



Risk appetite in the financial services industry

A requisite for risk management today



While the concept of risk appetite existed before the global financial downturn, the benign economic conditions that existed at the time gave firms little reason to focus on it. Certainly, it was not as widely used in the industry as it is today and the related terminology was not as common.

Prior to the downturn, there was a general sense of comfort among the financial services industry firms around levels of risks assumed and how the desired levels of risk were articulated. But analysis of these financial events conducted by the regulatory community and industry leaders revealed that, in addition to enhancements to risk management practices, risk culture, and governance, significant improvements were also needed with respect to how firms defined and communicated their risk appetite.

For the purpose of context setting, this paper provides a brief recap of the evolution of the risk appetite concept in the banking industry. Our main focus, however, is the practical application of the risk appetite framework to help board members and senior business and risk executives drive the implementation of such a framework at their institutions.

In 2009, the Senior Supervisors Group (SSG), which is composed of the senior financial supervisors from seven countries,¹ changed the dialogue on risk appetite by publishing a report evaluating certain prevalent risk management practices and their effectiveness. In this report, the SSG identified the “failure of some boards of directors and senior managers to establish, measure, and adhere to a level of risk acceptable to the firm” as one of the key areas that required further work and improvement.² In 2010, the SSG conducted and released an additional study that focused on the state of risk appetite and issued a series of recommendations. In response, the Financial Stability Board (FSB) conducted a peer review of governance practices,³ published in 2012, which identified a need for development of guidance on key elements of an effective

risk appetite framework. The FSB has in turn developed “Principles for An Effective Risk Appetite Framework,” which were published in November 2013.⁴

Today, the importance of implementing a board-approved risk appetite and framework is clear — in addition to being a direct link to the formulation of corporate strategy, it is also a key element of effective risk management, governance, and risk culture. It is now also a U.S. regulatory expectation, as evidenced by the risk limit requirements outlined in the U.S. Federal Reserve’s Enhanced Prudential Standards (EPS).⁵ Given these higher regulatory expectations, many boards are engaging more deeply in risk governance.

After the downturn: Industry and regulatory response

Close evaluation of the origins of the turmoil of the last several years has underscored the critical importance of effectively managing risk. It has also reinforced the benefits that a properly articulated statement of risk appetite and related framework can provide:

- A clear articulation of the business activities a firm is willing to engage in and the levels of risk it is willing to assume
- An understanding of all material risks taken by the firm, both at the business unit level and in aggregate
- A foundation for communication among internal and external stakeholders, as use of firm-specific language promotes shared understanding of terminology and enhances risk culture
- A framework for formulating strategic and tactical business decisions
- A means to engage the board of directors in improving risk governance and discussion of risk from a strategic point of view
- Ability to measure, monitor, and adjust, as necessary, the actual risk positions against expressed risk appetite and facilitate communication to key stakeholders

As a result, it may come as no surprise that regulators have set new expectations for risk management and, specifically, risk appetite frameworks, including the content of the risk appetite statement and the level of rigor with which it is communicated and monitored across firms. (A more detailed overview of the evolution of the regulatory and industry response to risk appetite after the downturn is provided in the Appendix.)

¹ The SSG includes senior financial regulators from United States, Canada, France, Germany, Japan, Switzerland, and United Kingdom.

² Senior Supervisors Group Report titled “Risk Management Lessons From The Banking Crisis of 2008,” October 21, 2009.

³ “Financial Stability Board: Thematic Review on Risk Governance, Peer Review Report,” February 2013.

⁴ “Financial Stability Board: Principles for An Effective Risk Appetite Framework,” November 2013.

⁵ Enhanced Prudential Standards for Banking Holding Companies and Foreign Banking Organizations, Final Rule by the Federal Reserve System. 12 CFR Part 252, Regulation YY, February 2014.

Perspective

Based on the results of the Deloitte Touche Tohmatsu Limited (DTTL) "Global Risk Management Survey,"⁶ risk appetite:

- Is an integral and critical component of an Enterprise Risk Management framework and is an important governance tool
- Provides guiding principles for management in evaluating strategic and investment activities and facilitates tactical decision-making across the organization in a transparent way
- Provides a means to connect, enhance, and integrate strategic planning, capital planning, and stress testing processes
- Provides a consistent view of risk across the organization and of key stakeholders at a sufficient level of granularity to be meaningful
- Enhances the risk culture of the organization

In addition, the survey found that more work was needed to further improve many financial institutions' risk appetite practices. For example, specific areas where risk appetite practices could be strengthened include:

- Incorporating all applicable financial and non-financial risks facing the organization into the risk appetite statements
- Communicating the risk appetite clearly among key stakeholders, such as boards, senior management, and line management
- Actively using risk appetite by the businesses in day-to-day risk decisions, such as transaction origination, and monitoring the aggregated risk profiles against the defined risk appetites on an ongoing basis
- Further connecting risk appetite with capital planning and stress testing
- Driving a greater alignment of the risk management expertise with new business and product development

While much has been written on the importance of defining risk appetite and establishing risk appetite frameworks, the practical application of both is the emphasis of this paper. The heightened focus on the topic validates the need for a clearly defined board-approved risk appetite statement and a risk appetite framework that provides a forward-looking view of risk, both of which are communicated, understood, and monitored throughout an organization. These are key elements of effective risk management. In addition, risk appetite should be considered a key component of business strategy setting.

Defining risk appetite

As regulators and the industry take a closer and harder look at risk appetite, the definitions of risk appetite and related concepts need to be clarified. There is not one single authoritative definition of risk appetite, for example. However, there are commonalities across definitions offered by key regulatory and industry standard setting bodies. In its consultative document, "Principles for An Effective Risk Appetite Framework," the FSB sets out to establish common definitions "to facilitate communication between supervisors and financial institutions, as well as within financial institutions."⁷

Risk appetite

The FSB defines risk appetite as "the aggregate level and types of risk a financial institution is willing to assume within its risk capacity to achieve its strategic objectives and business plan."⁸ The SSG definition is similar, yet somewhat more detailed: "Risk appetite is the level and type of risk a firm is able and willing to assume in its exposures and business activities, given its business objectives and obligations to stakeholders. Risk appetite is generally expressed through both quantitative and qualitative means and should consider extreme conditions, events, and outcomes. In addition, risk appetite should reflect potential impact on earnings, capital, and funding/liquidity."⁹

⁶ "Global Risk Management Survey, Eighth Edition: Setting a higher bar," Deloitte Touche Tohmatsu Limited, 2013.

⁷ "Financial Stability Board: Principles for An Effective Risk Appetite Framework, Consultative Document," July 17, 2013.

⁸ "Implementing robust risk appetite frameworks to strengthen financial institutions," International Institute of Finance, June 2011.

⁹ "Observations on Developments in Risk Appetite Frameworks and IT Infrastructure," Senior Supervisors Group, December 23, 2010.

