ESRC Centre for Analysis of Risk and Regulation

Enterprise risk management in action

Anette Mikes

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Enterprise risk management in action

Anette Mikes[1]

Abstract

Enterprise risk management (ERM) has recently emerged as a widespread practice in financial institutions. It has been increasingly codified and encrypted into regulatory, corporate governance and organisational management blueprints. A burgeoning literature of regulatory and practitioner texts is indicative of the apparent diversity of ambitions, objectives and techniques that constitute the ERM agenda. Making sense of these developments is a challenge. Presenting field-based evidence from two large banking organisations, this paper argues for the existence of systematic variations in ERM practices in the financial services industry. The cases illustrate four risk management ideal types and show how they form the 'risk management mix' in a given organisation. The paper attempts to explain the differences in the two risk management mixes pointing towards firm-specific and institutional pressures. The latter suggest that the cases are likely to be reminiscent of ERM practices in other financial services organisations, and are thus indicative of the current co-existence of alternative models of ERM. In particular, two types of ERM models are postulated: one driven by a strong shareholder value imperative ('value-based' ERM), the other corresponding to the demands of the risk-based internal control imperative ('strategic' ERM).

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1. Introduction

Recent trends in corporate reporting and governance in the UK and elsewhere have increased the importance of risk management in business enterprises. Carey and Turnbull (2001), for example, depict risk management as an 'integral part' of sound business management[2]. Others call attention to 'the rise and rise of risk management' (Hunt 2001) and to its strategic potential by arguing that 'with their specific skills … risk managers can more easily identify relevant potential risks and can give focussed advice on controlling them to line managers' as well as to chief executives (Butterworth 2001: 22).

Accordingly, the emerging notion of Enterprise Risk Management (ERM)[3] operates with a rather wide remit. Moving beyond an initial financial risk agenda, it concerns itself with strategic and operational issues.

In the mid-1990s, following a series of financial disasters (such as the collapse of Barings Bank and other billion-dollar losses in the financial services sector) that directed attention to the problems posed by complicated financial instruments let out of control, risk management emerged as a financial discipline that offered a means of controlling risk. Risk management as a financial subject alluded to portfolio theory (Markowitz 1959) and was originally applied in managing the insurance portfolio of business organisations. It was with the invention of new techniques such as Value-at-Risk (J.P. Morgan Bank 1995; Jorion 1997; Dowd 1998) that risk management could be implicated in the day-to-day trading and lending activities of financial institutions. Risk management, initially adopted by financial institutions as a means of strengthening internal control over their trading and lending activities soon caught the attention of corporate governance policy makers.[4]

Risk management is particularly topical in banking – apart from bankers seeing their business as the intermediation of risks, the international regulatory framework for risk management in banking is under review (Basel Committee on Banking Supervision, 2003). Regulators have, in the last decade, guided risk management in practicing institutions by not only suggesting certain risk assessment techniques, but also by determining what risks to include into risk management frameworks. What was at stake was in effect the determination of what type of

[2] Nigel Turnbull was chairman of the corporate governance committee which in 1998 recommended that directors of listed UK companies should apply a risk management framework to the assessment of the soundness of internal controls.

[3] The Treadway Commission defines ERM as

> … 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 risks to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives *(*COSO 2003: 6).

[4] By the late 1990s, corporate governance advocates in the Anglo-Saxon world looked for a cure to weak internal controls (blamed for the demise of the Maxwell empire, as well as for some widely quoted losses in the financial services sector). They prescribed risk management for firms, be they financial or non-financial, as a pillar of 'sound internal control' and serving the interests of shareholders. The Treadway Commission in North America was one such body that promoted the link between enterprise risk management and 'good management'. In the UK it was the Turnbull Committee that directed attention to the strategic potential of risk management to ensure that the objectives of adherents are met. Further to the influential Turnbull Report (ICAEW 1999), risk management has become a governance requirement encrypted in the listing rules of the London Stock Exchange. Other countries in Europe are likely to follow, with Germany already in tow with the Control and Transparency Act (KonTraG).

risks firms could be held accountable for. Accountability for risk requires banks to set aside 'adequate' capital in accordance with the magnitude of these risks.

Many observers commenting on the development of risk management in financial institutions, highlight the increasing spread and codification of risk practices under the fashionable ERM term. International bank capital regulation and corporate governance are two areas where the prominence of ERM is observable[5]. So much so, that Power (2003a: 10) wonders if ERM might be emerging as a 'world model': 'If we were to imagine the creation of a new banking organization, we know that it could not be founded without rapidly adopting the mission and principles of ERM… .'

Still, enterprise risk management remains a rather elusive and under-specified concept. Its broad definition (eg, COSO 2003) is an umbrella for diverse risk management techniques and arrangements, to create an image of consistent and comprehensive application. Like Lam (1999) and Gilbert (2004), ERM advocates typically outline a set of risk management tasks and envision a 'framework' for the treatment of these under the auspices of an appointed senior risk officer. This requires the prioritisation and the ordering of the various elements into a control cycle (as described by corporate governance advocates and regulators) with recognisable structural and personnel arrangements.

However, digging below the surface of the loosely defined enterprise-wide risk practices, one finds variations in the specific conceptualisations and uses of risk management in individual organisations. This paper proposes that in a given organisation various risk management practices form a constellation, the *risk management mix* that corresponds to the particularities of the organisation and its context. As for the content of the risk management mix, four increasingly clear types of risk management ideal types are surfacing. These are Risk Silo Management, Integrated Risk Management, Risk and Value Management, and Strategic Risk Management. As can be expected, in practice, these four types emerge in various combinations, constituting in any organisation the risk management mix. However, I do not intend to argue that the risk management mix is entirely firm-specific. Instead, this paper proposes that systematic variations in ERM practices exist. In particular, the paper presents field-based evidence from two large banking organisations, which is suggestive of the current co-existence of two alternative models of ERM practices.

The objective of the case study presentation is two-fold. Firstly, the cases illustrate the four ideal types and show how they form a 'risk management mix' in a given organisation. Secondly, the paper attempts at explaining the differences in the two risk management mixes pointing towards firm-specific and institutional pressures.

In particular, following on Power's (2004) notion of calculative cultures, it is proposed that senior risk officers develop 'personal philosophies' about the 'manageability' of risks. While

[5] In particular, ERM is being prescribed by the new international bank capital regulatory framework (Basel II). The Basel Committee, leading the reform of banking supervision, endorses enterprise risk management as an umbrella notion that can accommodate the techniques required for bank capital adequacy calculation: '…integrated firm-wide approaches to risk management should continue to be strongly encouraged by the regulatory and supervisory community' (BIS 2003b: 2).

there appears to be much consensus on the manageability of certain risks (eg, market risks), the issue of non-quantifiable risks and that of internal capital allocation are contestable. They fall into a grey area where it is a matter of organisational politics and managerial discretion whether it is the risk function, or others, who exercise influence over them (if at all), and in what way.

Further, the paper emphasises the role of institutional pressures in the selection and use of ERM practices. The first organisation possessed an ERM function that corresponded to the corporate governance concern of *risk-based internal control*. Here the remit of ERM included 'strategic' and 'operational' risks that were not quantifiable – the salient element in the risk management mix was Strategic Risk Management. Senior risk officers assumed a role in high-level strategic decision making and exercised influence on decisions that were outside the remit of financial risk management. In particular, their ambition was to restrain excessive risk-taking resulting from expansionist business strategies.

The second institution was driven by a strong *shareholder value imperative*. Here risk managers became involved in the strategic planning and performance measurement process, and the salient element in the risk management mix was Risk and Value Management. ERM's input to the planning process was the quantitative assessment of the risk profile of alternative business unit strategies that allowed the organisation to reconcile the competing risk and return objectives in a common planning framework.

The paper is organised as follows. The first section outlines and explains four types of risk management, with reference to their institutional origins, techniques and ambitions. Recognising that the notions of 'integrated' and 'strategic' risk management are already in existence, and used interchangeably, along with similarly loose adjectives such as 'enterprise-wide' and 'holistic', the paper will attempt to (re)define and distinguish the two concepts (Integrated and Strategic Risk Management) for the purposes of the analysis presented here. Next, by presenting the case studies, the paper describes and explains developments in the risk management mix of the studied banks. Some of the observed risk management types were found to co-exist and compete even within the same organisation, representing (not always mutually exclusive) alternatives. A discussion of the implications for the further development of risk management and future research in this area will form the conclusion.

2. Making sense of enterprise risk management

What follows is an attempt at 'unbundling' enterprise risk management. Having studied a number of normative and technical texts I propose the outlines of four ideal types of risk management, all of which qualify as 'enterprise-wide', but vary in terms of their focus and purpose.

2.1 Type I: Risk silo management

Normative texts assert that over the past decade there have been significant advances in the risk measurement capabilities of financial institutions (Garside and Nakada 1999; Marrison 2002). At the heart of the first risk management ideal type – Risk Silo Management – is *risk*

quantification, the rendering of more and more types of risk susceptible to quantification, measurement and control.

