Institute of Actuaries of Australia

# Risk Appetite: Practical Issues for the Global Financial Services Industry

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Presented to the Institute of Actuaries of Australia
Biennial Convention 23-26 September 2007
Christchurch, New Zealand



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## Abstract

The objective of this paper is for the reader to better understand the concept of risk appetite and how organisations can implement a risk appetite framework.

Defining the organisation's willingness and ability to take on risk is a fundamental first step in an enterprise risk management (ERM) program. Just as an individual investor must understand his or her risk appetite when managing personal finances, a company needs to look at its unique situation to define the risk appetite for the organisation.

Enterprise risk management is now considered standard practice in the global business community, impacting financial institutions overseas and Australia. The evolution of ERM has been driven by market pressures as well as regulatory developments. In addition, rating agencies, such as Standard & Poor's, have embraced ERM and consider it when assigning a company's rating.

Although important, risk appetite is often difficult to implement across the organisation and raises a number of practical issues. This paper seeks to consider the topic of risk appetite for insurers and in particular learnings as to how these issues have been dealt with in financial institutions globally in order to illustrate different practices emerging.

*Keywords: risk, risk appetite, risk tolerance, risk management, ERM, financial services, insurance, regulatory, rating agency, Solvency II, Basel II, Trowbridge Deloitte.*

## Acknowledgements

The authors would like to thank their colleagues Tamsin Abbey, Joyce Au-Yeung, Karen DeToro, Carl Groth and Paul Nel for their contributions to this paper.

We would also like to thank Mike McLaughlin, Andrew D. Smith and Jack Walton for their assistance, and Anthony Asher for his thorough review and useful observations.

## 1. Introduction

It is generally agreed that defining risk appetite is an important first step in implementing an Enterprise Risk Management (ERM) program. The movement toward ERM is becoming accepted in the business community, as evidenced by increased importance of the risk management function and elevation of the Chief Risk Officer (CRO) position as a critical role in the executive suite.

In the financial services industry in particular, the increased linkage of risk management and capital in holistic risk management frameworks such as Basel II and Solvency II is also driving change. Rating agencies are also increasingly linking the rating assigned to an institution to their perspective of performance in ERM and associated topics such as risk appetite.

Although important, risk appetite is often difficult to implement across the organisation. Companies across the globe experience difficulty in defining risk appetite and then in implementing a framework which clearly links day to day behaviour to the overall risk appetite of the organisation. The implementation of such a framework will often require the risk appetite to be disaggregated to elements which enable assessment of decisions daily – often known as risk tolerances, which allow the organisation to define what are acceptable decisions within the overall risk appetite.

The process of implementation therefore raises a number of practical issues. This paper seeks to consider the topic of risk appetite for insurers and in particular learnings as to how these issues have been dealt with in financial institutions globally in order to illustrate different practices emerging.

## 2. Definitions

### What is risk appetite?

Risk appetite is usually discussed relating to the investment decisions of investors. An investor considers his or her risk appetite when selecting from a range of investment options presenting different risk/return trade-offs.

The challenge for an individual investor is to determine which point on this risk/return trade-off provides either:

- the lowest level of volatility to meet financial needs and goals,
- the highest return given the investor's tolerance for risk, or
- some intermediate point that maximises utility.

At a very basic level, this is not unlike the challenges a corporation faces when making decisions about its business.

Many individual investors are aware of the need to understand their own risk appetite, yet most make decisions that affect the risk profile of their wealth and income only infrequently. Corporations need to make these decisions more regularly. In the case of the financial services organisation, decisions affecting the risk profile of its business are made daily.

As a result, managing and profiting from calculated risks is a core skill for many financial services organisations. Although these organisations are in the business of risk, defining an organisation-wide risk appetite can be complicated in practice.

Regulators and professionals in the accounting, risk management and actuarial disciplines have invested in research and development in topics related to risk. Consequently, there are numerous sources providing formal definitions of risk appetite, as compiled by researchers from the University of Wisconsin-Madison (Kamiya et al, 2007). Examples of the risk appetite definitions they found include:

| |
|---|
| The level of aggregate risk that a company can undertake and successfully manage over an extended period of time. |
| A company's ability and/or willingness to absorb declines in the value of an asset, liability, trade, transaction, or portfolio. |
| The broad-based amount of risk a company or other entity is willing to accept in pursuit of its mission or vision. |

Much like the basic risk/return trade-off decision presented to the individual investor, the common thread across these definitions is the need for the company to decide on the appropriate amount of risk it can accept in order to enhance the organisation's value over a given timeframe.

