

**Exploring the risk management mix:
A field-study perspective**

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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 (‘holistic’ ERM).

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1. Introduction

Many observers, commenting on the development of risk management in financial institutions, highlight the increasing spread and codification of risk practices under the fashionable term Enterprise Risk Management (ERM). International bank capital regulation and corporate governance are two areas where the prominence of ERM is observable.² 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.’*

The emerging notion of Enterprise Risk Management operates with a rather wide remit. Moving beyond an initial financial risk agenda, it concerns itself with strategic and operational issues. Setting an important milestone on the road of corporate governance developments, the Treadway Commission defined 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.’³

This definition calls into mind Anthony (1965)’s widely-quoted definition of management control: *‘the process by which managers ensure that resources are obtained and used effectively and efficiently in the accomplishment of the organization’s objectives.’⁴* With the emphasis placed on the strategic role of ERM (‘applied in strategy setting... to provide ... assurance regarding the achievement of entity objectives’), ERM is being advocated as a strategic management control system.

Still, enterprise risk management remains a rather elusive and under-specified management control. Its broad definition is an umbrella over diverse risk management techniques and arrangements, whose users aspire to create an image of consistent and comprehensive application across an organization. Normative texts are telling of the diverse practices that all seem to be bundled under the heading of enterprise risk management. 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 (Lam, 1999; Gilbert, 2004). This requires the prioritisation and the ordering of the various elements into a control cycle with recognisable structural and personnel arrangements.

²The 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.)

³ COSO (2003: 6)

⁴ Anthony (1965)

Currently we have little understanding of how enterprise risk management works in action. Many questions are unanswered. What do risk managers do and what functional and structural arrangements organise their activities? Is there evidence that the scope of risk management has been extended beyond its original financial agenda?

The above questions explore the design attributes of risk control, but do not address the nature of its use. In order to understand the roles that the management of risk comes to serve within organisations, we need to address how the risk control system is used by decision makers. Even if risk control exercises influence on some decisions, it does not necessarily mean that the risk function is frequently and regularly consulted by top management. Based on Simons' distinction between interactive versus diagnostic control systems (Simons, 1990, 1991, 1994), we add to the list of questions the following: Does top management use risk control interactively, as a source of frequent and regular information about some of the key strategic uncertainties that they devote personal attention to? Or is risk management used as a diagnostic control, drawing top management's attention only when control breaches warrant it?

The objective of this paper is twofold. First, it attempts to conceptualise and synthesize the diverse practices described by the normative literature on ERM. Second, based on extensive fieldwork with two large banking organisations, this paper explores the forms and uses of ERM, and the roles that risk managers have come to play.

The focus on banks has a *caveat emptor* – risk management here (supposedly) addresses the question of bank capital adequacy, which is a regulatory requirement not faced by non-financial institutions. However, as the observed risk managers will be shown to have wider objectives, and try to become involved in strategic planning, performance management and control, the study has implications for all risk managers who cast their nets wide and cultivate strategic control ambitions. What can be learned from these cases is therefore thought to have implications for not only banking specialists, but also for the theory and practice of enterprise risk management in general, as a corporate governance and management control discipline.

2. Setting the scene

Enterprise risk management belongs to the group of management innovations that aim to 'improve' strategic control in organizations. Thus ERM echoes the ambitions of management control practices such as Value Based Management, Activity Based Management and the Balanced Scorecard.

It appears to be a common feature of recent control system innovations is that they are constituted by an assembly of practices. Various normative techniques are being advocated in different combinations under the umbrella of the very same management control concept, as observed by empirical-conceptual studies of the Activity Management assembly (Gosselin, 1997) and in the evolution of the Balanced Scorecard (Kaplan & Norton, 1992, 1996, 2001, 2004; also summarized as an evolution by Speckbacher et al. 2003).⁵

⁵ Gosselin (1997) defines Activity Management as the effective and consistent organisation of activities via three levels of practices: activity analysis (AA), activity cost analysis (ACA) and ABC. The control assembly is defined so that later levels subsume the previous ones. Speckbacher et al. (2003) describes the evolution of the Balanced Scorecard pointing to three

To synthesize the diverse ERM practices, this paper adopts the above view of practice innovations as assemblies. I propose that in a given organisation various risk management practices form a constellation, the *risk management mix*, corresponding to the particularities of the organisation and its context. As for the content of the risk management mix, four increasingly clear risk management ideal types are surfacing. These are Risk Silo Management, Integrated Risk Management, Risk and Value Management, and Holistic Risk Management.

However, I do not intend to argue that the risk management mix is entirely firm-specific. Following the strand of organizationally grounded management control studies (Dent, 1987; Simons, 1990, 1991; Ahrens, 1996; Chapman, 1998), this paper proposes that systematic variations in ERM practices might exist. The study postulates that the differences in the forms and uses of the observed risk management mixes can be rooted in contextual drivers. In this respect the paper continues the tradition of contingent control studies.⁶ A major ambition of contingency researchers is to specify the contingency factors that matter (firm characteristics such as size, age, strategy and the type of technology applied), and to illuminate their impact on control system design and use. In addition, a great deal of attention has been paid to the influence of external variables such as the degree of environmental uncertainty, hostility (Khandwalla, 1977) and the role of the national culture (Hofstede, 1983).

This paper proposes to apply a technology-related variable, the *calculative culture* of the organizations, as an explanatory variable. Proposed by Power (2003b), the concept of calculative culture sums up the attitudes displayed in a particular organizational setting towards highly analytical calculative technologies (such as risk measurement underpinning ERM). Subscribing to a particular calculative culture, senior risk officers develop ‘personal philosophies’, and make choices about, the ‘manageability’ of risks. In particular, *calculative idealism* and *calculative pragmatism* (Power, 2003b) are salient attitudes that are reflected in senior managers’ choice and use of analytical models, shaping the risk management mix. Building on Power’s conceptualization, this paper distinguishes between the two concepts as follows:

Under *calculative idealism*, adherents aim to manage risk ‘by the numbers’, replacing judgmental risk assessments with risk quantification to the extent it is possible. They tend to agree that risk measures are capable to reflect the underlying economic reality well enough to induce requisite economic behaviours in the light of these. Therefore adherents put a high priority on building, maintaining and (if possible) improving the ‘robustness’ and accuracy of their analytical models. Under *calculative pragmatism*, adherents place a much lesser degree of ‘trust in numbers’ (Porter, 1995) produced by risk analytics. They regard risk figures as trend indicators at best, which they seek to

types of BSC. Type I is the original Kaplan and Norton (1992, 1996) concept of a performance measurement system that encompasses the financial as well as the non-financial aspects of performance. Type II is a strategic performance measurement system that describes strategy via cause-effect relationships, as in Kaplan and Norton (2001). Type III is a strategic management system that does not only map the strategy into performance measures, but also implements it by linking it to incentives. Both studies provide empirical evidence that adopters systematically vary according to which of the various types of Activity Management (or BSC) practices they implemented.

⁶ Chenhall (2003) gives an up-to-date and comprehensive overview of three decades of contingency studies in accounting and management control.

complement, and often overwrite by senior managerial discretion, experience and judgment.

Further, the paper emphasises the role of external institutional pressures in the selection and use of ERM practices. Above all, the influence of two powerful contemporary corporate governance concerns will be implicated in the analysis: the *shareholder value drive* and the *risk-based internal control imperative*. These represent different approaches to corporate governance. The *shareholder value drive* emphasises the role of control systems in the measurement of shareholder value, and advocates control practices that are designed explicitly to promote value creation. The adherents of the *risk-based internal control imperative* further control practices that are designed around the wider strategic objectives of the firm, including the non-financial aspects of performance. The focus is more on maintaining appropriate business conduct and accountability. Advocates pursue the achievement of these objectives via internal (formal and informal) controls, designed over processes that constitute risks to these objectives.