Thus Risk Silo Management can be defined as the measurement and control of market, credit and operational risks in 'silos' across the organisation. It has gained wide enough acceptance to influence the current reforms to the Basel Accord (Basel II) and local supervisory regimes, which require banks to hold capital reserves corresponding to their measured risk profile. Risk Silo Management, apart from determining regulatory capital, also entails setting limits for different risk types, as well as monitoring and reporting developments in the risk silos.

A number of specific techniques have evolved to measure market risk, credit risk and quantifiable (ie, recurring) operational risks. Most textbooks focus on describing these techniques (see for eg, Marrison 2002; Alexander 2001).

At the core of risk measurement activities lies the collection of data to construct loss distributions for each risk type. The reason why risk managers aim for establishing a loss distribution for each risk category is that such representations of losses allow the consideration of some relatively unlikely, yet potentially damning ('unanticipated') loss events.

The amount of loss that would be suffered under such dire (but not extreme) conditions is called Value-at-Risk. The data that feeds into the Risk Silo Management models vary in nature across risk types.

Advances in Risk Silo Management have increasingly influenced the design of the international bank regulatory framework. The new regulatory framework (Basel II) recognises recent developments in Risk Silo Management while challenges banks that are lagging behind in terms of their risk measurement capabilities. Basel II differs from the previous one in two aspects. The first difference is in the recognition of risk silos it advocates to be measured – along with market and credit risk, it now includes operational risk. The second difference is in the measurement options[6] that are outlined for banks. These stretch the measurement capabilities of even the most advanced banks, especially with regards to the advanced measurement approach (AMA) to operational risk. Thus the Basel II framework is emerging as an important driver of further Risk Silo Management initiatives within banks.

[6] The Basel Committee offers two major options to users (BIS 2003a), the main difference being in the way capital requirement is calculated in the credit and operational risk silos. On the one hand, with respect to credit and operational risk, banks can choose to remain compliant with the 'standard' regulatory framework that places less demand on their internal risk systems. This is called the 'standardised approach'. On the other hand, the Basel Committee now recognises that some banks might have more 'advanced', internal risk measurement capabilities, and proposes the second, 'advanced measurement approach' (in the operational risk area) also known as *internal model-based* (in the credit risk area). This allows qualifying banks to use their internal models for the calculation of each risk silo capital element. Note that the calculation of market risk capital is unchanged to Basel I (eg Model Approach including Value at Risk for the market risk capital element).

2.2 Type II: Integrated risk management

Risk aggregation has been a challenge to risk practitioners for a long time. This was largely due to the variety of risk measures applied to the different risk silos, and the correlations that exist between risks. The recent development of a common denominator measure for market, credit and operational risks enables firms to aggregate their quantifiable risks into a total risk estimate. The emerging common denominator of quantifiable risks is called Economic (Risk) Capital.

Economic Capital is the amount of capital that could be used to cover all liabilities in a worst case scenario – unexpected market, credit, operational and/or insurance loss.[7] The conceptual appeal of Economic Capital methods, as recognised recently by the regulator, is that 'they can provide a single metric along which all types of risks can be measured' (BIS 2003: 6). Even though there are a number of ways for the calculation of Economic Capital as assumptions and data used to feed the models may vary from bank to bank all Economic Capital frameworks are conceptually identical.

The Basel Committee has also legitimised the Economic Capital methodology that in the last decade has emerged as best practice among practitioners (see for example Marrison 2002). But the real institutional force behind the spreading of Economic Capital in the industry is the rating agency community. Banks tailor Economic Capital not to a regulatory standard, but to the capital adequacy expectations coming from rating agencies. Economic Capital is the measure of the maximum probable loss that the bank must appear to be able to withstand in order to justify its target credit rating.

Given that rating agency opinions concern different banks to different extent, Economic Capital (or its promise) appeals primarily to banks that wish to maintain a high credit rating. For example, firms rated AA by Standard & Poor's (S&P) have historically defaulted with a 0.03 per cent probability over a one-year horizon. If a bank aims for an AA credit rating, then the corresponding capital level (Economic Capital) is the amount required to keep the firm solvent over a one-year period with 99.97 per cent confidence (Garside & Nakada 1999). Given the higher confidence level applied, the 'economic' capital amount is to be higher than the regulatory minimum.

Economic Capital, as a measurement tool is, in effect, a restatement of value-at-risk amounts using a set of parameters that corresponds to a solvency standard (rather than to the regulatory rules). It can be calculated on market, credit and (measurable) operational risks, with the help of judgment where data is not sufficient or cannot be simulated (especially in case of operational risk).

Furthermore, Economic Capital is recognised by the new Basel II framework as a promising tool for financial institutions to allocate capital internally across the business units. This is because of the ability of the Economic Capital technique to aggregate risk (measured in risk silos) in a given subsidiary. While internal capital allocation is a regulatory requirement,

[7] This worst case loss event is defined based on the confidence level of the loss distribution of the external credit rating of the bank (eg, an AA-rated bank's confidence level is 99.97 per cent).

doing so via Economic Capital models is not. The Basel Committee sets its use out merely as an option.

Economic Capital, as the common denominator for the measurable risk types, creates a consistent and comprehensive framework, or at least the appearance of it, in which risks can be compared and aggregated, enterprise-wide. Further, risk limits can be set according to the solvency standards (by second-guessing rating agency expectations), expressed in the form of Economic Capital. Thus Economic Capital, if applied, can become the new language of risk limit setting (risk control) too.

The Economic Capital framework gives rise to a new risk management ideal type – Integrated Risk Management. It is defined here as a risk management approach that applies the Economic Capital framework for the measurement, comparison, aggregation and control of risks.

It is not suggested that Integrated Risk Management is a necessary evolutionary step after Risk Silo Management. For example, the take-up rate of Economic Capital among Swiss canton-banks is very low and they continue to show little interest in it.[8] The explanation lies in the particular circumstances (historic traditions) of these banks – Swiss canton-banks typically reserve 200 per cent of the minimum regulatory capital. It is plausible that banks, which by tradition hold capital levels well above the regulatory minimum, see little benefit from the fine-tuning of their capital levels via the use of Economic Capital.

2.3. Type III: Risk and value management

Recent studies in risk management literature advocate the idea of using risk-based internal capital allocations for performance measurement and control. The possibility of introducing *risk-based performance measurement* in banks has emerged as a result of developments in risk quantification and risk aggregation. It also appears to coincide with the rise of the shareholder value concept in corporate rhetoric (Arnold & Davies 2000; Hunt 2003).

The type of risk management that is able to feed these ambitions has gone well beyond the original remit of Risk Silo Management or even that of Integrated Risk Management. It is put forward as the third risk management ideal type, Risk and Value Management, its distinguishing aspect being a strong shareholder value rhetoric.

Although the concept of shareholder value (or as it was previously referred to, residual income) dates back to the beginning of the 20th century, its wide-spread incorporation into management thinking has only recently gained momentum. This is largely to do with the renewed efforts of business schools and consulting firms that are advocating shareholder value and Value Based Management (VBM; the revival of the residual income concept is often associated with Stern et al 1995). The principle is simple enough: firms create shareholder value by earning returns in excess of the cost of capital.

[8] This information came from a senior manager of the Association of the Swiss Kantonalbanken whom I met in London in July 2004.

The application of VBM in large financial institutions requires the allocation of capital to centres of accountability (for example, to business units), and then the measurement of their performance relative to the capital allocations (Hall 2002; Marrison 2002; Jameson 2001; Haubenstock & Morisano 2000). Given that capital allocations supposedly reflect risk taking, business unit performance is becoming measured relative to the quantifiable risk they incur.

Pushing these performance measurements down to business units, products and even transactions gave rise to ambitious claims as to what risk management can do in order to enhance shareholder value. Risk pricing, risk transfer, portfolio risk management (as in Lam 1999) are the most frequently advocated possibilities in the literature.

The joint consideration of risk and profitability in a common performance measurement framework[9] is an application of VBM that is specific to the financial services sector. At the same time, it represents an application of risk management that is equally specific – Risk and Value Management may be favoured by certain banks while doomed to fail in others.

2.3 Type IV: Strategic risk management

We have seen how the ascent of the shareholder value concept gave rise to a specific ideal type of risk management, Risk and Value Management. This section focuses on the impact of another powerful notion, heralded by corporate governance advocates, that of risk-based internal control.

Reading closely the reports from the Treadway Commission (COSO 2003) and the Turnbull Report (ICAEW 1999), these important milestones of Anglo-Saxon corporate governance advocate ERM as a framework for capturing risks that are material from the point of view of the achievement of the strategic objectives of the enterprise. Apart from the measurable risk silos, this conception of ERM encompasses risks that cannot be readily quantified or aggregated. These non-quantifiable risks include, for example, the risks of strategic failure, environmental risks, reputational risks and operational risks that materialise only rarely. Recent developments in corporate governance have emphasised the importance of monitoring and managing these risks.

As a result, there have been calls for the risk management framework to be gradually expanded to incorporate non-quantifiable risks in addition to those that can be quantified. However, by attempting to render non-quantifiable risks to control, risk managers have to venture outside the boundaries of risk quantification, risk aggregation, regulatory capital determination and internal capital allocation.

