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ERM – Capturing the Upside

Prepared by Brett Riley

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The Institute of Actuaries of Australia
Level 7 Challis House 4 Martin Place
Sydney NSW Australia 2000
Telephone: +61 2 9233 3466 Facsimile: +61 2 9233 3446
Email: actuaries@actuaries.asn.au Website: www.actuaries.asn.au

ERM – Capturing the Upside

Abstract

Traditional risk management has several negative associations. These include a focus on compliance and restrictions on risk taking. One of the important changes that Enterprise Risk Management (ERM) brings is an emphasis on accepting more of the right risks i.e. those offering a suitable reward for the risk accepted.

“Capturing the upside” of ERM has a broader interpretation as well, namely the realisation of commercial benefits such as holding less capital, a lower cost of capital, improved stakeholder relations, better responses to emerging risk issues and better overall risk-return outcomes.

In this paper six areas are suggested for short term focus by Australian financial services firms, in order to achieve this. They are:

1. Risk Culture
2. Management Oversight
3. Risk Appetite
4. Corporate Strategy
5. Better use of Planning
6. Better Reporting and Information.

Some practical examples and case studies are also included.

This paper is not intended to cover all aspects of ERM. Rather, it is an exploration of the practical areas that most firms can focus on to derive greater benefit from the risk management framework already in place.

Keywords: Enterprise Risk Management, Risk-Reward Trade-Off, Competitive Advantage, Risk Appetite, Risk Culture, Planning, Strategy, Key Risk Indicators.

1. Introduction

The initial idea for this paper was to focus on risk-return trade-offs, in terms of risk analysis. However, as my thinking on the subject evolved the focus of this paper shifted. The result is a broader discussion of the benefits of using Enterprise Risk Management (ERM) to drive commercial and competitive advantage, not just regulatory compliance.

There is a slight general insurance bias in the paper. This should not discourage members from other practice areas from reading the paper; its findings are broader than general insurance. In fact, the case studies include examples from the areas of commercial and investment banking – perhaps unsurprising given recent experience.

The infrastructure for ERM is in place (to varying degrees) for most Australian insurers and banks. However, ERM in its true sense is still aspirational for many. This paper explores and discusses opportunities to go further in order to use ERM to add value to an organisation through efficient risk taking that is targeted and controlled.

What is Risk?

I will start by giving my definitions of the terms “risk” and “ERM”. This serves two purposes. Firstly, it will give some background to readers new to or possessing a basic knowledge of ERM. Secondly, it will give some context to the remainder of the paper.

Possible definitions of risk include:

- *Variability in future outcomes.* This type of definition emerged from Modern Portfolio Theory, where variability was used to measure risk due to useful mathematical properties in the era before personal computers. This covers, for instance, variability in earnings.
- *Exposure to the chance of loss or injury.* This implies some probability of adverse outcomes and an associated impact (i.e. severity of loss). For instance, this form covers the probability of insolvency or impairment as a measure of risk.

My definition is as follows:

Risk is the likelihood of failing to meet objectives.

The benefits of this definition are:

- It can be applied more broadly than other definitions that are more focused on financial measures. It can be applied to operational and strategic risks, such as reputation risk.
- It ensures consistency if the firm’s mission statement, corporate objectives and division/business unit objectives are internally consistent. It can encompass the alternative definitions above. For instance, objectives can be set to limit the probability of impairment and the volatility of earnings.
- By focusing on probabilities it is simple. Impacts are implicit. Different thresholds can be set in the objectives for events of varying impact (e.g. insolvency versus low earnings).

What is Enterprise Risk Management?

Similarly, I would like to define ERM. There are several versions which are commonly used. The Casualty Actuarial Society (2003) says:

ERM is the discipline by which an organisation in any industry assesses, controls, exploits, finances and monitors risks from all sources for the purpose of increasing the organisation’s short and long term value to its stakeholders.

COSO (2004) defines ERM as follows:

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Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

While I agree with the content in these, I have found in practice that it is difficult to convey the meaning of ERM to others using these definitions. My working version is as follows:

ERM is the generation of superior performance in a firm through the use of better information and the improved management of all risks which threaten the achievement of the firm's objectives.

The reference to superior performance increases the likelihood of engagement with ERM by Boards and managers. ERM is essentially about two issues. The first is improved information flows, in terms of better information provided in a timely manner. The second is improved management via strong feedback loops to act on better information earlier. Finally, it is important that risk management is tied to the firm's objectives (and hence strategy).

Capturing the Upside of ERM

In this paper six key ingredients are identified for short term attention for “capturing the upside” that ERM promises. These are (in no particular order):

1. A strong risk culture
2. Sound management oversight
3. Setting a well articulated and explicit risk appetite
4. Aligning risk with strategy
5. Making better use of business plans
6. Improving reporting and information.

These are illustrated in Figure 1 below.



Figure 1 – Key Ingredients to Capturing the Upside of ERM

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Figure 1 is designed to show the interconnections and overlaps between these six areas; indeed, the same comment could apply to all areas of an ERM framework.

This paper also briefly explores some other topics of relevance, namely using risk management for tactical adjustments, risk analytics and the need for pragmatism. These (and other areas of ERM) did not rate highly in my opinion as key areas with high potential for short term improvement. It may surprise some readers that risk analysis did not make the list. I concluded that this is an area that has been or is being addressed by most financial services companies. Moreover, this is not meant to imply that these other areas cannot be improved. I have not sought to produce a manual on ERM best practice, so some areas have not been covered.

The material for this paper has been developed partly from my practical experience working for Australian and UK general insurers and previously in funds management. It is also based on my reading and research in this area in the last few years. It has a strong practical focus.

Outline of the Paper

This paper is structured as follows:

- In Section 2 the risk culture of a firm is considered. This is a key ingredient to capturing the promise that ERM offers. Nonetheless, it is difficult to define, measure and manage.
- In Section 3 the related topic of management oversight is covered.
- Section 4 addresses the need for an explicit and well-articulated statement of risk appetite.
- In Section 5 ERM is linked to corporate strategy.
- Section 6 considers the greater use that can be made of the business plan for risk management.
- In Section 7 better reporting and information flows are discussed.
- Section 8 briefly considers the interaction of risk management with other areas, including tactics, analysis and the need for pragmatism.
- Section 9 contains four case studies.
- Conclusions are drawn in Section 10.

Acknowledgement

The author would like to thank Geoff Atkins for his review of this paper. However, the views and opinions given, and any remaining errors, remain the responsibility of the author.

2. Risk Culture

As stated in Section 1, in my opinion risk culture is one of the key missing pieces in the execution of best practice ERM in most Australian financial services firms at present. As such it is the first of the six key ingredients that I have addressed.

Sponsorship

It is difficult to prescribe how to “fix” or improve risk culture. However, I agree with Deighton et al (2009) that the Chief Executive Office (CEO) must sponsor and drive it. Otherwise any initiative will almost certainly meet some resistance within the firm.

While in theory the risk management framework is driven by the Board, in practice the Board will approve initiatives and policies from the CEO and senior management. Moreover, the CEO will be the key driver of changes in behaviour within the firm due to his or her management role and higher profile. Having said this, the Board must also agree to the initiative to improve the firm’s risk culture.