As an emerging practice, some firms use not only an upper risk appetite limit but also a lower risk appetite limit, providing a range of desired risk taking. The use of a range of desired risk taking expands the application of risk appetite from a risk control concept to one that also incorporates strategic risk taking. In practice, for some risks the firms may not have set a lower risk appetite limit (e.g., in particular, for operational and other non-financial risks where a lower limit may not be considered useful).

There are several key concepts closely related to risk appetite that we would like to highlight.

Risk capacity

Risk appetite should reflect constraints due to “risk capacity,” which is management’s assessment of the maximum amount of risk that the firm can assume, given its capital base, liquidity, borrowing capacity, regulatory standing, and other factors. It can also be described as a measure for defining how much risk an organization is able to bear in order to achieve its strategic objectives, while still continuing to do business safely and without damage to the enterprise. The FSB has defined risk capacity similarly as “the maximum level of risk the financial institution can assume given its current level of resources before breaching constraints determined by regulatory capital and liquidity needs, the operational environment (e.g. technical infrastructure, risk management capabilities, expertise) and obligations, also from a conduct perspective, to depositors, policyholders, shareholders, fixed income investors, as well as other customers and stakeholders.”

Risk tolerance

There are several definitional and usage variations in the marketplace, such as:

- The maximum level and type of risks at which a firm can operate and remain within constraints of capital as well as obligations to stakeholders (SSG 2010 report)
- The levels of variation the entity is willing to accept around specific objectives
- Amounts of acceptable risk as they relate to individual risks or groups of risk

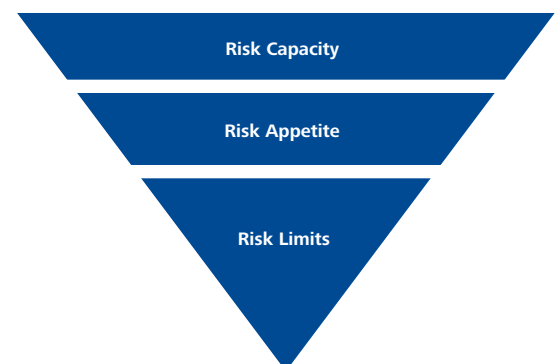
- The amount and type of risk an organization is able and willing to accept (i.e., risk appetite) with respect to unrewarded risks (e.g., operational, reputational, etc.)
- Risk tolerance being synonymous with risk appetite
- Not used in the risk appetite framework at all

Risk limits

Risk limits can be defined as amounts of acceptable risk (measures and thresholds) related to specific risks or to the specific level or unit of the organization for which they are defined. The FSB has defined limits as “quantitative measures based on forward looking assumptions that allocate the financial institution’s aggregate risk appetite statement (e.g. measure of loss or negative events) to business lines, legal entities as relevant, specific risk categories, concentrations, and as appropriate, other levels.” A limit system may include hard limits not to be exceeded in accordance with policies or “triggers”/ “warning indicators,” meaning that action or further analysis is required. For example, when a particular risk appetite measure is within 20 percent of the hard limit, further review by the risk management function may be needed.

Through the use of the concepts of risk capacity, risk appetite, and risk limits, the various components of the risk appetite framework are defined. Thus, risk tolerance is not depicted as a separate concept in Figure 1. However, individual firms may choose to use their own definitions. What is most important is that the terms that are used within the risk appetite framework are clear and consistent.

Figure 1. Hierarchical approach to risk appetite concepts



Establishing risk appetite statements

The following are steps and guiding principles to consider when developing and establishing effective risk appetite statements:

- **Begin with the overall strategic objectives**

It is critical that thinking about risk appetite begins with looking at the mission, vision, value drivers, and strategic objectives of the organization, which have been approved by executive management and the board of directors. This could include the types of business activities, products, and geographies the organization desires to engage in. The initial risk appetite statement should be closely aligned with the business strategy. Going forward, operating plans should be established within the defined risk appetite. The assumptions underlying the operating plans and related scenario planning, as well as the types of risks that the organization is willing to bear, should be specified. Should the strategy of the organization change, its appetite for risk should be revisited as well.

- **Engage the right stakeholders early**

One of the critical success factors for developing an effective risk appetite statement is early engagement of the right stakeholders in the organization, namely the strategic planning, risk management, and finance departments, as well as close collaboration with the business units.

The board should also play a key role in providing upfront input into the development of the risk appetite and, ultimately, in approving it. Given the increased focus on risk oversight, boards appear to have specific views on risk and risk-taking activities and are asking for more of the “right” information.

- **Ground risk appetite in risk capacity**

Consider the key constraints within which the organization can pursue its strategic objectives. Risk capacity is commonly based on financial constraints, such as available capital, liquidity, or borrowing capacity. However, certain qualitative constraints, such

as regulatory standing, risk management capability, or reputation/brand capacity should also be considered. Risk appetite should be less than the risk capacity and there should be a sufficient buffer based upon the overall corporate risk profile and investor and other expectations.

- **Develop a board-approved risk appetite statement**

The top-level enterprise-wide risk appetite statement should be approved by the board of directors. It should then be translated to lower levels of the organization (such as lines of business or legal entities) via specific limits. The board-approved risk appetite statement typically begins with linkage to its mission and business strategy and the overall risk philosophy. It is then supported by a series of qualitative and quantitative risk appetite statements. The quantitative statements should have thresholds and be measurable; the qualitative statements should be observable. The statement should articulate the desired balance between the key risk objectives (e.g., target debt ratings, earnings volatility, capital adequacy, etc.) and profitability objectives (Return on Equity (ROE), Risk Adjusted Return on Capital (RAROC), etc.).

According to the initial SSG report on the observations of risk management practices during the market turbulence¹⁰ preceding their 2009 report, one of the lessons learned from the downturn was the firms that used multiple measures of risk tended to “avoid significant unexpected losses” more than those that focused on a single metric or a few key metrics. Therefore, it is important that the risk appetite statement covers multiple dimensions of risk.

Additionally, risk appetite should be considered dynamically under different scenarios or stress cases. The use of stress testing for establishing risk appetite provides a significant value by making risk appetite potentially more forward looking. For multiple views of risk appetite, risk limits can be set for base case and stress case scenarios.

¹⁰ Senior Supervisors Group Report titled “Observations on Risk Management Practices during the Recent Market Turbulence,” March 6, 2008.

For example, as a starting point, an organization may begin with a desired credit rating (e.g., Moody's Aa rating) and break it down further into factors that drive the credit rating. For an Aa rating, the organization would have to remain well capitalized at a desired confidence level, so it would set appropriate ranges to its capital ratios (Tier 1 Common Ratio, Total Capital Ratio, leverage ratio, etc.) under base and stressed scenarios. As part of this process, regulatory expectations should be considered. For example, in the recent U.S. regulators stress testing guidance,¹¹ the regulators set a minimum five percent requirement on Tier 1 Common Ratio after a nine-quarter forward pro-forma stress test. Having determined the target capital ratio range and given its current capital structure, the organization can translate that into the maximum amount of loss that it can sustain before breaching the lower end of the range at a desired confidence level for the desired rating. Similarly, the organization would set targets for its asset quality, funding, and profitability that are commensurate with its desired credit rating.