2.1. RESEARCH DESIGN

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 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.

The site-selection process was not random. Both banks had a reputation of having ‘leading edge’ risk management organisations. Their balance sheet size and scope of business activities (spreading from retail banking through corporate and investment banking to private banking) were similar. Fraser Bank differed in an important aspect – it was an ardent advocate and practitioner of value-based management (VBM), which had implications for the design and use of its risk management systems. BWT, on the other hand, was not known to practice a value-based management ethos. During the process of negotiating access to the organisations it emerged that the presence of VBM in one bank (and the apparent lack of it in the other) allows the study to explore organisations in apparently similar circumstances following different management policies and using different systems. The use of contrasting observations from multiple cases is not alien to field-based accounting research (Ahrens, 1997). Drawing out similarities and contrasts between ‘matched pairs’ (Ahrens and Dent, 1998) helps the researcher to move systematically from field material through interpretation to explanation.

The primary source of data for the study was 75 in-depth interviews with senior finance, lending, strategy, controlling (management accounting) and risk management staff. The second source of data was direct observation of risk management in action. BWT provided me with an office in the central risk management department during my visits so I could observe staff at work, participate in informal meetings (lunchtime get-togethers and chats at the coffee machine). Fraser Bank allowed me to attend an internal risk policy workshop, in which they reviewed and discussed their risk management framework. Within the boundaries of confidentiality, the banks provided historical and other source documents such as annual reports, presentations and internal reports, which constitute an additional supply of data.

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. They were keen to exchange 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.

The cases presented here are the result of the patterning of the field material, which gradually took shape over the research and writing period. I examined and re-examined observations and gathered more field material at each stage of the field work, to ensure, as far as possible, *'that the patterns adequately represent the observed world and are not merely a product of [the researcher's] imagination'* (Ahrens and Dent, 1998:9). The point of departure from the field came when (similarly to Dent (1991)'s experience) it became clear that interviewees' views were predictable, given a knowledge of their function (accounting, strategy, risk management etc.). By participating in international practitioner events I found that the roles and perceived influence of risk officers from other financial organisations appeared to echo the lessons learned from the cases. After completing the two case studies, I conducted further interviews to check on the feasibility of the results with a number of senior risk officers in banks similar in spread and scope to the ones presented here.⁷ It appears that the cases of Fraser Bank and BWT display relevance for peer practitioners, reflecting the field researcher's ambition to uphold external validity, as suggested by Bruns and Kaplan (1987).

However, the study must be cautious in its claim to generality. This is because of the 'situatedness' of the initial two stories. The 'inescapable truth' is that 'the reality conveyed, however carefully researched, is only one of a possible number of explanations.' (Ahrens and Dent, 1998: 10). Therefore alternative explanations could have been found for the same cases by a different researcher, with a different background. In the course of the theorizing process many initial attempts at explanation were discarded or revised and modified. This crafting of the account led to an explanation that created the best fit between data and theory, among the various alternatives that were tried. Taking a larger sample, the 'situatedness' of the other cases will need to be accommodated by further adjusting and refining the explanations.

'Instead of speculating directly about the larger population' (Atkinson and Shaffir, 1998: 62), the ambition of the study is to illuminate the design and uses of risk management *in situ*. The strength of such research (over other approaches trading off depth for breadth) is its potential for making significant advances in the conceptual development of a managerially relevant phenomenon (Bruns and Kaplan, 1987), in this case, the diverse forms and workings of risk management.

I also aspire to present data in sufficient depth so that links from data to interpretation can be traced. Documentary evidence and interview quotes provide rich, evocative data. Bringing the reader sufficiently close to the data (to be able to imagine alternative diagnoses) is seen as an important strength of field studies (Bruns and Kaplan, 1987).

⁷ I conducted 20 further interviews with other banks' senior risk officers including those of Bank of America, Deutsche Bank, Standard Chartered and Royal Bank of Scotland (RBS).

The paper is organised as follows. The next section conceptualises ERM as an assembly of practices, which can be grouped in four ideal types with reference to their institutional origins, techniques and ambitions. Recognising that the notions of ‘integrated’ and ‘holistic’ risk management are already in existence, and used interchangeably, along with similarly loose adjectives such as ‘strategic’, the paper will attempt to (re)define and distinguish the two concepts (Integrated and Holistic Risk Management) for the purposes of the analysis presented here. Next, presenting the case studies, the paper turns to describe and explain developments in the risk management mix of the studied banks. A discussion of the implications for the further development of risk management and future research in this area will form the concluding parts.

3. Making sense of enterprise risk management

What follows is an attempt at ‘unbundling’ enterprise risk management. Normative and technical texts outline four ideal types of risk management, all of which qualify as ‘enterprise-wide’, but vary in terms of their focus and purpose.

3.1. 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.⁸

The most frequently cited technique of Risk Silo Management is *Value-at-Risk* (Jorion, 1997). It is a statistical measure of unanticipated loss, derived from the loss distributions of different risk types that institutions track (e.g. market losses, credit losses, operational losses, insurance losses). The data that feeds into the Risk Silo Management models vary in nature across risk types.⁹

⁸ The following commonly quoted definitions apply for the main risk categories (Drzik et al., 2004). *Market risk* arises from changes in the value of financial assets and liabilities (c.f. trading book) due to volatility in market prices (interest rates, currencies, equities, commodities). *Credit risk* arises from changes in the value of assets (c.f. banking book) and off-balance sheet exposures due to volatility in default rates or credit qualities. Bancassurance firms and insurers add the additional category of *insurance risk*, which arises from volatility of insurance claims around the expected level of claims. *Operational risk* has long been defined as a residual category, one that captures all of the risks not covered in the first three categories.

⁹ Due to their frequency of change, market risk data are abundant. They are apparently distributed in a quasi-normal fashion, and thus lend themselves for the calculation of value-at-risk in a fairly straightforward manner. Credit risk data are derived from the analysis of the loan portfolio. Due to less frequent changes, credit loss data are often simulated. The simulations are based on macroeconomic scenarios and the suspected effect of these on the loan portfolio, in the light of the default probabilities (i.e. credit ratings) calculated for each loan title. However, generating credit loss data requires much judgment, for example, in the process of the random macroeconomic simulation or in the determination of loss-recovery rates. The resulting loss distributions are typically non-normal (Marrison, 2002), nevertheless, a maximum probable loss (‘credit-at-risk’) is possible to derive. In the lack of such statistical capabilities, banks resort to more traditional expressions of credit risk, for example by

Advances in Risk Silo Management have increasingly influenced the design of the international bank regulatory framework. The so called Basel rules require banks to set aside regulatory capital that must reflect the amount of risk they take, calculated as the aggregate of risks measured in the risk silos. The current regulatory framework is being replaced by a new one ('Basel II'), which recognizes recent developments in Risk Silo Management while challenging banks that are lagging behind in terms of their risk measurement capabilities. Basel II differs from Basel I in two respects. 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 as well. The second difference is in the measurement options 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 an important driver of ongoing and further Risk Silo Management initiatives within banks.

3.2. 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.¹⁰

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, Economic Capital can be viewed as an expression of the risk capacity of business initiatives and profit centres; thus it can serve the purpose of risk limit setting and risk control.

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.

The Basel Committee has legitimised the Economic Capital methodology, recognising that it has emerged as best practice among practitioners in the last decade (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

calculating the *expected credit loss*. Operational risk presents risk silo managers with the greatest quantitative challenge. Most institutions are still in the early stage of learning about operational losses by establishing databases that collect information on risk materializations. At this stage only the more frequent operational risks lend themselves to modelling.