There are some clear decision paths that can be considered in defining the risk appetite, including the following:

(i) Defined in terms of risk only or risk-return trade off
(ii) Measured relative to regulatory capital, economic capital, rating thresholds, or earnings.

In practice, risk appetite can be defined both quantitatively and qualitatively.

| Quantitative examples | Qualitative examples |
|---|---|
| • Economic capital and probability of ruin: require that capital is sufficient to absorb a loss of a certain magnitude, for example a 1 in 250 year event.<br>• Earnings volatility: avoid losing more than a defined percentage or multiple of annual earnings in a year. | • Ratings: avoid a slip below a desired rating floor.<br>• Risk preferences: define certain risks that an insurer does not want to accept, such as not underwriting risks in catastrophe-prone regions. |

**What is risk tolerance?**

Even if the Board and senior management have clearly defined risk appetite, this must be communicated throughout the organisation to allow managers at all levels of the business to make decisions that are aligned with the risk appetite. The absence of a widely understood risk appetite likely leads to either:

- a lack of control and acceptance of undesirably risky positions, or
- avoidance of acceptable risks and underperformance.

To avoid these situations, it should be possible to break down the high-level risk appetite for the organisation into measures that are actionable at the business unit level. These are often called risk tolerances, risk limits, or risk targets.

Formal definitions of risk tolerance include the following:

| |
|---|
| Risk appetite is a high-level view of the risks the insurer is willing to accept in pursuit of value. Risk tolerance is the acceptable level of variation around profit targets, aligned with the risk appetite. (Wason, 2006) |
| Risk tolerance is the acceptable variation relative to the achievement of objectives. (Kamiya et al, 2007) |

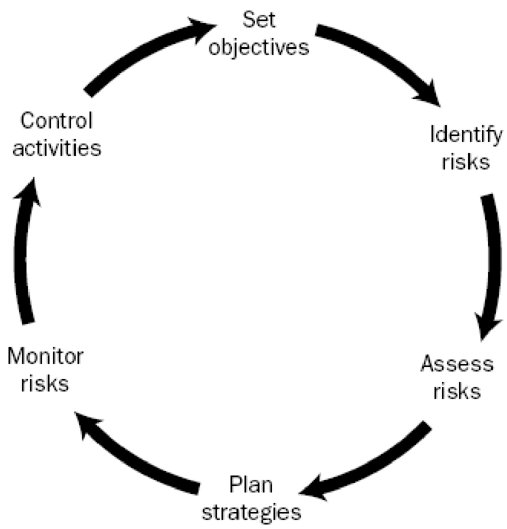
Establishing boundaries for each risk taking activity helps promote a risk-return aware culture throughout the organisation. By defining such risk tolerances, the Board and senior management attempt to manage the risk appetite at the enterprise or "top down" level by defining a combination of qualitative and quantitative risk tolerances by business unit or from the "bottom up" level.

## Interaction between risk appetite and ERM

Although the risk management community has long discussed the notion of managing risk at the enterprise level, it has only been over the past several years that the global business community has fully embraced the benefits of active risk management as key for running a successful business. This can be seen by the creation of the CRO position within the executive suite, the emphasis of risk management at the Board level and the increased level of sophistication in frameworks and modelling in support of risk management activities.

Figure 1 below shows an illustrative risk management framework (Wason, 2006).

**Figure 1 – Risk management cycle**




Source: IAIS ICP 18A: Risk Management Fundamentals

During the objective setting stage of the process, senior management and the Board arrive at the overall risk appetite and risk tolerances for the insurer. These risk appetite and risk tolerance objectives convey the level of risk that the institution is willing to take and, therefore, guide decision-making by the institution's business management. Risk appetite and more detailed risk tolerance levels can then be integrated into the subsequent stages of the process.