- **Formalize and approve risk appetite statement**

After the organization has formalized its statement of risk appetite, the board reviews it, offers additional input as needed, and approves it. The Federal Reserve's EPS rule reinforces the regulators' expectations for the risk committee's role in approval of the firm's risk policies and overseeing the risk management framework.¹²

Determine external communication strategy

Some organizations are beginning to disclose information about their risk appetite statements to shareholders and the public as a way to "signal" their risk management philosophy and position. Amid increasing calls for transparency and accountability, organizations that go the extra mile to openly disclose their risk appetite and limits may achieve higher ratings and attract investors by reassuring the outside world that they have robust risk management frameworks in place.

Developing the risk appetite frameworks

Defining risk appetite framework

Risk appetite can potentially serve as a key guiding approach for strategy, business decisions, and risk taking for a company. The risk appetite identifies acceptable types and amounts of risk. The risk appetite framework can shape the organization's risk culture and provide the means to assess the level of risk taken relative to targeted amounts of risk.

The risk appetite statement is only one element of an effective implementation of risk appetite. Consideration should also be given to the risk appetite framework, which can be defined as a structured approach to governance, management, measurement, monitoring, and control of risk.

Three key principles and success factors as outlined by the SSG for the risk appetite framework¹³ include:

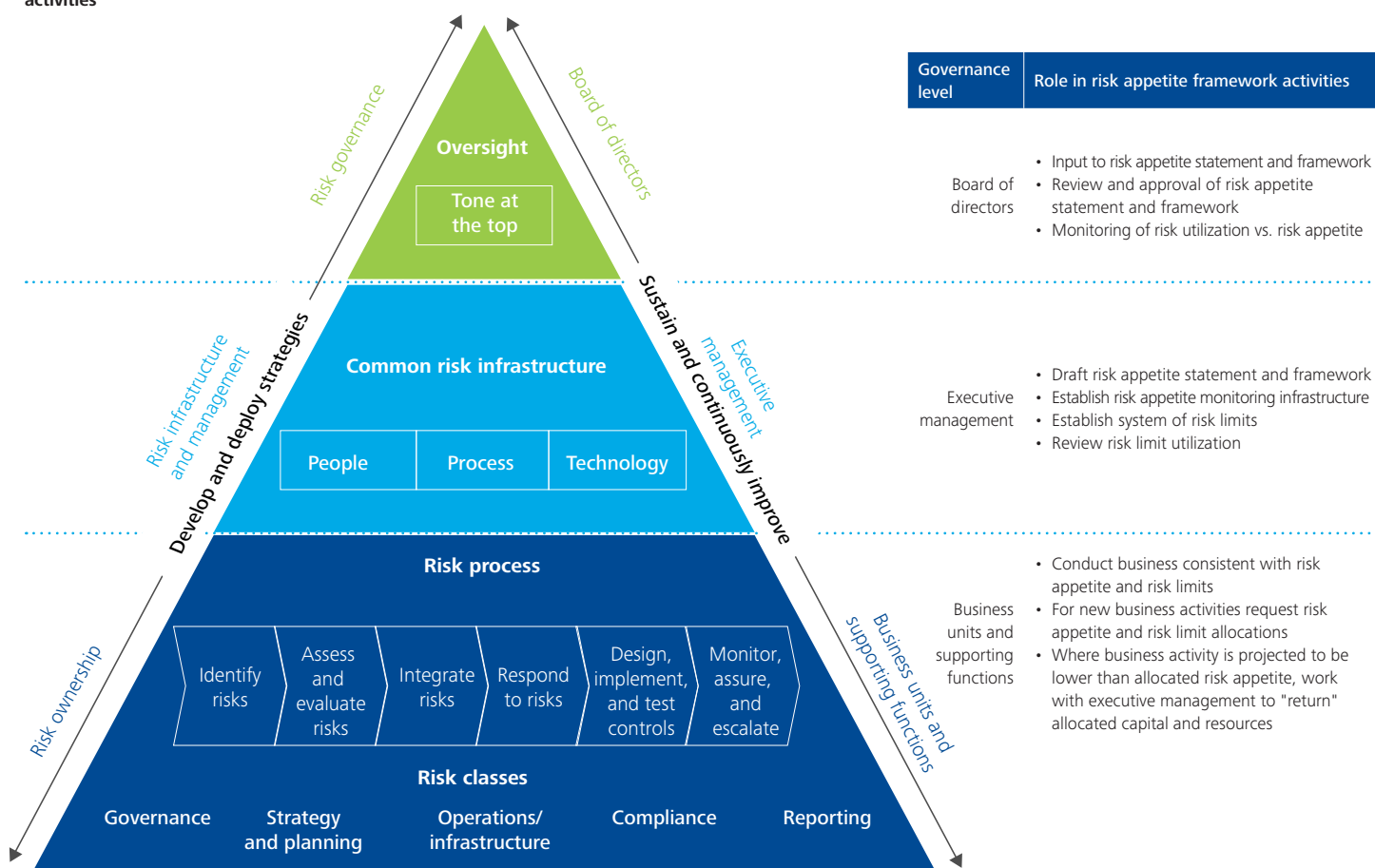
- Risk appetite should be aligned to strategy and considered a forward-looking view of an organization's desired risk profile in a variety of scenarios
- Board and senior management should be actively involved, and strong accountability structures and clear incentives and constraints should be in place
- Risk appetite statements should be operationalized through use of the right level and type of information, fostering strong internal relationships, and establishing risk limits with actionable input for risk/business managers

Additionally, regulatory and industry perspectives agree on the following in order to establish an effective risk appetite framework: the need for a strong risk culture and "tone at the top"; linkage among the strategy, business plans, and risk appetite; collaboration between risk management, finance, strategy, and business units; and the regular assessment of the organization's risk profile against risk appetite.

¹¹ Federal Reserve Bank: "Supervisory Guidance on Stress Testing for Banking Organizations with More Than \$10 Billion in Total Consolidated Assets," May 14, 2012.

¹² Enhanced Prudential Standards for Banking Holding Companies and Foreign Banking Organizations, Final Rule by the Federal Reserve System. 12 CFR Part 252, Regulation YY, February 2014.

Figure 2. The Risk Intelligent Enterprise framework and example risk appetite framework activities



Source: Deloitte analysis. Copyright: Deloitte Development LLC.

Effective governance framework

For an effective risk appetite framework, the right governance framework should be established, and it should:

- Be supported by the board and executive management
- Have defined and communicated responsibilities with respect to risk appetite
- Be part of the culture of the organization
- Be embedded throughout the organization
- Be continuously measured and reinforced

Applying the three-layered Deloitte Risk Intelligent Enterprise™ framework can be a starting point for defining risk appetite governance. Figure 2 illustrates the Risk Intelligent Enterprise framework and example activities at each governance level.