Some have done so. However, what lies beyond the management of quantifiable risks, is not specified. We have a picture of risk managers casting their nets wide to catch non-quantifiable

[9] Theoretically, Risk and Value Management offers two broad approaches to risk-based performance measurement in banks. The *ratio approach* relates risk-adjusted profit to economic (risk) capital (RAROC – risk-adjusted return on capital). The *shareholder value added* approach calculates the residual income left after subtracting a charge on economic (risk) capital from profit (Shareholder Value Added, also known as Economic Profit).

risks that 'keep senior management awake at night'[10] Here we define this 'strategic' version of ERM as the fourth risk management ideal type: Strategic Risk Management[11].

The management of non-quantifiable risks is not statistics-based. Advocates talk of the role of judgment, experience and intuition, comparing it to strategic decision making. Some recommended techniques, such as scenario analysis and decision tree methods, are borrowed from the strategy and decision making literature (Pickford 2001). Others (risk mapping, risk self-assessments, special risk reviews) are borrowed from the internal audit profession. However, it is an open question if these tools are applied as part of risk management in financial institutions. Currently, we have no empirical evidence if risk management practices actually offer a strategic view by reaching beyond the realm of measurable risks at all.

	Risk Silo Management	Integrated Risk Management	Risk and Value Management	Strategic Risk Management
Institutional background	International regulation of bank capital adequacy	Rating agency expectations of bank capital adequacy	Rise of the shareholder value imperative	Rise of risk-based internal control (Anglo-Saxon and German corporate governance)
Related theme in the literature	Risk quantification	Risk aggregation	Risk-based performance measurement	Management of non-quantifiable risks
Focus on	Measurement and Control of risk silos; Calculation of minimum regulatory capital; Tuning capital to the regulatory standard	Assigning a common denominator of risk to the risk silos (Economic Capital); Fine-tuning capital to a given solvency standard; Risk limit setting	Calculation of shareholder value created; Linking risk management with performance measurement	Inclusion of non-quantifiable risks into the risk management framework; Providing senior management with a strategic view of risks
Techniques	Loss distributions; Value-at-Risk; Credit rating models; Standardised and Advanced measurement approaches set by regulators	Economic Capital	RAROC; Shareholder Value Added; Risk pricing; Risk transfer; Portfolio risk management	Scenario analysis; Sensitivity analyses; Control self assessment; Special risk reviews

Table 1. Four ideal types of enterprise risk management

[10] Playing on Hunt (2003: 83).

[11] Ironically, this fuzzy, undetermined risk management practice is what most likely attracts the fashionable adjectives 'enterprise-wide', 'holistic', and 'strategic', which are used interchangeably in the practitioner literature.

Whether these risk management archetypes represent transitory stages in what might be called the evolution of ERM or are permanent variants representing alternatives to firms is an empirical question. Following a brief note on research method, in the subsequent two sections I outline two case studies in search of more rigorous field-based evidence. The case study companies referred to as BWT and Fraser Bank are typical of the large financial organisations that had embarked on risk management projects seeking for control not only over individual risk types and the capital adequacy of the bank, but also over the strategy and the risk taking capacity of their business units. These organisations would therefore be a useful starting point to explore just what ERM *in action* entails.

The case studies were based on 70 in-depth interviews with senior finance, lending, strategy, controlling (management accounting) and risk staff. Additional informal exchanges took place, especially at BWT, where I was provided with an office in the central risk management department during my visits and could participate in informal meetings (lunchtime get-togethers and chats at the coffee machine). Within the boundaries of confidentiality, the banks provided historical and other documentary evidence such as annual reports, presentations and internal reports. As the department at BWT was relatively new, and Fraser was then undergoing a reorganisation, the risk staff in both banks showed a great interest in the study and were keen for exchanges of information and gossip on how top management and others perceived their activities. All in all, the opportunity to be acquainted with a small, but significant aspect of life at the banks was there.[12]

3. Enterprise risk management in action – the case of BWT[13]

BWT Group consists of two major banking businesses: an investment bank and a commercial bank. The latter arm of the group (called BWT) is the focus of this section. BWT has a number of business units such as retail banking, private banking, corporate lending and asset management. At BWT the risk management function was organised in three risk silos (Market, Credit and Operational Risk Controlling) and there was an additional unit responsible for the calculation and reporting of Economic Risk Capital (ERC). In late 2002, at the time of my first visits, risk silo officers were all engaged in developing new risk management techniques. Risk capital officers had just devised the economic capital methodology (with ERC as its flagship technique). Capital and value-based management were discussed by risk officers and senior management. The chief risk officer (CRO) published a diagram of the remit of risk management in the 2002 annual report that showed non-quantifiable risks as part of his function's remit.

This surge of risk projects was partially to do with the then fresh initiative to harmonise risk management practices across the group. After a number of high-profile mergers in the late 1990s, BWT Group was consolidating its risk systems by implementing a blueprint devised by its investment banking arm.

[12]In addition, participation in international practitioner events gave rise to more observations on practitioner views. After completing the two case studies I conducted further interviews to check on the feasibility of the results. These included talks with the chief risk officers of other financial institutions including Deutsche Bank, Aegon UK, Allianz Cornhill and Halifax Bank of Scotland (HBOS).

[13] BWT is a pseudonym for reasons of confidentiality.

However, BWT was also suffering a downturn in its profitability. It reported losses and disappointed shareholders for two consecutive years. It was a major and lasting stock market slump that seriously hurt a large business unit, Division X. An innovative, entrepreneurial bank, BWT was known for its bold acquisitions and first-mover strategies. But its spectacular growth was punctuated by halts and failures from time to time.

By updating its risk management systems BWT signalled to both internal and external stakeholders that it had got to grips with the situation,[14] and, in particular, with its troubled business unit, Division X. The new risk function displayed a wide array of risk practices that gave rise to the possibility of exercising all of the four types of risk management outlined in the previous section. However, BWT's risk management mix was a specific combination of these, as will be shown next.

3.1 Risk silo management at BWT

The three risk silo sub-departments had a shared mission: to 'act as the independent "risk conscience" and policy enforcer for [BWT] for all risks that could have a material impact on the firm in an integrated and comprehensive fashion.'[15]

This mission statement carries multiple ambitions: apart from the usual exercise of Risk Silo Management, the aspiration of Integrated Risk Management ('integrated and comprehensive') as well as that of Strategic Risk Management (dealing with 'all risks that could have a material impact') are present. In order to understand the use and balance of these risk management types in the mix we need a closer look.

At the start of my fieldwork, in the market risk silo the development of Value-at-Risk for non-conventional investment products was the major preoccupation. Risk people saw their role in providing a service to traders, with whom they were housed together in separate offices from all other risk officers. The head of market risk controlling explained:

> It is not my job to decide whether or not we should make a deal. It has never happened that traders cannot take a deal because we are not able to calculate a risk. We are helping them to understand what they do. … I see myself as providing a service for the traders and the treasurers.[16]

Market Risk Controlling saw its challenge in the quantification and tracking of risk that the traders took. However, the emergence of innovative new products (the so-called Alternative Investment products), demanded the invention of a new measurement methodology:

> Our job is to deliver a measure of risk. How we are doing that is our business. … The big issue for us… in our trading book the majority of the risk does not come from traditional trading products, but from Alternative Investments…. basically hedge funds that are sold to

[14] Literally – BWT had issued Group Risk Processes and Standards, abbreviated to GRIPS.
[15] BWT, internal document.
[16] Head of Market Risk Controlling, BWT

> our private clients. BWT is providing the market maker function for these products. The Alternative Investment products on our book behave very stably over a long time, then all of a sudden their value can decline quite considerably. The most common example is LTCM. One reason for its collapse is that they invested in non-liquid titles. Illiquidity is not covered by market risk, Value-at-Risk methodologies.[17]

The new methodology was Value-at-Risk-based, but was packaged under the ingenious title of *AstRX*.[18] AstRX was a significant success, not least because its initial messages pleased the traders who perceived that the previous risk limits were too conservative with regard to Alternative Investments:

> While the old method produced a VaR of around [20m], the new tool gives around [10m].[19] Risk appears to be half. The trading department is more than happy of course. They say, we always knew the risk is not that big.[20]

However, risk people remained cautious about the interpretation of their measurements:

> Do you think the risk management tools are really accurate? The Value-at-Risk model particularly for Alternative Investments is based on a lot of assumptions. I was always afraid that we go for the accuracy of the risk that we have recognised and do not realise that there are huge risks, which are not covered at all. … I am absolutely convinced that [AstRX] is better than the old method, so why not use it.? … [The old method] was really-really basic. That's why we overstated risk, we could see that from back-testing.[21]

This pragmatic attitude to risk quantification among market risk officers is all the more striking given that the literature suggests that the market risk area provides risk managers with the most confidence in their calculations. While most market risk people are expected to be 'calculative idealists' (Power 2003b), BWT's risk silo officers appeared closer to be 'calculative pragmatists', in that they regarded numbers as attention-directing devices with no intrinsic claims to represent reality. For them risk models made Value-at-Risk trends visible for management purposes and helped to steer behaviour in the right direction.