Although there are various schools of thought with regard to ERM platforms, there is agreement that a formal, approved statement of risk appetite is a key guiding document for an ERM program. A clearly articulated, Board approved statement of risk appetite allows the Board oversight over risk consumption and risk appetite and facilitates risk allocation. Further, codifying the commitment to risk management and the organisation's risk appetite into a risk policy document helps communicate the overall approach to risk management throughout the organisation. (Lam, 2003)

Most institutions do create formal statements of their risk appetite. In fact, roughly two-thirds of executives at institutions with an ERM program said they created a formal, enterprise-level statement of their risk appetite that is either quantitatively or qualitatively defined and then approved. (Deloitte, 2007)

Organisations in the financial services industry and insurers, in particular, often have more sophisticated risk appetite and risk tolerance objectives than other industries. Such definitions are in terms of default probability or capital coverage to extreme events, whereas other non-financial industries may have more simplified definitions in terms of loss of market share, earnings or share price.

One possible reason for this difference is the nature of operating in a regulated industry, motivating insurers to place more emphasis and importance on defining their risk appetite to avoid regulators' scrutiny. Another reason for the difference is that insurers and other financial institutions are fortunate to have the in-house resources, such as access to data and skilled personnel, which facilitate the development of sophisticated risk appetite and risk tolerance objectives. Nevertheless, there is still a subjective element to risk appetite which creates a challenge for all industries, including financial services organisations.

## 3. International Observations

### What has gone on overseas?

Based on our observations and those of our overseas colleagues, it appears that a variety of marketplace influences have led financial services organisations to focus on their risk appetite frameworks.

One of the drivers of the increased attention to risk appetite is regulation, particularly the adoption of risk based capital requirements by financial services regulatory bodies. The Basel II regime required banking organisations to clearly link capital levels to risk profile, take a hard look at risk management frameworks, and increase public disclosures related to risk profiles. Insurers in the European Union (EU) will be moving to a similar risk-based model with the advent of Solvency II. Likewise, the UK's financial services regulator recently introduced the Individual Capital Assessment (ICA), which is similar in many ways to the proposed Solvency II framework. A risk based capital framework has been used for insurers for many years in the US, with current developments indicating a move to a more principles-based approach.

The Basel II, UK and Solvency II frameworks all require companies to have clearly defined risk appetite statements and risk policies. For instance, insurers will need to put in practice reconciling quantitative and qualitative risk management initiatives to fully comply with Solvency II regulations and avoid additional capital charges.

Historically, the focus of solvency regulation has been on capital – determining whether the insurer has enough capital to support its current risk profile. However, with the adoption of the more principles based regulatory frameworks and ERM, the focus has become broader. Demonstrating the robustness of risk management approaches to regulators has become increasingly important for insurers.

In the US, the regulatory response to corporate scandals in recent years has had a bigger market influence than the financial services regulatory environment. In particular, the Sarbanes-Oxley Act requires the Boards and senior management of publicly listed companies to take more personal responsibility for corporate governance, specifically for risks linked to the financial statements. Furthermore, the National Association of Insurance Commissioners introduced a model audit rule that will require insurers not subject to Sarbanes-Oxley, notably mutual insurers, to incorporate risk management procedures similar to those required by Sarbanes-Oxley.

Other market pressures led to the wide-spread adoption of ERM and emphasised the importance of a clear understanding of risk appetite. Publicly listed insurers are continually challenged to meet shareholders' expectations. To achieve these goals, companies must responsibly and strategically manage their risk profiles to achieve competitive earnings and rate of return targets.

Companies with credit ratings in jeopardy may be more concerned with appeasing the rating agencies. Rating agencies, such as Standard and Poor's and AM Best, include the enterprise risk management of insurers in the rating evaluation process. Having a clear vision of risk appetite and risk tolerance is a key consideration to being able to achieve higher ratings. The transparency provided through public disclosures will become a key area for insurers to demonstrate their risk management capability to a wide audience and to gain financial benefits from doing so.

Although in certain cases they have been compelled to do so, many companies overseas have recognised that to meet the demands of the various stakeholders the risk appetite needs to be more than a theoretical statement. Rather, an explicit risk appetite needs to tie the insurer's business strategy, product mix and investment mix together and ensure that the company has adequate capital to run the business.

## How does this relate to the Australian market?

In the Australian context, the implementation of Basel II for Authorised Deposit-Taking Institutions (ADIs) has focussed major financial institutions on the topic of risk appetite.

Further, the financial services regulator, the Australian Prudential Regulation Authority (APRA) has required that the Boards of other financial institutions consider their risk appetite through other regulations.

