

# RISKY BUSINESS

– A CASE STUDY ON OPERATIONAL RISK IN SECURITIES TRADING  
BASED ON THE EVENTS IN CARNEGIE 2007–2011

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## ABSTRACT:

The securities trading business has seen several recent crises in companies that have fallen victims to inadequate control of their risk exposure. Concurrently, others have gone seemingly untouched also through periods of market downturn. This study compares the risk management in Carnegie before and after its collapse in 2008 and extrapolates findings to the securities business in general. It identifies a connection between corporate culture and structure, and how their interplay affects a company's attitude to and control of operational risk. The result implies that upcoming regulations are welcome, but that cultural aspects are important for sustainable risk management.

## KEYWORDS:

Risk management, securities trading, Carnegie, financial incentives

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All quotations have been translated from Swedish to English by the authors with the ambition to best maintain the expressed ideas.

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| <b>Acronym</b> | <b>Explanation</b>             |
|----------------|--------------------------------|
| CEO            | Chief Executive Officer        |
| CFO            | Chief Financial Officer        |
| CRO            | Chief Risk Officer             |
| ERM            | Enterprise Risk Management     |
| FI             | Finansinspektionen             |
| KPI            | Key Performance Indicator      |
| MTF            | Multi-lateral Trading Facility |
| OTC            | Over-The-Counter               |
| SEK            | Swedish Krona                  |
| STB            | Securities Trading Business    |

| <b>Industry term</b> | <b>Explanation</b>                                                                                                                                                                                                                                                                                                         |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bonus claw-back      | The recall of a paid remuneration.                                                                                                                                                                                                                                                                                         |
| Grounded theory      | A method of collecting data for qualitative studies where the researchers' own empirical experiences are the primary source of knowledge at the onset of the study. The categorization of collected data is done upon their collection, not necessarily following a previously given academic framework of categorization. |
| Investment banking   | Banking operations with transactions for institutions, corporations and governments.                                                                                                                                                                                                                                       |
| Market maker         | Institution or person that quote two-way prices (bid and ask prices) to provide liquidity to the securities markets.                                                                                                                                                                                                       |
| Operational risk     | The risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.                                                                                                                                                                                                       |
| Reputational risk    | The risk of damage caused by a loss of company reputation or standing relative to competitors.                                                                                                                                                                                                                             |
| Retail banking       | Banking operations with transactions for regular consumers and individuals.                                                                                                                                                                                                                                                |
| Strategic risk       | The risk of company management taking considered yet harmful business decisions.                                                                                                                                                                                                                                           |
| Systemic risk        | The risk of the whole market's downturn, rather than individual institutions.                                                                                                                                                                                                                                              |
| Underwriter          | Institution or person assisting in connection with the issuance or repurchase of securities.                                                                                                                                                                                                                               |

## Introduction

On 3 September 2010, it was announced that Carnegie Investment Bank (Carnegie) acquired HQ AB (HQ) after some turbulent weeks, during which the bank was at the verge of bankruptcy. HQ's collapse shook the Swedish financial community. The bank had fallen victim to its own aggressive proprietary trading in derivative instruments and subsequent attempt to cover up the losses. By artificially maintaining a positive valuation of its trading portfolio, the discrepancy between book and market values would incur costs of 800–1230 million SEK (Malm 2010, HQ 2010). Stock values of billions of SEK were lost or transferred from the previous owners. The public and stakeholders alike were shocked by the seemingly nonchalant way that the bank had been run and called for extensive regulation of the securities market.

Only two years earlier Carnegie themselves were in financial distress and had their bank permission withdrawn, partly due to the 2008 macroeconomic climate, partly due to the effects of a trading scandal in 2007 reminiscent of the later one at HQ, with an overestimated valuation of the trading portfolio. Yet Finansinspektionen (The Swedish Financial Supervisory Authority, FI) expressed its full confidence and support in Carnegie's takeover of HQ (FI 2010a, FI 2010b). Apparently there had been significant improvement in the Carnegie organization for FI to switch opinions in such a short period of time. Among other reasons, they mention a significantly expanded and a more competent risk department. Even the culture is said to have changed for the better:

*It is like walking into a completely different bank, almost like a large [retail] bank.*

– Magnus Löfgren, Head of Credit Institutions Supervision at FI (2011)

The financial markets are an instrument for financing societal development. With reliable and well-functioning markets, resources can be allocated where they are best employed. Thus they fill an important function facilitating the interaction between private and commercial counterparties. As global financial markets become even more integrated and the traded volumes increase, so does the risk exposure of a company trading securities in these markets. The Basel frameworks (I-III) have been outlined by the Basel committee of Banking Supervision as guidelines for best practice in bank supervision and regulation.

Securities trading businesses (STB) have been involved in a number of scandals that have attracted large attention over the years. The industry itself is being closely followed by media and

the failure of Barings Bank in 1995, after 11 billion SEK losses mainly attributable to one single trader's actions, has become an often-cited example of financial risk taking. The loss incurred was exceeded in the 1998 failure of Long Term Capital Management (36,7 billion SEK) and the recent 43,6 billion SEK loss caused to the French bank Société Générale by one of its traders (Dowd 2009, Le Figaro 2010, Lowenstein 2000).

Still, the risks of the financial market transactions are applicable to most companies. Industrial companies regularly hedge their purchased inputs and/or sales to assure certain prices for a future period. In 1994, the Californian Orange County district lost 15 billion SEK from highly leveraged government investments in bonds. A recent example is the Brazilian paper producer Aracruz that lost 15 billion SEK in a 2008 hedge of foreign currency, leading to its takeover by a competitor (Businessweek 1994, Bloomberg 2008).

The financial trading companies still have the largest exposure to financial market risks. They engage in the most transactions with a multitude of counterparties and thus have a constantly changing risk profile. The operational risks formulated in the second of the Basel accords encircle and describe the particular situation of an STB and makes up a framework that has been employed in this thesis. With its help we have attempted to isolate the key factors for controlling the operational risks associated with securities trading.

## Purpose

The purpose of this study is to identify changes in Carnegie's risk management in the aftermath of the 2007–2008 incidents. By identifying changes in formal procedures and organizational reforms as well as more subtle changes as risk-awareness and a more autonomous risk department, we draw a parallel between the Carnegie case study and existing regulatory framework and academic theory. An aim is to identify what improvements have been set in place at Carnegie in their management of operational risks over the last years. The needs for improvements and actual changes made have been publicly discussed since the revelation of possible fraud in trading results in 2007.<sup>1</sup> What is clear is that the Carnegie taking over HQ in 2010 was different from the Carnegie itself taken over by Riksgälden in 2008. This paper studies if a change has been accomplished and how this has been caused by – and reflected in – organizational structure and corporate culture.

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<sup>1</sup> The trading incidents in 2007 and subsequent incidents in 2008 have been the subject of a long series of articles, of which a number have been used as references for this study.

The research question is dual and formulated as follows:

- How is risk management best arranged in a securities trading business, on an operative as well as strategic level?
  - o What are the motivations and incentives for taking risk, and the methods to control these?
  - o How is the organization and its processes best structured to provide for a reliable management of operational risks?
- How has Carnegie implemented the change in their risk management, from the scandals in 2007–2008 to the successful acquisition of HQ in 2010?

## **Delineation of the study**

Out of the types of risk that modern financial institutions are exposed to, this study focuses on the management of internal operational risks as defined in the Basel II accord from June 2004 (Basel 2011). The description has been widely accepted and recited since, and includes all “risk of loss resulting from inadequate or failed internal processes, people and systems or from external events” (Stephanou 2004).