¹⁰ Economic Capital (also known as Economic Risk Capital) is a statistically estimated amount of capital that could be used to cover all liabilities in a worst case scenario – unexpected market, credit, operational and/or insurance loss. 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).

Economic Capital not to a regulatory standard, but to the capital adequacy expectations coming from rating agencies. Economic Capital is a proxy of the capital cushion that rating agencies expect the bank to possess in order to withstand a large unexpected loss and thereby 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 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.

The influence of the rating agencies is apparent in the widespread industry discussions about the potential gains resulting from compliance with the most advanced measurement guidelines in areas of credit and operational risk measurement. It has been believed that banks with advanced measurement systems will be able to demonstrate less capital need than prescribed as the minimum capital requirement under the current regulatory framework. Accordingly, some large banks (with advanced risk management systems) would expect their costly capital burden to ease. However, rating agencies have their own expectations about bank capital adequacy. As suggested before, for some banks the rating agency expectations are as binding as regulatory ones. A banking industry magazine for example asserts that '*without the agencies' blessing, any capital reductions granted by the regulators will be meaningless.*'¹¹ It quotes a senior rating agency figure from Moody's Investor services: '*If banks say, 'We are holding all this excess economic capital, and we want to eliminate it,' that could certainly increase the risk profile of the bank.*'¹² A representative of Standard and Poor's made similar comments: '*If a bank is at an A rating level, and they substantially decapitalize from there, its rating could drop.*'¹³

The role of rating agencies as quasi-regulators thus extends beyond the enforcement of minimum capital adequacy rules. In some cases they provide (and impose) even stricter capital expectations and extra scrutiny.

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.¹⁴ 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.

¹¹ Paletta (2005:1)

¹² *ibid.*

¹³ *Ibid.*

¹⁴ This information came from a senior manager of the Association of the Swiss Kantonalbanken whom I met in London in July 2004.

3.3. Type III: Risk and Value Management

Recent works in the 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 influence 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 core and driving principle of VBM is that firms create shareholder value by earning returns in excess of the cost of capital.

Against the backdrop of the rise of the shareholder value imperative, it is not surprising that a similar shift took place in the stakeholder concerns surrounding financial institutions. Here too, the emphasis has moved from growth to shareholder value creation. As Molyneux (2000) observes, '*The strategic priority in banking has shifted away from growth and size alone towards a greater emphasis on profitability, performance and value creation.*'¹⁵

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; Haubensstock & Morisano 2000). Given that capital allocations supposedly reflect risk taking, the performance of business units is measured relative to the quantifiable risk they incur. Pushing these performance measurements down to business units, products and even transactions gave rise to further potentially 'value-enhancing' practices, such as risk pricing, risk transfer and portfolio risk management (as in Lam 1999).

The joint consideration of risk and profitability in a common performance measurement framework¹⁶ 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

¹⁵ Molyneux (2000), p.218.

¹⁶ 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).

is equally specific – Risk and Value Management may be favoured by certain banks, while doomed to fail in others.

There is some case study evidence on VBM implementations from major British, Dutch and US banks (Davies, 2000 on Lloyds TSB; Bruggnik & Buck, 2002 on Rabobank; Barton et al., 2002 on Chase Manhattan). These studies, however, belong to the consulting research genre in the sense that they advocate ideas (about the integration of VBM and risk management) to the readers. Although these studies possess a strong concern with practical problems and applications, a '*prescriptive and propagating style overall*'¹⁷ curtails their ability to provide a rigorous analysis of the nature, functioning, effects and controversies of the described risk practices.

3.4. Type IV: Holistic 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.

The reports from the Treadway Commission (COSO, 2003) and the Turnbull Committee (ICAEW, 1999), both considered as 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. Accordingly, a growing number of practitioners and commentators are recasting the discussion of strategic, IT, legal and compliance issues as distinct, additional risk categories (Economist Intelligence Unit, 2005; PricewaterhouseCoopers, 2005). This version of ERM has got a broader, extended and general mandate – we define it as the fourth risk management ideal type: *Holistic Risk Management*.

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.

¹⁷ Lukka and Granlund (2002), p. 168.

To sum up, this section has outlined four types of risk management that all have ‘enterprise-wide’ ambitions. A summary of the discussion is presented in Table 1.

	Risk Silo Management	Integrated Risk Management	Risk and Value Management	Holistic Risk Management
<i>Institutional background</i>	International regulation of bank capital adequacy	Rating agency expectations of bank capital adequacy	Rise of the shareholder value imperative	The rise of risk-based internal control (Anglo-Saxon and German corporate governance)
<i>Related theme in the literature</i>	Risk quantification	Risk aggregation	Risk-based performance Measurement	The management of non-quantifiable risks
<i>Focus on</i>	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
<i>Techniques</i>	Loss distributions; Value-at-Risk; Credit rating models; Standardised and Advanced measurement approaches set by regulators	Economic Capital	Risk-adjusted Return on 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

This review also suggests that ERM is not unique among management control innovations in the sense that it appears to be an assembly of risk management ideal types. Whether the risk management archetypes outlined here signify transitory stages in what might be called the evolution of ERM, or are permanent variants representing alternatives to firms, is an empirical question. In the subsequent two sections I outline two case studies in search of field-based evidence on risk management in action.

4. Enterprise Risk Management in action – the case of BWT¹⁸

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 CRO disclosed a diagram of the remit of risk management in the 2002 annual report that showed non-quantifiable risks as part of his function's scope.

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.

However, BWT was also suffering a downturn in its profitability. A major and lasting stock market slump seriously hurt a large business unit, Division X. The group reported significant losses and disappointed shareholders for two consecutive years. An innovative, entrepreneurial bank, BWT was known for its bold acquisitions and first-mover strategies. But its spectacular growth was punctuated by losses and halts 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,¹⁹ 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, as far as its design and uses are concerned, BWT's risk management mix was a specific combination of the practices outlined in Section 3, as will be shown next.

4.1. 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.'*²⁰

This mission statement carries multiple ambitions: apart from the exercise of Risk Silo Management, the aspiration of Integrated Risk Management ('integrated and comprehensive') as well as that of Holistic 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 to have a closer look at the developments of the practices within.

¹⁸ BWT is a pseudonym for reasons of confidentiality.

¹⁹ Literally – BWT had issued Group Risk Processes and Standards, abbreviated to GRIPS.

²⁰ BWT, internal document.

At the start of my fieldwork, the development of Value-at-Risk for non-conventional investment products was the major preoccupation in the market risk silo. Market risk people saw their role in providing a service to traders, with whom they were housed together, in separate offices from all other risk silos. 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.²¹

Market Risk Controlling saw its challenge in the quantification and tracking of risk that the traders took. 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.²²

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 and judgment on the part of the controllers:

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: (Smiles.) 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.²³

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.²⁴

This suggests that 'learning about the beast' might imply slackening off on risk limits and letting the business-side (to a certain extent) increase risk origination. Further, on

²¹ Head of Market Risk Controlling, BWT

²² Head of Market Risk Controlling, BWT

²³ Chief Risk Officer, BWT

²⁴ Chief Risk Officer, BWT

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.²⁵

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:

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.²⁶

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 metric, a trend indicator rather than a risk measure *per se*:

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.²⁷

This guarded attitude to risk quantification among market and credit risk officers is all the more striking given that the literature suggests that these risk areas provide risk managers with the most confidence in their calculations. While most financial risk managers are expected to be 'calculative idealists' (Power 2003b), BWT's financial risk controllers appeared to be 'calculative pragmatists', in that they regarded numbers as attention-directing devices with no intrinsic claims to represent reality. 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.