This calculative pragmatism generally characterised the control of all risk silos at BWT. An understanding emerged that in a large organisation, where there is a hierarchy of limits, lower-level risk limits can be fluid, negotiable, and adjustable for the needs of the business. During an afternoon spent observing the work of the members in the market risk team I came across a market risk chart, which showed an increasing trend of market Value-at-Risk, with a step function of the limits, climbing up in parallel. I showed this chart to several risk people. The Chief Risk Officer's response revealed that risk control involved much learning on the side of the controllers:

[17] Head of Market Risk Controlling, BWT.
[18] Pseudonym for confidentiality reasons.
[19] The real numbers are disguised for reasons of confidentiality.
[20] Head of Market Risk Controlling, BWT.
[21] Head of Market Risk Controlling, BWT.

AM: I saw this chart about the VaR limits on Alternative Investments. (Draws.) When I saw it my first reaction was, oh my god…

CRO: …they don't respect the risk limit, the limit just tracks the risk?

AM: Exactly.

CRO: First, this is still part of the overall limit that has been accepted by the Board – that has never been exceeded. It [the overall limit] is relatively large. The one you were looking at is a sort of sub-limit. If you look at those positions, I would not call them trading positions as such because it is not the trader who decides whether he wants to have them or not. But I think the environment is relatively stable and we understand the dynamics. If we go back to that chart, the big question is to what extent you actually understand the dynamics of the beast you are looking at. If you have a very good understanding of the beast then probably a thermostat approach is not bad.[22]

On the nature of risk control, he added:

> It is not so much a question of stable versus unstable [environment]; it also could be a question of how well you understand what is actually going on. [23]

The extension of calculative pragmatism into the practice of control at BWT shattered the boundaries of traditional notion of control by exception. Risk limits were used as indicative, breaches triggered negotiations whether limits should be adjusted to accommodate the risk taking, and the process was considered as part of learning about the dynamics of risk.

This suggests that 'learning about the beast' might imply slackening off on risk limits and letting the business-side (to a certain extent) run with the risk. Further, on the part of risk officers, it also involves orchestrating timely attention swings, in case risk taking should be contained. In the market risk area there was a hierarchy of limits, with higher-level limits being less and less flexible. However, the case of Division X showed just how difficult it can be to orchestrate swings between the profit and the risk sides. The CRO commented:

> I believe in the quality of our risk management function, absolutely. But you have to be honest enough to check if something went wrong. What happened in 2002, looking at the results, obviously something went wrong, otherwise we would not have lost [X] bn. … We knew the risk position that we had, we presented the risk position to senior management, to the Board of Directors, everybody was aware of it. So it is not that we did not know. We just did not do anything about it or not fast enough.[24]

Risk people realised they needed to be able to give more timely and firmer signals to the decision makers – they needed early warning indicators. An example from the lending area confirmed this:

[22] Chief Risk Officer, BWT.
[23] Chief Risk Officer, BWT.
[24] Chief Risk Officer, BWT.

> We had a real estate crisis in the 90s and we lost about [X] billion. Management had had a too offensive strategy for too long. They wanted to grow and took too much risk mostly in mortgages.[25]

Responding to the perceived need for early warning systems, the credit risk silo controllers devised a warning indicator, which was expected to give more timely signals of emerging problems. It was a crude measure but its simplicity was compensated by the pragmatism of the credit risk controller:

> Here is something very interesting and important to me. The migration matrix. This is part of risk calculation. … We take the ratio between up- and down-gradings [both measured as percentages of the loan portfolio] and if it is lower than 1 – it says that there are more down-gradings than up-gradings. It means if you are below 50 per cent you tend to have more risk in the portfolio. It doesn't say anything about the amount [of risk]. However, the trend is interesting. The big picture behind it can be recession or recovery, you are not sure, but it is an indicator for me. … My function is to show the problems.[26]

The operational risk silo also displayed much calculative pragmatism. On the face of it, risk officers in the operational risk controlling area were developing Key Risk Indicators that would render operational processes to measurement and control.

However, the director of the silo remained cautious about the use of risk measurements:

> It is not as easy as in case of market risk or credit risk. I don't know if I should put all my effort into risk measurement to quantify [given that] when it really happens my figure would be for sure completely wrong. So why should I put all my resources into something that is senseless? I am not a fan of the quantitative approach in OpRisk. If you look at the losses, most of them are based on human behaviour – now how do you measure it?[27]

Given the doubts about the plausibility of the quantification of operational risk, the controller's informed judgement based on experience was the key to operational risk control. The operational risk silo aimed at pushing responsibility for operational risk down to business unit and line management level. Based on his extensive operational experience and relations within the bank, the operational risk director cultivated an advisory and collaborative, rather than policing role over the business unit risk managers, which encouraged them to report operational losses (over a certain threshold, as and when they occurred) into a loss database. This was then used for preparing 'risk reviews', thereby turning risk control into a learning exercise. The CRO confirmed:

> CRO: I have doubts whether you actually can define things such as key risk indicators on operational risk. Maybe the thing kind of evades as soon as you start measuring it. Which is not bad – then you have solved at least your perceived problem. Instead of this, however, I agree with [the Director of Operational Risk] that it is highly

[25] Director of Credit Risk Controlling, BWT.
[26] Director of Credit Risk Controlling, BWT.
[27] Director of Operational Risk Controlling, BWT.

judgemental. It is a question of how you can bring in that judgement. What you also have to see whenever we talk about operational risk… in [Operational Risk Controlling] there are four or five people, but this is just the tip of the iceberg, because operational risk is a line management function. They have to set up their procedures and processes in an appropriate way so that these things do not happen. … Then the question becomes, if you want to do something on operational risk on a firm-wide basis, which I think we agreed, what is the most meaningful thing you do with a couple of people? I think it has to do with risk reporting and risk reviews. Let me give you an example on risk reviews. It is to evaluate accidents. So we say we had a case X, it costs us 5 million, now what can we do to prevent it from happening in the future?

AM: Is that learning from mistakes?

CRO: Yes, exactly.[28]

It appears that Risk Silo Management at BWT was characterised by the exercise of a great deal of calculative pragmatism. While risk controllers respected the inherent need for risk taking in the banking business they also recognised the additional need for learning about the dynamics of risk. Thus limits and risk management objectives emerged in a flexible, fluid manner, as senior management made decisions about risk taking following not only risk measurements, but also experience, judgement and intuition. There were cycles of spurs and halts on risk taking whereby business strategies were enacted in a relatively laissez-faire manner, up to a point where risk was judged as excessive and were clamped down.

3.2 Strategic risk management at BWT

BWT's senior risk officers, it seemed, extended this calculative pragmatism to risks considered as lying outside the Risk Silo Management framework. By including these risks into the remit of the risk people, the intention was to move beyond Risk Silo Management towards Strategic Risk Management. Pondering the monthly board risk report, the CRO reflected:

CRO: If you look at the Key Exposure Report, it tries to cover all significant risks in a more or less comprehensive fashion.

AM: You mean all significant risks that are quantifiable?

CRO: Absolutely – that's the big caveat. The big risks today are: are we running the right strategy or not? What do we do with private banking going forward? Should we grow retail banking [domestically] or rather abroad? Now, how do you integrate these into the monthly report?[29]

It is remarkable that BWT's senior risk officers claimed access to the discussion of corporate-level strategies. When I suggested that by doing so, the risk people might be encroaching upon the territory of the strategy and planning function, the CRO briskly replied: 'Not if you have a Chief Risk Officer. Because that's what you pay him for.'

[28] Chief Risk Officer, BWT.
[29] Chief Risk Officer, BWT.

At that time the Strategy and Planning function was sceptical about the possible contribution risk people could make to strategy analysis. A few months later it emerged that the risk function sought to render strategic uncertainties to scenario analysis, in order to deal with problems that were on the bordered between strategic planning and the risk silos, between non-quantifiable and quantifiable risks. The BWT Group senior risk officers (CRO of BWT, CRO of the investment bank, and Group-CRO) treated this as part of their personal agenda:

> CRO: We [the three CROs of BWT Group] have discussions about what the most dangerous things that could happen are. We put together a report to the board about these and what we do against them. … It could be the quality of the [domestic] lending portfolio, given its sheer size. It could be the impact of an interest rate increase on the asset portfolio of [Division X]. It could be further erosion, further defaults in the energy sector in the US.
> AM: So this is really a bird's eye view, looking at the business from the top.
> CRO: Right. It is a 30,000 feet view of the world.

Senior risk officers thus looked beyond the risk silos, scanning the organisational landscape from above, in order to find problem areas to alert the executive and supervisory boards. This Strategic Risk Management approach set the tone for senior risk officers within the business units too. For example, the post-crisis CRO of Division X instigated 'special risk reviews' to be presented to Risk Management Committees by line management staff on topics as diverse as foreign exchange risk and specific strategic issues. According to the meeting schedules, quantitative risk analyses received 15-30 minutes of attention, while special risk topics were discussed for 45-90 minutes.