Implementation

While it seems a trite comment, it is true that there is no single solution applicable to each firm. Each firm wishing to improve its risk culture will start from different positions. Each has different issues to deal with. What I have outlined below are the broad common features each firm should address. These are:

- Communication. This is arguably the most important element. It entails a three stage process:
 1. The CEO must explain the initiative to other senior management, such as the Chief Financial Officer (CFO) and Chief Operating Officer (COO) and to the Business Unit (BU) managers. The CEO will be assisted in this by the Chief Risk Officer (CRO), or equivalent, but the communication must come from the CEO. The CEO must explore political opposition and explain what he or she is trying to achieve.
 2. The CEO should then communicate this to all staff. This may be done using one or several media, such as email and “town hall” meetings with staff. The advantage of taking the first step above is that other levels of management will be more likely to support the initiative and send the right message when their reports raise questions.
 3. The CEO, supported by the risk function, must continue to publicise risk issues and push risk “up the agenda” on an ongoing basis.
- All staff must be treated equally in respect of the “non-negotiable” issues. If the “stars” in the firm (e.g. underwriters or traders) do not have to follow the rules, other staff will not be fully supportive.
- Review induction material and training programmes to ensure that the training on risk issues for all staff is appropriate. The need for risk awareness should be raised here.
- Performance related remuneration must be aligned with the firm’s objectives. It should encourage good long term outcomes rather than short term performance. This is topical at present and is under review by APRA (e.g. in the context of higher capital risk charges for poor alignment of incentives and risk taking activity). While suitable pay structures may vary from one firm to another, it is generally accepted that more incentive pay should be deferred and more should be paid in equity rather than cash.
- Deighton et al (2008) note the importance of paying risk management staff well to retain them. This ties into changing the negative perceptions around risk management discussed throughout this paper.
- Review performance objectives of each member of staff.
- To avoid risk management being seen as a bureaucratic distraction, the CEO should ensure that risk management addresses and focuses on hard financial aspects of the business in order to make it practical. Ideally, it should measure the Economic Value

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Added (EVA) of various risks taken and also the Return on Economic Capital (ROEC) for different parts of the firm.

- Deighton et al (2008) also note the importance of celebrating interim successes. This has the effect of rallying support around the firm's ERM strategy. In terms of improving risk culture these might include:
 - The removal of unnecessary controls on the business.
 - Better pricing through the identification of emerging risks.

Many of these changes are refinements to the existing management infrastructure.

The Message

What message should the CEO communicate? It should include the following:

- Risk management is everyone's responsibility. The CEO should emphasise the top down and bottom up nature of risk management.
- Risk management is "business as usual". One of the firm's objectives should be that it should become second nature to all staff.
- The prestige of risk management should be lifted alongside, or at least closer to, the revenue generators. The latter can win business and short term profits. However, with poor oversight they can also assume excessive risk and ruin the company. The examples of recent failures that resulted from the actions of the structured products area at AIG and the traders and structured finance teams at the likes of Bear Stearns and Lehman Brothers are cases in point. The ability of risk management to protect a strong brand and franchise must not be understated.
- Risk management is not internal audit. It is not compliance. It is essentially about better decision making. It must be communicated as a non-threatening initiative. For instance, it might be "branded" internally as both risk and opportunity management.
- Related to the previous point, examples should be given that demonstrate that risk management is not bureaucratic and does not unduly slow down decision making. This will enable the exploitation of opportunities.
- An open risk culture should be promoted and encouraged. Constructive internal challenges of each aspect of the business impacting risk should be encouraged. "Group think" must be avoided. A healthy degree of scepticism in every aspect of risk management is good. For instance, the underlying assumptions that house prices would continue rising and that any falls in property prices would not occur simultaneously at a national level were, with the benefit of hindsight, poor assumptions in the lead up to the sub-prime losses of 2007 and 2008.
- Linked to the previous point, Deighton et al (2009) promote an openness to failure. In other words, it is important to understand what went wrong. The firm must accept bad news, as ignoring it will not make the task of managing it any easier. Conversely, near misses that did not convert to actual losses (however these are defined) should be celebrated as a risk management success.
- Tripp et al (2008) promote the concept of "imagineering". This is, in colloquial terms, expecting the unexpected. The CEO must encourage more consideration of "what if" scenarios. This idea is explored further in the section on planning.
- To keep it practical the message should be linked to the achievement of objectives (and by extension the incentive-based remuneration of all staff).

While in other parts of this paper I have recommended an incremental approach to drive improvements in ERM, changing risk culture (if needed) is one area where a clear break with past practice should be communicated clearly to internal and external stakeholders.

Potential Barriers to Success

Deighton et al (2009) list four potential areas of conflict that may be barriers to the successful implementation of ERM. I have listed these below due to their relevance to risk culture. They are:

1. *Executive versus Non-Executive Directors.* These groups have different financial stakes in the company (the former having a larger stake). A danger is that to protect their incomes and reputations, management may present a biased, optimistic view to Boards. This tension does not promote good ERM. Independent assurance is critical.
2. *Centralised versus BU Risk Management.* An embedded ERM framework requires the first level of risk management to be performed at the BU level. However, a problem occurs for risk management specialists at the BU level – should they report to BU managers or to the central risk management function, or both? Whatever is done, improving the profile and prestige of risk management in the firm will help alleviate this conflict.
3. *Theory versus Practice.* Many of the assumptions, models and theories used in risk management have been found wanting following the current Global Financial Crisis (GFC). This does not mean that existing risk management techniques should be discarded. They are an improvement on previous approaches. However, it must be remembered that models are an abstraction of reality, but a useful one for understanding and communicating risk issues.
4. *Relations with Regulators and Rating Agencies.* Meeting the needs of these parties is the main reason that Australian firms have adopted ERM programmes. The overriding argument of this paper is that companies should pursue ERM for its commercial benefits. Good practice will meet the needs of regulators and rating agencies.

The allocation of economic capital can be a highly contentious issue with BU managers, particularly when their remuneration depends on meeting return on capital targets. It is important to have a method of allocation that is robust and well communicated.

The CEO (supported by the CRO) must look for indicators among managers and staff of a lack of commitment to ERM. These include:

- Risk reports and risk registers not being updated regularly.
- Too few losses are reported.
- Too few near misses are reported.
- Low expenditure on control and security functions.

Such findings should drive the reviews and improvements suggested in this section.

Changing Mindsets

Fundamentally, improving risk culture is changing the mindset of all internal stakeholders. This will only happen if it is communicated by the CEO and the CEO leads by example.

As is the case for all ERM initiatives, excessive change should not be promoted if this risks destroying an existing sound culture and well-managed firm. Conversely, if the change is too marginal the desired change in mindset may not eventuate. The right balance must be struck.

A Good Example

Section 9 contains a case study of Goldman Sachs. This firm has been studied in some detail recently, in part because of the direct impact of the GFC on its industry but also because it has fared better than many of its competitors. This is largely due to a healthy risk culture. This is explored further in Section 9.

3. Management Oversight

The second key ingredient explored for capturing the potential upside from ERM is good management oversight. This does overlap with other areas to some extent (especially risk culture) but it deserves separate coverage.

Desirable Management Qualities

Business management is too broad a topic to be covered in detail in this paper. The focus instead is on those features that have a strong bearing on better ERM. They are:

- Excellent communication.
- A suitable vision and strategy for ERM.
- A strong understanding of the business. Warren Buffett once noted that risk comes from not knowing what you are doing.
- An interest in all risks that may impact the achievement of objectives. In other words, suitable curiosity about the broad spectrum of risks that may threaten the achievement of the firm's objectives.
- Leadership by example.
- Discipline in executing the firm's strategy, which should be aligned to risk management via the statement of risk appetite.
- A willingness to listen to and consider the advice of others, however unpleasant it may seem.