Senior risk staff's attitudes to operational risk management also displayed calculative pragmatism. On the face of it, risk officers in the operational risk controlling area

²⁵ Chief Risk Officer, BWT

²⁶ Director of Credit Risk Controlling, BWT

²⁷ Director of Credit Risk Controlling, BWT

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:

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?²⁸

Given the doubts about the plausibility of the quantification of operational risk, the controller's informed, experience-based judgement 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 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.²⁹

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.

The monthly executive risk report was a thick document. Inside the report there were dozens of charts graphically representing risk exposure lists, trends as well as risk limit breaches from all over the bank (no subsidiaries or functions were exempt from data provision), arranged neatly under the headings of market risk, credit risk and

²⁸ Director of Operational Risk Controlling, BWT

²⁹ Chief Risk Officer, BWT

operational risk. Most risk people seriously doubted whether all this information got read. As one of them put it, ‘*We would like it if the receivers of our analysis came back to us with questions. But they don’t.*’³⁰ After asking executives from the strategy department and the finance division, it became apparent that the problem was that the key strategic risk concerns of top management were not quantifiable:

The trouble about the interface between risk and strategy is that at the very high level, there is a very simple list of risks to look at from a strategy perspective. ... Then somebody goes there to do all these detailed models, the ERC thing and all that, and you have to think where you add value. If it is the basis for capital allocations, that’s fine but...in the end, generally speaking, risk at a very high level is very simple and straightforward.³¹

Thus it appeared that the production of risk reports did satisfy a regulatory expectation (the need to produce board-level risk information). Risk reporting was used as part of top management’s dashboard of management controls. Accordingly, top management’s interest in risk silo control appeared to be heightened only at significant control breaches – they used risk silo control as a diagnostic control system. Generally Board discussions deviated from the content of the risk report towards more ‘strategic’ issues. Strategic discussions were outside the formal reporting coverage of risk silo people, and those issues got very little (if any) representation in the monthly risk report. Having recognised this, the CRO’s aspiration for the future was to solve the problem of providing ‘*meaningful high-level risk information*’ to the Board.

4.2. *Holistic Risk Management at BWT*

By including non-quantifiable risks into the remit of the risk control, the intention was to move beyond Risk Silo Management towards Holistic 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 risk report?³²

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 territories of the strategy and finance functions, the CRO briskly replied: ‘Not if you have a Chief Risk Officer. Because that’s what you pay him for.’

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

³⁰ Team member, Market Risk Controlling, BWT

³¹ Director, Head of Strategy and Projects, BWT

³² Chief Risk Officer, BWT

analysis, in order to deal with problems that were on the border between strategic planning and the risk silos, between non-quantifiable and quantifiable risks. The Group senior risk officers (the CRO of BWT, the CRO of the investment bank, and the 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.

These discussions proved to be of much more relevance to top management. Given that the bank was recovering from a series of strategic mistakes and financial losses, top management was much more inclined to listen to a new voice in strategic control – that of the senior risk officers'.³³ This was reflected in top management's frequent and regular interest in what senior risk officers had to say, and it was acknowledged by those present at executive board meetings. As the Chief Credit Officer commented at the end of the year:

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*.³⁴

It was also noted that senior risk officers themselves required strategic information from the business line, in regular face-to-face meetings:

AM: Would [the CRO] 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

This Holistic Risk Management approach set the example 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

³³ This observation supports Simons (1991) thesis that at the time of financial crisis, top management are inclined to use multiple control systems interactively.

³⁴ Chief Credit Officer, BWT

³⁵ Chief Credit Officer, BWT

received 15-30 minutes of attention, while special risk topics were discussed for 45-90 minutes. The CRO of Division X commented:

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 Holistic Risk Management within Division X too. Accordingly, the business unit CRO perceived an increase in top management's interest in the risk committee meetings for which he set the agenda – Holistic Risk Management was emerging as an interactive control system.

4.3. *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. The ERC team was the originator and the guardian of BWT's economic capital methodology. Through the ERC methodology they 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.

Looking back at the worsening ERC trend in Division X's risk portfolio prior to the crisis, BWT's management realised that ERC had the potential to be an indicator of the group's risk profile:

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.³⁶

This required the application of ERC as a common denominator of risk, to aggregate risk across risk silos and divisions. Similar calculations were introduced to conclude the planning process, to highlight the projected risk profile based on divisional (and group) planning forecasts. This was a step towards determining the 'risk appetite' of the group, and to judge if the projected overall risk profile in the business plan was adequate. With ERC becoming a tool to set the risk appetite of the group, Integrated Risk Management was, apparently, becoming recognisable.

In addition, ERC was used in investor communications. Given that ERC was reputed to be the best practice common denominator of risk in the financial services sector, by disclosing it BWT signalled that its risk management capabilities were sufficiently advanced to give an 'integrated' picture of its risk profile.

³⁶ Chief Risk Officer, BWT

However, ERC was a rather controversial metric, when it came to business unit risk profile (and capital) attribution. Not even in the case of Division X's recapitalisation were risk calculations the basis of decision making. These calculations took place within the finance function, which had its own assessment of how much capital BWT's subsidiaries needed to hold in order to satisfy stakeholder and business requirements.³⁷ In the next section I briefly discuss the controversies that challenged the shareholder value management premise of ERM.

4.4. Risk and Value Management at BWT

In the early 2000s there was talk at group level of an imminent VBM implementation. The ERC team 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.³⁸

But it was the head of the ERC team who championed the move to establish a link between risk management, budgeting and planning 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?³⁹

However, in the wake of the dawning financial problems of the group, VBM had 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.⁴⁰

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

³⁷ As accounting controllers saw ERC not as a complementary, but as a *competing* control tool, they resisted it. From their point of view there was already an established accounting control available for the Division's capital adequacy. Due to the realities of the politics of control, the risk function was prevented from the deployment of ERC in divisional control. Division X's post-crisis recapitalisation was led by accounting controls. Also, the subsequent reconsideration of Division X's country portfolio and the wave of divestitures of the weakly capitalised businesses were driven by accounting-based solvency considerations.

³⁸ Chief Risk Officer, BWT

³⁹ Director, Economic Risk Capital, BWT

⁴⁰ Director, Group Accounting & Reporting, BWT Group

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 [the finance function] for example does not support it.⁴¹

There were two problems. The first 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 deemed indicative of trends, were judged as insufficient to reflect the absolute risk profile of individual business units.

Secondly, capital allocation was seen as a politically sensitive exercise, requiring careful communication in relation to both external and internal stakeholders. In particular, there was resistance from a powerful business unit, as well as from the finance department against the redefinition of internal capital allocations. This suggests that the mapping of risk profiles into a value-based management framework is as much a political, as a technical challenge. The CRO was not prepared to spend resources on the politics of risk capital allocation. Ultimately he abandoned the idea of promoting Economic Profit as the way of linking risk management with strategic planning and performance measurement. The ideal of Risk and Value Management was frustrated at BWT.

4.5. *The CRO as 'éminence grise'*

BWT displayed a wide exemplar of best practices in risk management, which could have given rise to all of the four risk management types described in Section 3. Risk Silo Management, Integrated Risk Management and Holistic Risk Management emerged as clearly visible in the risk management mix, furthered by risk silo controllers, risk capital controllers and senior risk officers, respectively. It appeared that Risk and Value Management was problematic and failed to take root at BWT during the field study period.

The characteristic feature of risk management in BWT was the strong calculative pragmatism that senior risk officers applied to risk quantification. Risk silo control was turned into a learning exercise, as risk measures were treated as trend indicators rather than expressions of the underlying economic reality. This calculative pragmatism became a hindrance to the performance measurement ambitions of the Economic Risk Capital team. Deploying risk calculations in performance measurement requires '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, for the time being, was doomed at BWT.