> CRO, Division X: 'My role is not to be a nice guy. If I schedule a topic for this management committee, nobody says no. If somebody says no, I am going to be suspicious very quickly. The people [invited to hold presentations on specific issues] know that there is no value in undermining it because they are going to talk in front of the Chief Executive Officer, not just to me. (…) If risk management has a strong opinion on certain risk profiles, it is more difficult for top management not to consider it.

It appears that in the same way as in BWT, the risk framework, originally Risk Silo Management, was augmented by Strategic Risk Management within Division X too. Accordingly, the business unit CRO perceived an increase in the profile of the risk committee meetings for which he set the agenda.

3.3. Integrated risk management at BWT

Apart from the activities of risk silo controllers and senior risk officers, a third group deserves attention in the risk function – the Economic Risk Capital team. At the time of the financial downturn of the company there were heightened stakeholder concerns regarding BWT's capital adequacy. In late 2001 the ERC team was tasked with working out an economic capital methodology.

The resultant ERC methodology brought integration to the quantifiable set of BWT's risk management framework. ERC was calculated for each risk silo and trends were reported monthly to the board. ERC has gained authority as an indicator of worsening capital trends, as was learned from Division X's crisis. As a result of using ERC as a common denominator of risk, it became possible to aggregate risk across risk silos, in order to calculate the risk profile of the group, or the projected risk profile based on planning forecasts. With ERC becoming a tool to declare the risk appetite of the group, Integrated Risk Management was, apparently, in place:

> What we changed this year are two things. First, we said, risk has to be an explicit topic in the strategic business plan. … What we also said was, the board of directors does not only have to approve the strategic business plan, but it also has to approve the risk appetite, in the form of an overall ERC limit for the Group.[30]

In addition, ERC was used in investor communications, not least to signal the advanced risk management capabilities of BWT, which allowed it to 'integrate' risk measurement, given that ERC was reputed to be the best practice common denominator of risk in the financial services sector.

3.4. Risk and value management at BWT

Subsequently the ERC team realised that it could contribute to strategic planning, control and performance measurement in a much more integrated fashion. In the early 2000s there was talk at group level of an imminent VBM implementation. Risk capital controllers saw this as an opportunity to establish what would have been Risk and Value Management. The CRO saw it as a way of 'integrating risk management and strategic planning', which was the subject of much of our initial talks:

> One of the challenges we have with the business units is to come up with a common agreement about the right way to do it [integrating risk and strategy]. VBM is one possibility, but you have to be careful it does not become a religion. People who really believe in it, for them it is pretty close to religion. Personally, I think it is a good tool.[31]

But it was the head of the ERC team who championed the move to establish a link between risk management, planning and control in what would amount to a Risk and Value Management framework:

> What we should have done last year was to verify that the business plan was consistent in terms of profit and volume, growth assumptions, because we can use risk as a plausibility check in order to see whether the planning process has considered all the relevant aspects. For example, you can't just increase profit and volume without increasing risk. Otherwise where should the profit come from? [32]

[30] Chief Risk Officer, BWT.
[31] Chief Risk Officer, BWT.
[32] Director, Economic Risk Capital, BWT.

However, in the wake of the dawning financial problems of the group, VBM has been taken off the agenda. As the director then responsible for VBM implementation explained wryly, '…the VBA [Value Based Analysis, BWT's internal jargon for VBM] numbers didn't look very good, there were big losses. Then management decided not to report it externally, only internally, at group-level.'[33]

With a stalled VBM implementation, the ERC team struggled to find a point of linkage with the strategy and control departments:

> We could calculate Economic Profit, but if we did, nobody would want to have it in the Strategic Business Plan that goes to the board. … Controlling for example does not support it.[34]

There were two problems. Firstly, capital allocation was seen as a politically sensitive exercise, requiring careful communication both internally and in relation to external stakeholders. The second issue was that by relying on each other's capital strength, there were interdependencies between the business units. Attempting to quantify these in an economic manner was a major challenge to the ERC team. The economic capital calculations, although indicative of trends, were judged as insufficient to reflect the absolute risk profile of individual business units.

Finally, the CRO abandoned the idea of integrating risk management and strategic planning and control in a VBM framework. Instead, Strategic Risk Management was applied in a much more pragmatic, informal fashion. The growing strategic influence of senior risk officers was acknowledged by others at executive board meetings who recognised the informal nature of CRO power. As the Chief Credit Officer commented:

> CCO: [The CRO's] organisation is relatively new. This year I feel his influence has increased. I am part of these [executive board-level] meetings. In my opinion, his influence in strategic discussion and decision [making] has increased. He contributes on a regular basis and he has his own opinion, ja.
> AM: Would he contribute with information he gets formally from his own people [the risk department]?
> CCO: Ha! (Laughs) He has different sources. That's good. I mean even sources like discussions with people between four eyes, when he just talks to important people in the organisation, informally. As I said he has different sources.[35]

3.5. The CRO as eminence gris

BWT displayed a wide exemplar of best practice in risk management, which could have given rise to all of the four risk management types described in Section 2. Risk Silo Management, Integrated Risk Management and Strategic Risk Management emerged as clearly visible in the risk management mix, furthered by risk silo controllers, risk capital

[33] Director, Group Accounting & Reporting, BWT Group.
[34] Director, Economic Risk Capital, BWT.
[35] Chief Credit Officer, BWT.

controllers and senior risk officers, respectively. It appeared that Risk and Value Management struggled and to date failed to take root at BWT. Why?

The characteristic feature of risk management in BWT was the strong calculative pragmatism it applied to risk quantification. Risk silo control was turned into a learning exercise. This approach to control created the ground for the exercise of Strategic Risk Management.

However, the calculative pragmatism that helped risk silo control and fed the strategic aspirations of senior risk officers became a hindrance to the ambitions of risk capital controllers. Deploying risk calculations in performance measurement required 'trust in numbers' (Porter 1995). As the ERC methodology struggled to gain sufficient credibility for becoming a basis for performance measurement, the archetype of Risk and Value Management was doomed at BWT.

Strategic Risk Management emerged as an alternative way to link risk management and strategic decision making, even though that took place outside the formal planning and control cycle. It appeared that at the time of the case study, the risk function lacked in-house strategic capabilities. Strategic information had to be channelled to the risk committee meetings directly from line management. Senior risk officers exercised their influence and accumulated power formally, through agenda-setting, and informally, via knowing influential others.

This left the risk function with a structural anomaly. Due to the existence and dedication of the ERC team, it had the capabilities for Integrated Risk Management and risk capital specialists furthered the notion of integrating risk and strategy in what would have been a Risk and Value Management framework. However, the integration of risk management and strategy took place in a much more informal way. In this loose Strategic Risk Management setting there was no formal capability within the risk function that would provide senior risk officers with strategic information. This conjures up a medieval metaphor for the Chief Risk Officer: that of the *eminence gris,* acting behind the scenes, powerful, but left to his own resources and, essentially, lonely.

4. Enterprise risk management in action – the case of Fraser Bank[36]

Fraser Bank is comparable in size (market capitalisation) and in its variety of activities to BWT Group. From headquarters level Fraser appears to be a monolithic, decentralised banking organisation, with fairly autonomous business units such as investment, commercial, and private banking. On the face of it, Fraser Bank's risk management practices resembled those at BWT. Risk was measured, managed and reported by silos and business units, giving the impression of enterprise-wide coverage. There was a separate Economic Capital team and a Risk Director, who sat on the executive board. Out of a crowded committee structure, quarterly and monthly risk committee meetings emerged, with timely and increasingly formalised reporting practices.

[36] For reasons of confidentiality the identity of the bank has been disguised.

4.1. Risk and value management at Fraser Bank

What was strikingly different in Fraser, however, is a strong VBM ethos, which was instigated in 2000, with implementation well under way by the start of my case study. Although the risk management department had been in place for some ten years by then, the VBM initiative led to a complete overhaul of the central risk function. Its mission was restated in terms of 'supporting the [Fraser] Group Strategy' by 'providing better support to [business unit] risk management' in anticipation of 'a direct effect on economic value creation.'[37] Fraser was aiming for the implementation of a Risk and Value Management framework, in which the risk people were tasked with the 'granular attribution of Economic Capital'[38] to business units.

What this meant in practice was a formal integration of business planning, performance measurement and economic capital allocation, the latter under the auspices of the risk management function, as explained by the strategy and planning people as follows:

> The businesses put forward their proposals having linked in with [the central risk management department] and [the] Economic Capital [team]. They generate appropriate figures upon which we make the choices about where to bet the bank. The calculations are done by the businesses initially. They work it through with [the] Risk [department]. … There is a methodology provided by Risk that the businesses must use in order to calculate Economic Capital.[39]

The Strategy and Planning function then negotiated the alternative plans through with the business units, in an attempt to optimise risk-adjusted profitability across the group, until an agreement was reached with each of them. The agreed plans were then presented to the executive board, where the focus of discussions was Economic Profit. The Economic Capital charges were aggregated into operating costs in these pro-forma financial statements. In other words, risk calculations were an integral part of the planning process, but the actual figures used for the capital charges were not explicitly shown to the executive board.