These skills should be present in different managers to different degrees. For instance, the skill set of the CEO should be different to that of the CRO. Interested readers may refer to Appendix C of Deighton et al (2009) for a possible job description for a Chief Risk Officer. Section 4 of Tripp et al (2008) discusses the implications for actuaries for the future in the ERM area, including around the CRO role.

There is considerable overlap between management oversight and risk culture. This is desirable as the risk culture must be driven by management.

Risk Types – A Tool for Focusing on Risk

Before I discuss management oversight in an ERM context, I will take a slight diversion. As noted above management should have a clear view of all material risk types. Figure 2 below illustrates a risk classification framework that can be used.

The four main types of risk in Figure 2 are:

- *Insurance Risk* – this covers all risks associated with the underwriting function, including underwriting and pricing, claims (both occurrence and run-off risks), reserving, reinsurance and expense risk. This is sufficiently generic to apply to a life, general or health insurer.
- *Financial Risk* – this relates to market, credit, liquidity and balance sheet risks. Market risk in this context includes interest rate and exchange rate risks as well as the more obvious equity and property price risks.
- *Operational Risk* – this deals with the risks arising from “business as usual”. The classification in Figure 2 includes the external and internal risks as defined in the Basel II regulations.
- *Strategic Risk* – this relates to those risks that may materially disrupt “business as usual” for the firm. Again, I have split these further into internal and external sources. Some might refer to these as business risks.

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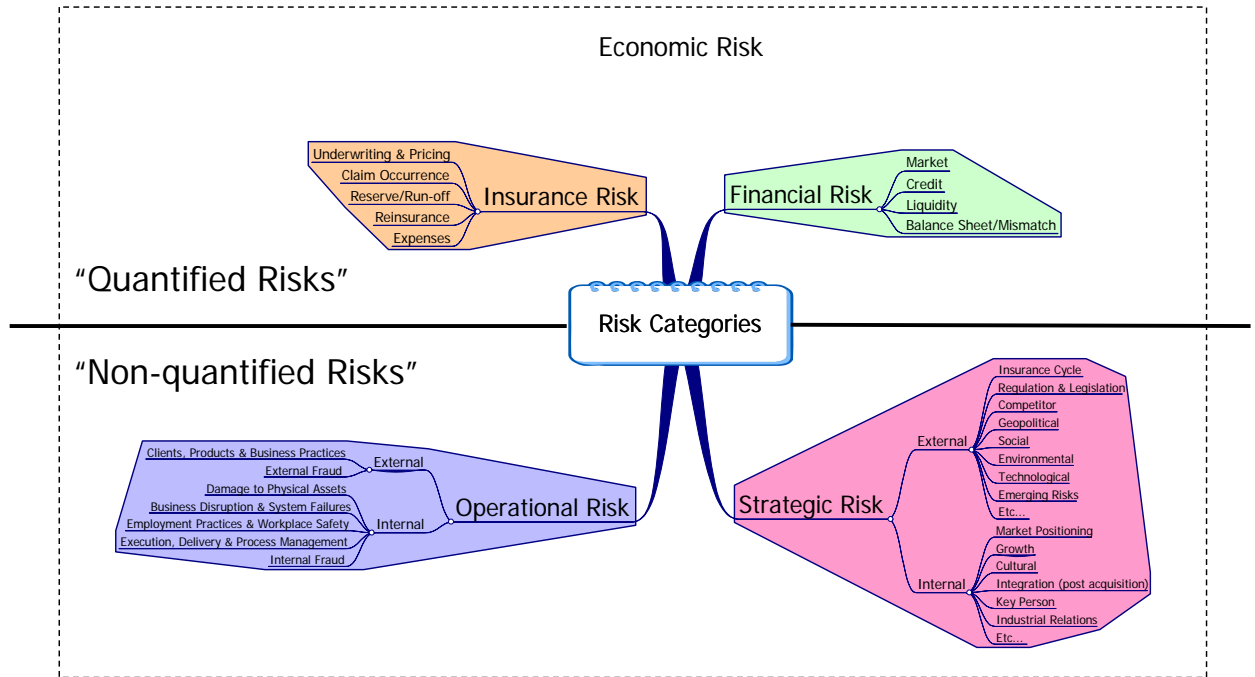


Figure 2: Risk Categories

Other points worth noting are:

- Economic risk is represented as a macro influence affecting all four main risk types. Such economic risks include interest rates, economic growth and unemployment.
- I have drawn a dividing line to make a clear distinction between quantified and non-quantified risks. The differences are as follows:
 - Quantified risks have traditionally been well analysed compared to non-quantified risks due to more data being available. The controls are more established as well (e.g. reinsurance, hedging, ALM). Quantified risks generally manifest in the financial accounts in the period in which the loss event occurs.
 - Non-quantified risks tend to have poorer data, the analysis is weaker and they are often less well understood. Non-quantified risks may manifest in periods after the underlying loss event. For instance, the income statement and balance sheet may not be impacted for some time after a strategic error, damage to reputation or internal fraudulent behaviour commenced.

Efforts are being made to improve the analysis, and hence management, of the non-quantified risks.

The classification structure outlined above might be debated. For instance, should the execution of the strategy be an operational risk as this should be “business as usual”? Or should the risk of a rating downgrade on a corporate bond price be credit risk or market risk? These arguments miss the point to some extent. What matters is that any allocation is judgmental. The allocation should fit the way the firm thinks about risk, it should be internally consistent (i.e. no gaps) and it should be used as one tool in the ERM infrastructure to think about risk and to communicate throughout the firm a consistent approach to managing different types of risks.

This leads us to how management might use such a tool.

Management Oversight of Risk

The ideal is a measured, proportionate consideration and monitoring of all risk types, depending on their materiality. Sometimes management focus too much on quantified risks, as these are better understood, are more easily modelled and analysed and hence have a higher profile. Alternatively, management may focus on operational risks as this is the perceived domain of traditional risk management. It should be noted that operational and strategic risks are often the causes of failure for financial services firms.

Whatever the situation, the structure in Figure 2 (or something similar) can be used to map and consider all risks, in order to identify areas of weakness.

The following aspects of management oversight are important in the context of ERM:

- Qualitative and quantitative approaches must be considered for the two broad risk categories outlined in Figure 2.
- ERM is essentially about the flow of information to the Board and management and how this is used to manage and monitor the business. Reporting and Information are discussed in greater detail in Section 7.
- Boards and managers must state clearly the roles and expectations of each manager, staff member and committee, in order to avoid duplication and conflict. Buehler, K. et al. (2008b) point out that it is important to make staff accountable for managing risk. They must then receive the appropriate education and training, have the required tools and opportunities to report and discuss risk issues and then be empowered to manage risk within their area of responsibility.
- Management must understand the limitations of any risk management system. For instance, the limitations of models must be understood. Which assumptions does the model use? What would be the implications if these were wrong? Recent notable assumptions that were overlooked that could have been scrutinised further included:
 - The assumption by Northern Rock that wholesale funding would be always be available on acceptable terms.
 - The assumptions by sub-prime lenders and banks and dealers organising and investing in securitisations regarding US house prices (as described in Section 1).
- Always plan for what might happen, including extreme outcomes. Consider the range of possibilities. Then plan a response in each case. This is effectively deploying the concept of Business Continuity Plans (BCPs) in a wider setting.
- There should be some form of centralised risk management function, with a CRO or equivalent. The exact structure will depend on the size and complexity of the firm. Without a central risk management team the senior executives and Board cannot form a firm-wide view of risk. In Section 5.6 of their paper Deighton et al (2008) outline the relative merits of the CRO reporting to each of the CEO, CFO and COO.
- The Board and management should be asking many “what if” questions of both the central risk management team and the various BUs.
- Management should obtain multiple points of view, especially about risks that are not well understood. This may involve, for instance, a quantitative (e.g. actuarial) assessment and a qualitative view from a business expert.