Another well-demonstrated framework to consider and leverage when defining governance around risk appetite is the "three lines of defense" risk governance framework. The underlying notion of the three lines of defense framework is that risk management is everyone's job — and that everyone has a specific role in risk management. To that end, the three lines, described below, work in concert to develop and implement a strong risk framework.

¹³ SSG: "Observations on Developments in Risk Appetite Frameworks and IT Infrastructure," December 23, 2010.

Figure 3. The three lines of defense framework and example risk appetite framework activities

Board of Directors			
Role	1 st line of defense	2 nd line of defense	3 rd line of defense
	Business unit	Risk management	Internal audit
Example responsibilities	Take and manage risk	Set risk policy and monitor	Validate
	<ul style="list-style-type: none"> • Conduct business in accordance with agreed strategy and related risk appetite and limits • Promote a strong risk culture and sustainable risk-return decision-making • Establish and operate business unit risk and control structure able to ensure operation within agreed policies and risk limits • Conduct rigorous self-testing against established policies, procedures, and limits • Perform thoughtful, periodic risk self-assessments • Report and escalate risk limits breaches 	<ul style="list-style-type: none"> • Establish risk management policies and procedures, methodologies and tools, including risk appetite framework, and make available throughout enterprise • Facilitate establishment of risk appetite statement with input from senior management and the board and approval of the board and set risk limits • Monitor risk limits and communicate with the CEO and the board regarding exceptions • Provide independent risk oversight across all risk types, business units, and locations 	<ul style="list-style-type: none"> • Perform independent testing and assess whether the risk appetite framework, risk policies, risk procedures, and related controls are functioning as intended • Perform independent testing and validation of business unit risk and control elements • Provide assurance to management and the board related to the quality and effectiveness of the risk management program, including risk appetite processes

Source: Deloitte analysis. Copyright: Deloitte Development LLC.

Financial services organizations continue to apply the three lines of defense framework with respect to risk management and risk appetite. Top management and the board are responsible for establishing the company's strategy and providing input to and approving the risk appetite statement. As part of the first line of defense, the business units are responsible for managing themselves within this statement of risk appetite. The risk management function, in the second line of defense, is often responsible for facilitating development and drafting the risk appetite statement with input from senior management and the board and approval of the board and then monitoring the risk profile and

risk utilization. Internal Audit's role in the third line of defense is to assess whether risk management processes, including the risk appetite framework, are working effectively. Having a risk appetite framework supports all three lines of defense, by providing clear metrics for business units to manage to, allowing risk management to monitor the business units in a consistent way, and supplying Internal Audit with metrics and procedures to review and an objective framework to compare them against. As financial services organizations continue to enhance their risk appetite frameworks, they should consider how best to leverage the three lines of defense in managing risk appetite for their institution.

Key roles and responsibilities

Clearly defined roles and responsibilities for risk appetite, throughout the organization, are essential to the governance framework. With respect to specific roles, the following are consistent with the Risk Intelligent Enterprise framework pyramid, the three lines of defense risk governance framework, and our understanding of the evolving regulatory expectations:

Board of directors

The responsibility of risk governance falls to boards of directors, who should:

- Provide oversight, direction, and input to the establishment of the risk appetite framework
- Ultimately own and approve risk appetite
- Use a risk appetite framework and statement as a guide in working with management to assess and set overall corporate strategy
- Leverage the risk appetite framework to evaluate individual strategic decisions and establish a consistent and transparent decision-making process
- Establish regular dialogue about risk appetite with executive management in order to develop a collaborative and iterative process and avoid making risk decisions in isolation
- Routinely receive reporting from management on the organization's conformance or lack thereof with the established risk appetite
- Ensure that senior management promotes a risk culture consistent with the statement of risk appetite and that it translates the risk appetite statement into meaningful and explicit incentives and constraints for the business lines

Executive management

Executive management is responsible for overall risk management and infrastructure and should:

- Work with the board to set corporate strategy that is consistent with risk appetite
- Provide input to the development of the risk appetite statement
- Establish regular dialogue about risk appetite with the board and with business units, ensuring that risks taken by the business adhere to the overall risk appetite
- Identify strategic emerging risks and drive implementation of stress testing and scenario planning
- Articulate and translate risk appetite, making it relevant to the business units

- Establish appropriate controls, policies, and reporting processes that enable business units and functions to own and manage their risks within risk appetite
- Maintain periodic reviews with risk management and the business units to identify emerging risk issues and their potential impact on compliance with risk appetite

Specifically, the risk management function and the chief risk officer, in coordination with the chief executive officer (CEO) and chief financial officer (CFO), should:

- Develop a risk appetite statement and risk appetite framework with input from the board and management, that are consistent with the overall corporate strategy
- Communicate the risk appetite and framework and, as necessary, recommend updates to reflect new, emerging, or changing risks
- Establish limits, monitor actual risk utilization, and take action, as appropriate
- Report to the risk committee of the board and the CEO

Business units and supporting functions

With respect to risk ownership, business units and supporting functions should:

- Review business line strategies to ensure that they align with the organization's overall corporate strategy and risk appetite
- Operate within defined limits and seek approvals when limit changes are required
- Monitor individual risk limits and follow an established review and approval process as needed, to ensure that the business unit or function stays within established risk parameters
- Periodically conduct meaningful self-assessments of the risks taken within their businesses and opine as to the effectiveness of the control structure they have in place to mitigate the risks

Internal Audit

With respect to risk management and risk appetite, Internal Audit should:

- Assess whether there is appropriate board and management oversight for risk appetite
- Routinely test the effectiveness of the framework in place to manage the organization's risks
- Review the organization's compliance with risk appetite
- Assess whether breaches have been escalated, reported, and addressed

Implementing risk appetite frameworks

The risk appetite statement provides little value if it is not implemented effectively. There are several key steps in the implementation of risk appetite:

1. Communicate the risk appetite statement

Once approved by the board of directors, the enterprise-wide statement of risk appetite should be communicated throughout the organization. Its overall importance to the company and how it affects each employee's business area should be addressed in the communications strategy.

Risk appetite and limits should be referenced in the organization's risk policies and procedures, so that individual business owners can be held accountable for complying with the defined limits.

2. Translate or allocate risk appetite to different organizational units and groups

A key step in operationalizing the enterprise-wide risk appetite statement is translating it into meaningful metrics and limits for each key business activity of the organization (e.g., business lines, divisions, units, etc.). Not all organizations have the same appetite for different types of risks, and not all business units within a company will have the same risk limits. For example, an investment banking unit's appetite for credit risk would likely vary significantly from that of a consumer lending unit within the same organization. Such allocation of risk appetite limits also fosters accountability at the individual business owner level.

Organizations can consider implementing a dashboard approach, which can be rolled up or down throughout the company to monitor risk appetite utilization, or a balanced scorecard approach, which could be customized and implemented at each business line or unit of the organization.

3. Monitor compliance with risk appetite

Additional critical elements of an effective implementation of a risk appetite framework are ongoing monitoring and the timely reporting and escalation of emerging risks and concerns to the right stakeholders. The Federal Reserve's guidance is consistent with management's and the board's responsibility for monitoring compliance with the company's risk appetite. It is important to note that the company should have specified limits and triggers whose breach will require appropriate escalation to the next level of oversight.