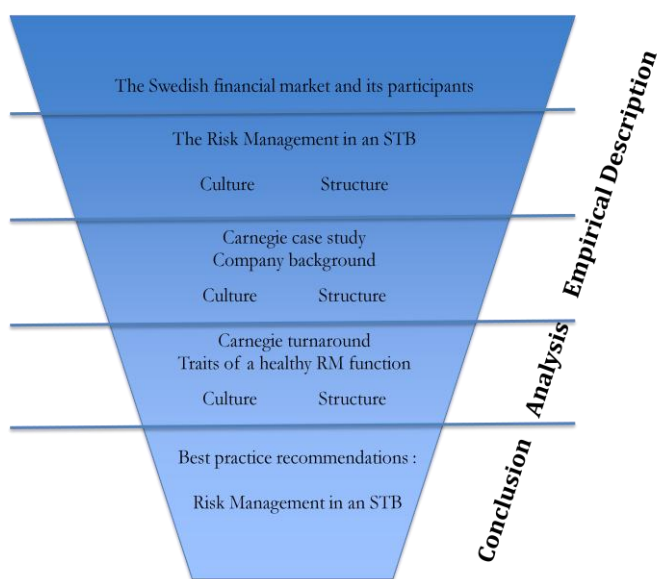
Basel II lists seven groups of operational risk:

1. Internal Fraud – misappropriation of assets, tax evasion, intentional mismarking of positions, bribery
2. External Fraud – theft of information, hacking damage, third-party theft and forgery
3. Employment Practices and Workplace Safety – discrimination, workers compensation, employee health and safety
4. Clients, Products, & Business Practice – market manipulation, antitrust, improper trade, product defects, fiduciary breaches, account churning
5. Damage to Physical Assets – natural disasters, terrorism, vandalism
6. Business Disruption & Systems Failures – utility disruptions, software failures, hardware failures
7. Execution, Delivery, & Process Management – data entry errors, accounting errors, failed mandatory reporting, negligent loss of client assets

There are multiple additional risk factors to the operational risk described above. Clearly excluded are risks of economic losses caused by poor strategic decisions (strategic risk) along with other risks considered to be the effects of operational risks such as reputational risk. The systemic risk of operating in a specific industry struck by a general downturn is also excluded from the definition of operational risk.

For the purpose of the study, all included risk factors are being described along with general views on how they are to be managed. Certain operational risks have been highlighted in Swedish media and regulatory discourse in recent years. These are further described and analyzed in the Carnegie case study.

Securities trading offers an attractive field for studying risk management. Large values are funneled through securities trading businesses daily, exposing them to an ever-changing risk profile. Recent years have offered interesting and well-known examples of STB:s unable to combine a profitable business with a sustainable management of risk.



**Figure 1: The funnel method of a narrowing focus.**  
Source: Palme 2010

The study first provides an empirical backdrop of the whole Swedish financial market, and ends with discussing theories of best practice for risk management in STB:s. This funnel method of a narrowing focus is illustrated in Figure 1 (Palme 2010). The empirical description starts out with the structure and regulations of the Swedish financial markets, along with a description of market-participating STB:s. The risk management function is then described in depth, with both aspects of culture and organizational structure considered. The description of Carnegie exemplifies a company with the general traits of a Swedish STB, but with a recent history of lacking risk management. The company is presented with its history, and further described with regards to its culture and structure.

## Selected method

For the initial theoretic background, a number of acknowledged sources on business administration and management of risks in STB:s have been employed. In depth interviews with 12 professionals from the industry are added in the case study. The general approach is thus qualitative, describing patterns of action and the interplay of structure with culture (Trost 2007) Employing a quantitative approach was discussed and rejected in an early stage, as this would pay

too large a focus on the formal size and capacity of the risk control function, rather than the cultural aspects of how it cooperates with the businesses it controls (Holme and Solvang 1997). Earlier studies also support a qualitative method as other characteristics than sheer quantitative relationships have often proven to have the largest effect on efficiency (Mikes 2009). A further discussion of the two methods is presented in the study of what issues are being reported in the risk control function of a bank.

The case study of Carnegie brings earlier research and its general theories into tangible use. The incidents in 2007 and 2008 involved the most prominent regulatory bodies on the Swedish financial markets, of which we have managed to extract each of their views. To further broaden our point of view we have supplemented these sources with interviewees from an academic background as well as from peer financial institutions. The way in which interviewees were chosen was with the aim to reach as large a spread as possible in terms of:

- Time in relation to the studied events
- Hierarchical level
- Gender<sup>2</sup>
- Area of expertise

As most of the requested people responded positively to our inquiry, and with only one rejection, we consider the result more than satisfactory on all dimensions sought after.

Following the interviews, we maintained a dialogue with our interviewees to receive their feedback on new findings and interpretation of the information collected. This has been elucidating as we could reconsider and discuss previous conclusions as our base of collected materials grew. Allowing ourselves to develop the research question with impressions from the interviewees and their views on what is important, is central to the clinical method of data collection that we consider very reasonable for the purpose of the study (Björkegren 1988). With our own limited experience in the financial industry in general and securities trading in particular, this flexibility has enabled a better learning process, and possibly also a more relevant study.

The analysis is made with an explorative approach, attempting to describe the best-practice arrangements for managing operational risk. Being a qualitative study, a positivistic method has been used to describe how the interaction of people and structures continuously reshape a corporate entity. Collecting primary data from interviews assumes a social constructivist theory

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<sup>2</sup> Considering the gender distribution in the STB, a distribution of 2 women in 12 interviewees is satisfactory.

and its esteem for how individuals take part in constructing the reality that the group perceives (Björkegren 1988). The aggregate description of the large number of interviewees is expected to provide an acceptable understanding for how things actually were, and are today, at Carnegie. Franzén and Huttu (2009) employ a similar inductive positivistic method when they study the annual reports for patterns that indicate a bank exposed to substantial risk.

Our perspective to change and evolution in an organization is indeterministic, meaning that changes are driven by active stakeholders (Jacobsen and Thorsvik 2008). Assuming employees and other stakeholders to act predominantly rational, this perspective of changes being planned is the most commonly employed view on organizational change (Jacobsen 2004).

### **Reliability and validity**

Reliability and validity are fundamental issues for a study to be of academic value and useful as a reference for further research (Andersen 1998). The reliability has been ensured by a diverse selection of primary data sources. The initial part presents well-grounded academic research, whereas the case study refers to multiple interviewees' opinions and experiences. Both academic and interview sources have been carefully chosen in a continuing discussion with our tutor and with the interviewees who were encouraged to recommend further people to discuss our research questions with.

For the study to be useful and valid, a research question needs to have been correctly phrased from the beginning. The method of grounded theory (Fernler 2011) allowed us a liberal categorization of collected data. The interview questions were mainly general (Appendix 2) and allowed discussions to develop according to what we and the interviewees found relevant. Each interview was between 50 and 90 minutes of personal interaction with main questions and topics having been prepared on beforehand. Following an interview, all notes and transcriptions were sent to the interviewee for a facts review, which allowed for ongoing discussions also after a meeting. Applying this to all interviews has given an understanding of the consensus views of some of the people with the best insight into the structure and culture of Carnegie in the studied time period. The research question has thereafter been reevaluated as our comprehension for what is interesting yet not fully researched grew.

The qualitative and explorative method allows us to study and understand our primary data in the light of the selected academic theory. Their intersection of theory and practice has been the area of knowledge where the most sensible answer to our research question was deemed to be found.

## Literature and theoretical framework

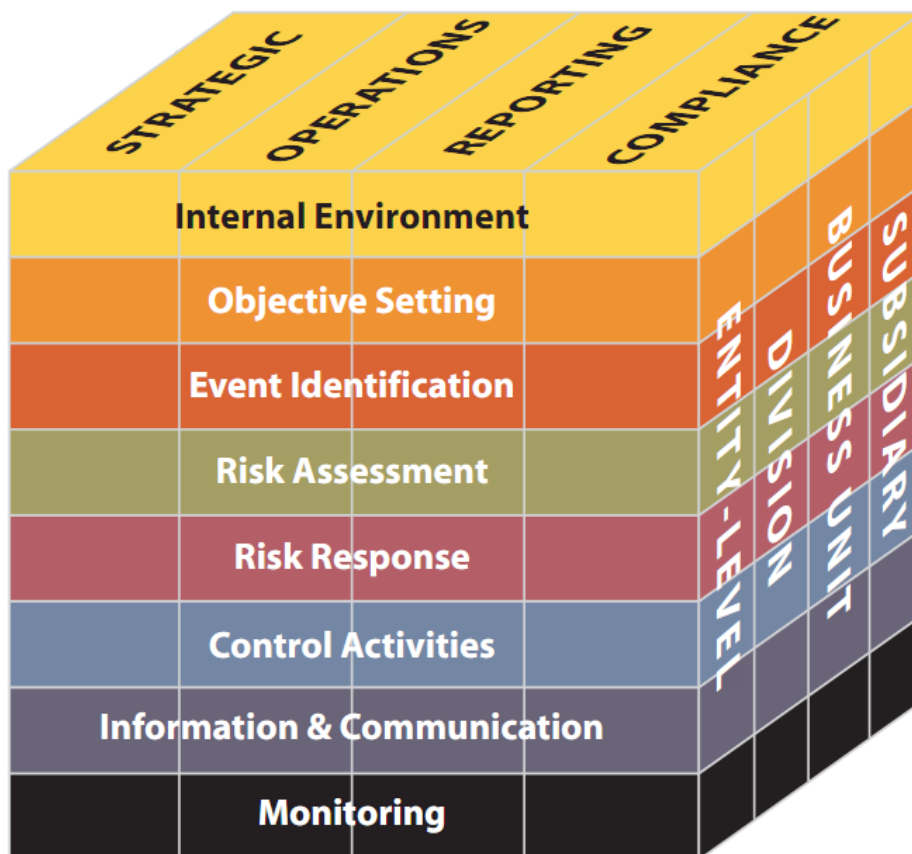
### The development of ERM and its different implementations

