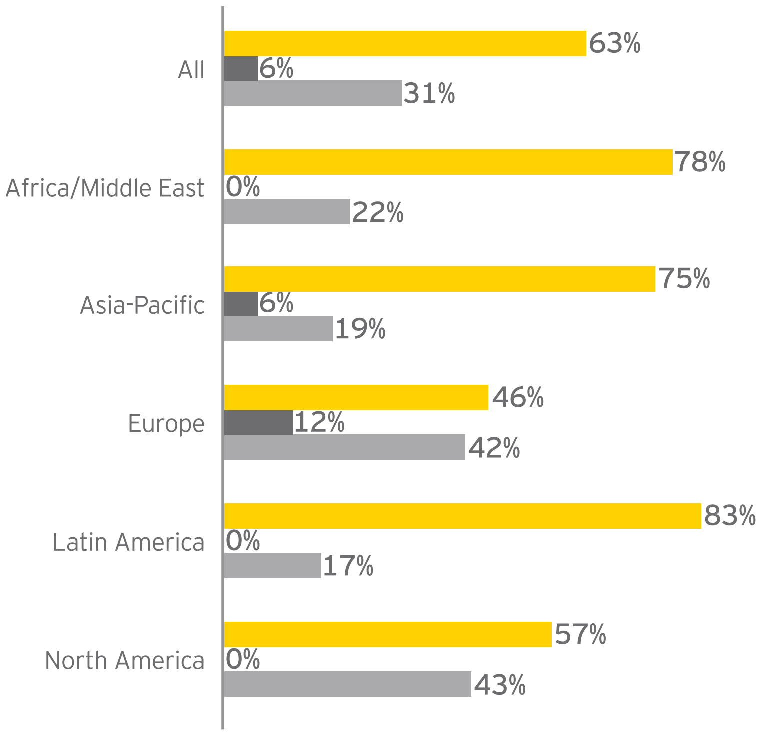


Exhibit 75

The majority predict increase in IT spend over the next two years

Increase　Decrease　No change