In conclusion, the following quote from paragraph 3.5.6 of Tripp et al (2008) provides another useful perspective on ERM:

ERM is essentially about the practical application of common sense and good corporate governance to the profitable management of a business of uncertainty.

4. Risk Appetite

The third of the six key ingredients that I will cover for capturing the upside of ERM is risk appetite. This is a strategy for risk taking – therefore it overlaps with the following section on strategy.

What is Risk Appetite?

The risk appetite is an explicit statement of the amount and types of risk that a firm is willing to take. It might be considered as a risk budget that can be allocated across business units, regions and risk types within the business.

Background

In my experience most Australian general insurers have an implicit understanding of the firm's risk appetite. This has evolved over time, through experience. I imagine a similar comment could be made for banks, asset managers and health and life insurers. However, an implicit risk appetite is sub-optimal for several reasons:

- It leads to slower responses to changes in the risk environment.
- It can lead to inefficient risk portfolios.
- There can be internal misunderstandings about the firm's risk appetite. This relates to the previous point.
- It impedes the proper application of the control cycle to manage risk taking, in terms of monitoring actual risk experience against a plan.
- The risk management process may be inconsistent, as the evaluation of risks on the risk register is not done against a fixed standard.

An explicit statement of risk appetite facilitates the portfolio view that ERM requires. Furthermore, having a stated risk appetite is an indicator of a healthy risk culture in a firm.

What Does It Look Like?

A statement of risk appetite should not be too long. Many general insurers currently describe it in one or two paragraphs. I would suggest that something slightly longer, perhaps one to two pages, is suitable. It depends on how complex it should be, which depends on the firm.

In my opinion a statement of risk appetite for a bank or insurer should address the following issues at a minimum:

- A maximum probability of insolvency or impairment. The latter term refers to regulatory capital falling below a level acceptable to the regulator (in which case the operations of the firm are curtailed in some way). This should be straightforward for firms with DFA or internal economic capital models.
 - Some small to medium sized firms do not have internal models. In these cases the maximum probability of impairment may be replaced by a minimum acceptable capital adequacy multiple (i.e. the ratio of regulatory capital to the minimum capital requirement set by the regulator). Those insurers with capital models may choose to express the probability of impairment this way, to be used for regular monitoring.
- A maximum acceptable level of earnings volatility. While the previous point addressed capital and solvency issues, this covers the less extreme variation nearer the expected outcome. This measure is likely to be more relevant to most managers (with the possible exception of the CRO). Some refer to this as a “risk tolerance”.
- Which risks the firm plans to take and retain. These should be the risks in which the firm has a competitive advantage. This point is explored further in the next section.

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Acceptable thresholds may also be set for metrics on more qualitative risks (around reputation, regulatory and human safety risks, for instance). A sophisticated risk appetite may also be connected to other measures, such as:

- Risk capacity. This is the maximum amount of risk that could realistically be taken, regardless of appetite.
- Risk limits. These are the operational thresholds used to control activities, such as underwriting limits, investment management limits and reinsurance retentions and limits.

Many firms have limits for individual risk types but have not connected them into an overarching statement of risk appetite.

The high level risk appetite needs to be split by regions and divisions/BUs in the group. Each lower level risk appetite must be consistent with the high level statement and the firm's strategy. Risk aggregation techniques should be used to ensure consistency. As Deighton et al (2009) state, the end result is that local targets are set while the group needs are met.

Implementation Issues

In this section I give some perspectives on the practical issues in setting a statement of risk appetite. These are as follows:

- In practice it is best if it is drafted by management and reviewed by the Board.
- Workshops should be used to explore and discuss the issues. Separate sessions may be held by management and the Board (the latter reviewing the draft document).
- Deighton et al (2009) suggest that initially it should be set based on the current risk profile of the firm. This gives a baseline. Even if the current risk profile is not the long term target, the statement of risk appetite can evolve from this first attempt.
- The risk appetite should be tailored to the firm.
- CEO's should do their best. It is easy to put this in the "too hard" basket. Senior management should not shirk their responsibility in this area.
- It should be clear what will happen if the risk appetite is breached. The nature of the breach must be considered. Once established, a plan to move within the risk appetite must be developed. The appropriate managers or staff must be held accountable.
- Management and Boards should also be wary of a risk profile that is too conservative (i.e. that is comfortably within the risk appetite). Banks and insurers need to take risk to meet their corporate objectives, including to grow and to earn a suitable return.

The statement of risk appetite is a key document that all financial services firms should have in place, both for risk management and for setting the strategy. The next section explores corporate strategy further.

5. Strategy

The fourth key ingredient to capture the ERM upside that I have considered is corporate strategy. This is connected to the other areas considered, particularly risk appetite (as discussed in the previous section).

Introduction

Each firm should have a clearly stated vision and objectives, based on a medium to long term view. Strategy should then be directly connected to risk management, with each informing the other. This is represented in Figure 3 below.

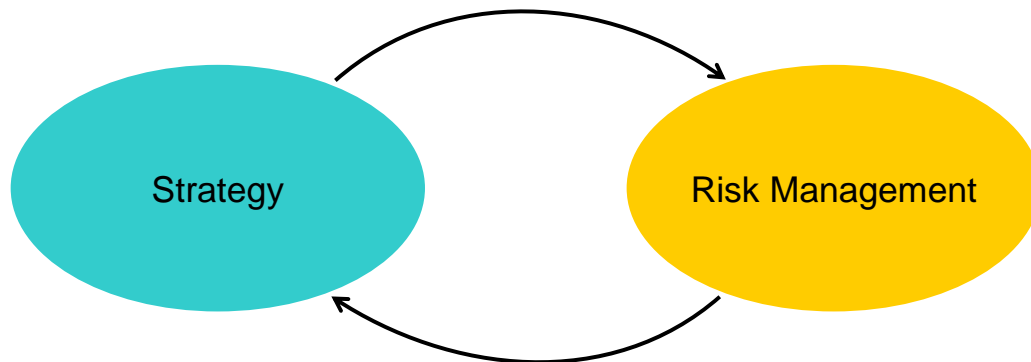


Figure 3 – Strategy and Risk Management

This is a simple diagram; its objective is to change mindsets about risk management. Risk management should be an explicit part of strategy setting. As indicated in Section 3 (including Figure 2), in my opinion strategic risk could generally be managed better. A strong connection with strategy should help in changing the negative perceptions often associated with risk management.

Diversification versus Core Competencies

An important strategic decision is which risks should the firm take? How diverse should they be? Should a firm assume a narrow range of risks aligned with its core competencies, or should it assume a broad range of risks to give an efficient portfolio of diversified risks?

Buehler, K. et al. (2008a) give the case for transferring or mitigating risks where the firm does not have a competitive advantage. I agree with this assessment.

Take the example of a general insurer. The insurer's primary risk taking competency is underwriting, pricing and claims management in their market segment(s). These segments may be defined by several dimensions – by class of business (or personal versus commercial lines), by distribution channel and by region. Some have businesses in several diverse segments while others specialise in niche markets.

The need to build a broad diversified portfolio of risks remains. This can be done within the above constraint, through building large portfolios of individual risks and/or portfolios across several segments. There is no need to retain risks outside the firms' core competency. If a concentration of risk remains (e.g. a large exposure to weather related catastrophe risk for a personal lines insurer) then this must be reduced via reinsurance.