Instead, senior risk officers used their agenda setting power to put strategic, business concerns on the agenda of the board, and sought to actively influence the discussion of non-quantifiable risks. Holistic 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 formal, in-house strategic control capabilities. Strategic information had to be channelled to the risk committee meetings directly

⁴¹ Director, Economic Risk Capital, BWT

from line management. Senior risk officers exercised their influence and accumulated power formally, through agenda-setting, and informally, via knowing influential others. This conjures up a medieval metaphor for the Chief Risk Officer: that of the *'éminence grise'*, acting behind the scenes, powerful, but left to his own resources and essentially lonely.

5. Enterprise Risk Management in action – the case of Fraser Bank⁴²

Fraser Bank is comparable in size (market capitalisation) and in its variety of activities to BWT Group. Looking at it from headquarters level, Fraser appears to be a decentralised banking organisation, with fairly autonomous business units such as investment banking, asset management, retail, corporate, and private banking. At first sight Fraser Bank's risk management practices resembled those at BWT. Risk was measured, managed and reported by risk silos, giving the impression of enterprise-wide coverage. There was a separate Economic Capital team within the risk function. A number of senior risk officers orchestrated a crowded committee structure, quarterly and monthly risk committee meetings, with increasingly formalised reporting practices.

5.1. 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.'*⁴³

The reorganisation of the risk function was part of an ongoing group-wide efficiency review, and the structural overhaul of many other central functions from marketing to IT. These structural changes were the reflections of a fundamental change in management and control that had been initiated at the top of the organization. Fraser Bank was switching to value-based management (VBM) principles. The Chief Executive Officer was a passionate advocate of shareholder value:

*'Positioning [Fraser] among the leading value-creating companies world-wide is my highest priority. (...) Managing for value is not a one-off change initiative. It is an enduring way of running the enterprise.'*⁴⁴

A sense of urgency was added when the executive board set the group goal of *'doubling value every four years.'*⁴⁵

As the reorganisation of the risk function took place against the backdrop of the group-wide VBM implementation, risk management was (re)developed as a pillar of

⁴² For reasons of confidentiality the identity of the bank has been disguised.

⁴³ All quotes from a presentation by the Group Risk Director titled 'Creating an expert team'

⁴⁴ Chief Executive, Fraser Bank, quoted in an internal training document

⁴⁵ Internal training document, Fraser Bank

the new control framework. Using the terminology developed in Section 3, Fraser was aiming for the implementation of the Risk and Value Management framework, in which the risk people were tasked with the ‘granular attribution of Economic Capital’⁴⁶ 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 a manager from the Strategy and Planning function 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 [the] Risk [function] that the businesses must use in order to calculate Economic Capital.⁴⁷

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 presented to the executive board, where the focus of discussions was Economic Profit.

5.2. *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.⁴⁸

A separate Economic Capital team was set up, initially within the planning function. The risk capital specialists 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:

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.⁴⁹

What bestowed the Economic Capital framework with the image of being ‘integrated’ was its status as a common denominator and language of risk. It was believed to express and make comparable the risk taken by the business units; also, the risk taken by the group over time.

⁴⁶ *ibid.*

⁴⁷ Assistant Director, Strategy and Planning, Fraser Bank

⁴⁸ Head of Economic Capital, Fraser Bank

⁴⁹ Head of Economic Capital, Fraser Bank

Secondly, the Economic Capital framework was used as a signal for excessive risk-taking that warranted corrective action from top management. As a senior risk officer expressed, such corrective action took place with reference to a tolerance interval:

...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.⁵⁰

The aggregation of the risk content of different business plans and business units created new visibilities to performance, and had the potential of bringing previously latent risks into the open. Top management appeared to call on risk control as a signifier of potential problems, using it as a diagnostic control, as part of the performance management dashboard:

This is the report that we send to [the board] – a monthly brief summary. [*Leafing through the risk report:*] It is practically a dashboard saying this is how this or that business unit is using up its economic capital.⁵¹

Top management's interest in risk calculations as diagnostic control posed a perceived technical challenge to the risk team. They aspired to continuously improve the accuracy and reliability of risk models:

The risk manager has to be technically good enough to know when the risk is not captured or miscalculated. To this end, one needs to understand the convention, everything that has been done about risk. But the value of the risk manager is giving interpretations of loads of facts that are relevant for [Fraser].⁵²

There was a widespread conviction among 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.⁵³

During the course of the study I was witness to the complete overhaul of the Economic Capital methodology. It involved the reallocation of capital charges across the business units, thereby inherently affecting their performance in terms of Economic Profit. It was a process involving high political sensitivity. The task defeated an entire Economic Capital team before a second group of risk capital

⁵⁰ Director, Risk Analysis and Policy; Fraser Bank

⁵¹ Head of Economic Capital, Fraser Bank

⁵² Head of Economic Capital, Fraser Bank

⁵³ Assistant Director, Group Strategy and Planning, Fraser Bank

officers finally managed to negotiate it through. The head of this new economic capital team, who orchestrated the process recalled:

Everyone said, let's get [internal capital allocations] 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.⁵⁴

The creators of the new methodology derived much credibility from the procedural fairness and political appropriateness that characterized the review. Their success was also due to the perceived technical competence that was deployed in the process. By successfully repairing the internal credibility of the ERC framework, risk capital officers ensured that both Integrated Risk Management and Risk and Value Management rested on a solid foundation.

5.3. *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 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.

The Risk Policy Director, responsible for the risk methodologies applied in the risk silos, gave the first hint of what appeared to be a great deal of calculative idealism in the risk management philosophy of the bank when he opened our conversation with the line:

If you want to manage risk, you have to quantify it.⁵⁵

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 risk measures.'

Characteristically of *calculative idealism*, 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), recalled:

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

⁵⁴ Head of Economic Capital, Fraser Bank

⁵⁵ Director, Risk Analysis and Policy; Fraser Bank

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 risk measurement methodologies in use.

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.

The Risk Policy Director described Fraser Bank's risk management philosophy, driven from the top of the risk organisation, in terms of two dimensions: the degree of measurability and the degree of liquidity (to what extent one can trade/hedge/insure the risk). They considered the risks that were high on both dimensions to be market and credit risks – these they regarded as well under control. Risks that were low under both dimensions (strategic and legal risks) they regarded as problematic from the point of view of risk management. Finally, they 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.

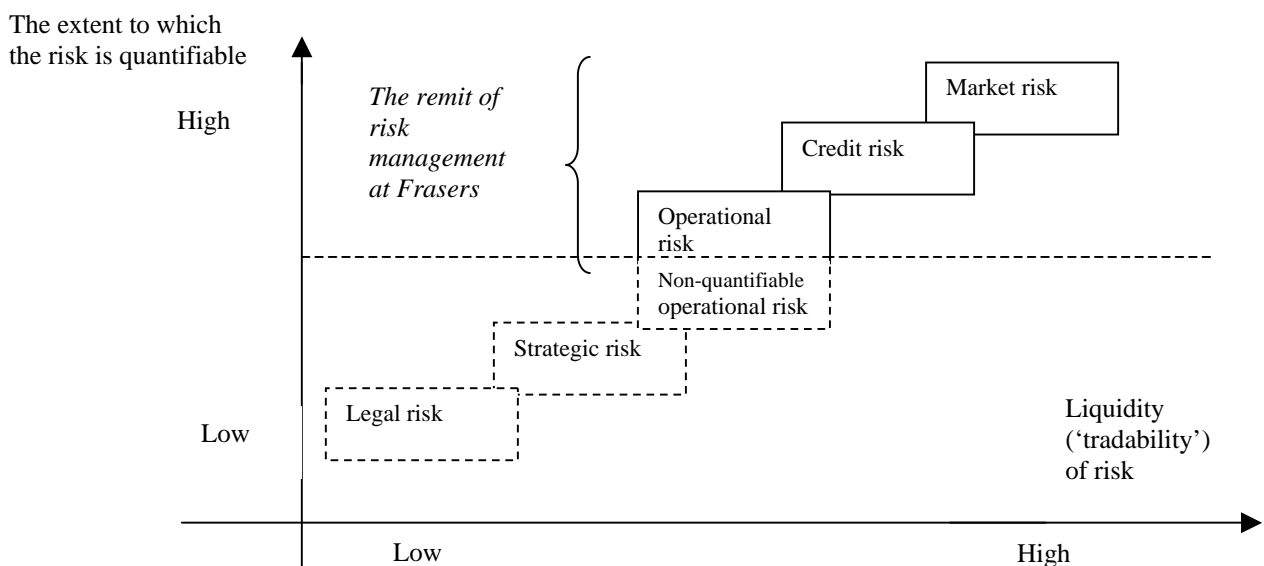


Figure 1. Mental mapping of risks at Fraser Bank

Risk people at Fraser ultimately kept away from involvement in the control of non-quantifiable risks, and concentrated on devising quantitative control tools (risk models) over the measurable risk types.