Enterprise Risk Management (ERM) has reached increasing acceptance as a developed management discipline, which can be described as a risk-based approach to manage enterprises. It has its roots in well recognized concepts such as internal control and strategic planning. Many people claim the emergence of the concept came from Gustav Hamilton at Sweden's Statsföretag, as he with a holistic approach to risk (by himself called "the risk management circle") tried to describe the interaction between all the risk management elements (Hamilton 1977) The current definitions still differ somewhat between sources but most of them refer to the following, where the Organizations of the Treadway Commission (COSO) define ERM as:

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

–COSO (2004)

This standard published by COSO and developed in collaboration with PricewaterhouseCoopers (PWC) has gained much attention and many adopters. This is much because of it incorporating the requirements from the wide-spread and acknowledged Sarbanes-Oxley act, which regulates all the listed companies on the US stock markets. Apart from the definition above, the standard is often summarized in the COSO cube (Figure 2), found below:



**Figure 2: The COSO Cube**

Source: COSO 2004

Accompanying this COSO standard, there is an ISO certification, ISO 31000 – International Standard for Risk Management, which covers practically the same areas. A sister certification, the ISO 31010 – Risk Assessment Techniques, was published at the same time, late 2009, and explicitly handles the problems associated with the assessment of risk in a company (ISO 2010). The ISO standards concern companies on an international level while the COSO counterparty concentrates on businesses in the US. However, their importance as hegemonies for risk management is global.

Taking into account how recent these developments are, it is not surprising that the picture still is a bit dim when describing what constitutes ERM. We have therefore applied the general framework of ERM to the particular industry where our study takes place – the financial industry – to better be able to analyze our findings.

## ERM in the financial industry

Mikes (2009) performs in a recent article, highly relevant to the purpose of our study, an analysis on the integration of ERM into strategic decision-making and how this differs between two American financial institutions. In the study, Mikes identifies four distinctly different approaches to ERM among financial institutions which are compared on a scale from quantitative and divided to a more qualitative and holistic focus when evaluating risks. A summary of the four practices is found in Table 1 below.

**Table 1: Four practices of approaching risk management**

|                                        | Risk silo management                                                                                                        | Integrated risk management                                                                                                                        | Risk-based 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                                               |

Source: Mikes 2009

### Risk silo management

Risk silo management refers to the most apparent risk categories in financial institutions:

1. Market risk,
2. Credit risk
3. Operational risk.
4. Liquidity Risk

A bank following this approach highly favors quantitative risk evaluation and does so within these separate risk silos. The most used technique is the value-at-risk, in which the business estimates future losses by tracking the distribution of historic losses within each risk silo (Jorion 2006). For this method to be valid however, critical assumptions about the continuity of historic trends and liquidity levels need to be made. This is something often pointed out by critics (Danielsson 2002). Notable is that the risk silo management approach and its four risk silos are

frequently referred to in the Basel regulations and is therefore more or less mandatory to consider within any bank.

### **Integrated risk management**

While risk silo management focuses on four categories of risk and their separate measurements, integrated risk management is an attempt to aggregate all these four categories of risk into one single metric, called economic capital. This measurement is an estimate on the amount of capital required to cover a severe loss, often calculated within a certain statistical confidence level, might it be from a market crash, credit crisis or operational mishap. The advantage of using this method is the ease with which people can relate to this amount of capital and that it can be distributed between divisions to limit the risk of each one. It has been recognized by the Basel Committee but is above all an approach utilized by the credit rating agencies, as they find economic capital to be a good proxy of a company's capital cushion, which plays a major role in the rating of financial institutions (Paletta 2005).

### **Risk-based management**

The risk-based management aims at comparing performance to risk down to an organizational level as small as a single division or even an individual project. The idea emerged from the concept of shareholder value (also referred to as residual income) which is a wide-spread and proven concept of emphasizing the principle of returns in excess of the cost of capital. By measuring the performance in relation to the allocated amount of economic capital, this metric can be expressed for aggregated as well as for separate business units. The shareholder value is then calculated as the residual income left after adjusting the net profit for the cost of capital (Hall 2002). The approach requires however that separate accounting can determine the numbers for the actual business unit for the calculation to work, although this should not pose a problem for an industry so well measured and accounted for, as the banking industry. Risk-based management is an approach oftentimes used in consulting, permitting portfolio analysis of a bank's different operations, subsidiaries or divisions.

### **Holistic risk management**

As one of the most recent developments of ERM, the goal of Holistic risk management is broadening the definition of ERM to include not only the risks mentioned above, but also risks that are only with difficulty (or not at all) quantifiable, such as the risks of strategic failures, environmental risks, reputational risks and rare types of operational risks. This requires other techniques than the ones based exclusively on statistical data. These range from scenario analyses

and decision trees (originating from strategic decision-making) to risk mapping and risk self-assessments (inspired by the field of internal audit). New categories of risk that are mentioned in recent corporate governance and ERM literature are among other: IT, legal and compliance (COSO 2004).

### **Summary**

The four approaches can be further understood by consulting Table 2 below, where Mikes gives a simplified and somewhat more polarized picture of the two ends of the scale: risk silo management and holistic risk management. In Mikes' case study two practical examples are presented, one favouring each approach, of financial institutions. This makes it a very relevant reference for also our case study. It is often true that a company reaffirms and regenerates the values and behaviour that it measures and rewards (Pfeffer and Sutton 2006). Still, the ease of quantifying and measuring certain factors as compared to others can lead companies to prioritize these, especially when time and resources for risk management are scarce (Kaplan and Norton 1999).

**Table 2: The most polar approaches to risk management**

|                                                                                                                                                                 | ERM by the numbers                                                                                                                                                                                                           | Holistic ERM                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>The forms of ERM</b><br><i>Salient element in the risk management mix</i><br><i>Span of risk control</i>                                                     | Risk-based management<br>Quantifiable risks                                                                                                                                                                                  | Holistic risk management<br>Quantifiable as well as non-quantifiable risks                                                                                                                                           |
| <b>Roles and uses of ERM</b><br><i>The roles of ERM</i><br><i>Top management's use of risk controls</i><br><br><i>Strategic significance of risk management</i> | Computation tool, 'ammunition machine'<br>Diagnostic use of risk silo management and integrated risk management<br>Derived from the integration of risk management with planning and performance management                  | 'Learning machine'<br>Diagnostic use of risk silo management and interactive use of holistic risk management<br>Derived from influencing top-level decision making                                                   |
| <b>Managerial context</b><br><br><i>Contingency factors</i>                                                                                                     | <ul style="list-style-type: none"> <li>• Size similar to Gotebank's</li> <li>• Risk function older than 10 years</li> <li>• Firm strategy: conservative, steady growth firm</li> </ul>                                       | <ul style="list-style-type: none"> <li>• Size similar to Fraser's</li> <li>• Risk function relatively new (2–3 years)</li> <li>• Firm strategy: entrepreneurial firm driven by strategic spurts and halts</li> </ul> |
| <i>Corporate governance imperative</i>                                                                                                                          | Shareholder value imperative                                                                                                                                                                                                 | Risk-based internal control imperative                                                                                                                                                                               |
| <i>Calculative culture</i>                                                                                                                                      | Quantitative enthusiasm:<br><ul style="list-style-type: none"> <li>• Risk numbers are deemed representative of the underlying economic reality</li> <li>• Emphasis on the 'robust' and 'hard' nature of modelling</li> </ul> | Quantitative scepticism:<br><ul style="list-style-type: none"> <li>• Risk numbers are taken as trend indicators</li> <li>• Emphasis on learning about the underlying risk profile from the trend signals</li> </ul>  |
| <i>Case study example</i>                                                                                                                                       | Fraser                                                                                                                                                                                                                       | Gotebank                                                                                                                                                                                                             |

**Source: Mikes 2009**

The risk based approach focuses strongly on numbers and quantification of risks. The risks that are non-quantifiable are consequently often left out as they are considered impossible to estimate. In this model the risk department works systematically, delivering reports on risk exposure, market development and other quantifiable measures. The advantage is that the risk estimates facilitate for the bank to monitor changes over time and calculate plausible future scenarios, to adapt its strategy in accordance. The disadvantage, found in Mikes' study, is that the reports can be difficult to embrace for upper management as their relevance for strategic decision-making is at times limited.