However, the developments are not perhaps as advanced as those observed in some other overseas markets. Regulations encourage organisations to establish a robust risk appetite framework, but formal guidance and industry practices in this area still emerging.

*Authorised Deposit-Taking Institutions*

The Basel II 'use test' requires the risk estimates used in calculating capital requirements to be embedded in the running of the business. This recognises that risk estimates and measures of risk are of little value if used simply for estimating regulatory capital requirements.

Risk appetite is the link by which risk estimates or measures are converted to inputs in a decision-making process. Even if it is not clearly stated, risk appetite is implied in many of the bank's existing operations. For example:

- Many of the bank's past strategic decisions will have implicitly considered risk appetite and will imply a measure of previous risk appetite, such as acquisition or divestiture decisions.
- Credit concentration limits provide an indication of the bank's appetite for the risk of large single credit losses.

In recognition of the critical role that risk appetite plays in using risk measures, APRA included risk appetite in its Basel II internal ratings-based (IRB)/ advanced measurement approach (AMA) Accreditation Process for credit and operational risks. APRA also provided direction to ADIs in communications during the adoption of a Basel II framework in Australia, noting that risk appetite statements should be approved by the Board and be broken down by major risk types.

*Insurance Companies*

APRA requires life insurers (Prudential Standard LPS 220) and general insurers (Prudential Standard GPS 220) to have a risk management framework in place that includes certain key elements, to be described in a Risk Management Strategy (RMS). The RMS is a high-level document approved by the Board which outlines the company's risk appetite and its strategy for managing risk, and which documents the key elements of the risk management framework. Its purpose is therefore two-fold:

- it acts as a strategic driver of the company, by documenting the risk appetite; and
- it acts as a 'roadmap' to the risk management framework, enabling the reader to obtain an understanding of how the company manages risk.

Further, APRA is currently evaluating the prudential requirements for general insurers related to capital adequacy. In particular, APRA is attempting to ensure the capital-related standards for ADIs and insurers are consistent. One area in the ADI capital standards that may be instructive for insurers relates to the requirement that the Board to establish an Internal Capital Adequacy Assessment Process and a Board Risk Appetite statement. The underlying requirements of the Internal Capital Adequacy Assessment Process include both an effective and comprehensive review of risk appetite and an ongoing ability of the organisation to be able to continuously identify, measure, manage and monitor its risk position and to establish that it is within its stated risk profile.

**Comparison with overseas experience**

Overseas, the trend toward insurers being able to clearly enunciate and manage against their risk appetite has been driven by regulatory change. The requirements of Solvency II, to be established as the regulatory regime for the EU member states from 2012, will reinforce the existing trend. The draft Solvency II Directive issued in July 2007 includes the requirement every insurance operation will consider both its risk and solvency position – taking account of the risk profile, risk tolerances and business strategy, and to ensure that these processes are embedded as an integral part of the organisation's activities on a continuous basis. It is to be expected that the requirements for Australian insurers will evolve similarly.

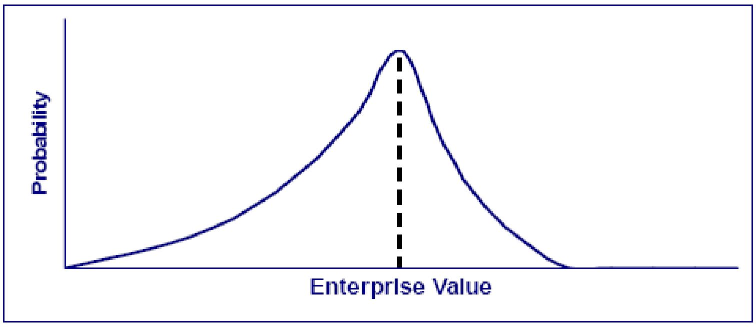
Publicly listed Australian insurers must also consider shareholders' expectations. When determining an approach to defining risk appetite, an instructive learning from overseas experience is the potential issues with adopting a capital centric approach. Economic capital assessment is often one of the first steps undertaken by financial institutions in their ERM program. However, there are implications of using this approach to defining risk appetite, including:

(i) Economic capital measures do not typically incorporate all of the risks of the enterprise as not all risks, such as operational or strategic risks, are readily quantified.
(ii) The approach does not necessarily result in a definition consistent with the optimal level of risk.