The ability to monitor the actual risk profile against defined risk appetite and limits on a close to real time basis, both at the business unit and/or risk type level as well as on the aggregated basis, heavily depends on the available infrastructure, including systems, data, and analytical capabilities in place and their level of integration. In its 2010 report,¹⁴ the SSG highlighted the importance of adequate IT infrastructure to effective risk management, noting that much more work is needed to be done by organizations to implement a comprehensive risk data infrastructure. The report also explored in detail the challenges that the industry faced in achieving this objective, including organizational silos, competing priorities, and cost-cutting pressures. Several years later, although progress has been made and many organizations have undertaken efforts to improve and streamline their infrastructure, it appears the same challenges continue to prevent companies from achieving a more strategic state of risk infrastructure. The challenges have also been exacerbated by a flood of additional demands to meet various regulatory requirements (e.g., stress testing, regulatory reporting, resolution plans, etc.). Many organizations are likely realizing, however, that investments in robust integrated IT infrastructure are becoming a necessity in order to survive in this new environment.

¹⁴ SSG: "Observations on Developments in Risk Appetite Frameworks and IT Infrastructure," December 23, 2010

4. Report relevant risk appetite information to the board

When implemented effectively, the risk appetite framework can help drive a consistent risk culture by clearly communicating the board's and management's expectations regarding risk taking throughout the organization — risk appetite reporting to management and the board play a key role in this effort. For a board to effectively oversee an organization's risk taking and provide guidance to management, it should receive clear, timely, and relevant risk appetite information. As straightforward as it sounds, this has been a challenging area. Faced with ever-increasing expectations for the board, boards have in general become more actively engaged in risk oversight and have been receiving much more risk information. According to our latest "Global Risk Management Survey,"¹⁵ improving board risk reporting information was the most common action taken by approximately two thirds of the institutions. However, considering the overall increase of reported information, determining the right balance and level of detail to report to the board so that the information remains meaningful and actionable continues to be difficult. In order to determine the right balance, boards should take a more active role in guiding management on exactly what type of information they need and refining that guidance, as necessary. At a minimum, management should be reporting the actual risk profile, including utilization, against approved risk appetite and limits, highlights of any negative trends, levels approaching warning thresholds, and actual breaches of approved risk appetite, along with proposed action plans. For key decisions, there should be sufficient information and an opportunity for the board to review and discuss options for action.

5. Act and correct

Since one of the main objectives of establishing risk appetite is to facilitate decision-making, individual risk decisions should be made in the context of increasing the rewards while remaining within established risk appetite at the organizational unit level and/or the entire enterprise level. For example, evaluation of new business lines, investments, and products should be made in the

context of both qualitative and quantitative risk appetite boundaries. Competing requests for capital should also be evaluated in the same context.

Additionally, close monitoring of the actual risk profile of the organization against risk appetite limits and identification of trends is key to the effectiveness of the risk appetite framework and its value to the company. It is important to identify areas where the risk profile may be approaching defined limits or warning indicators, so that a potential response can be discussed and systematically evaluated with the right level of transparency and, if necessary, input from the board. The purpose of having approved risk limits should not be to impose rigid and unmovable constraints on the organization, but to create a structured mechanism allowing for a thorough and transparent discussion at the senior management and the board level of activities that fall outside pre-defined acceptable risk parameters.

Any exceptions to risk appetite should be fully documented, reported, and approved at the appropriate business line or unit levels.

Finally, there should be a linkage developed between remuneration and incentives and individual adherence to the defined and approved risk appetite.

6. Re-evaluate and adjust

Setting and monitoring risk appetite are very much iterative processes. As discussed above, statements of risk appetite should not be etched in stone. Risk appetite statements should be reviewed and updated periodically — on an annual basis, at a minimum, or more frequently as changes in strategy, risk capacity, market conditions, or other key factors occur. Regular reviews and updates should also be linked with the strategic planning and budgeting cycle, so that timely guidance can be provided to the business with respect to approved limits. Any updates should follow the same defined governance cycle as the initial risk appetite statement, including input, review, and approvals at the senior management level and the board.

¹⁵ "Global Risk Management Survey, Eighth Edition: Setting a higher bar," Deloitte Touche Tohmatsu Limited, 2013.

Additional implementation challenges and considerations

There are, of course, many challenges organizations must manage when implementing statements and frameworks of risk appetite. We have touched upon several of them above — the challenges related to effectively communicating with multiple stakeholders in the organization as well as having a robust and integrated IT infrastructure to support monitoring of risk profile information. There are also others, such as assuming the right amount of risk to measure, manage, and interpret risk appetite. A few of these additional challenges and considerations are discussed below.

Educating key stakeholders and getting buy-in and cultural acceptance

For some people, especially in the risk management profession, the concept of risk appetite is well-understood, while for others it may not be. The lack of understanding, buy-in, and cultural acceptance can significantly hinder efforts to effectively implement a risk appetite framework. Organizations should not underestimate the importance of, and the time and effort required for, educating key stakeholders on risk appetite concepts, purpose, and benefits. This applies to the board and executive management, so that they can provide support and tone at the top, as well as the business owners throughout the organization to facilitate the implementation efforts. Getting to a consistent understanding across different stakeholders and functions will go a long way in helping embed risk appetite into the culture of the organization.

Measuring and managing risk appetite

Some elements of risk appetite can be difficult to measure and, therefore, manage. Risk quantification methodologies that can be applied to quantify risk vary depending on the type of risk and availability of data, such as metrics and loss history. Certain risks lend themselves to quantification better than others due to availability of observable financial exposure data. Such risks include credit and market risks, for example. Although there may be challenges in selecting and agreeing on the types of metrics to use to set credit and market risk appetite, there is generally observable data to support measurement. Other risk types may need to be quantified using proxy measures of varying degrees

of precision, relying on loss history, scenario analysis, or risk self-assessment scores and key risk indicators (KRIs). For example, establishing quantitative risk appetite for operational, reputational, strategic, or systemic risks is clearly a challenging task for many organizations. These challenges are explored further below.

Reputational risk

Reputational risk is generally considered an unrewarded risk that is very difficult to quantify and manage. However, reputational risk can potentially have a devastating impact on a company. Therefore, efforts should be made to measure and manage it. How quickly and effectively a company reacts to an event that impacts the organization's reputation can make a big difference in the amount of damage it sustains or in its chances of survival. In certain cases, reputational risk can even cause a "run on the bank" scenario. Many organizations are beginning to take a closer look at new approaches to measure reputational risk, which can facilitate clarifying risk appetite in this area. Some insurance companies are beginning to offer reputational risk policies. One of the first steps in managing reputation risk is to take stock of the key stakeholders, such as customers, counterparties, investors, regulators, etc., and assess a baseline of their perceptions of the organization.