In the holistic risk management approach the problems with the risk management-based approach are dealt with by attempting to evaluate all the risks the bank is exposed to – quantifiable as well as non-quantifiable. Management in the bank leaning towards this approach in Mikes' study, showed larger interest and would easier assimilate the information delivered from the risk department. Although risks were not always estimated into actual figures they could still prove highly relevant to strategic matters and decision-making. An observed downside with this approach was a "quantitative skepticism", meaning that management sometimes showed a tendency to overlook quantitative relationships and rather consider them as trend indicators. This also hindered performance measurement as these are usually number-based.

## **Incentives, ownership structure and employee motivation**

Incentive structures and bonuses have during recent years gained enormous attention, in media as well as in academic research. In the financial industry, the subject has become even more infected as levels of compensation often surpass that of other sectors (Björklund 2009, Dagens Industri 2008, Dagens Industri 2010, Veckans Affärer 2010, Zenou 2011).

Reaching for a theoretic approach to explain the recent developments, the number of academic publications on the subject has sky-rocketed in terms of depth as well as scope (Murphy 1998). Many of these research papers relate their analyses to agency theory and the agent-principal model, of which the most quoted are Holmström and Milgrom (1991), Laffont and Martimort (2001). These researchers analyze, from a more general perspective, how a firm can create incentives for employees to work in their best interests. This field is closely related to labor economics and is not applicable within our study, as these deploy a highly theoretical approach to quantitatively investigate how incentives vary in, for instance, multitasking.

A large number of publications within the area of incentives and employee motivation are otherwise focused upon management compensation – some of which solely focus on CEO compensation in the banking sector – and on establishing a pay-to-performance relationship, most frequently described in terms of CEO compensation change to total shareholder value change. Among the most influential and cited research papers we find Baker, Jensen and Murphy (1988) and Jensen and Murphy (1990a). All of these papers have a general industry focus, whereas John and Qian (2003) have performed their study specifically on the banking industry. In this paper based on US financial institutions, they conclude that, contrary to the public opinion, CEO compensations relative to shareholder value in banks are lower than in manufacturing. The main reason for this is speculated to be the high leverage obtained in banks; resulting in an increased rate of return on equity without completely adjusting CEO compensation.

The researchers above have altogether covered the area of incentive theory from a theoretical point of view – relating to theory of the firm and organization theory (Jensen and Meckling 1976) – to a more practical approach – for instance Murphy (1998) who establishes that compensation levels are higher in larger than in small companies. Comparing US executive compensation levels to the levels of 22 other countries in the world, his results show that US levels outscore all other countries studied, mainly from a larger portion of stock options.

It is notable how Jensen and Murphy (1990b) in a Harvard Business Review article argues for higher CEO compensations, but higher penalties when so required, comparing with the much

higher compensation levels seen in the 1930s. A similar idea is brought forward by Wolf (2009) on the possibilities of clawing back both bonus payments and regular pay from risk-taking employees that are found to have acted culpably.

Furthermore there is empirical research made on the relationship between ownership structure, risk-taking and performance in banks. Unfortunately, the characteristics of this relationship remain uncertain, as we find no clear consensus among the published papers on the topic. Beatty and Zajac (1994) conclude in a quantitative study that riskier firms to a lesser extent use stock options as part of their CEO compensation, implying that cash represents a larger portion. They also show that increased managerial stock ownership decreases the level of CEO monitoring, hypothesizing that financial incentives and monitoring are substitutable measures in a company. Saunders, Strock and Travlos (1990) show in a related study that stockholder controlled banks exhibit significantly higher risk than their managerially controlled competitors. Combining these findings gives us reason to believe that stockholder controlled banks are exposed to a higher firm risk than managerially owned banks. This in turn would, according to Beatty and Zajac (1994), increase the probability of a large part of the CEO compensation being made up of cash. Finally, this more short term compensation model ought to be compensated by a higher degree of monitoring.

In a more recent study by Iannotta, Nocera and Sironi (2007) covering 181 European banks, they end up having mixed results, implying how complex ownership and incentive issues are in this sector. Yet two relevant relationships stands out; firstly that privately owned banks are more profitable than government-owned and mutual banks; secondly that higher ownership concentration is correlated to better loan quality, lower asset risk and lower insolvency risk.

## Empirical description<sup>3</sup>

### The Swedish financial industry

#### The structure of the Swedish financial market

Financial institutions have important roles in the Swedish financial system, in many ways facilitating the economic life of companies and individuals. They convert savings into funding and funnel capital supply to areas where it is expected to be most efficiently employed. They also maintain a system of safe and efficient payments, allowing for financial stability and reliability. Being intermediaries between companies, authorities and other market participants, their role of providing information and services is central to the function of the system. Riksbanken (2010) describes the management of risk as another important role of financial institutions. Credit institutions<sup>4</sup> are the specialists at assessing credit risks of private households or companies. They also specialize in analyzing a multitude of different financial risks such as changes in foreign exchange rates, trade counterparties, global macroeconomic trends and design products to manage and contain these risks. The financial products come in a wide variety including options, forwards, swaps and other investment choices<sup>5</sup>. Financial institutions thus hold a large confidence from companies and the general public. This confidence is crucial for the institutions to be able to continue operations and play the roles described above.

There are three regulated market places and four multilateral trading facilities (MTF:s) for trading of Swedish stocks and securities. The regulated marketplaces clearly dominate in registered companies and amounts traded, while the MTF:s have lower fees for participation as they are also less regulated and less transparent. An overview of the importance of the exchanges is provided in Table 3 below.

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<sup>3</sup> The following chapter is largely based on our in depth interviews, listed among the references further down. Due to reasons of anonymity we have chosen not to refer explicitly to any of these individuals other than when specifically called for.

<sup>4</sup> Banks and other institutional lenders to corporations and the public.

<sup>5</sup> A security whose fluctuating value is a function derived from the value of an asset such as traditional securities (bonds and stocks), tangible assets (real estate, commodities, currency), or a weighted basket of assets (market index or similar). A financial derivative can be constructed to enhance or lower the volatility in the underlying asset.

**Table 3: Descriptive statistics of regulated marketplaces and multilateral trading facilities<sup>6</sup>**

| Bn SEK                 | Name              | Listed companies | Annual turnover    | Market Cap. |
|------------------------|-------------------|------------------|--------------------|-------------|
| Regulated market-place | Nasdaq OMX Nordic | 310              | 3627               | 3413        |
|                        | NGM Equity        | 26               | 12                 | 17          |
|                        | Burgundy          | *                | 255,6 <sup>7</sup> | *           |
| MTF                    | NGM Nordic MTF    | 21               | 8,2                | 7,2         |
|                        | First North       | 100              | 13,3 <sup>8</sup>  | 26,3        |
|                        | Aktietorget       | 133              | 2,7                | 9,3         |
|                        | Burgundy          | *                | 255,6 as above     | *           |

Source: Riksbanken 2010, FI 2011

The traditional Stockholm Stock Exchange remains the largest securities exchange in Sweden since its inauguration in 1863. It is today run by the Nasdaq OMX Group as part of a network of exchanges in the Nordic countries, USA, UAE, the Baltics and Armenia. The Nordic Growth Market (NGM) has specialized in small and medium-sized companies, while Burgundy runs both a regulated marketplace and an MTF. Trading on the Burgundy exchange has been limited since its inception in June 2009, but it filled its purpose to evoke reduced fees of trading on the other exchanges, as intended by the founding consortium of banks.

The regulated marketplaces and proportionally more so the MTF:s have repeatedly been criticized for lack of transparency and control of participating financial institutions (Laliberte and Lumme Kinnunen 2009). All Swedish exchanges are licensed and surveyed by FI, which requires them to maintain their own systems of control over operations.