Should general insurers take large investment risks? These may take one of two forms:

- Exposure to higher risk asset classes, such as equities and property.

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- Exposure to active investment management as opposed to passive management to a benchmark.

The first point can be addressed by the risk appetite. Does the firm have the willingness to assume some short term volatility in results from some exposure to growth assets? Dynamic Financial Analysis (DFA) demonstrates that for some portfolios, based on reasonable assumptions, a modest allocation to equities or property can lower risk while increasing expected returns compared to a conservative investment strategy. This is of course a strategic assessment; tactical views may differ when, for instance, current conditions arising from the GFC are considered.

The second point depends on core competencies as well as risk appetite. Does the firm have the internal staff to add value through active management? Or is it willing to outsource this to an external manager who it thinks can add value? Is it willing to take this incremental risk in the context of its risk appetite? For a reinsurer such as General Re, owned by the highly rated investor Warren Buffett's Berkshire Hathaway, controlled active management is a core competency. For a small niche Australian general insurer it probably is not.

In each case a firm must assess where its core competencies (i.e. its comparative advantages) lie and "spend" its risk budget accordingly.

The Risk Management Cycle

Buehler, K. et al. (2008b) specify a risk management cycle. This has been reproduced in Figure 4 below.



Figure 4 – Five Steps to Better Risk Management (Source: Buehler, K. et al. (2008b))

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While this is slightly different to a risk management process such as that outlined in the risk management standard AS/NZS 4360 (i.e. establish the context, identify risks, analyse risks, evaluate risks, treat risks, monitor and review and start again, all in the context of good communication and consultation), it is useful for emphasising the strategic dimension of risk management.

The article by Buehler, K. et al. (2008b) is a good description of the strategic dimension of risk. I have summarised the key points below.

In Step One, firms should focus on the risks that matter. The authors assert that the top five or so risks explain around 90% of the volatility of cash flows. This seems reasonable from a general insurance perspective. Such an assessment is typically covered in a DFA model. The benefit of this approach is that the range of outcomes is assessed, so the risks and the business are better understood.

In Step Two, Buehler, K. et al. suggest that management firstly look for vertically integrated natural offsets. One example they give is the reduced energy price risk for a firm owning a power generator and a retail distribution business. Firms should then identify the remaining risks where they have a natural advantage. Finally, for the remaining risks firms must establish if risk transfer markets are efficient. An example is given for banks and interest rate derivatives – even though banks have a competitive advantage in managing interest rate risk, the derivatives are so efficient that it often makes sense for banks to transfer interest rate risk. Similar comments apply for reinsurance. While insurers typically have a competitive advantage in their segment of the market, they use reinsurance as it is an efficient transfer mechanism.

In Step Three the authors describe two positions that firms can take without an explicit risk appetite. The first is a large implicit risk appetite without proper allowance for exposure to negative scenarios. The second is too much capacity (i.e. excess capital) and too conservative a risk appetite. Strong risk analysis (e.g. by using DFA) and the setting of a risk appetite alleviate the pressures to drift to these extreme positions.

In Step Four the authors acknowledge that humans are generally inefficient when processing and dealing with risk. Bernstein (1996) provides an insightful yet readable exploration of this topic. The upshot is that there is scope to improve by applying a structured consideration of risk to all decision making processes. Buehler, K. et al. (2008b) state that

Risk management is not an exercise to be undertaken just once by experts or once a year by risk departments. It is a mindset, a culture, a way of approaching problems, processes and decisions.

Finally, in Step Five the authors argue that a centralised approach is needed for a portfolio view of risk, even if some devolved risk management oversight occurs in a large firm.

This model of risk management has a strong practical dimension. It is a useful tool for the CEO to communicate the risk management approach throughout the firm.

Other Practical Issues on Risk Transfer

Firms should look for natural counterparties for their risks. Alternatively, they may identify natural or internal hedges. This is a key benefit of the portfolio view of ERM.

If possible, risks should be transferred within the group if possible before considering external solutions. This may be easier for larger firms with several divisions/business units than for smaller ones.

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I will illustrate this with two examples. The first is group reinsurance purchasing. In the past some insurers were inefficient in their purchasing of reinsurance, with each subsidiary buying its own reinsurance external to the group. Most groups are now more efficient, using an internal reinsurance captive to (a) purchase external reinsurance required by the group i.e. at higher retentions than individual subsidiaries would set and (b) reinsuring the subsidiaries to the retention they require. While this is a simple example and is now well established practice, it demonstrates the principle which can be applied more broadly.

A second example is Lenders Mortgage Insurance (LMI). LMI business is highly exposed to macroeconomic conditions and property prices. Are there any natural internal hedges that can be established for a LMI portfolio? There are some asset classes that are inappropriate for a LMI, such as property. Perhaps the same could be said for equities, as share prices may be expected to stagnate or fall in or around an economic downturn. Most LMIs invest fairly conservatively, in cash and bonds. Would it be reasonable for a LMI to invest a short position in equities, with the balance in cash? While the hedge against LMI claim risk is imperfect, is it reasonable? Is the basis risk too high?

Buehler, K. et al. (2008a) say that firms should continue to pursue new risk transfer mechanisms. I agree with this assertion, provided these have a sound basis. However, the appetite for new techniques may be low in light of the GFC and problems encountered with US mortgage lending leading up to the crisis.

It is important to note that transferring risk does not mean that all risk is eliminated. Instead, some new risks have been created. The classic general insurance example is the purchase of reinsurance protection – the claims cost risk is replaced by reinsurer default risk. The lesson is that firms must be careful with the risk transfer tools that are used.

Moreover, firms must remember that it is possible to transfer too much risk. A useful exercise is for firms to review their inherent and residual risk profile and explore areas where this may be occurring.

Summary

A key objective for any firm, and particularly for a bank or an insurer, must be optimal and efficient risk taking. As Deighton et al (2009) note, embedding risk management in strategy setting will lead to better strategic decision making. It is a way of avoiding missed opportunities.

Buehler, K. et al. (2008a) recommend that each firm should regularly reassess which segments and which types of risk it wishes to take, as part of setting strategy. Firms need to understand where they are exposed. They can then use ERM as a strategic organising principle.

Strategy must be set taking a medium to long term view. This also applies to the risk management component of strategy.

6. Planning

The fifth key ingredient to be discussed for capturing the potential upside from ERM is planning.

Untapped Potential

Actuaries tend to seek complex and sophisticated modelling solutions. DFA is a case in point. While DFA is an important tool and arguably should be used by those seeking best practice in ERM, the potential to embed better risk management in business planning is often overlooked.

The advantage of the business plan is that it does not need to be highly technical. BU managers can use this tool to develop alternative scenarios to the central estimate (i.e. the budget) with guidance from senior management, including the CRO. They (and other business experts) can provide input on scenarios for volumes, rating levels, claims, expenses and so forth when structured using return periods such as 1 in 5 years, 1 in 10 years, 1 in 25 years, etc.

Some guidance and structure is likely to be needed to develop the scenarios. The exercise is likely to be of limited use if the financial metrics such as gross written premium, net earned premium, loss ratios and expense rates are the focus. The scenarios should be developed from descriptions of real world events, such as:

- A sharp hardening of premium rates. While the impact on rates is easily assessed, the likely response from competitors and hence the business volume impact should be considered as well.
- What is the impact of a major operational disruption? For instance, how severe and for how long would the disruption be from severe damage to physical assets or the mass defection of an important team of underwriters?
- Combinations of unexpected events, such as those that impacted some Australian insurers in 2008. Recent experience suggests that combinations worth considering include falling discount rates impacting insurance liability valuations, above average weather related events and sharp falls in the value of equity portfolios.