Using enterprise value based metrics rather than economic capital can help overcome these issues and provide a measure that is more closely linked with shareholder value. For example, risk exposure can be expressed as probabilistic ranges of enterprise value volatility, or Enterprise Shock Resistance (ESR). This ESR measure captures all risks in a single metric and facilitates finding the level of risk that maximises value. (Segal, 2006)

The process for using value-based metrics starts by measuring the impact of various risks on enterprise value, defined as the present value of expected future earnings discounted at the weighted average cost of capital. Stochastic risk simulation is then performed to produce a range of enterprise values. The width of the enterprise value distribution indicates the ESR. Figure 2 below illustrates this distribution, with the dotted line indicating the baseline estimate.

**Figure 2 – Illustration of Enterprise Shock Resistance**




Source: Deloitte Touche Tohmatsu

In the risk appetite context, the organisation reviews the ESR and associated metrics to determine whether it is comfortable with the enterprise value volatility. This effectively defines the organisation's risk appetite.

## 4. Practical Issues

Insurers are in the business of risk, which raises the question of why is it so hard to integrate a risk appetite throughout the organisation. The difficulty generally arises from practical issues that impede that process.

### External Issues

Determining acceptable risks requires balancing the needs of the various stakeholders, which can often be at odds. For instance, higher returns demanded by stockholders may require a more aggressive risk appetite, yet this may raise regulators' concerns regarding the company's ability to honour its obligations, particularly to policyholders. Furthermore, regulators' focus on solvency may lead to methods of capital allocation that are not optimal.

One common limitation to risk appetite is the difference between what a company believes is its capital utilisation versus the opinion of the stakeholders, such as rating agencies or regulators. For example, if a company believes its capital utilisation is much lower than a rating agency does, it may never be able to assume the level of risk that corresponds to its risk appetite without receiving rating agency scrutiny or a possible ratings downgrade.

When stakeholders have competing views, the company must prioritise these needs to properly balance stakeholder interests when setting the risk appetite and supporting tolerance levels for risk-taking activities.

Once a company has established its appetite for risk, it may find that market pressures will not allow the company to achieve its goals. For instance, reinsurers can sometimes lack insights into what the ceding company is writing and can get left with business they did not intend to assume. On the other side of the equation, a direct insurer may wish to use reinsurance to accomplish its strategy but lack of availability of affordable coverage may force the ceding company to accept a higher level of risk than it planned.

Determining risk appetite levels may be more difficult for certain lines of business. Hedges for financial risks tend to cover shorter time durations. This can be problematic for long-tailed lines of business or contracts that cover more than one year, such as life insurance or finite reinsurance. Risk-reward strategies may be dependent on the availability of particular types of securities in the marketplace.

### Internal Issues

Even though they are in the business of risk, insurers can struggle with focusing their risk assessment skills inward in order to develop a formal risk appetite. Financial risks are easier to translate into a risk appetite or risk tolerance measure than other types of risk. Non-financial risks, such as operational risk, are more difficult to define. For instance, customer dissatisfaction due to poor claims handling is a risk that is difficult to measure in the same framework that one would use to measure the credit risk of an investment portfolio.

Another potential issue arises because the risk management framework of a company is typically set at the executive level, involving the Board and senior management. These executives may determine a robust, coherent risk appetite and risk tolerance levels, but the framework must be appropriately communicated throughout the organisation to be effective. If risk awareness is not embedded in the company's decision making structure and culture, individual business units may make decisions that are sub-optimal or not aligned with the strategy. Similarly if the overall framework cannot be disaggregated in a way that individual business units can readily assess whether decisions are in line with the framework, then this can also pose implementation issues.

Conversely, some companies attempt to build the risk appetite from the bottom up. In these instances, detailed risk tolerance-type levels are set at the business unit level based on factors such as the unit's lines of business, the operating environment and current market conditions. Senior management then attempts to aggregate the risk tolerances into a comprehensive risk appetite for the organisation. For large, complex organisations, it can be difficult to consolidate the various tolerances and ensure the resulting risk appetite is aligned with the overall strategy set by senior management and the Board.

A common issue is that a company only reviews and modifies its risk appetite periodically, such as annually or even less frequently. This can lead to problems if there are changes in business environment or in the company's strategy. A review of insurance sector practices by the Financial Services Authority in the UK found that where risk appetites are actively monitored and reviewed, the risk appetite was believed to be more relevant and thus more frequently adhered to in day-to-day business operations.