One large discrepancy identified relates to the size of an organization. In the Swedish bank sector, the four largest banks<sup>9</sup> hold a special position from having been dominant for a long period of time. Their size on multiple areas ranging from retail banking, corporate and private lending to asset management and investment banking have granted them a prominent position in Swedish society. They have reached a size and societal function where they are considered “too

<sup>6</sup> Figures concern year-end 2009 if not otherwise noted. \*Burgundy offers trading in all stocks listed on the other market places and Oslo Børs, thus a proper listing is not applicable.

<sup>7</sup> Traded value 2010

<sup>8</sup> Traded value 2010

<sup>9</sup> Handelsbanken, SEB, Nordea, Swedbank

big to fail” (Ross Sorkin 2009) as a potential failure is considered to have implications far more costly than a government bailout. This has been noted by regulators, who involve these institutions in the development of new directives and regulations, as well as monitor them more closely than other financial institutions (Friberg 2011, Löfgren 2011).

### Regulations on the Swedish financial market

The laws regulating the Swedish financial market have been increasingly influenced by international standards. Notably EU directives like the Solvency regulations for insurance firms and the international Basel requirements have harmonized the regulations to international standards (FERMA 2010, PWC 2010, PWC 2011). The main regulations applicable today are listed in Table 4 below:

**Table 4: Applicable regulations on the Swedish financial market**

| Name of regulation                                               | Year introduced (amended) | Area regulated                                                                                                                        |
|------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Banking and Financing Business Act                               | 2004                      | States the need for financial companies to become licensed by FI and the terms thereof.                                               |
| Capital Adequacy and Large Exposures Act                         | 2007                      | The capital buffer needed for credit institutions with regard to risk taken                                                           |
| Consumer Credit Act and The Act on the Deposits Guarantee Scheme | 2011<br>1995 (2008)       | Credit service marketing to consumers and the government guarantee of SEK 500 000 in the case of lost savings, and the terms thereof. |
| The Swedish Securities Market Act                                | 2007                      | Particular regulations for market players, formal organization and interaction with customers                                         |
| Financial Instruments Trading Act                                | 1991                      | Market regulations, prohibits front-running, insider trading etc.                                                                     |
| Market Abuse Penal Act                                           | 2005                      | Sizing of possible penalties, supervision and follow-up of infringements and manipulation                                             |

**Source: Riksbanken 2010**

The main governing bodies of the financial market are FI, Riksbanken (the Central Bank), Riksgälden (the National Debt Office) and Finansdepartementet (the Ministry of Finance).<sup>10</sup> Out of the three, FI is predominantly working with authorization and monitoring of over 3900

<sup>10</sup> For the ease of the intended readers, the institutions’ Swedish names are being used in this paper.

financial companies and is charged to foresee future changes. FI emits General Guidelines for the players on the financial markets, which are often foreboding coming regulation implemented by Finansdepartementet.

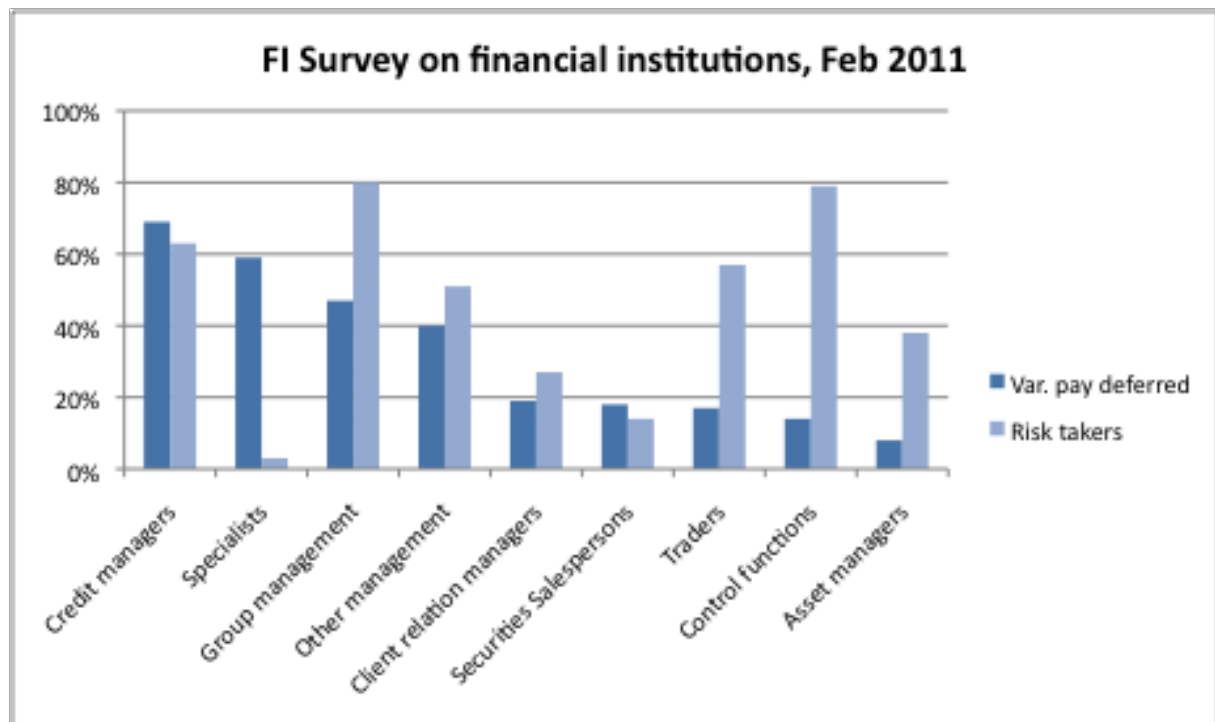
Examples of this reciprocal action are the FFFS 2005:1 and FFFS 2000:10 that were incorporated in the 2007 Swedish Securities Market Act 2007:528 by Finansdepartementet (Nilsson 2008). The act was in turn further clarified in FFFS 2007:16 for improved usefulness and level of detail. As FI is in a constant dialogue with the players on the financial market, the regulations can be kept updated and specific as formal laws take longer to implement and are kept less detailed (Löfgren, 2011, Riksbanken 2010).

Especially relevant to this study are the new bonus regulations put in place by FI in recent years. The FFFS 2009:6 *Regulations and general guidelines governing remuneration policies in credit institutions, investment firms and fund management companies*<sup>11</sup> requires firms to implement remuneration policies that are "consistent with good risk management and does not encourage short-term profits and excessive risk-taking". The regulation came into effect on 1 January 2010. Notably, it states what information on remuneration needs to be disclosed in annual reporting, and that a minimum level of 60 % of variable pay must be deferred for at least three years for those employees whose work tasks can substantially affect the firm's risk exposure. The regulation was further extended from 1 March 2011 through FFFS 2011:1–3 (FI 2011a–d). The definition of which employees are "risk takers" was clarified and individual risk exposure must be considered when setting levels of remuneration. It is pointed out that such risk assessment must be based on both quantitative and qualitative grounds (PWC 2010).

The implementation was preceded by a poll among affected companies (FI 2011a) to describe industry consensus on who is a risk taker and to what extent variable pay is being deferred from the year earned to the year paid out (Figure 3). Less than half of the 41 financial companies surveyed had adapted to the regulations in place. Another striking finding was the large number of companies that did not consider variable pay as a risk factor to their business. According to FI, companies bypass the regulations by avoiding a clear definition of the terms variable pay and risk taker, thus acting as if existing regulations were not applicable.

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<sup>11</sup> Based upon the European Commission's recommendation K(2009) 3159 on remuneration in the financial industry.



**Figure 3: Percentage of employees considered risk takers and their deferral of variable pay**

Source: FI 2011a

The correlation between who is considered a risk taker and deferral of variable pay is low. Securities traders are one of the employee categories with the largest variable to fixed remuneration, yet only 60 % were considered risk takers and less than 20 % had a portion of variable pay deferred over time. Also the awareness of risk taking in strategic and operational management was unsatisfactory, according to FI (2011a).

### Trade associations for the securities trading industry

The Swedish Bankers' Association (Svenska Bankföreningen) is a lobbyist organization representing many of the largest Swedish banks in relation to the governmental bodies. It evaluates and proposes new regulation and maintains a dialogue with politicians and authorities. The Association of Swedish Finance Houses (Finansbolagens Förening) has a similar mission, but represents smaller banks and local branches of international companies.

The Swedish Securities Dealers' Association (Svenska Fondhandlareföreningen), has come further than others with industry self-regulation. Through a subsidiary, it runs the Swedsec licensing for employees working on the Swedish securities markets. 177 STB:s<sup>12</sup> have adopted the

<sup>12</sup> At the end of 2009, there were a little more than 200 companies licensed to participate in securities trading (Riksbanken 2010). The 177 connected to Swedsec represent the lion's share of traded values.