For those insurers with DFA models, this exercise is also useful in calibrating the DFA model and as a check on its output.

Whether the final output is determined from a stochastic model or scenarios, it is useful to express some percentiles for the key metrics, for all users to understand the risks to the plan (and hence the achievement of objectives). The percentiles should be expressed as return periods to facilitate understanding by non-technical users.

Imagineering

In my experience business plans tend to “hug the middle” too much. There is too little testing of the plan under sufficiently adverse circumstances. Some tend to be too optimistic, though they may be struck with this bias intentionally in some firms.

A key advantage of ERM is planning for the unexpected. Tripp et al (2008) describe this as “imagineering”. If the firm has considered the range of possible outcomes, and how it will respond in each situation, it is more likely to execute a better response when the unexpected situation occurs. Business Continuity Plans are an example of such a process. This process should be used more broadly.

This planning for the unexpected should be done in both directions from the centre i.e. the upside and the downside. This is an important message. For instance, a general insurer might

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ask if it is prepared to increase business volumes written if the market hardens sharply, as it did earlier this decade. Does the insurer have access to additional capacity if needed to take advantage of such an opportunity?

Focusing on the downside risks, scenario analysis for the business plan has the advantage of protecting against failure from having good precautionary plans.

A useful exercise is to quantify the size of losses that might breach a key threshold in the risk appetite (e.g. a capital coverage ratio). For a particular firm this might be \$100 million, pre tax. Management should then consider how losses of this magnitude could arise. Could they realistically occur from retained catastrophe losses? Or from operational losses? Consideration of the probabilities of each scenario can follow later. The determination of plausible scenarios with a given impact is the first and easier step.

Link to the Actuarial Control Cycle

A well managed insurer or bank will have strong feedback loops between the reserving, planning and pricing functions. Risk should be embedded in all stages.

From the Australian general insurance perspective, risk is currently well considered in the reserving process. Nonetheless, the profession is currently exploring improvements in this area (via a more rigorous risk margin framework being developed by the Risk Margins Task Force of the General Insurance Practice Committee, or GIPC). Risk receives some consideration in pricing as well, although in practice there are inconsistencies. For instance, most insurers are using more technical approaches in personal lines; the models used typically have a risk element. Risk tends to be considered in a less formal way in commercial lines pricing.

The adoption of risk management in the planning process closes the loop, so to speak.

Summary

The business plan is a powerful tool. All firms should ensure that some consideration of risk is built into the planning phase to develop a better understanding of risk issues.

7. Reporting and Information

The sixth and final key ingredient to be considered for capturing the potential upside from ERM is better reporting and information.

The collection of useful risk information and the appropriate reporting of this to various internal and external stakeholders is fundamental to the sound execution of ERM. As is the case for the other five “key ingredients”, a firm cannot function without this.

Take a Fundamental Approach

As noted previously the Risk Margins Task Force of the GIPC is currently developing an improved framework for the estimation of risk margins for insurance liabilities. This approach splits the variability of insurance liabilities into the following components:

- Independent Error – this relates to risks arising due to randomness inherent in the insurance process. The RMTF suggest that this is measured using quantitative techniques.
- Internal Systemic Error – this relates to the risks arising from the imperfect nature of actuarial valuation models (i.e. as imperfect representations of the underlying insurance process). It is recommended that this is measured using qualitative methods such as a balanced scorecard approach.
- External Systemic Error – this relates to risks external to the actuarial modelling process. It should be measured by some combination of the qualitative identification of risks (e.g. balanced scorecard) and perhaps some quantitative methods.
- Dependency relationships between these categories for each class of business, and between classes.

This more fundamental approach could be generalised to consider other risk types. For instance, balanced scorecards from mapping the various processes in a firm are one way of quantifying operational risk. In turn, this improves the risk information in the firm by following a more rigorous analytical approach.

Understanding the underlying processes is a value-adding addition to the statistical analyses that actuaries can perform for firms.

Improving Reporting

A key feature of ERM is risk reporting and the identification of Key Risk Indicators (KRIs). Firms should always be seeking better KRIs, as lead indicators of emerging risk trends. These are not always obvious. Some may be derived from a business process mapping, as described above. Some of the softer risks can be captured by other metrics (e.g. trends in staff surveys, staff turnover rates).

It is important to have well designed risk dashboards for each level of reporting. The Board will require higher level reports, senior management more detail and the CRO even greater detail. The reports to each level should essentially provide a holistic picture from a number of partial indicators.

Other Implementation Issues

Other factors for consideration when implementing better reporting and information collection systems are as follows:

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- Firms should include emerging risk assessments when collecting information and reporting on this. Emerging risks are defined as new risks which are in the process of being understood and quantified.
- Tripp et al (2008) suggest that managers need to consider the real impact of risk (in terms of the whole impact on the firm) as well as the quantification of the financial impact.
- Firms should maintain databases of incidents and near misses to learn from their experience.
- Buehler, K. et al. (2008b) think that most firms do not have enough understanding of risk/reward trade offs at the group level. This can lead to excessive capital buffers and too many risk controls (e.g. purchasing too much reinsurance).

Summary

Firms that proactively pursue the collection of better risk information and report this in a timely manner and in the best possible format are likely to understand their businesses better. Furthermore, these firms will have improved monitoring systems for their risks, enabling faster informed decision making. Buehler, K. et al. (2008a) acknowledge that poor risk management is essentially about not understanding the business.

8. Other Aspects

In this section I consider some other aspects of an ERM framework that, while not “key ingredients” to capturing the upside (as previously defined), are worthy of a brief discussion.

Tactics

We previously discussed strategy in detail. However, the use of risk management to enhance tactical decision making should not be overlooked. This arises essentially from generating and using better information.

Buehler, K. et al. (2008a) state that a firm does not want to be on the sidelines when an opportunity presents itself. ERM, as a disciplined management framework, places firms in the best possible position to identify and exploit short term changes.

Furthermore, firms should focus on outcomes near the central estimate, or expected outcome. When considering distributions in the risk management context, actuaries can become preoccupied with the tail i.e. where firms can fail. However, information for management on the 1 in 4 event, for instance, can be useful for finetuning tactical positioning in the short term, if lead indicators suggest a change in the business environment is occurring.

Analysis and Modelling

Tripp et al (2008) note that for any risk analysis it is desirable to use multiple models or multiple approaches (e.g. a quantitative model and expert opinion) for greater resilience. This is particularly relevant where the risk is not well understood.

All firms should consider making greater use of stress testing and scenario analysis, with more extreme scenarios, to better understand their businesses. Economic capital modelling is also a powerful tool for measuring aggregate risk. Robust economic capital allocation should form the basis of risk-adjusted return measurement.

Sound judgement in building models is critical. Actuaries, other risk experts and end users must be sceptical about any model. Where possible, models should be developed on as fundamentally sound a basis as possible. For instance causal relationships should be modelled where possible (e.g. peril modelling in DFA for catastrophe claims).

It is not my intention to suggest that better analysis and modelling should not be sought. On the contrary, we must continue to push the boundaries in this area. However, any modelling and analysis should be used with care. The experience in the banking industry in the last few years is a useful reminder of this issue.