5.4. *Holistic Risk Management at Fraser Bank*

There were a few senior risk officers at Frasers who had expected to have greater visibility and voice in strategic decision making. The director of risk reporting, for example, envisioned a role for his function that was to be broader than financial risk measurement and reporting. With a hint of irony he likened the role of the senior 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’ could have given rise to Holistic Risk Management.

However, unlike BWT’s CROs, Frasers’ senior risk officers lacked the three conditions that secured their BWT peers the ears of the board in strategic risk discussions: information, agenda setting power and mandate.

During the years, Risk Silo Management was gradually pushed down into the business units, so that it could inform risk-taking in the line. This decentralised approach left the risk people at the centre with responsibility for the methodologies used at business unit level, but gradually distanced them from the businesses. Business unit risk managers developed ‘double loyalties’, sometimes shielding their division from outside risk enquiries, which made it even more difficult for headquarters risk managers to see into their affairs.

Secondly, it appeared that at Fraser the centre of power concentrated on staff who furthered the Risk and Value Management framework. The very idea of Value Based Management and the value-focused, *in extremis* single-minded culture it imposes 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.⁵⁶

The Strategy and Planning function set the agenda for the executive committee, and they did not invite the challenge that the senior risk officers hoped to introduce into the agenda. Accordingly, the director of risk reporting noted that risk reporting did not channel into important strategic decisions, for example there was no contribution from the risk function to the due diligence of a recently acquired mortgage lending

⁵⁶ Director of Risk Reporting; Fraser Bank

company. Senior risk officers did not possess the agenda-setting power that their counterparts at BWT did.

Thirdly, the mandate of risk management gave legitimacy to the risk function to operate in matters of quantifiable risk issues, however, denied them access to strategic discussions. A 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.⁵⁷

Ironically, it was the commitment of risk people to risk quantification that prevented them from developing a perspective on strategic, regulatory and other business risk issues – they did not have the tools to frame these issues.

It appeared that the strategy and planning function saw the value added by risk people only in terms of their input to the planning process: the prescription and co-ordination of the calculation of the appropriate Economic Capital charges across the Group. By the time the selected and proposed strategic alternatives reached the Executive Board, the Economic Capital charges were aggregated with other operating expenses and thus turned invisible. Board members only saw the pro-forma P&L statements relating to the strategic alternatives, put forward by the Strategy team for review and sign-off. As far as Board members could see it, the Economic Capital charges were not made explicit: they were absorbed into the ‘operating expenses’ cost category. The explicit representations of risk in the Board-level strategic plan were estimates for loan provisions (another accounting cost category) and separate calculations for the regulatory capital requirements for the loan portfolio. Economic Capital, with all its claimed potential to grasp the risk profile of the business units, did not get visibility in these discussions.

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

The evidence suggests that Fraser Bank’s preference for reconciling risk and return objectives was via negotiation in a characteristic Risk and Value Management framework. Orchestrated by the strategy function, the planning process called on the Economic Capital team to provide the capital charges into the calculations of Economic Profit. Responding to a calculative culture favouring management by numbers, the risk function also provided the necessary analytics to make quantifiable risks subject to limit setting and control.

Maintaining credible risk capital calculations 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 executive-level decision makers. Hence the paradox of getting the politics of risk management right: by doing so, the risk function turned invisible – a cog in the wheel of value creation.

Although particular risk silo controls were used diagnostically (as part of top management’s dashboard), senior risk officers lacked the information, power and

⁵⁷ Director of Risk Reporting; Fraser Bank

legitimacy to get implicated in discussions about more strategic, non-quantifiable risk issues. The remit of the risk control system was confined to the quantifiable risk universe.

6. 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 resultant ERM practices.

6.1. Three types of risk officers, four types of ERM, two patterns of strategic significance

Three types of risk practitioners have emerged at both organizations. The differentiation of the risk function mirrored the varying aspirations of risk officers. It also reflected four risk management ideal types that pose different challenges to the risk management staff in banks. Accordingly, the functional differentiation of risk people was indicated by the different technologies they applied and the different roles they fulfilled.

The first group (*'risk silo specialists'*) consisted of those who were engaged in *Risk Silo Management*, the measurement and assessment of different risk types. Grappling with the challenges of data collection and *risk quantification*, they produced voluminous reports on adherence to risk limits. However, they did not secure top management's frequent and regular attention – their role was, in these contexts, diagnostic (Simons, 1991). This is because the risks that habitually concerned the Board tended to be of a more elusive, strategic or regulatory nature, and hence, stayed outside the reach of *risk silo specialists*.

The production of the quantitative risk estimates allowed risk managers to address the problem of *risk aggregation*. Another group of risk managers emerged (*'risk capital specialists'*), who were concerned with *Integrated Risk Management*. Based on a common denominator for risk (economic capital), risk aggregation allowed risk capital specialists to assess the risk profile of the institution, set limits, and do the same for individual business units. This opened up the route for the integration of return and risk concerns in a single framework, *Risk and Value Management*. Furthering the theme of *risk-based performance measurement*, this requires aspiring institutions to arrive at risk-based (economic) capital allocations to their responsibility centers.

In practice economic capital allocation incorporated much organizational politics, and was successfully completed by the risk capital specialists of Fraser Bank only. Here a strong value based management ethos paved the way for risk capital specialists to reconcile internal definitions of capital with headquarters' expectations. It was through the provision of economic capital charges that ERM became an integral part

of the strategic planning and performance measurement process. However, *risk capital specialists* had to be prepared to live in an uneasy symbiosis with the strategy people who supported them in their efforts to define definitions of capital allocations, but on the other hand denied them top-level visibility.

Securing access to the Board has encouraged *senior risk officers* to exercise informal influence on some strategic concerns. However, their influence on major strategic decisions had been limited. Their favoured role is that of the devil's advocate - challenging and questioning existing beliefs in order to prepare the organization to fend off emerging adversities. This required them to put *non-quantifiable risk* issues on the agenda of top management (e.g. non-recurring operational risks, reputational, legal and strategic risks). Only at BWT had senior risk officers the information, agenda setting power and mandate to do so. It was through the provision of information about non-quantifiable risks that senior risk officers furthered the ideal of *Holistic Risk Management*, and invited top management to use their offering as an interactive control system. The sources of information they called upon were in the line management, information was collected in an ad hoc fashion, and presented by selected line managers – Holistic Risk Management was a rather flexibly applied control process.

The case studies point towards two diverging *patterns of organizational significance* on the part of the risk management functions observed. In one case (demonstrated by Frasers) risk management becomes integral to the formal planning and performance measurement process, while remains neutral in the discussions of key strategic decisions that emerge outside the planning cycle. In the second case (demonstrated by BWT), risk management is incidental as far as the formal planning and control cycle is concerned, however senior risk officers acquire agenda-setting power and information to participate in top management-level decision making and influence the discussion of key strategic uncertainties.