Swedsec regulations and their employees run yearly updates and tests of knowledge on industry ethics, regulations and general financial theory.

Apart from these, there are associations and forums for various levels of management, just as there exists a specific association for risk managers. SWERMA (the Swedish Risk Management Association) organizes meetings and supplementary training for risk managers from all industries. In collaboration with its European equivalent FERMA (Federation of European Risk Management Associations), it offers a forum for exchanging experiences and discussing upcoming trends and regulations within the field. To offer a network of shared knowledge and support risk managers in their work are some of the pronounced aims of the organization. Risk managers in banks and STB:s participate in SWERMA events to a very limited extent, even as our interviewees themselves express a lack of meeting places (Barnekow 2011, Friberg 2011, Karlsson 2011, Leetmaa 2011).

### **Securities institutions**

In order to trade securities on the Swedish financial markets, an institution needs to hold a license from FI. Securities institutions primarily trade securities in their own name on behalf of customers, or trade on their own capital as a market maker to provide liquidity to the market. They also assist with underwriting for companies with their stocks traded publically. These were both specialized securities trading companies and credit institutions such as banks and insurance companies. Securities trading takes place on regulated markets, as well as through over-the-counter-deals (OTC) between parties outside of the market. This is usually done when transferring larger stock holdings or smaller holdings in companies not listed on an exchange.

### **The risk management function in an STB**

Speaking to risk managers, they explain that risk management in STB:s is not limited to a single department but involves in effect, to some extent, all employees. This concept is commonly referred to as the three lines of defense, described below (Friberg 2011, Swedbank 2010):

- **1<sup>st</sup> line of defense:** “The businessmen” who create and execute deals. As the first line, they need to be aware of and take responsibility for the risks they take on and how they handle them.
- **2<sup>nd</sup> line of defense:** Refers to the risk control and compliance departments, whose work it is to monitor the risks and see to that supervised departments follow internal policies and risk limits.
- **3<sup>rd</sup> line of defense:** This is the department for internal audit which seldom are in direct contact with the securities trading. Reporting directly to the Board of Directors, their job is conduct regular reviews and internal controls with an aim at improving operations long term.

Managers frequently stress the importance of 1<sup>st</sup> line of defense as other departments cannot undo mistakes or bad decisions made here; they can merely discover and manage unwanted risk exposures and to some extent prevent them from being taken on again. SEB's Head of Market Risk Control, Stefan Friberg (2011), describes 1<sup>st</sup> line of defense as the drivers of an imaginary vehicle; it is their task to steer the vehicle and decide which roads to take, according to their best knowledge. In this context, 2<sup>nd</sup> line of defense is compared to the airbags and any other safety equipment; they can mitigate the crash but never prevent it from occurring. Swedbank's Head of Risk Control, Anders Karlsson (2011), emphasizes not only responsibility but accountability when talking about how employees in the 1<sup>st</sup> line of defense should act. Swedbank has also been forced to alter its view on risk management after the unflattering wind-up of operations in the Baltic in 2009. Although in this case, exposure to operational risks was not the primary cause, they were found in deep financial distress and eventually had to ask for government support (Ström 2010). As one of the major banks in Sweden, this made them reconsider and restructure their entire risk department as they have now increased the organizational independence of the risk control department and included the CRO in the management group. Risk employees no longer report to business managers, but instead to group risk managers who in turn report to the CRO, as illustrated below in Figure 4.

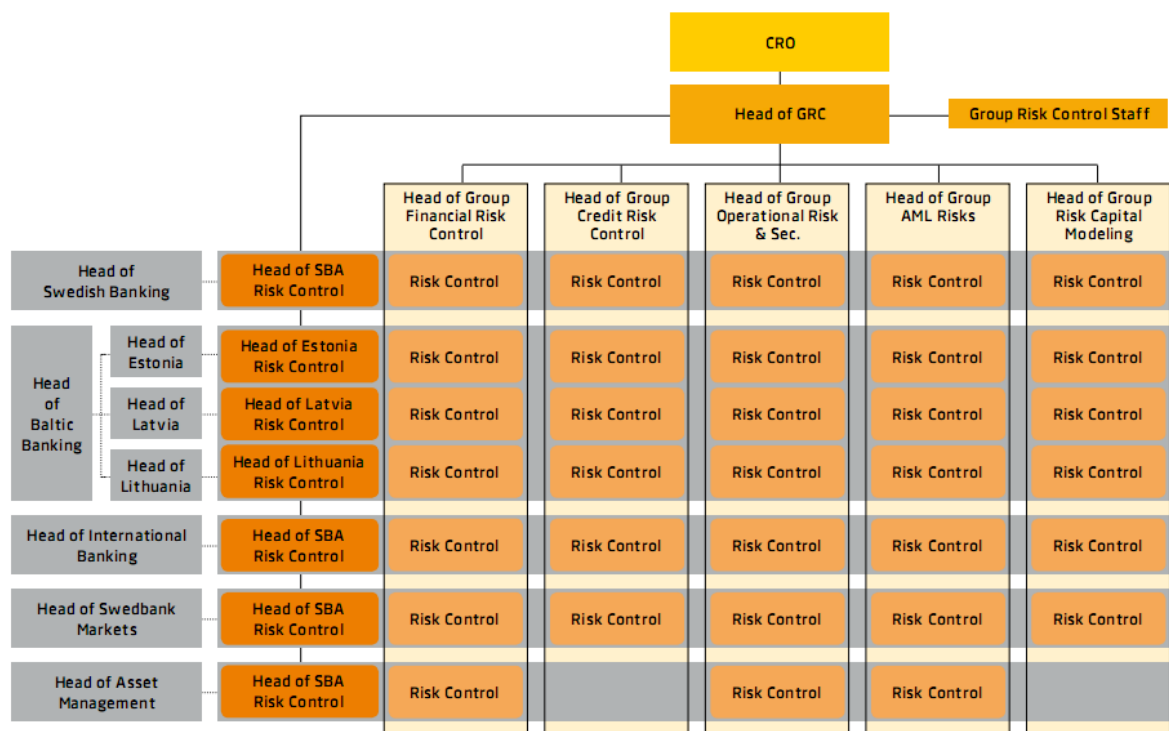


Figure 4: Matrix structure for risk control in Swedbank

Source: Swedbank 2010

In addition to these support functions, continuously dealing with the risk exposure of the company, there are a number of internal committees, acting as forums in which these questions can be discussed on various levels of detail. The most common and important committees from an operational risk perspective are the Asset Liability Committee (ALCO) and the Risk and Capital Committee (RCC). Both of these committees are present in the major Swedish banks.

ALCO is a committee mainly dealing with questions regarding overall risk levels, risk limits and methods for measuring risks. They report directly to the Board of Directors and are lead by the CEO who is acting chairman. They also establish policies on responsibilities and how to ensure an adequate risk to capital ratio.

RCC is a body on an even more strategic level than ALCO, consisting of members from the Board of Directors, chosen with special regards to their competence and experience within risk management. The main task of RCC is to support the board in preparing and making recommendations on decisions concerning group-wide risk. Examples of issues handled by the RCC in Swedbank in 2010 were establishing a process for internal capital adequacy assessment, stress testing various loan portfolios, and other issues relating to funding and capital (Swedbank 2010).

For a complete image of the corporate governance in a large Swedish bank, including the committees above, we provide an example from SEB below (SEB 2010).



The culture in financial institutions has been subject to increasing attention since the economic downturn in 2008. Fuelled by large bonus incentives and years of profitable market growth, international financial players took on risks and financial leverage too large to cope with. The industry is considered to have lacked – and to some extent still lacks – in self-regulation and risk control. The culture has been studied and described in numerous publications since (Ho 2009, Aggarwal and Goodell 2009), but had already been described for decades by academic researchers (Kwok and Tadesse 2006, Norberg 2009). Employees are considered to be motivated by financial incentives to a larger extent than in other industry sectors (Ericson 2011, Löfgren 2011).