### Modelling Issues

There are also a range of quantitative issues which may impact on the ability of the company to develop and implement a robust risk appetite framework. The following list provides examples of these types of issues.

- Economic capital, commonly used to quantify risks, is not as useful for certain risks, such as strategic or operational risks.
- The degree to which accurate tail values can be calculated may be poor because historical events or other data is not available to generate reliable model results.
- Most risks exhibit consistent patterns of volatility over time. However, there are risks where the underlying fundamental drivers of volatility have changed, making it difficult for risk models to predict.
- The complexity of modeling the long term affects of economic and market conditions or complicated contracts can challenge even sophisticated high powered computer models.
- Concentration risk in large metropolitan or catastrophe prone areas, such as populated coastal regions, can produce exposures that are difficult to model with accuracy.

Further, it is necessary that not only the creators of the quantitative analysis but also the users understand and buy into the robustness of the results.

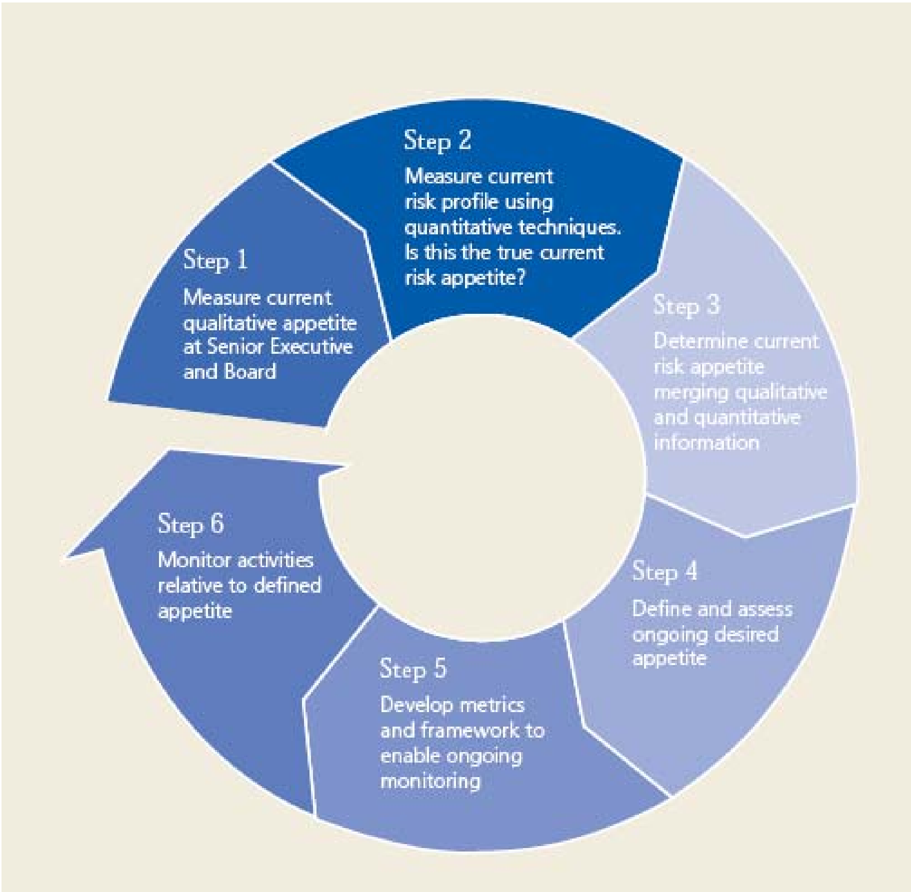
## 5. Implementation

### How to move forward?

For an organisation with no formal risk appetite or a rudimentary risk management framework, the first step is to develop a clear understanding of the company's risk appetite. It is important to keep in mind that there is no right answer – the appropriate risk appetite will be different for every organisation. Each company needs to consider its unique situation with regard to its level of maturity, its near-term and long-term strategies, its culture and the dynamics of the markets it operates in.

Like many new concepts, the difficulty for most organisations wishing to implement a risk appetite framework is knowing where to start. We suggest that the six-step process illustrated in Figure 3 could be adopted by most organisations as the key early steps on their risk appetite road map.