Most predict a percentage increase in IT spend up to 20%

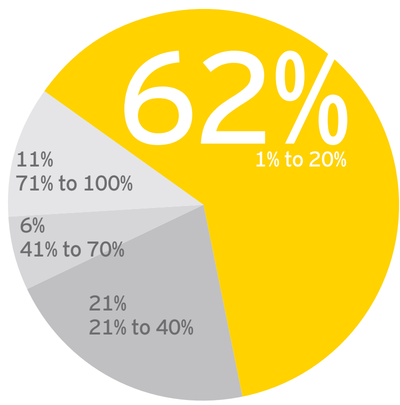


Exhibit 76: IT spend over next two years

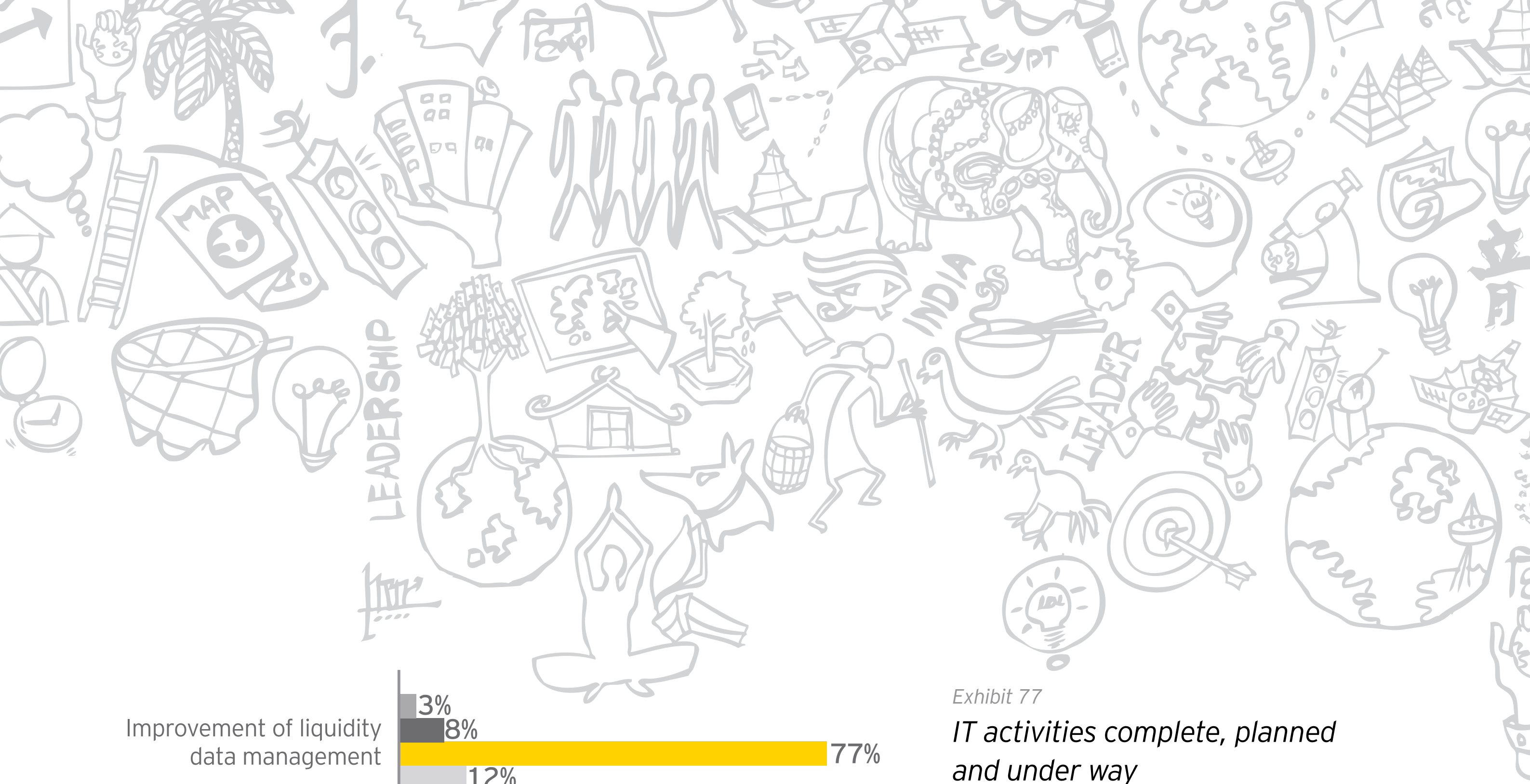
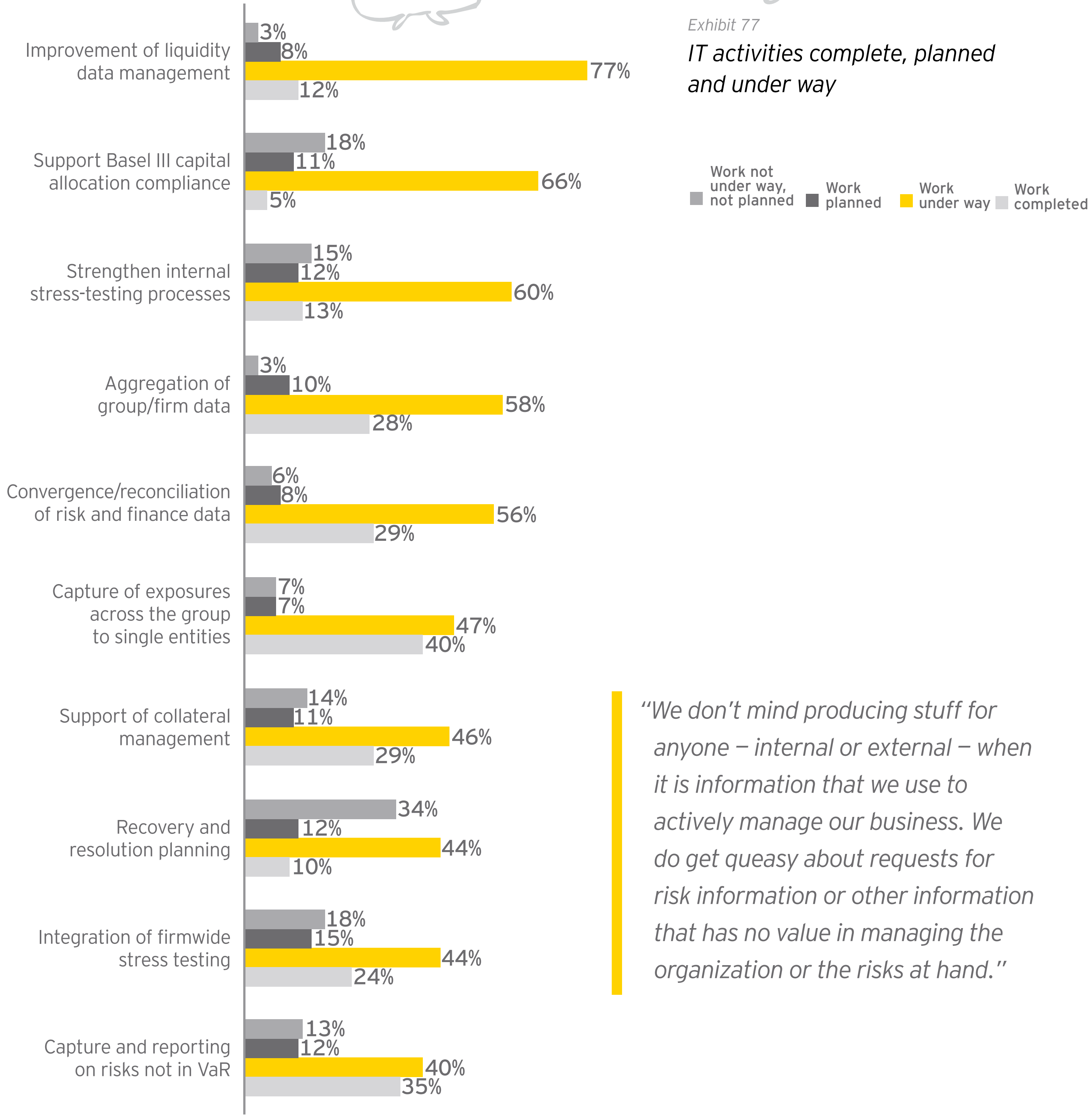
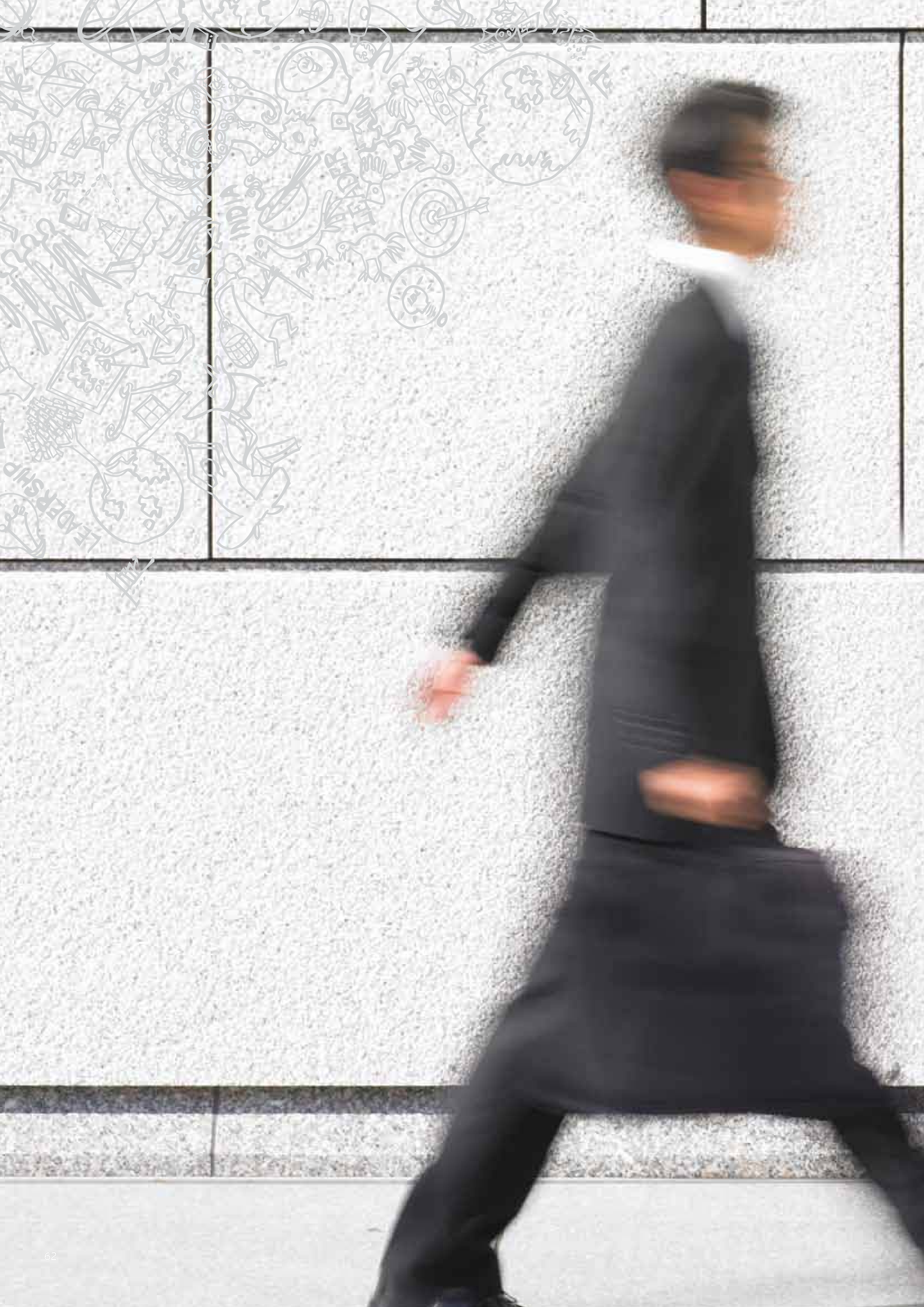