4.2. Strategic risk management at Fraser Bank

Some senior risk officers, however, expected greater visibility and voice in strategic decision making. The director of risk reporting, for example, envisioned a different role for his function. With a hint of irony he likened the role of the risk manager to that of the 'medieval licensed jester, allowed to be more sceptical about what is going on', constantly challenging existing assumptions and views, and scrutinising strategic decisions before they are made. Such a 'licence' would have given rise to Strategic Risk Management. However, this was not to happen at Fraser – risk officers with strategic ambitions were marginalised.

[37] All quotes from a presentation by the Group Risk Director titled 'Creating an expert team'.
[38] ibid.
[39] Assistant Director, Strategy and Planning, Fraser Bank.

Three reasons might account for this. Firstly, the very idea of VBM and the value-focused, and potentially rigid, single-minded culture it imposed, proved to be a hindrance to the senior risk officer with strategic ambitions:

> [The] Risk [function] by definition, like audit, sits outside the culture of an organisation as a whole, it has to. And the more important it becomes to a business that everybody sings in tune the less space is given for any kind of business voice. And it becomes very difficult for a risk manager, at any level, either talking to a trader or talking to the Chairman of the bank, to challenge. The skill is challenging without causing offence and if the trading manager and the Chairman are wise they listen. But it is also possible to get carried away by trying to drive the corporate culture and by a general desire from everyone to get there, that any kind of challenge is not welcome, even if it comes from the risk function … whose role is to challenge.[40]

Secondly, it appeared that at Fraser the centre of power concentrated on staff who furthered the Risk and Value Management framework. This favoured the Strategy and Planning function, as was perceived by risk people:

> The Strategy and Planning function are the guardians of the executive committee and as a result they don't actually want conflict.[41]

Senior risk officers did not possess the agenda-setting power that their counterparts at BWT did. As a result, this particular senior risk officer at Fraser concluded, '[This] does not feel like a toothsome risk function', and after a wave of reorganisation that washed him further to the side he left the organisation.

Finally, and perhaps most significantly, it was the commitment of risk people to risk quantification that prevented them from framing strategic issues outside the main risk silos in a way that would have allowed them to voice their opinion. The above-quoted senior risk person defined the problem as follows:

> These non-financial risk issues are not very technical, more subjective. The issue is to identify some quantitative measures that we can assess on a regular basis. So we can gain some confidence that we comply with the appetite for risk in that area, even if we haven't managed to articulate it yet for some reason.[42]

Referring to the balanced scorecard idea, he further iterated:

> There is nothing new under the sun. Instead of slogans, the way we manage is to keep track of measurements and target metrics. We track these and adjust behaviour to improve metrics to the desired level. … The issue is to identify some quantitative measures that we can assess on a regular basis.[43]

[40] Director of Risk Reporting; Fraser Bank.
[41] Director of Risk Reporting; Fraser Bank.
[42] Director of Risk Reporting; Fraser Bank.
[43] Director of Risk Reporting; Fraser Bank.

Ten months later his boss, the Risk Policy Director, opened our first conversation with a line in very much the same spirit: 'If you want to manage risk, you have to quantify it.'[44]

This approach is strikingly different from the calculative pragmatism displayed among several risk officers at BWT. It is closer to what Power (2003b: 14) calls calculative idealism, represented by adherents aiming to 'induce correct economic behaviour in the light of [the] risk measures.'

However, the strategic issues in which risk people wanted a voice defied quantitative measurement. Hence, the insistence to control these risks via measurement frustrated the archetype of Strategic Risk Management. In order to further explore the extent of this calculative idealism among the risk officers, a look at Fraser's Risk Silo Management is warranted.

4.3. Risk silo management at Fraser Bank

Fraser operated with risk silos similar to those found at BWT: market risk, credit risk and operational risk (also referred to as 'non-financial and compliance risk'). The risk methodologies that I found in place had a decade-long history: they had been evolving since 1993. The central risk function was also the custodian of a loss data warehouse that supported the continuous development of quantified risk measurement approaches and back-testing.

Characteristically of the calculative idealism at Fraser, the progress of the risk function was assessed by judging how advanced the quantification methodologies were. The Risk Policy Director, whose long tenure at the bank made him qualify as 'the institutional memory' (as he liked to call himself), recollected:

> Initially there was a market risk management team and a credit risk management team. But even the market risk management team was not very professional, we did not have a proper measurement system. We did have crude measurement systems. … Market risk was managed by the treasurer. The head of credit – well, his job was regarded as taking big lending decisions. Operational risk at that stage wasn't really talked about. … [Risk management] has been evolving since 1993. First, we made the management of market risk more professional, so it is much more structured and quantified. Then we made credit risk more quantified. The job of the Chief Credit Officer became quite different. Even though he was still quite involved in big decisions, his job was to manage the portfolio rather than individual credits.

Fraser was the first European bank to implement Value-at-Risk in the market risk area, together with the quantitative credit rating of the entire lending book, leading to the application of modern portfolio theory to the credit risk profile. In the bank's committee structure there was a separate body devoted to discussing and updating the methodologies in use.

[44] Director, Risk Analysis and Policy; Fraser Bank.

During the years, Risk Silo Management has gradually become a quasi-line management function. As risk management was pushed down to the business units, it became increasingly difficult to distinguish the risk function at business unit level as a staff or line management activity. The Risk Policy Director explained:

> You need to go down to the business units as that is where the real risk management takes place. All we do is set policies and constraints and measurement systems. … One of the post-1992 principles was that risk has to be managed as close as possible to where the risk is taken. So you have your credit risk management process integrated with lending. The market risk managers also sit on the trading floor next to the people who are taking the risk. … So, the real risk management is in the dataflow and conversation that takes place between risk management guys and the traders or people who are taking on the risk.

This decentralised approach left the risk people at the centre with responsibility for the methodologies used at business unit level, but distanced them from the businesses at the same time. Business unit risk managers developed 'dual loyalties', sometimes shielding their business from outside enquiries, which made it even more difficult for headquarters risk managers to see into their affairs, reinforcing the decentralised nature of Risk Silo Management.

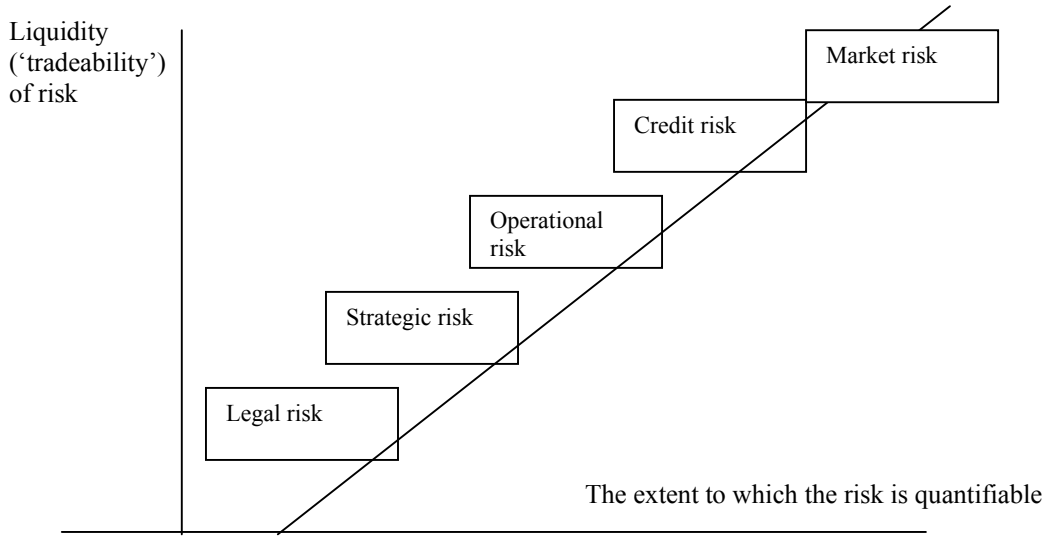

Figure 1. Mental mapping of risks at Fraser Bank

Talking to senior risk officers revealed that underneath the calculative idealism of the process design, there was a fair amount of pragmatism when it came to application. The director of risk reporting, for example, liked to remind others of the 'insufficient amount of subjectivity' that the risk processes entailed. The Risk Policy Director came to think of risk in two dimensions: the extent of measurability and the extent of liquidity (to what extent one can trade/hedge/insure the risk). He considered the risks that were high on both dimensions to be market and credit risks – these he regarded as well under control. Risks that were low under

both dimensions (strategic and legal risks) he regarded as problematic from the point of view of risk management. Finally, he placed operational risk in between – the operational risk team, at the time of the study, was engaged in working out a quantified methodology for the assessment of material risk concentrations. Figure 1 is a copy of the chart the Risk Policy Director drew as illustration.

This mental mapping of the risks helps to explain why risk people at Fraser ultimately kept away from involvement in non-quantifiable risks, and concentrated on the risk silos.