The following quote from paragraph 3.4.14 of Tripp et al (2008) is worth reproducing:

One way of thinking about modelling is that it helps think through the consequences of different scenarios; not that it attempts to represent every aspect of the real world, but that it captures the essential features.

Finally, the communication of the modelling process and output to non-technical users is as important as the modelling itself, in order to engage the business on risk management.

The Need for Pragmatism

A key aspect of any ERM programme must be the ranking of priorities, both in terms of which parts of the programme will be undertaken first, and in terms of the materiality of risks.

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ERM must be presented as a commercial tool for the firm – a source of competitive advantage. As Deighton et al (2009) note, the managers of each firm must be vigilant in not letting ERM become bureaucratic and slowing down decision making processes.

Most firms have considerable collective knowledge through their managers and staff about their businesses, the industries they operate in and the associated risks. An ERM programme must tap this. The side benefit of this approach is a better engagement with the programme by internal stakeholders.

An ERM programme must continually address tangible measures of interest. These include:

- Financial measures, such as earnings and capital.
- Other important measures of business performance, such as growth rates and market shares.
- Incentive structures.

Any ERM programme should be tailored to the firm. There is no single “model” for the ideal ERM approach. The programme must fit the culture of the firm and its business model.

Finally, any firm contemplating a stronger ERM programme must not underestimate the investment required, such as in the education and training of staff.

9. Case Studies

The publicly available information on successes in ERM is limited. Nonetheless, the case studies below give some perspective on what has and has not worked in the past. In this section I discuss four case studies – two successes and two risk management failures. Many high profile cases of company failure over the past fifteen or so years are well documented. Each demonstrated some failure in risk management. Interested readers may wish to research the failures of Barings Bank, Orange County, Sumitomo, Long Term Capital Management, Equitable Life, HIH, Amaranth, Northern Rock, Bear Stearns and Lehmann Brothers, among others.

Goldman Sachs

Buehler, K. et al. (2008a) describe some of the features of Goldman Sachs (GS) that in their opinion differentiates this company from other financial services firms. The summary that follows is largely drawn from this source.

Around the time that the GS partnership floated as a public company (in 1999), it started to grow its trading and principal investments business sharply. Recently this proprietary trading business comprised roughly two thirds of earnings, while traditional agency business (i.e. traditional investment banking and advisory business) contributed about 20%. As a result, its revenues are volatile; moreso than its peers.

Nonetheless GS is regarded by many as the preeminent investment bank. Of the five major American investment banks that existed before the sub-prime crisis, GS is one of two that has not failed or been acquired by a commercial bank (in fact, the two that survive have transformed to bank holding companies).

The culture at GS is described as one that embraces risk taking rather than avoiding risk. There is a strong entrepreneurial spirit.

However, there are strong protections in place. One internal rule is that when capital is put at stake you must be prepared to lose it. Executives ensure that managers throughout the firm are comfortable with risk management concepts. Staff throughout the firm can discuss and debate risk issues freely without fear of punishment.

As a result, the firm is willing to make decisions quickly when needed. This is an example of the benefit of being prepared, at least in part due to good risk management. The benefits of better preparation were discussed in earlier sections.

The best demonstration of this in action was the recent sub-prime crisis. In late 2006 GS identified increased risks in the sub-prime lending market and the related markets for Mortgage Backed Securities (MBS) and Collateralised Debt Obligations (CDO). By early 2007 an aggressive hedging programme was underway to protect the investments the bank had made. One criticism levelled at GS is that while this hedging occurred the bank was still underwriting and promoting MBS and CDO issues in its traditional investment banking arm. GS seems (thus far) to have dealt with this potential regulatory and reputational risk. Ellis (2008) notes that senior management were clear on this issue – each BU is responsible and accountable for doing its best to meet the objectives for that business.

In summary, Buehler, K. et al. (2008a) list four reasons for the strong performance of GS:

1. The hiring of quantitative professionals to develop analytical capabilities, particularly in the early 1980s before other investment banks did this.
2. Strong oversight of the business. This followed large losses in 1994 when US interest rates rose sharply. At the time morale among GS staff fell sharply. The CEO at the time (John Corzine) restructured the firm's risk control systems to address this.

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3. The partnership heritage at GS has influenced the culture. Unlike other firms which distribute most earnings, GS retains most earnings until a partner/executive retires. Their financial stake in the long term success of the firm is one factor driving the firm.
4. The strong business principles of the firm (i.e. the culture). The executives have developed a culture that acknowledges that protecting the firm's reputation is crucial. One individual or one mistake can ruin this reputation. As such, the firm encourages staff to get an independent opinion on a matter before making a decision.

By all accounts GS is regarded as a well-run business. It has been impacted by the sub-prime crisis, but has fared relatively well compared to its competitors. It will be interesting to see how it emerges as markets and the economy recover. Ellis (2008) gives a recent and detailed account of GS. Interested readers will find more detail in this source.

TXU

The summary of TXU's risk management given below is based on Buehler, K. et al. (2008b).

TXU Corporation (formerly Texas Utilities) was the incumbent electricity utility in northern Texas when deregulation occurred in 2002. At the time the firm was fully integrated i.e. comprising a power generation business and a retail distribution business.

Deregulation brought greater competition, overinvestment and increased exposure to commodity price volatility. By late 2003 TXU was in difficulty. Its market value had fallen and it carried a large amount of debt. The firm was exposed to further declines in wholesale power prices. As a result, TXU restructured based on the following principles:

1. TXU would retain risks where it held a competitive advantage, while transferring or mitigating others.
2. TXU would actively manage its risk capacity to ensure that its solvency and liquidity were assured.

Most power generation firms in the market did one of two things at the time; either aggressively hedge the price received for the future sale of electricity to distributors (at reduced prices) or exit the market. The TXU CEO at the time (John Wilder) took a different approach. He concluded that TXU had a natural advantage generating electricity. Further, he figured that any other party would charge TXU a premium to assume the risk of wholesale electricity prices. While others were recommending complex hedging strategies, he concluded that having a vertically integrated business provided some protection against this critical risk.

TXU underwent a programme of divestitures of non-core businesses, changes in capital structure, outsourcing and improvements to its operations. The CEO used the funds raised to repay debt, and thus creating additional risk capacity. The outsourcing was done on the basis that TXU was not the natural owner of the associated risks (e.g. billing, call centres). The risk management tools used included DFA-style simulations of the group's finances.

The next step was that the firm unwound some of the expensive hedges in place against wholesale price risk. Whether by skill or luck, this proved fortuitous. Wholesale power prices more than doubled by the end of 2005. They continued rising over the next two years. The resulting excess cash flow was used to repurchase shares. Over the period 2005-2007 the performance of TXU shares was outstanding; it was ranked fourth among S&P 500 companies in terms of stock performance. Earnings had grown sharply on a smaller asset base. TXU estimated that 75% of that value added came from the risk-return restructuring programme.

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In 2007 TXU was acquired via a Leveraged-Buy Out (LBO) by a syndicate of private equity investors. The owners effectively took advantage of the favourable LBO conditions at the time.

The example described above followed the risk management cycle outlined earlier. An analogy can be drawn in financial services – firms should understand their risk capacity through thorough analysis and modelling and a critical review of the key drivers of their business. In some cases these banks and insurers might decide to retain more risk if their analysis suggests this is viable (e.g. through purchasing fewer hedges and less reinsurance protection).

We now move on to consider two cases of poor risk management.

American International Group

The crisis that has emerged since September 2008 from American International Group (AIG) has been well publicised. As such only a summary has been provided below in order to draw out the risk management lessons.