Exhibit 77

IT activities complete, planned and under way



> *"We don't mind producing stuff for anyone – internal or external – when it is information that we use to actively manage our business. We do get queasy about requests for risk information or other information that has no value in managing the organization or the risks at hand."*



Conclusion

Progress has been made but more needs to be done

The industry has made considerable progress in addressing the weaknesses in risk management exposed by the financial crisis. The results of the last three annual surveys on risk management conducted by the IIF and Ernst & Young demonstrate that substantial reform initiatives are being implemented in many institutions, particularly those most affected by the crisis.

Risk governance structures in particular have undergone significant change since the crisis. Boards of directors are now playing a prominent role in setting organizational risk policies and parameters and are spending more focused time on risk issues. The power and influence of the CROs and their teams has been elevated and CROs are now actively participating in diverse areas of the business, including strategy and planning, risk appetite development and management, product development and compensation.

Firms made clear they have learned the liquidity lesson from the crisis, and many are strengthening the management and control of liquidity risk. Many firms have reassessed their capital structure across all of the businesses to more appropriately analyze the costs of capital, and to determine how those costs are calculated and allocated to each business to more accurately reflect risk. Firms also reported considerable progress in the development and strategic use of stress testing. New, more sophisticated models have been put in place to provide a holistic view of potential risks and their impact on the entire organization. Many have made changes to their economic capital models and have added new metrics to increase transparency and more realistically assess and measure the size and riskiness of exposures.

Despite impressive progress, there is still much to be done to change and fully embed new methodologies and processes. Risk appetite, which post-crisis emerged as a critical foundation of the risk management process, remains a key challenge for many firms. While most have established an enterprise-wide appetite, many have not yet been able to effectively cascade it down into the operational levels of the organization and embed it into decision-making. Data and systems are persistent impediments to risk management; while many are investing substantial time and resources in initiatives to improve data aggregation to support liquidity and capital management and strengthen internal stress testing processes, it will be many years before these upgrades are operational. And finally, the changes required to institute a strong risk culture — where risk is everyone's business, from the board to the front line — are fundamental and far reaching for many organizations. Shifting the cultural mindset is a long-term change initiative requiring ongoing commitment of senior management time and resources to institutionalize, and executives admit they still have substantial work to do in this area.

As discussed throughout the report, the changes to risk management are taking place against a backdrop of global issues — continuing economic pressures in the US and Europe, the European sovereign debt crisis and a fast-changing regulatory environment. The scope, timing and potential impact of the still-evolving global and national regulatory reforms are driving fundamental changes to the business. The combination of higher capital and liquidity buffers proposed under Basel III and a continued weak economy is changing the economics of many businesses. Boards and senior teams are spending an enormous amount of time strategically reviewing, assessing and in some cases fundamentally reshaping their businesses to adjust to the new regulatory landscape. Some CROs expressed concern that the enormous amount of time and resources being devoted to compliance, coupled with the intense pressure to find new ways to remain profitable, will cause management to "take their eyes off the risk management ball." As one executive commented, "Balancing growth with risk is the challenge — we must do what we can to facilitate sustainable growth without compromising risk standards."

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