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said to transpire from the top and down (Karlsson 2011, Lagerstam 2011, Jacobsen and Thorsvik 2008), a fact that emphasizes the large influence held by the board and the management. The importance and use of financial incentives is large in the financial industry, and must be monitored not to encourage unwanted behavior (Daskalova 2007, Karlsson 2011, Norberg 2001). A bonus is hence more of a motivational factor in this industry than in others, both due to its relative size and its strong cultural value.<sup>13</sup> (Dewhurst, Guthridge and Mohr 2009)

Differences in culture between financial institutions have been attributed to factors such as what people are attracted to each institution, organizational size and incentive structures (Barr 2011, Schauman 2011). Financial players are rewarded for taking deliberate and well-grounded market risks. However acting and investing contrary to public belief requires experience and analysis of future events, along with a certain amount of “luck”. People prone to taking risk may search for institutions where they are allowed to take on the most risk. Interviewed employees at the largest banks’ STB:s agree that their employers rarely fit this description. The most risk-inclined employees would instead find positions in the plethora of smaller institutions on the market. Various sources indicate that both Carnegie and HQ were among these (Avander 2011, Barr 2011, Ericson 2011, Lagerstam 2011, Löfgren 2011, Schauman 2011).

The incentive structures vary between institutions. Guidelines regarding incentive structures have become stricter in the wake of the 2008 downturn, yet the institutions still manage bonus rewards in a free manner (Petersen 2011).

*They had no downside, only an upside to taking as large, short-sighted risks as possible.*

– Former Carnegie employee on incentive structures for businessmen within securities trading and securities finance

It is clear that strategies of high leverage and risk taking can be highly profitable in years of strong economic development and appreciating values on securities and collateral. When times get worse as they did in the fall 2008, the industry is put to a test where even the most solid corporate structures find it hard to find liquidity. There are numerous examples of companies that bloomed in the boom cycle and later found themselves too leveraged and exposed to the economic bust to continue operations. On the global scene Lehman Brothers, Consecro and Long-Term Capital Management are often-cited examples of this pattern.

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<sup>13</sup> As a comparison, remuneration is generally regarded a hygiene factor in the commonly employed motivation-hygiene theory (Herzberg 1966).

## **The story of Carnegie**

### **A partner-owned investment bank**

Before Carnegie was listed on the Stockholm stock exchange in 2001, the majority of the bank's shares were owned by its staff – every employee, from the janitors to the upper management, held shares in the company.<sup>14</sup> The risk department only consisted of two people who were working long hours as responsible for monitoring all the risks the group was exposed to. Their relation to the securities traders and other risk takers was at this time close, with an emphasis on helping each other to find and solve any emerging issues. This kind of structure is said to require frequent communication and efforts to keep a high level of integration between the risk and the securities trading departments. Furthermore, this closeness and mutual understanding was one of the most important elements for their risk management to function, as much attention was focused on the 1<sup>st</sup> line of defense to take responsibility for its actions. This was strengthened by a culture in which fraudulent or irresponsible behavior was punished as the employee(s) in question was corrected or in severe cases even dismissed in front of other colleagues.

### **The option trading incident**

By the year of 2007 Carnegie had, during the past 15 years, been involved in no less than 17 lawsuits (Hedelius 2007). These were cases regarding employees not following the trading regulations, insider trading, fraud and other cases of poor conduct towards corporate and private clients. With the aim to reach the same standing as the four main Swedish banks, this was definitely a thorn in the side as Carnegie had to struggle to restore its tainted reputation.

Despite the attention in the media, Carnegie had achieved a strong position among Swedish investment banks after decades of profitable operations and substantial growth. At the turn of the year 2006–2007, particularly the departments of securities trading and securities finance had seen a strong recent growth both in magnitude and profitability. Carnegie's nearest competitors, in terms of market position and operations, were considered to be HQ and Öhman Fondkommission; all three were relatively pure investment banks with no significant retail operations. On the other hand, in terms of market share and reputation within the areas of investment banking and securities trading, Carnegie was almost at par with the Swedish four largest banks (Carnegie 2006).

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<sup>14</sup> The smallest owner held 5000 shares and the CEO himself owned 300 000 shares.

According to FI's report (2007), Carnegie's risk department consisted from 2003–2006 of one single employee, the Group Risk Manager, whose job it was to cover not only the securities trading operations in the Stockholm office, but any risk on company as well as group-level. Bearing in mind that the Carnegie group was at the time a bank of significant size and active in several country subsidiaries, this made for an extensive and complex assignment. In late 2006, one additional risk manager was recruited, Risk Manager Sweden, which makes for a total of two employees monitoring the risks of the entire Carnegie group. This was still not enough, as daily follow-ups were not performed as required by FI, and as far as monitoring goes it basically consisted of random controls of risk limits at the end of the trading day. Neither did they have the system support needed, as they had to rely on data from the traders themselves and through the traders' support system which was not its purpose in the first hand (FI 2007). This was an impossible situation to be in and not enough resources allocated for an investment bank with as large, complex, and hence risky operations, as Carnegie.

From an outsider perspective, the 2007 incident started the 8<sup>th</sup> of May when Carnegie reported an overvaluation of its trading portfolio by 370 million SEK, a number which two weeks later was revised to 630 million SEK. This gap had been built up over a two-year period, meaning it actually started already in 2005. This amount must be considered substantial as the annual profits in the Carnegie securities department the preceding years were in the range of 300–700 million SEK (Carnegie 2006).<sup>15</sup> According to bank officials, what lead to this incident was a systematic fraud, performed by three traders in collusion with each other. By exaggerating their profit figures they could increase their own yearly bonuses which constituted a large share of their total compensation. By manipulating market prices on long term, illiquid derivative instruments and using unrealistic volatility numbers they could push the valuation estimates by the above amounts, without being discovered by the risk department. These three people were later prosecuted but eventually found not guilty and released without action.

The verdict from FI after investigating the matter was harsh: Carnegie was fined 50 million SEK, forced to switch CEO:s and to organize a new election of members for the Board of Directors,

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<sup>15</sup> Carnegie consisted at the time of the following divisions: Securities, Investment Banking, Asset Management and Private Banking (Appendix 3).

whose lacking judgment was considered remarkable. This makes for one of the most severe cases in Swedish banking history, at least since the crisis in the early 1990s.<sup>16</sup>

### **The management change**

2008 saw an attempt to a transition period for Carnegie as the management group as well as a large part of the Board of Directors was replaced. The CEO at the time, Mikael Ericson, had the intention to resolve the problems in the risk control by hiring some of the most competent and experienced people on this area to support him in the management group. These came to be Kristina Schauman, CFO, and Anders Karlsson, CRO. They were convinced that the bank needed a reform of the risk management and a heavy downsizing of securities trading exposure.

However one has to take into account the long lead time in these high-level recruitments, due to negotiations, notice and waiting periods etc. This meant that Mikael Ericson started his work at Carnegie first in the spring of 2008 and not until the same fall could Anders Karlsson and Kristina Schauman start their jobs. By this time Carnegie suffered another serious incident; this time in the security finance department, which lends money to investors using their investment portfolios as collateral. As the stock markets fell rapidly, the investors' holdings fell as well, eventually even below the value needed for collateral. As it turned out, Carnegie had lent substantial amounts to individual clients whose portfolios – since they contained large stock positions in smaller companies – were especially sensitive to falling markets. These positions had values that could not be easily recovered in the failing markets, where liquidity was “drying up”. The failure in the control of operational risk had thereby exposed the bank to both market and liquidity risks. What finally made Carnegie ask the central bank for a 5 billion SEK loan was not due to insolvency but to their acute lack of liquidity that could not be solved on the credit markets. One can only speculate if the primary cause to this was the overall negative macro-economic climate or the bad reputation Carnegie had created from the news of its bad credits. The rest remains a large controversy that has yet to be resolved in court (Riksgälden 2011), since Riksgälden assumed control over Carnegie and during the winter 2008–2009 arranged the selling of Carnegie to private equity investors Altor and Bure (Riksgälden 2009). What this meant for the planned restructuring of the risk department was that it had not been implemented in time as the

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<sup>16</sup> The crisis of 1990-1994 was concentrated on the financial and real estate sectors, but had extensive effects. It was created through deregulation on the credit market in the late 1980s, creating a real estate valuation bubble. In 1992 the fixed exchange rate was abandoned. The national accounts took a large part in bailing out Nordbanken, Gotabanken (today merged as Nordea) and Första Sparbanken (today merged as Swedbank).

people starting in the fall 2008 were completely occupied by trying to solve the more urgent liquidity problems for the bank. Mikael Ericson later left his position as CEO, about one year after his start, in the spring of 2009.