4.4. Integrated risk management at Fraser Bank

Crucial to the workings of Risk and Value Management at Fraser was the existence of an Economic Capital framework:

> Economic Profit inherently needs Economic Capital because you have to adjust your profit by the risk that you have taken in order to reach that profit. So that's how we link to the rest of the Group and Strategy and Planning in terms of providing cost of risk [the product of Economic Capital times the cost of equity, for each business unit]. That's how we feed into the Finance and Strategy areas.[45]

A separate Economic Capital team was set up, initially within the planning function. The risk capital controllers were later transferred to the risk department. They provided risk management services in two ways. Firstly, the Economic Capital framework helped determine the risk appetite of the group and contributed to risk limit setting within the organisation:

> The other element that we obviously get involved with is risk appetite. Making sure that now we have one unit of measurement across the bank of unexpected loss, which is Economic Capital and then we can use that to allocate our risk appetite.[46]

Secondly, the Economic Capital framework was used for fine-tuning the capital level required by the group in order to maintain its AA credit rating:

> …what happens when the bottom-up assessment [of risk capital need] is higher than the book value [of available capital]? … Well, we have a tolerance range which says you can't measure these things down to the last penny anyway. So if it comes within 120 per cent then we are happy, if it comes over 120 percent then we need additional capital.[47]

This two-fold contribution was a significant step towards Integrated Risk Management. What bestowed the Economic Capital framework with the image of being 'integrated' was its status as a common denominator and language of risk. It expressed and made comparable risk taken by the business units and the group.

[45] Head of Economic Capital, Fraser Bank.
[46] Head of Economic Capital, Fraser Bank.
[47] Director, Risk Analysis and Policy; Fraser Bank.

Applying Power's (2003b: 14) definition, calculative idealism also entails the following: 'While practitioners under this approach may be short-term pragmatists, they … worry constantly about the 'robust' and 'hard' nature of … risk analysis.' Indeed, characteristic of the calculative idealism of risk people at Fraser was the amount of concern they devoted to maintaining the 'leading edge' reputation of their risk methodologies, including that of the Economic Capital framework.

There was a widespread conviction across risk officers as well as non-risk people at headquarters that external constituencies rewarded Fraser for having 'leading edge' risk practices. Debates on methodology were sparked by concerns that this leading technical position might be eroded:

> Back in the 90s I think Fraser had a really good methodology. The perception we had was: some American banks were further down the road than we were, but we were ahead of the UK banks. I think we have got to the point where there is this big upheaval: there is a big question mark about whether our risk methodology is up to scratch. With Basel II going on, the feeling is that everyone is catching up, I assume it is the impetus to the current debates. … We can't afford having any of the analysts or anyone else saying we have a bad methodology.[48]

During my fieldwork I was witness to the complete overhaul of the Economic Capital methodology. It was a process involving extreme political sensitivity, which defeated an entire Economic Capital team before a second group of risk capital officers finally managed to negotiate it through. The head of the economic capital team, who orchestrated the process recalled:

> Everyone said, let's get it more accurate. But they wanted to minimise their portion of the more accurate pie. So there was a tension… By setting the objective and clarifying the rules there was less room for people to move. That's not to say you don't get people arguing and so on, but the rules keep people straight. And you keep it all consistent. By sitting around a table, instead of one-to-one negotiations, you end up with group negotiations. The best minds in business bank and [the investment banking arm of the group] came up with the methodology, so they cannot argue on technology. Each business unit was represented by risk managers and lenders, to make sure we took in both the technical perspective and the market perspective.[49]

Apparently the creators of the new methodology derived much credibility from the procedural fairness and political appropriateness that characterised the implementation, as well as from the perceived technical competence that was deployed, appealing to the calculative idealism of the people involved.

By successfully maintaining the internal credibility of the ERC framework risk capital officers ensured that both Integrated Risk Management as well as Risk and Value Management rested on a solid foundation.

[48] Assistant Director, Group Strategy and Planning, Fraser Bank.
[49] Head of Economic Capital, Fraser Bank.

4.5. The paradox of getting the politics of risk management right

The evidence suggests that Fraser Bank's preference for resolving conflicting risk and return objectives was via negotiation in a characteristic Risk and Value Management framework. The resulting agreements represented the compromise that was expected to be reached within Fraser's consensus-oriented culture. Reconciling competing risk-return interests across the business units in the course of the planning process was a formidable technical and political exercise that risk capital controllers gradually learned to resolve.

Maintaining credible risk capital allocations for the purpose of risk-return optimisation required a great deal of political aptness on the part of risk capital controllers. However, their contribution to the workings of the Group's VBM framework was so endemic that it was taken for granted and invisible in the eyes of top-level decision makers. Hence the paradox of getting the politics of risk management right: by doing so, the risk function turned invisible – a mere cog in the wheel of value creation.

5. Discussion

Both BWT and Fraser have embarked on implementing risk management practices with an aspiration to apply them consistently and coherently across their organisations. Accordingly, it can be claimed that these projects furthered the notion of ERM. However, it appeared that ERM took very different shapes in the two banks.

Instead of a recognisably common risk management framework, ERM proved to be a particular risk management mix in both organisations. This section compares and contrasts the risk management mix and the resultant ERM practices that appeared in the two banks. I seek to explain these by exposing the underlying calculative cultures.

5.1. The risk management mix

BWT's risk management mix displayed Risk Silo Management, Integrated Risk Management and Strategic Risk Management, furthered by risk silo controllers, risk capital controllers and senior risk officers, respectively. Risk capital controllers furthered the ideal of Risk and Value Management in vain.

At Fraser, it appeared that Risk and Value Management was a prominent element of the mix, with Integrated Risk Management and Risk Silo Management defining the territory of risk officers. In this organisation, Strategic Risk Management, the idea of extending the risk managers span of control on non-quantifiable risks, was frustrated.

5.2. Control patterns

Both banks grappled with conflicting risk and return objectives. A control pattern of 'selective crack-down' (Dunsire 1990; Hood 2001) was evident at BWT. The orchestration of timely attention swings between the competing risk and return objectives became a challenge that

senior risk officers took on. This explains the appeal of Strategic Risk Management within this context. Curiously, senior risk officers did not possess an expert information and support system within their departments that would have formalised this risk management type. Instead, information was channelled directly from line management to the risk committee meetings in the form of specialist presentations. By exercising agenda setting power and by cultivating personal contacts within the organisation, senior risk officers were able to collect and disseminate information. However, their influence on decision makers was rather informal and difficult to trace, making BWT's senior risk officers appear to be the modern counterparts of the *eminence gris*. Division X's example showed that in times of crisis, this influence on strategic decisions became even more prominent, lending Strategic Risk Management the status of interactive control (Simons 1990, 1991).

Fraser Bank's preference for resolving the conflicting risk and return objectives was via decision making by compromise (Burchell et al 1980). Backed by a strong shareholder value ethos, Risk and Value Management rose as a rather political but nevertheless effective framework for the joint management of conflicting objectives. It also warranted a considerable level of integration between strategic planning and risk management functions. The Integrated Risk Management framework was the source of Economic Capital allocations that fed into the planning and performance management process both at the level of the group and the business units. However, as a mere cog in the wheel of value creation, the risk function lacked the visibility and voice that would have allowed senior risk officers to influence key strategic decisions. In any case, most of them considered strategic risks outside the remit of the quantified risk management framework. Their mandate was understood as measurement-based control over quantifiable risks, latent, taken-for-granted and drawing the attention of top management only at times of control breaches – a diagnostic control (Simons 1990, 1991).

5.3. Calculative cultures

Applying Power's (2003b) notion of calculative cultures sheds some light on the underlying currents that resulted in these particular risk management and control patterns. Calculative idealism and calculative pragmatism describe two extreme attitudes of users towards the products of highly quantified models, which are shrouded in analytical mystique. In the context of risk management, calculative idealists believe in the power of risk models; and given sufficient data quality, they regard the outputs of the models as economic representations of risk, suitable for limit setting and control.

Calculative pragmatists, on the other hand, typically regard numbers as only attention-directing devices with no intrinsic claims to represent reality. Risk models are useful only when they reveal trends in risk for management purposes and help to steer behaviour in the right direction. In order to make risk numbers a basis for control, calculative pragmatists are ready to tamper the numbers produced by models with judgment and intuition.

Calculative idealists and calculative pragmatists are ideal types, in practice one finds people holding a mixture of these views (eg, short-term pragmatists being long-term idealists etc), as well as moving from one attitude towards the other (eg, as they rise in the organisational

hierarchy or change occupational groups). However, in order to determine the remit of risk management and the corresponding risk management methodologies, the senior risk officers interviewed had to decide to what extent they regarded risk numbers as representing economic reality.

The interview material suggests that BWT's senior risk officers regarded the risk numbers as attention-directing devices with little intrinsic claims to represent reality. They saw their contribution in helping to steer line management behaviour in the right direction. Further, in a control setting where conflicting risk and return objectives wrestled with one another, senior risk officers sought to direct the attention of decision makers to issues that warranted priority at any given time.