Risk appetite for reputational risk can be set qualitatively through consideration of the acceptable types of new business activities and customers and their potential reputational impact on the organization. With respect to measurement, one approach that can be leveraged to semi-quantitatively measure reputational risk on an ongoing basis is the usage of KRIs based on media monitoring or stakeholder surveys. Another, slightly more sophisticated approach is a development of a broader reputational index that combines different factors and drivers of reputational risk (e.g., communicated intentions, financial and operational results, actions taken by leadership, etc.) and monitoring it for changes against the baseline. An additional and even more sophisticated approach involves monitoring unstructured data and performing sentiment analysis to track emerging reputational risks.

Operational risk

Operational risk is another risk that is notoriously difficult to accurately measure, even though significant progress has been made, driven by the Basel II capital requirements. There are several reasons for this difficulty in measuring operational risk: it cannot be directly measured as can market, credit, and some other risks; the loss data commonly used for measurement is backward-looking; and the supplemental data, such as KRIs and risk and control self-assessments (RCSA), is difficult to directly link to a dollar measure of risk. Additionally, there are difficulties in obtaining sufficient data for the purposes of estimating low frequency high impact events. Furthermore, a dynamic operational environment makes historical data less relevant. (New processes and controls can be put in place to remediate past operational errors and losses). To supplement the lack of historical data for low frequency events, external data, e.g., loss information for events which impacted other companies is used. This raises significant additional challenges including the relevance of such information, the scaling of such loss events to the company and the time period such external loss information should be included in the loss history.

Notwithstanding the above, the use of capital models for operational risk has become more prevalent. Larger institutions have or are implementing the Advanced Measurement Approaches (AMA)¹⁶ to calculate required regulatory capital under the Basel II requirement. The AMA is centered on an estimation of loss distribution, based on internal and external loss history data, and adjusted for additional measurement inputs, such as scenario analysis, KRIs, and results of internal RCSAs and various offsets or mitigants (e.g., insurance). The quality of and the rigor applied to the scenario analysis, KRIs, and RSCA processes become important contributors to the quality of operational risk estimates. While operational risk is difficult to quantify, institutions using the AMA approach at least have the ability to set risk appetite — as a maximum regulatory or economic capital allocated to operational risk — while other approaches do not allow doing so directly.

However, given the inherent nature of the inputs into an AMA model, including both internal and external loss data, some have questioned the relevance of operational risk as measured by AMA approaches for management purposes, including risk appetite.

Due to these challenges, many organizations are using different approaches to quantify operational risk. One approach to operational risk measurement can be to define a maximum loss from a single event or a maximum aggregated loss per year. As another example, KRIs for specific types of operational risk can also be used.

With respect to unrewarded risks, such as operational risk, management's natural instinct is often to minimize it. However, achieving zero risk levels may not be economically feasible or realistic, so the question becomes: What is the balance between an acceptable amount of risk and the level of investment a firm is willing to make in its people, processes, and technology to reduce operational risk? Articulation of operational risk appetite helps define management's view of that balance.

Systemic risk

Systemic risk has long been an area of concern for the regulators. However, as a result of the financial downturn, this concern has been taken to a new and an unprecedented level of focus, as demonstrated by the establishment of a separate regulatory agency: the Financial Stability Oversight Council (FSOC).¹⁷ The FSOC has the authority to designate financial institutions as systemically important, which is likely to result in heightened regulatory expectations and additional reporting requirements.

It is wise to recognize that any organization is exposed to systemic risk, some more than others. Large and/or interconnected organizations should consider assessing the acceptable amount of systemic risk they are exposed to, given the relationships they have in the marketplace and how interconnected they are with the rest of the financial market.

¹⁶ Basel Committee on Banking Supervision: "Operational Risk – Supervisory Guidelines for the Advanced Measurement Approaches," June 2011.

¹⁷ The Dodd-Frank Wall Street Reform and Consumer Protection Act, Title I – Financial Stability Act of 2010.

Additionally, some organizations may pose systemic risk due to their size or nature (e.g., large international banks or companies that play an important financial market infrastructure role). Although individual organizations are not tasked with protecting the stability of the financial system, prudential regulators are increasingly looking at systemic risk, and some may call on large and/or highly interconnected organizations to monitor and in some way limit the systemic risk they pose. Thus, these companies may be increasingly expected to articulate and monitor what they deem an acceptable amount of risk to the system or other stakeholders.

As noted, systemic risk is a developing concept and the approaches and techniques related to its measurement are similarly embryonic. A fair amount of research is being conducted in this area and there are some possible analytical approaches that can be considered. The Office of Financial Research (OFR), which is part of the Department of Treasury and is responsible for supporting the FSOC in fulfilling its duties, published a paper summarizing existing systemic risk analytics approaches.¹⁸ There are also some systemic risk indices that have been developed. One example is the systemic risk index, developed by professors of the New York University Stern School of Business, which calculates “percentage contribution to systemic risk” — the percentage of financial sector capital shortfall that would be experienced by a firm in the event of a crisis.¹⁹ However, systemic risk monitoring is certainly still an evolving field and firms should pay attention to the developments.

Translating risk appetite to different organizational units and groups

There may be two main types of challenges in the process of allocating risk appetite to different organizational units and groups. One is a more conceptual challenge of the methodology used to translate the enterprise-wide level to different groups (e.g., business segments or units) so that it is logically sound and representative of relative risks of the various groups. An example of such a methodology can be understanding a loss outcome from a stress test, and linking the loss back to the unit originating that risk. The other difficulty is more of a practical challenge: working with

the business unit heads on accepting the levels of appetite allocated to their unit, based on their loan mix, for example. Business units often compete for resources and, under the risk appetite framework, they may be competing for risk appetite within which to conduct their business. Risk appetite allocation and acceptance is likely to be an iterative process and early engagement of the business in these discussions and open communications can facilitate the process.

Interpreting risk appetite dynamically

Another challenge of defining risk appetite is that it is difficult to set boundaries in a dynamic environment with static limits. Therefore, the regulators are encouraging, and organizations are beginning to use, stress tests to support their risk appetite statements and frameworks. The risk appetite statement itself can contain acceptable limits under specific stressed conditions. Additionally, organizations can conduct stress testing and scenario analysis of different market and economic events to determine their potential impact on compliance with existing risk appetite.

Stress tests can be used to alert boards and management to potential adverse outcomes, indicate the amount of capital needed to absorb potential losses, and measure projected risk appetite utilization in a range of conditions — from the ordinary to the extraordinary. Stress tests can provide the board with a broader view of the organization and the risk it potentially faces. By testing and analyzing the organization at both baseline and stress conditions, the board can set limits for those circumstances and be better prepared for what might occur. Thus, it is important that board members become more involved in overseeing the stress testing exercises (e.g., review of the stress test plans and results) and that they possess adequate knowledge of stress testing and scenario planning.

An effective stress testing program should be able to recognize this potential combination of problems — and help protect the organization from a cascade of failures. Complex financial institutions are also tying metrics to recovery plans, or “living wills,” as a tool to monitor and manage the possible risks in an array of potential outcomes.