**Figure 3 – A risk appetite implementation road map**




Source: Deloitte Touche Tohmatsu

The first step is to assess the risk appetite of the Board and senior management. Individual investors' financial advisors assess their client's risk appetites using an interview and questionnaire process, evaluating their financial needs, desires and their attitudes to risk and uncertainty. This idea is often adopted and customised to assess the risk appetite of the Board and senior management of organisations. A tool can be designed that gathers the data necessary, often using a combination of techniques, to get a frank and unbiased assessment.

For instance, an initial group discussion on the importance and basic principles of risk appetite can be followed by a group assessment then anonymous individual assessments. It can be surprising what CEOs and Chairpersons learn about the opinions of their teams when everyone is free to speak freely and anonymously.

The second step is to measure the current risk profile. This serves three purposes:

(i) it provides the impetus and resources necessary to define the initial metrics by which the organisation's risk appetite can be measured, to set up monitoring systems and being any required data collection

(ii) it provides a starting point for the ongoing monitoring of risk profile and the comparison of this to the risk appetite

(iii) it provides a check against the risk appetite that the Board and senior management articulated in step 1.

In our experience, these parties can express themselves to be more risk averse than they have been in practice. This means that the risk appetite they profess is far more conservative than the risk profile that the organisation runs by, often successfully.

The next two steps re-assess the professed risk appetite in light of the current and historic risk profiles of the organisation. If these risk profiles do not meet the professed risk appetite then the organisation needs to:

- investigate why it has been operating at a risk profile different to the stated appetite and what it can to do address this
- re-evaluate the professed risk appetite, in light of the quantitative measures of the current and past risk profile, as a measure of what might have served them well in the past.

Example 1 below illustrates the process used by a financial services organisation to tests its risk appetite and risk tolerance levels.

**Example 1: Testing risk appetite and risk tolerance levels**

Forecasts and risk quantification techniques are used to simulate scenarios through a risk appetite model. Risk tolerance ranges are then compared against historical volatility and potential simulated future outcomes for key profitability metrics, such as earnings growth or return on equity. Results can fall into three categories:

(i) Areas of confidence – where the range of potential outcomes is within the risk tolerance range.

(ii) Areas of opportunity – the range of potential outcomes is above the risk tolerance range.

(iii) Areas of concern – the range of potential outcomes is below the risk tolerance range.

This provides information that can be used to validate risk tolerance ranges and to assist in better understanding the company's business volatility. The results can also provide insights into areas of opportunity which can assist with strategic planning.

One area that organisations may find particularly difficult in assessing risk appetite is combining the quantitative measures for the various risks, especially determining how to incorporate an appropriate allowance for diversification across risks.

Once the risk appetite is initially defined, it is important to regularly measure the risk profile and ensure that it remains within the parameters of the risk appetite. Procedures should be established to review and amend any breaches and to escalate areas of concern to the Board and senior management.

Finally, risk appetite is not a static exercise and will vary from time to time, with the circumstances and strategic imperatives of the organisation. A process should be established to review the risk appetite at least annually and ensure that it remains relevant for the organisation's current circumstances.

The six step process outlined above is a very basic and elementary approach. The following sections address how a company with a rudimentary risk appetite framework can add elements of sophistication in order to move towards a best practice approach.

**What might a gradual move forward look like?**

Before attempting to reach a best practice approach, the organisation should ensure that its risk appetite and risk tolerance framework address the concerns of regulators and, if relevant, rating agencies.

Although compliance with applicable regulation is mandatory, first movers will be rewarded with competitive advantage. This was seen by the banks that were early adopters of the Basel II framework. Likewise, Australian insurers with foreign parents may benefit from the knowledge gained by overseas colleagues who have gone through new risk management regimes.

Additionally, the impact of insurers' risk management on credit ratings will become a competition ground as they seek to influence third party views of their risk management approaches. Standard and Poor's expectations of a financial institution's ability to articulate its risk appetite are as follows:

> "Qualitatively, they need to be able to articulate the risk appetite in terms of the impact on capital, revenues and the workforce if a given event were to occur. Specifically, they need to know how much they are prepared to lose if a particular event were to take place. Then, using all their internal metrics, they can then drill down to the specific quantitative tolerances and how that risk is attributed across different business and risk types. Our goal is to see if institutions have a coherent and integrated articulation of this process." (Samanta, 2007)

The ability to meet these expectations is paramount for companies seeking a rating of strong or excellent.