At Fraser it appeared that risk officers displayed a great deal of calculative idealism in that they aimed to represent the cost of true economic capital based on high quality data and they worried constantly about the 'robust' and 'hard' nature of their risk analysis. This calculative idealism was challenged in the process of allocating the Group's capital to business units. It took a second team of risk capital controllers to realise that calculative idealism had to be combined with political shrewdness. Fraser's own organisational culture imposed a constant consensus-seeking behaviour on decision-makers. Hence in the process of risk capital allocations risk people's calculative idealism was toned down to the extent that the next economic capital team was willing to compromise their preferred technique for the sake of reaching a compromise between the competing risk-return interests within the group. Nevertheless, by involving 'experts', the language of these negotiations remained technical. Different Economic Capital allocation methodologies wrestled with each other, representing the different risk-return interests of business units – until a final compromise was achieved. The quasi-technical process of decision making by compromise (Burchell et al 1980) gave risk capital allocations sufficient credibility to make it integral to strategic planning and performance management at Fraser.

The existence of different calculative cultures, based on the evidence presented here, is detectable in the attitude of senior risk officers to the outputs of risk management models in use. Apparently, senior risk officers develop personal philosophies about the 'manageability' of risks by quantitative models. While there appears to be much consensus on the manageability of certain risks (eg, market risks), the issue of non-quantifiable risks and that of internal capital allocation are contestable. BWT's senior risk officers who had doubts about the use of quantitative models in these contested locales chose to define their area of competence broadly (encompassing risks outside the quantifiable risk framework). Conversely, senior risk officers at Fraser who had more confidence in the reliability of the risk models were able to make them work in the contested locale of capital allocations and performance measurement. However, by doing so, they confined their area of influence to that of measurable risks. This underlines the role of managerial discretion (at least in part) in the selection and use of ERM systems.

6. Conclusion and further directions for research

In the financial services sector ERM is thought to embody a set of risk practices that increasingly appear clustered even though they encompass such wide-ranging techniques as Vale-at-Risk and Economic Capital models, as well as qualitative methods for non-financial risks. Practitioner predictions suggest that taken together, these risk management approaches increasingly constitute 'best practice' that more and more organisations aspire to implement (eg, Lam 1999; Gilbert 2004).

This paper suggests that innovations in ERM techniques increasingly cluster around four themes: risk quantification, risk aggregation, risk-based performance measurement and the management of non-quantifiable risks. Each of these themes represents different ambitions and objectives that risk officers might pursue, giving rise to four risk management ideal types. These all have enterprise-wide ambitions, and can be viewed as the building blocks that constitute the risk management mix in a given organisation: Risk Silo Management, Integrated Risk Management, Risk and Value Management and Strategic Risk Management.

Taking a field perspective, the paper proceeded to investigate the risk practices of two banks. Each bank appeared to possess a risk management mix that was specific to them. However, the underlying currents that caused these patterns may be instructive in other cases too.

Power (2003a) postulated that two powerful institutional notions drive the rise of ERM: the shareholder value imperative and the risk-based control imperative. These represent different approaches to corporate governance. The first emphasises the role of ERM practices in the measurement of shareholder value, and in the advancement of managerial practices that are designed explicitly to promote shareholder value via performance measurement. The notion of risk-based internal control emphasises the role of those ERM practices that are designed around the strategic objectives of the firm and further the achievement of these through internal (formal and informal) controls.

These undercurrents are detectable in the case studies. It appears that BWT's ERM was more of a reflection of the risk-based internal control imperative. It can also be argued that Fraser's ERM mix primarily corresponded to a strong shareholder value management concern. Thus the cases might be suggestive of two alternative patterns of ERM taking shape in financial institutions.

	Value-based ERM	Strategic ERM
Salient element in the risk management mix	Risk and Value Management	Strategic Risk Management
Span of risk control	Quantifiable risks (risk silos)	Quantifiable as well as non-quantifiable risks (risk silos and beyond)
Resolution of conflicting risk-return objectives	Trade-off set by compromise in the Risk and Value Management framework	By selective crack-down - attention swings orchestrated applying Strategic Risk Management
Top management's use of risk controls	Diagnostic use of the entire risk management mix	Interactive use of Strategic Risk Management
Strategic significance of risk management	Derived from the integration of risk management with planning and performance management	Derived from influencing top-level decision making
Calculative culture	Calculative idealism	Calculative pragmatism
Case study example	Fraser	BWT

Table 2. Contrasting the two models of ERM

The shareholder value imperative appears to drive a particular model of ERM characterised by a risk management mix in which Risk and Value Management is a salient element ('value-based ERM'). This ERM model is contingent on a vision of uniting and controlling risk and return objectives in a common framework. Although calculations might be tempered by political consensus-seeking behaviour (ie, the resolution of the risk-return trade-off is achieved by compromise), this model presumes a great deal of calculative idealism on the part of adherents. It requires the quantification of both the risk silos and the risk capital need of business entities. Hence risk management's remit is defined in terms of the quantifiable risks, and its concern with non-financial risks extends beyond the risk silos only as far as risk quantification is possible. The strategic significance of this risk management model is derived from its close integration with strategic planning and performance management, but as a control function, it is fundamentally *diagnostic*.

On the other hand, the risk-based control imperative can be associated with a different model of risk management: one with a risk management mix in which Strategic Risk Management is prominent ('strategic ERM'). This model is contingent on a vision that risk and return need not be controlled in a common framework because the organisational actors who take risk are different from those who try to minimise it. There is an intrinsic tension between them, which can (at best) be controlled by selective crack-down on competing agendas. In this model risk people are not expected to get in the way of risk-takers when expansion is desirable. Risk officers see their role in orchestrating timely attention swings when the tide of risk is about to turn back on the organisation. Taking a great deal of calculative pragmatism, risk officers quantify risks, but exercise control in a flexible manner, allowing the renegotiations of lower-level risk limits, when the interest of the business requires so. This approach requires risk officers to possess considerable knowledge of the businesses whose risk-taking they monitor. Senior risk officers are keen to acquire business insight in order to voice their opinion on risk

issues that are beyond the quantifiable risk framework. They derive strategic significance from influencing high-level strategic decision making, by responding to the concrete concerns of top management at any given time. In this model Strategic Risk Management is used interactively (by top management), in the formal context of the risk management committee where the senior risk officers set the agenda. Table 2 contrasts the two ERM models.

Apart from emphasising the influence of institutional pressures, the cases also highlight that the scope for managerial discretion in the ERM systems. Firstly, the role of senior risk officers was evident in the politics of risk management. At Fraser senor risk officers had to orchestrate the process of capital allocations with political sensitivity and tact. At BWT senior risk officers amassed both agenda setting and informal power in order to become influential in the discussions of strategic issues.

Secondly, it was, to some extent, a matter of managerial choice whether the risk-based internal control, or the shareholder value imperative shone through the ERM models described. Apparently, senior risk officers formulated personal convictions about the manageability of risks by quantitative models. While they tended to have similar views on the manageability of certain risks (eg, market risks), the issue of strategic risks and that of internal capital allocation turned out to be contestable. Senior risk officers at Fraser, who had more confidence in the reliability of the risk models ('calculative idealists'), were able to make them work in the contested locales of capital allocations and performance measurement. This task was legitimised in the organisation by a strong value-based management culture, which was driven by the shareholder value imperative.

However, BWT's senior risk officers who had doubts about the use of quantitative models in these contested locales ('calculative pragmatism') chose to define their area of competence broadly, encompassing risks outside the quantifiable risk framework. To them the risk-based internal control imperative gave institutional support as it is driven by the idea that controls ought to aim at the strategic objectives of the firm.

The distinction between the value-based and the strategic models of ERM is somewhat artificial. Its purpose is to give a framework for sorting the hotchpotch of risk management practices that one encounters in the literature and in organisational settings. However, the distinction can be useful in generating further research questions. I outline two such questions.

The first question would aim to verify if the distinctions I made between the four different risk types and between the two diverging risk models are valid. A survey of a larger sample of financial institutions could be used to explore the risk management mix in different organisations and to see what patterns they take and what are the driving factors of the emerging clusters. It is likely that other variables that were not exposed in the current field studies will surface. In particular, size could be a significant differentiating factor. For example, the small Swiss canton-banks are reportedly concerned with Risk Silo Management, but so far have not taken interest in the Economic Capital framework that would bring Integrated Risk Management or Risk and Value Management in the risk management mix.

Secondly, more research is needed on the dynamics of the risk management models postulated here. Longitudinal studies of risk management practices are necessary to confirm the validity of the variables that drive different risk management models. They would also be useful in deciding to what extent the models proposed as divergent are exclusive. Given the seeds of VBM already sown at BWT, it is possible that another management team or a turn in the institutional pressures may bring a paradigm change in the future. Equally, should the VBM project fail to deliver the expectations attached to it, the value-based model of risk management may be discredited at Fraser. This could result in yet another overhaul of the risk management function and a redefinition of its role. Speaking of such shifts is highly speculative, even though it is likely that any particular risk management mix or model would be a dynamic phenomenon and subject to change. However, it is my belief that the incidents that shape the patterns in the development of risk management practices are systemic rather than erratic and can therefore be explained by careful studies of the underlying currents.

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