¹⁸ The Office of Financial Research Working Paper, “A Survey of Systemic Risk Analytics,” January 2012.

¹⁹ “Overseeing systemic risk” by Viral Acharya, Thomas F. Cooley, Robert Engle, and Matthew Richardson, February 27, 2011.

Adding value with risk appetite statements

Strong statements of risk appetite should be considered a “must have” and a requisite for effective risk management, and not only because industry and regulatory bodies are holding them up to closer scrutiny in the wake of the financial downturn. As the International Institute of Finance (IIF) noted, “Within a solid risk management framework, a key part of an effective risk culture is the articulation of the firm’s risk appetite, and ensuring its adoption throughout the firm.”²⁰

If placed not only at the heart of the organization’s risk management framework, but also at the center of the organization’s business decision-making process in its governance framework, risk appetite statements can add tremendous value to a company in myriad ways: as a driver in risk and governance discussions; as an integral component of strategic planning and capital allocation; and as reassurance to regulators, shareholders, and rating agencies that the organization has a clear understanding of — and established boundaries for — how much risk it can stomach.

By re-examining existing frameworks, financial services organizations can improve upon their risk appetite statements so that they better support business goals. Such an endeavor requires successful implementation,

calling for board, executive management, and risk management support and involvement to solve a range of challenges, such as:

- Creating a definition of risk appetite that is meaningful to all levels of the organization
- Effectively communicating and translating that definition to the business lines — in the form of relevant metrics and qualitative goals
- Effectively measuring and managing risks against the statement of risk appetite
- Putting in place periodic reviews and a disciplined and sophisticated stress testing program

Many organizations have already embarked on this journey, but work needs to continue in order to better refine, operationalize, and implement risk appetite statements to fully reap their benefits. Articulating and agreeing upon a risk appetite, and effectively weaving it into the cultural fabric and infrastructure of the organization, have proven to be surprisingly challenging. However, when clearly defined and translated throughout the company, risk appetite statements may help financial services organizations enhance risk culture and governance and more effectively manage risk overall. Moreover, risk appetite statements and framework may contribute to better formulation of corporate strategy.



²⁰ “Final Report of the IIF Committee on Market Best Practices,” International Institute of Finance, July 2008.

Appendix

After the downturn: The evolution of the regulatory and industry response

Regulators are rethinking and fundamentally revising their requirements with the overall goal of reducing systemic risk to the financial system. The focus is more closely on the role of the board of directors with respect to setting a financial institution's risk appetite and monitoring its effective implementation by management. Guidance on risk management oversight has been issued by many important standard-setting bodies: Financial Stability Board,²¹ the Basel Committee on Banking Supervision,²² Dodd-Frank Wall Street Reform and Consumer Protection Act,²³ U.S. Securities and Exchange Commission Rule 33-9089,²⁴ Federal Reserve's rules on Enhanced Prudential Standards,²⁵ Office of the Comptroller of the Currency,²⁶ and others.

As mentioned in the beginning of this paper, at the end of 2010, the SSG released a report titled "Observations on Developments in Risk Appetite Frameworks and IT Infrastructure," focusing on how financial institutions progressed in developing and enhancing risk appetite frameworks and supporting IT infrastructure.²⁷ In this report, the SSG concluded that financial services organizations have made progress in improving formal risk appetite frameworks and IT infrastructure, but that considerable work still remains to be done to further strengthen these practices. This report also highlights the need for a robust IT infrastructure to support effective implementation and monitoring of risk appetite against the institution's risk profile. (See sidebar, "Risk appetite frameworks and infrastructures.")

Risk appetite frameworks and infrastructures

In its 2010 report, "Observations on Developments in Risk Appetite Frameworks and IT Infrastructure," the SSG called out improvements in, as well as the need for continued emphasis on, risk appetite frameworks (RAFTs) and IT infrastructure. According to the SSG, effective RAFTs and risk data infrastructures contribute greatly to strategic planning and tactical decision-making. They also enable organizations to be "more forward-looking, flexible, and proactive." As the SSG states, "While planned improvements are in progress, it is unclear whether firms will have advanced these practices sufficiently to be resilient in an increasingly competitive and changing regulatory environment. Consequently, developments in RAFT and IT infrastructure will require continued review by firms and supervisors alike."

Other observations put forth in the SSG report include:

- Actively engaged boards of directors and executive management have a greater likelihood of ensuring that the RAFT and risk data aggregation projects are meaningful to the organization
- The board should make certain that executive management translates the statement of risk appetite into incentives and constraints that are relevant to the business lines
- A common risk appetite language, in the form of both qualitative statements and risk metrics, should be communicated across the organization to facilitate acceptance of the RAFT

Source: "Observations on Developments in Risk Appetite Frameworks and IT Infrastructure," Senior Supervisors Group, December 23, 2010.

²¹ Financial Stability Board: "Principles for An Effective Risk Appetite Framework, Consultative Document," July 17, 2013.

²² The Basel Committee on Banking Supervision: "Principles for enhancing corporate governance," October 2010; "Core Principles for Effective Banking Supervision," September 2012; "Principles for effective risk data aggregation and risk reporting," January 2013.

²³ Dodd-Frank Wall Street Reform and Consumer Protection Act, 2010.

²⁴ Securities and Exchange Commission Rule 33-9089 - Proxy Disclosure Enhancements, February 2010.

²⁵ Enhanced Prudential Standards for Banking Holding Companies and Foreign Banking Organizations, Final Rule by the Federal Reserve System. 12 CFR Part 252, Regulation YY, February 2014.

²⁶ Office of the Comptroller of the Currency, Large Bank Supervision: Comptroller's Handbook, updated May 2013.

²⁷ "Observations on Developments in Risk Appetite Frameworks and IT Infrastructure," Senior Supervisors Group, December 23, 2010.

The financial services industry has also responded with numerous points of view and opinions on the topic. Some industry organizations performed more thorough assessments, collected insights into leading and effective practices, and developed sets of practical recommendations. For example, in 2010, the Risk Management Association (RMA) developed a "Risk Appetite Workbook: A Framework for Setting Risk Appetite,"²⁸ with the goal of providing a practical guide to understanding and developing a "risk appetite statement."

In June 2011, the IIF released its "Implementing Robust Risk Appetite Frameworks to Strengthen Financial Institutions"²⁹ report. This report focuses on highlighting specific challenges the industry is facing in the implementation of an effective risk appetite framework, discusses how these challenges are being addressed, and offers insights and practical recommendations related to the design and implementation of the risk appetite framework.

The IIF document stresses the role of risk appetite as an organization's overriding governance tool. (See sidebar, "Risk appetite as a governance tool.") As such, it informs the organization about what kind of business it should or should not be doing. The statement of risk appetite provides clear direction and guidance for the company's business operations.