Another important element in implementing a formal risk appetite framework is to ensure that the risk appetite and risk tolerances are communicated throughout the organisation. Example 2 outlines how one insurer accomplishes this task.

**Example 2: Translating risk appetite to the business unit level**

Risk measures which are deemed to be important steering tools are determined.

A risk tolerance is then developed for each individual risk measure. These tolerances are developed through modelling, with lower tolerances used when the risk models are less reliable.

The risk measures and associated risk tolerances are communicated to the business units. Business units operate within the risk tolerances unless a risk constraint arises. When constraints arise, the resolution is dealt with in the manner that maximises expected profits subject to the risk constraint.

The risk tolerances are reviewed regularly to ensure that they are still appropriate.

Example 3 provides a further example of how an insurer uses a top down allocation approach to determine risk tolerance levels at the business unit level.

**Example 3: Top down allocation approach**

Initial capital and return on capital targets are given to the business unit by senior management.

Business units resubmit financial plans using the assigned information and senior management reviews the impact of the updated plans on the risk appetite and risk tolerance levels.

- If acceptable, the plans are confirmed and risk tolerance levels are allocated down to the business unit.
- If not acceptable, senior management determines what measures need to change to produce an acceptable risk and return profile. Revised capital and return on capital targets are given to the business unit, and the process is repeated.

**What would it take to get to best practice?**

Best practice is a somewhat elusive concept in the area of risk appetite, as the best practice for a particular organisation's circumstances may be different to that for another organisation. One interesting point of view on this issue is the observations of Herbert Simon, Nobel Prize winner for Economics, who observed the following which is relevant to the consideration of the approach adopted for considering risk appetite - we can neither know everything nor adequately process everything that we do know. We eventually come to the end of our time or energy when developing a framework and model to understand a subject. In this view, people are often satisfied once a simple rule of thumb or "heuristic" is developed. (Simon, 1983)

This raises the question as to whether such rules of thumb have yet been established with regards to risk appetite. It would seem that financial services organisations' practices around risk appetite are still evolving, and it is becoming accepted that there is no single best approach for defining risk appetite. In fact, each organisation's risk appetite should be different, as the chosen definition and risk tolerance objectives will reflect the characteristics and business strategy of that organisation.

Although the specifics will vary depending on a company's unique situation, the general process for defining risk appetite may be similar across organisations. Based on our observations and those of our overseas colleagues, some learnings that can be drawn from the experiences of financial services organisations are as follows:

- It is easy to become overwhelmed with the complexities of ERM. There are numerous possible key risk indicators (KRIs) that could be used in setting risk appetite and risk tolerances. It may be most efficient to identify the primary risks that will influence results and ensure that the related KRIs are the ones that are built into risk appetite objectives.
- Defining the risk appetite requires balancing the expectations of various stakeholders. Because these expectations can be at odds, the organisation should consider what balance is appropriate. Who has the power over the destiny of the organisation? Are those parties' needs or expectations rational? Where does the organisation see the market going?
- Risk appetite tends to be defined using a combination of quantitative and qualitative measures.
- Tolerance ranges may use metrics that peer groups are measured by or what management determines is important in managing the business.
- The risk appetite should be tied to the organisation's long-term strategy. However, the risk appetite definition and risk tolerance objectives should be revisited at least annually, and perhaps more frequently if the organisational structure changes or in the event of significant marketplace shifts.
- Internal surveys may be a useful tool to assess risk awareness within functional areas and whether the risk appetite is being appropriately communicated throughout the organisation.

In conclusion, accepted risk management practices indicate that a formal, approved statement of risk appetite is a key guiding document in an organisation's ERM program. The global financial services industry has made advancements in ERM over the last several years, primarily driven by the implementation of risk-based capital regulatory frameworks. The first movers in the industry have uncovered several practical issues in defining risk appetite, including the need to balance the expectations of various stakeholders, the challenge of finding appropriate measures for both financial and non-financial risks, and the difficulty of communicating the risk appetite throughout the organisation. Building on the learnings from these first mover organisations and evolving practices related to risk appetite, ADIs and insurers in Australia can endeavour to further refine their risk appetite frameworks.

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