Thus the organizational significance of risk management appears to hinge upon *the organizational significance of the risk manager*. It is a characteristic of the current development of ERM that there are multiple possibilities for its practice in organizations.

6.2. ERM, corporate governance imperatives and calculative cultures

It seemed that the organizationally significant risk officers responded to different corporate governance pressures and fostered different calculative cultures. 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 value creation via performance measurement. The notion of risk-based internal control emphasises the role of those ERM practices that are designed around the wider strategic objectives of the firm, and further the achievement of these through internal (formal and informal) controls, designed over processes that constitute risks to these objectives.

Fraser Bank was driven by a strong shareholder value imperative. Here risk managers become 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 into the planning process was the quantitative assessment of the risk profile of alternative business units and strategies that allowed the organization to optimize the competing risk and return objectives. Here risk people placed the emphasis on the robustness and accuracy of the risk models applied (*calculative idealism*). However, this resulted in the remit of ERM becoming confined to financial and quantifiable risks, and senior risk officers did not get close to the discussion of non-quantifiable strategic risks.

BWT 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 Holistic 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. Apart from the risk-based control imperative, this type of ERM was associated with a pragmatic, non-religious, experimental approach to risk measures (*calculative pragmatism*), and the agenda setting power and informal influence of senior risk officers.

	Value-based ERM	Holistic ERM
<i>Salient element in the risk management mix</i>	Risk and Value Management	Holistic Risk Management
<i>Span of risk control</i>	Quantifiable risks	Quantifiable as well as non-quantifiable risks
<i>Top management's Use of risk controls</i>	Diagnostic use of Risk Silo Management and Integrated Risk Management	Diagnostic use of Risk Silo Management and Interactive use of Holistic Risk Management
<i>Strategic significance of risk management</i>	Derived from the integration of risk management with planning and performance management	Derived from influencing top-level decision making
<i>Corporate Governance Imperative</i>	Shareholder value imperative	Risk-based internal control imperative
<i>Calculative culture</i>	Calculative idealism	Calculative pragmatism
<i>Case study example</i>	Fraser	BWT

Table 2. Contrasting the two models of ERM

Apart from emphasising the influence of institutional pressures, the cases also highlight that there is scope for managerial discretion in the design of ERM systems. Firstly, the role of senior risk officers was evident in the politics of risk management. At Fraser senior 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. 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 allocation and performance measurement. However, BWT's senior risk officers who had doubts about the use of quantitative models in these contested locales ('calculative pragmatists') chose to define their area of competence broadly, encompassing risks outside the quantifiable risk framework. Table 2 summarises the discussion.

7. Conclusion and further directions for research

In the financial services sector ERM is thought to embody a set of risk practices that encompass such wide-ranging techniques as Value-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 (e.g. 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 Holistic 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 itself. However, the underlying currents that are associated with these patterns may be instructive in other cases too.

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. This model presumes a great deal of calculative idealism, as 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 Holistic Risk Management is prominent (*'holistic ERM'*). 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 Holistic 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 and provide information for it.

The field perspective and the conceptual unbundling of ERM suggest that risk practices and risk management ideal types constitute an assembly. Similarly, distinct conceptual clusters have emerged in the Activity Management assembly (Gosselin, 1997) and in the evolution of the Balanced Scorecard (Speckbacher et al. 2003). The proposed co-existence of four ideal types of risk management is conceptually similar to the existence of three levels of Activity Management and the distinction between three types of Balanced Scorecard.

Later variants within the same assembly seem to assume a 'strategic' role. The eventual aspiration to link initially confined, highly specialized or 'technical' practices to strategy is a phenomenon that appears to characterize the development of not only ERM, but other management innovations too (c.f. ABC/M, 'Type III' Balanced Scorecard, Strategic Management Accounting).

The clustering of techniques within the same assembly is not merely conceptual, it takes place in actual organizational settings too. In practice it appears that assemblies of management control innovations offer practitioners opportunities for selective implementation, revision and switching between the different sub-groups of techniques within the same assembly (Gosselin, 1997). It is remarkable that given the empirical evidence, few ABC and BSC implementations are strategic. In contrast, the ERM mixes (in the case of BWT and Fraser Bank) did possess 'strategic' significance, albeit of different nature. BWT's Holistic Risk Management capability appeared as a separate development from its risk measurement practices. In contrast, Fraser's Risk and Value Management strongly built on its risk silo measurement and integrated risk management capabilities. This study suggests that in order to realize the strategic potential of assemblies, advocates need to demonstrate not only technical competence, but also a great deal of political aptness. The organizational significance of management control practices appears to hinge upon the organizational significance of the management control practitioner.

The distinctions between the three types of risk officers and the ‘value-based’ and the ‘holistic’ models of ERM are both artificial. They were proposed to make sense of the various risk management aspirations held by different actors that previously had been looked at as homogeneous sets of risk practitioners and ERM practices. Furthermore, these distinctions can be useful in generating further empirical research agendas. Four such questions are outlined.

The first agenda would aim to verify if the distinctions between the four different risk types, three types of risk officers and 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 organizations and to see what patterns they take and what the driving factors of the emerging clusters are. Surveys, interpreting the responses of managers to questionnaires on their risk management philosophies and attitudes to risk modeling would also elucidate the concept of calculative cultures. It is likely that other variables that were not exposed in the present study 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. Therefore it should not surprise us if we found no risk capital specialists in such small banks, or if the risk management function was not even formalized, but a mere addition to some long-existing other function (e.g. credit management).

Another research question would seek to investigate if a special case of risk management would still comply with the distinction between the value-based and the strategic models. It is suggested that that *the treatment of operational risk* in the risk management models could be further explored. Operational risk is a particular risk issue that poses different challenges to the postulated risk management models. Given the current Basel II framework, under the definition of operational risk one finds both quantifiable and non-quantifiable risks. Financial institutions need to apply a rather loose regulatory definition to devise a set of operational risks that are relevant to them. With the amount of flexibility offered in Basel II, it is likely that organizations will cherry-pick issues for inclusion into the remit of the operational risk controller. Based on the distinction between the two risk management models (‘value-based’ vs. ‘holistic’), one would expect that with time the management of operational risk will take different routes, depending on which ERM model it conforms to.

Thirdly, further research into *the dynamics of the risk management models* is warranted. Longitudinal studies are necessary to confirm the validity of the drivers that are associated with different risk management models. They would also help to explore if the choice of interactively (or diagnostically) used risk controls is motivated by top management’s assessments of the key strategic uncertainties of their organizations. Further, the signaling effect of internal risk control systems (as postulated in Simons, 1990, 1991) could be explored in the ERM context too. We need to trace the response of organizational participants to the interactive use of particular risk controls – would the process result in the emergence of new strategic initiatives? Studying the dynamics of risk management, the researcher would need to consider the interactions between risk and other management controls. In particular, this study suggests that the interface between accounting and risk controls is riddled

with possibilities and tensions. Thus studying risk management will help us further explore strategic planning and performance management in organizations.

Finally, it is unclear to what extent the two models of ERM are mutually exclusive. Do they represent a divergence in the risk management world, or are they different stages in the evolution of risk management? Given the seeds of Value-Based Management already sown in 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 get discredited in Frasers. This could result in yet another overhaul of the risk management function and a redefinition of its role. Talking 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, from a contingency perspective one would argue 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.

As risk management is a rather nascent management control practice, it is not yet clear how it will ultimately benefit organizations that adopt it. The Basel regulators have built the international bank regulatory regime on the premise of continuing risk management developments. On the evidence of the cases presented here, senior risk officers exercise a considerable amount of discretion in determining their functions' remit, subject to accommodating relevant stakeholder concerns. Academic researchers can usefully contribute to the debate on the regulatory, corporate governance, management control and accountability issues that are emerging in the wake of Enterprise Risk Management.