In summary, AIG had developed a large international portfolio of financial services businesses over many years, mostly in life and general insurance. In recent years its financial products division aggressively sold Credit Default Swaps (CDS). This was highly profitable until 2007. However, the CDS book included substantial exposure to sub-prime mortgages via credit protection of CDOs.

Much criticism has been levelled at the CDS market itself, including the large counterparty risks involved in over the counter trading, the ability to hide credit risk (as off-balance sheet positions do not need to be disclosed in some jurisdictions) and the ease of developing concentrated positions in credit risk (as AIG did). These instruments were originally developed for hedging the credit risk of banks but were used as tools for speculation. Some may say the problems mirror those that others had with derivatives in the last fifteen or so years, such as Barings and Orange County, among others.

AIG would be bankrupt today were it not for the fact that its exposures were so large that its failure presented significant systemic risks, requiring several attempts at a government rescue.

The underlying causes of the problems at AIG were as follows:

1. Large concentrations of risk which were poorly understood and managed. The escalation from sub-prime related losses had not been fully anticipated; increased margin requirements from counterparties and higher CDS payouts by AIG led to rating downgrades of AIG and hence further margin requirements, with the cycle continuing.
2. Exposure to poor mortgage lending. In this respect AIG was no different to the investors, dealers and banks exposed to CDOs and other assets that securitised mortgages of poor quality.

While it is easy to prescribe solutions in hindsight, and some may argue that the extreme nature of the sub-prime losses and resulting financial and economic crisis could not have been foreseen, two points are worth noting:

- AIG took a large position in an untested and rapidly growing market. According to The Economist (2008), at its peak AIG was the world's largest insurer with a market value of US\$239 billion. It held US\$67 billion of tangible equity as at 30 June 2008. However, its notional CDS exposure was US\$441 billion at this date, of which US\$58 billion was exposed to sub-prime related assets. This was a very large exposure in the context of the AIG group's balance sheet.

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- The financial products group would likely disagree, but AIG did not hold a core competitive advantage in CDS. The affair has damaged what were otherwise well regarded insurance businesses which will likely have to be sold at a discount as part of the government rescue.

The episode also highlights the danger to firms of holding excess capital in regulated subsidiaries. This reduces the flexibility to move capital to other subsidiaries. Retaining excess capital at the group level provides flexibility, although this is likely to be viewed less favourably by local regulators (as the capital can be deployed more easily to other subsidiaries by the group and does not offer guaranteed protection for those regulated entities).

National Australia Bank

This section has been drawn largely from Ashe & McConnell (2007), namely the notes from the ERM CPD course offered by the Institute of Actuaries of Australia.

In 1998 the National Australia Bank (NAB) purchased a US mortgage servicing company, Homeside, Inc. In September 2001 NAB reported losses of nearly A\$4 billion from this business, due to a model error (using a gross interest rate rather than a net rate), changes in other assumptions and a writedown of goodwill. Losses from hedging activities of A\$870 million were also booked in July 2001.

Homeside was exposed to falling interest rates in the late 1990s. As rates fell, US mortgagors (with fixed rates) were permitted by law to refinance with little or no financial penalty. Such refinancing erodes the revenues of a mortgage servicing company such as Homeside. NAB traders attempted to hedge this exposure with limited success (see below).

The problems that emerged included:

- Poor oversight of Homeside from NAB's Melbourne headquarters. Homeside executives were confident, giving the impression that they were in control and were dismissive of higher level oversight from the group. Weaknesses in risk management at Homeside that were identified during the NAB's due diligence before the Homeside purchase were not subsequently addressed. No one had responsibility to fix these problems.
- Difficulties in hedging had been reported as early as 1999 and had escalated since then, but had not been corrected.
- The lost value of mortgage servicing rights due to greater refinancing activity by borrowers. The lost business was not offset by new loans being serviced by Homeside – new business mostly went to other servicing companies. Homeside did not have a strong retail channel to exploit in this environment.
- Prior to the 2001 write downs, the valuation of the mortgage servicing rights by NAB was too high.
- Deficiencies in the staffing and structure of the risk management department at Homeside.

While external stakeholders were concerned at what had happened, no major changes occurred at NAB other than to divest Homeside.

In September 2001, the Foreign Exchange (FX) options trading desk began smoothing profits. By 2002 and 2003 the large size of NAB's positions in this market were noted by other dealers. By July 2003 the hiding of FX trading losses had commenced. This led to the second significant failure for NAB this decade – the discovery of A\$360 million of FX losses in January 2004.

The problems that emerged from this period included:

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- Risk management problems were not escalated to the Board or senior management, such as a letter from APRA to the Executive General Manager, Risk Management and the Chairman in January 2003.
- Deficiencies in the internal Value at Risk (VaR) model for measuring market risk.
- Costs were cut in the back office in 2003.
- Poorly structured incentives encouraged fraudulent and excessive risk taking. The FX traders were chasing bonuses.

While the quantum of the FX trading loss was much smaller than the Homeside losses, the market was scathing. External stakeholders had expected that the risk management problems identified from the Homeside losses would be fixed. When it transpired that they had not, the fallout was severe. The outcome was that all managers, from the Chairman and CEO down the reporting line to the traders involved, were fired or resigned. APRA imposed greater regulatory oversight. The traders were jailed for their role in the scandal.

The lessons from NAB's experience are:

- Senior executives and Boards must provide a minimum level of oversight of a firm's businesses.
- The Homeside losses were driven largely by 30 year lows in mortgage rates that were unexpected. Many risk management failures are shown up by unexpected outcomes.
- The need for a good risk culture. Shortcomings were identified in the risk management approaches of both Don Argus (CEO from 1990 to 1999) and Frank Cicutto (CEO from 1999 to 2004). Based on reports following the Homeside and FX losses, to some extent neither wanted to hear bad news or views contrary to theirs. The January 2003 letter from APRA stated that "managing the message was frequently given equal, or greater, priority than dealing with the underlying issue."
- The need to reward staff for the way they perform their jobs rather than based on outcomes alone.
- People can have short memories on risk issues. In the early 1990s recession, the two Australian banks that almost failed – Westpac and ANZ – are now well regarded for their risk management. In the early 1990s NAB was the one that was well regarded. This shows that firms can become complacent; they must remain vigilant on risk management. A similar argument could be made for the collective risk taking by investors, banks and other market players in the lead up to the current GFC.

Summary

While the information available for risk management successes is limited, these case studies have described some successes and failures. The underlying drivers of success and failure have been explored – these are consistent with the six factors discussed earlier in this paper.

10. Conclusions

There is no single approach to best practice ERM. There are few published cases of success, as those who are doing well perceive a competitive advantage in their current approach.

ERM will evolve over time. So too should each firm's approach to ERM. No one should have unrealistic expectations about what can be achieved in the short term.

Problems can emerge in unexpected ways. As the case studies demonstrated this plays a part in many corporate failures. However, while we do not fully understand the tail outcomes, firms can and should prepare for these as best they can by understanding their business processes, their markets and businesses and their exposures. They should continually stress test their risk exposures.

In this paper six key ingredients were identified and explored for short term attention by companies for "capturing the upside" that ERM promises. These are:

1. A strong risk culture
2. Sound management oversight
3. Setting a well articulated and explicit risk appetite
4. Aligning risk with strategy
5. Making better use of business plans
6. Improving reporting and information.

The potential benefits if this upside is achieved include:

- Holding less capital
- A lower cost of capital
- Improved relations with all stakeholders, mainly through better communication
- Better risk/return outcomes
- More responsive management and Boards to emerging issues.

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