Risk appetite as a governance tool

In its report, "Implementing robust risk appetite frameworks to strengthen financial institutions," the IIF stated: "The financial crisis demonstrated clearly that an effective risk appetite framework (RAF) is a crucial component of sound enterprise-wide risk management. Accordingly, both the financial services industry and the regulatory community are devoting a great deal of attention to this essential governance tool." According to the IIF, firms that have made progress to date in the area of risk appetite have not been primarily driven by regulatory requirements. Rather, they have been motivated by their leadership's recognition that they need to strengthen their risk management and governance structures.

Furthermore, leading firms also understand that alignment between the business plan and risk appetite must be "made on a properly measured and informed basis, and within a formal and robust governance framework."

Source: Implementing robust risk appetite frameworks to strengthen financial institutions, International Institute of Finance, June 2011.



²⁸ Risk Management Association (RMA): "Risk Appetite Workbook: A Framework for Setting Risk Appetite," December 7, 2010.

²⁹ "Implementing Robust Risk Appetite Frameworks to Strengthen Financial Institutions," International Institute of Finance, June 2011.

A common thread throughout these reports indicates the importance of developing and articulating a risk appetite statement and that, although progress has been made by financial institutions in designing and implementing risk appetite frameworks, much more work remains to be done in order to meet the heightened expectations of the post-financial downturn environment.

The Federal Reserve in its Enhanced Prudential Standards³⁰ included requirements that banks develop risk frameworks, that board risk committees be established which must oversee risk policy and that the chief risk officer establish enterprise wide risk limits and monitor the compliance with such limits.

The results of the DTTL "Global Risk Management Survey"³¹ indicated that approximately 48 percent of the surveyed institutions had approved written enterprise-level statements of risk appetite. However, a smaller portion of the organizations translated their risk appetite to specific limits for credit, market, and liquidity risks at the business unit level, or even fewer at the trading desk levels. At the same time, with respect to being able to aggregate risk profile information and monitor risk appetite compliance, 74 percent of executives responded that integrating risk data across the organization was an extremely or very significant issue for their organization.

The financial services state of play — findings from DTTL's "Global Risk Management Survey"

In a 2013 DTTL survey of global financial institutions, including retail and commercial banks, insurance companies, and asset managers, responses from more than 86 participants revealed the following key findings regarding risk appetite:

- Sixty-eight percent of respondents stated that the organization's Board of Directors approves the enterprise-level risk appetite statement. Of those 68 percent, 79 percent indicated that their risk appetite statements were both defined quantitatively and qualitatively.
- Among the approaches used to quantitatively define statements of risk appetite are: acceptable loss levels, 76 percent; system of risk limits, 71 percent; economic capital, 69 percent; regulatory capital, 69 percent; target credit rating, 51 percent; net income/loss levels, 41 percent; enterprise value decrease measures, 14 percent; and other, 2 percent.
- Most institutions reported that their board risk committee had defined responsibilities for risk oversight, 81 percent; risk appetite, 69 percent; and risk management policies, 68 percent.

The conclusions we gathered from this study include:

- Risk appetite is an important area for board risk committees to provide input, oversight, and ongoing monitoring, but this can be challenging for non-financial risks that are less readily quantifiable.
- Reviewing and overseeing risk policies is a core function of a board risk committee, and one would expect more risk committees to perform this function over time.

Source: "Global Risk Management Survey, Eighth Edition: Setting a higher bar," Deloitte Touche Tohmatsu Limited, July 2013.

³⁰ Enhanced Prudential Standards for Banking Holding Companies and Foreign Banking Organizations, Final Rule by the Federal Reserve System. 12 CFR Part 252, Regulation YY, February 2014.

³¹ "Global Risk Management Survey, Eighth Edition: Setting a higher bar," Deloitte Touche Tohmatsu Limited, July 2013.

In light of the SSG 2011 findings, the FSB has conducted a peer review of governance practices, published in 2012,³² which identified a need for development of guidance on key elements of an effective risk appetite framework. The FSB has in turn developed "Principles for An Effective Risk Appetite Framework," which were published in November of 2013.³³ In addition to setting out principles for an effective risk appetite framework, the document aims to establish common definitions of terms to facilitate communication between financial institutions and regulators.

Creating an effective risk appetite framework

In its "Principles for An Effective Risk Appetite Framework (RAF)," the FSB sets out key elements for:

- An effective risk appetite framework
- An effective risk appetite statement
- Risk limits
- The roles and responsibilities of the board of directors and senior management

The objective of these principles is to help an organization "develop an effective RAF that is institution-specific and reflects its business model and organization, as well as to enable financial institutions to adapt to the changing economic and regulatory environment in order to manage new types of risk."

The FSB paper highlights that "establishing an effective RAF helps to reinforce a strong risk culture at financial institutions, which in turn is critical to sound risk management." It also stresses the need to align the "top down" risk appetite with the "bottom up" metrics for consistency, to consider risk appetite both at the group level as well as legal entity level, and to link the RAF with the development of technology and management information systems in financial institutions.

Source: "Financial Stability Board: Principles for An Effective Risk Appetite Framework," November 2013.

³² Financial Stability Board: "Thematic Review on Risk Governance, Peer Review Report," February 2013.

³³ Financial Stability Board: "Principles for An Effective Risk Appetite Framework," November 2013.

Contacts

Edward T. Hida II, CFA

Partner
Global Leader – Risk and Capital
Management
Global Financial Services Industry
Deloitte & Touche LLP
+1 212 436 4854
ehida@deloitte.com

Timothy Ward

Director
Governance, Regulatory & Risk Strategies
Deloitte & Touche LLP
+1 202 779 2925
tward@deloitte.com

Olga Kasparova

Director
Governance, Regulatory & Risk Strategies
Deloitte & Touche LLP
+1 617 437 2812
okasparova@deloitte.com

Michele Crish

Senior Manager
Governance, Regulatory & Risk Strategies
Deloitte & Touche LLP
+1 212 436 2053
mcrish@deloitte.com

Contributors

This whitepaper includes contributions by the following financial services professionals from member firms of Deloitte Touche Tohmatsu Limited, including:

Helmut Bauer

Special Advisor
Deloitte UK
+ 44 2070 079264
helbauer@deloitte.co.uk

Tim Thompson

Partner
Deloitte UK
+ 44 2070 077241
tthompson@deloitte.co.uk

Leadership

Kevin McGovern

Managing Partner and U.S. Leader
Governance, Regulatory & Risk Strategies
Deloitte & Touche LLP
+1 617 437 2371
kmcgovern@deloitte.com

Alok Sinha

Managing Principal
U.S. Banking and Securities Industry Leader
Deloitte & Touche LLP
+1 415 783 5203
asinha@deloitte.com

This publication contains general information only and Deloitte is not, by means of this publication, rendering accounting, business, financial, investment, legal, tax, or other professional advice or services. This publication is not a substitute for such professional advice or services, nor should it be used as a basis for any decision or action that may affect your business. Before making any decision or taking any action that may affect your business, you should consult a qualified professional advisor. In addition, this publication contains the results of a survey conducted by Deloitte.

In addition, the information obtained during the survey was taken “as is” and was not validated or confirmed by Deloitte.

Deloitte shall not be responsible for any loss sustained by any person who relies on this publication.