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APPENDIX 1

FRASER BANK - TIMELINE

01.01.2000	01.01.2001	01.01.2002	01.01.2003	01.01.2004
<ul style="list-style-type: none"> • Arrival of new Chief Executive • Advocacy and implementation of VBM • Group-wide efficiency review • Acquisition of a mortgage lender 				
<ul style="list-style-type: none"> • The 'two-year battle' of economic capital allocations between the Economic Capital team and a large business unit • Economic Capital team members leave, apart from one who is appointed as Assistant Director in the Strategy and Planning function 				
<ul style="list-style-type: none"> • New appointments in Group Risk: Director of Risk Reporting, Risk Director (CRO), new Head of Economic Capital • December: First research interview with bank (Director of Risk Reporting) 		<ul style="list-style-type: none"> • Reorganization in Group Risk • Mission reiterated in terms of support to VBM framework. • Spring: Interviews in Group Risk • Resignation of Director of Risk Reporting • April: Departure of previous Head of Economic Capital • May: New Head of Economic Capital (appointed in December) takes over • Summer-autumn: Interviews in Group Strategy and Planning • Autumn-Winter: Interviews in Group Risk (New Head of Economic Capital, Risk Policy Director) 	<ul style="list-style-type: none"> • June: Last interviews in Group Risk (New Head of Economic Capital, Risk Policy Director) • Research feedback 	

APPENDIX 2

BWT - TIMELINE

01.01.199	01.01.2000	01.01.2001	01.01.2002	01.01.2003
<p>Acquisition of Division X</p>	<ul style="list-style-type: none"> • March: Equity markets peak • BWT Group's investment banking arm acquires a London-based investment bank • BWT Group's market capitalization reported to have quadrupled over last 4 years. 	<ul style="list-style-type: none"> • Loan debacles reported in press (SwissAir, etc.) • Tumbling stock markets • No change in Division X investment strategy • The introduction of the 'Strategic Risk Management' function at BWT. 	<ul style="list-style-type: none"> • March: BWT reports profit for 2001 • Sharp fall in quarterly earnings • European insurance shares (MSCI Europe Ins index) fall by 60% • BWT capital injection to Division X • The collapse of BWT share price • Financial Times reports 'A real crisis for insurers' • Chief Executive Officer of BWT resigns • March-September: ERC presentations in the Group by head of ERC team • BWT's second capital injection to Division X • December: Risk 	<p>March: BWT reports 'record loss' for 2002</p> <p>Commentators urge sale of Division X</p> <p>Summer: 1st quarter results – improvements</p> <p>Autumn: 2nd quarter results – return to profitability</p> <hr/> <p>August-September: field trip, feedback presentation to BWT Executive team (Switzerland)</p> <hr/> <p style="border: 1px dashed black; padding: 5px;">September 2004: final field trip, review of research findings with Head of Operational Risk and Director of Economic Capital. Permission for publication obtained (Switzerland)</p>
			<ul style="list-style-type: none"> • March: Contact made with Director, CFO Division in London who invites researcher to do case study • May: first interviews with Head of ERC team in London • October: first field trip (Switzerland) • December: second field trip (Switzerland) 	

APPENDIX 3

LIST OF INTERVIEWS

LIST OF INTERVIEWS AT BWT

	Interviewee's functional position	Date
1	Head of Economic Risk Capital	26 May 2002
2	Head of Economic Risk Capital	01 June 2002
3	Head of Strategy & Projects	07 October 2002
4	Director, CFO Division	07 October 2002
5	Head of Economic Risk Capital	07 October 2002
6	Head of Operational Risk Controlling	08 October 2002
7	Head of Operational Risk Controlling	08 October 2002
8	Market Risk Controlling: Team members	09 October 2002
9	Head of ALM/Market Risk Controlling	09 October 2002
10	Head of Market Risk Controlling	09 October 2002
11	Head of Credit Risk Controlling	10 October 2002
12	ERC and Capital Management	10 October 2002
13	Head of Economic Risk Capital	10 October 2002
14	Director, CFO Division	10 October 2002
15	Head of Strategy & Control	11 October 2002
16	Head of Credit Portfolio Management	11 October 2002
17	Chief Risk Officer	14 October 2002
18	Head of Asset Liability Management, Division X	14 October 2002
19	Head of Financial Risk Control, Division X	14 October 2002
20	Head of Economic Risk Capital	09 December 2002
21	ERC and Capital Management	09 December 2002
22	Director of Group Risk Reporting	09 December 2002
23	Director, CFO Division	09 December 2002
24	Head of Financial Risk Control, Division X	10 December 2002
25	Head of Corporate Development, Division X	10 December 2002
26	Head of Asset Liability Management, Division X	10 December 2002
27	Head Strategy and Projects	10 December 2002
28	Chief Risk Officer	11 December 2002
29	Head of Credit Risk Controlling	11 December 2002
30	Head of Operational Risk Controlling	11 December 2002
31	Head of Market Risk Controlling	11 December 2002
32	Director of Legal & Compliance	12 December 2002
33	Head of Regulatory Reporting	12 December 2002
34	Group Chief Risk Officer	13 December 2002
35	Director of Group Risk Reporting	13 December 2002
36	Head of Economic Risk Capital	13 December 2002
37	Chief Risk Officer, Division X	13 December 2002
38	Head of Financial Management, Division X	13 December 2002
39	Head of Management of Closed Blocks, Division X	13 December 2002
40	Head of Economic Risk Capital	01 September 2003
41	Director of Group Risk Reporting	01 September 2003
42	Chief Risk Officer	01 September 2003
43	Head of Strategy & Projects	02 September 2003
44	Head of Operational Risk Controlling	02 September 2003
45	Head of Credit Risk Controlling	02 September 2003

46	Head of Strategy & Control	03 September 2003
47	Chief Risk Officer, Division X	03 September 2003
48	Group Chief Risk Officer	04 September 2003
49	Director, CFO Division	04 September 2003
50	Director, Group Financial Accounting	04 September 2003
51	Head of Credit Portfolio Management	05 September 2003
52	Chief Credit Officer	05 September 2003
53	Head of Economic Risk Capital	28 September 2004
54	Head of Operational Risk Controlling	28 September 2004

LIST OF INTERVIEWS AT FRASER BANK

	Interviewee's functional position	Date
1	Risk Management Policy review meeting	19 October 2001
2	Director of Risk Reporting	20 December 2001
3	Head of Economic Capital (previous)	06 February 2002
4	Head of Economic Capital (previous)	15 April 2002
5	Director of Risk Reporting	10 May 2002
6	Director of Risk Reporting	18 June 2002
7	Assistant Director 3, Group Strategy and Planning	30 May 2002
8	Assistant Director 2, Group Strategy and Planning	30 July 2002
9	Director of Risk Reporting	12 September 2002
10	Assistant Director 2, Group Strategy and Planning	23 September 2002
11	Assistant Director, Group Strategy and Planning	24 September 2002
12	Head of Economic Capital	21 October 2002
13	Assistant Director, Group Strategy and Planning	05 November 2002
14	Head of Economic Capital	05 November 2002
15	Director, Group Risk Analysis and Policy	22 November 2002
16	Head of Economic Capital	22 November 2002
17	Director, Group Risk Analysis and Policy	27 November 2002
18	Director, Group Risk Analysis and Policy	06 December 2002
19	Director, Group Risk Analysis and Policy	19 June 2003
20	Head of Economic Capital	19 June 2003
21	Assistant Director, Group Strategy and Planning	19 June 2003