Another reason for Carnegie's bad financial shape, put forward by interviewees, was the lack of equity in the company. Although realizing substantial growth rates, each year the company was emptied as profits were handed out as bonuses and dividends. This kept the amount of equity constant at about 2 billion SEK while the balance sheet was growing, with increased leverage as a consequence. It is not abnormal for a bank to use a high gearing to increase its financial leverage and return on equity. The major banks in Sweden have a leverage ratio of 20–30, whilst Carnegie peaked at a striking 40–50 during year 2006, not only increasing its financial return rates but also its sensitivity to incidents such as the one that occurred.

### **Culture, incentives and remuneration structures**

As mentioned above, employees in securities trading industries are motivated by financial incentives to a larger extent than in other industries (Dewhurst, Guthridge and Mohr 2009). Remuneration in the industry is subject to an ongoing public debate.<sup>17</sup> The structure of rewards programs are thus a very delicate matter as they are often scrutinized by media and investors. Typically for the industry, the salary consists of a fixed monthly pay and a variable pay – a yearly bonus based on individual contribution to the company. The total bonus pool is a partition of the company's total yearly profit, which is divided in a discretionary way from top management to each department and onwards to smaller business units. Eventually, a part of the total pool is divided to individual co-workers by their nearest managers (Avander 2011, Karlsson 2011). The division of the bonus pool is influenced by the receiving units' contribution to company results, adjusted for less tangible values as level of cooperation, team spirit and risk exposure. The policy after which bonus levels are decided vary depending on the company and is subject to change as the new regulations FFFS 2011:1-3 come into effect (Leetmaa 2011).

Bonus pools vary with the cycles of the financial industry, but are often a substantial sum in relation to the regular salary. The magnitude of a bonus in absolute numbers and relative to monthly pay typically increases with seniority (Avander 2011, Karlsson 2011). With financial incentives being a predominant motivator in the industry, the resulting behavior risks to focus

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<sup>17</sup> A large number of newspaper articles published during 2001-2011 have provided background information on the trends in the public discussion on organization and remuneration in STB:s. Articles directly related to in the paper are listed as references.

too much on short gains and not take into account the long term implications that actions might have on future results (Dewhurst, Guthridge and Mohr 2009).

STB:s struggle over attracting and retaining the best employees. Many positions in the investment banking divisions require established personal relations to clients, and a high task specificity. This has implications for the relation between employer and employees, especially among the businessmen with client exposure (1<sup>st</sup> line). The task specificity creates high entry barriers into the main STB:s and puts successful employees in a strong bargaining position. Alongside with intangible competitive factors such as location, offices, employee services and company brand image, the means of the HR department are mainly financial. Companies thus outbid each other for employees, by means often appalling to the public (af Jochnick 2009, Mellqvist and Nachemson-Ekwall 2007).<sup>18</sup> Too strong bargaining power in the hands of employees decreases the chance to implement sound incentives in remuneration programs, which in turn could lead to sub-optimizations and goal shifting as employees personal aims diverge from those of the company (Jacobsen and Thorsvik 2008).

The way to fight the development lacks an obvious solution, but there are strategies being tested. One measure currently implemented in many foreign banks and about to be so in Sweden as well, is to lock bonuses into company stock or stock options which are actually not received until a few years later (i.e. bonus deferral). If the receiver decides to change employers or any improprieties are discovered, the future payment could be cancelled. Raising the barriers to switching employers is expected to decrease the rate of employee turnover in the STB:s (Smith 2010). In addition, claw-backs of paid bonuses are used by international banking behemoths Morgan Stanley and UBS (Dealbook 2008).

Inflating bonuses was one of the causes of the Carnegie incidents in 2005–2007 and certain interviewees describe the bank as having “an extreme bonus culture”. They are assumed to have played an even larger importance at Carnegie than in other banks as it was traditionally owned and shaped by the staff receiving the bonuses. A stock dividend to an employee that is also partner in the company has a lower taxation than a regular bonus, but can only be given in a certain parity to yearly salary. This led to effective bonus levels being higher than in peer trading institutions, according to several sources.

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<sup>18</sup> The originally American expression “Silly season” has made its way also to Sweden, describing the months in the beginning of a year when bonuses are paid out and those wishing to switch workplace can do so with the smallest private loss.

*With 3–4 million you can pay off your mortgage or buy an apartment, but 30–40 million really turns everything upside down.*

– Mikael Ericson, former CEO at Carnegie (2011)

There was also a problem in the revenue-driven culture described above. This meant that most of the employees, from traders to board members, had incentives to focus more on short-term gains than on the risks of future implications. As long as the bank was making large profits, objections to the status quo were considered undesirable. We found indications that the Group Risk Manager lacked sufficient authority, possibly preventing him from dealing with the problems, had they been discovered in time.

One could speculate that even if the bad valuations in 2007 were discovered, there would not have been much for the Group Risk Manager to do, as neither himself nor his function had the needed authority to affect the course of action.

Main revenues of an STB come from commission and fees for transferring securities to counterparties. The normal cash flow cycle of a transaction on a regulated market is 3 days, from accepting a deal to exchange of securities and payments. Some financial instruments tie the STB to a commitment (and obvious risk exposure) against a counterparty for months and even many years. Adapting remuneration to the time period that an employee's work exposes the company to risk is expected to change the incentives for short term gains. Explicitly put, it addresses the problem with traders issuing financial derivatives with very long maturities (in some cases OTC options on 2–4 years time) and still getting their bonuses based on the instant commission revenue.<sup>19</sup>

We discovered that the former partner-owned company soon after it being listed in 2001 suffered a hefty decline in the amount of equity owned by staff. Although equity was released gradually and many shares were included in lock in-programs, by the time these effects had worn off, only about 15 % of the originally 49 % staff-owned equity remained. This number declined further during the following years and at the time of the studied events, ca. 10 % of the company was owned by staff (Figure 6).

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<sup>19</sup> A thoughtful parallel – pointed out by one interviewee – is to retail banks lending and real estate mortgages. It is not too bold to assume that changed incentives would affect the risk appetite of lenders to households as well.

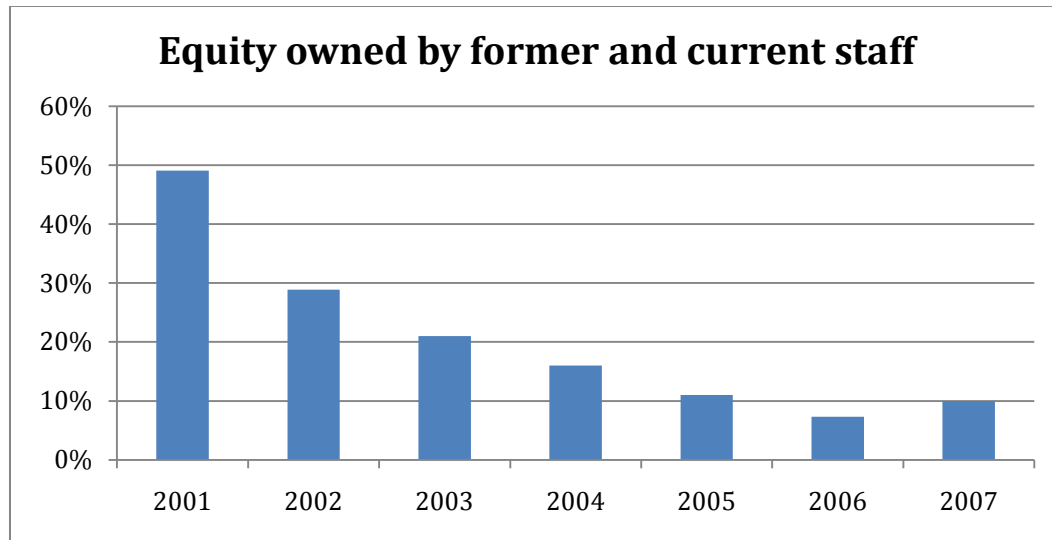


Figure 6: Employee holding of Carnegie stock

Source: Carnegie 2001–2007<sup>20</sup>

## Organization

According to FI and company sources, the difference between Carnegie then and now is as substantial as it is apparent (Löfgren 2011, Leetmaa 2011). We must however point out that while culture and risk management have changed, so has the bank in terms of its operations and strategic focus. By downsizing securities trading department and closing the security finance department, Carnegie insured itself against their risks, but is no longer on the line for potential profits from these areas. What is more important though, is their effort to strengthen their risk department, both with regards to financial resources and employee competence.

As of now the risk department alone employs nine people, which is, according to themselves, more than at many comparable banks (Leetmaa 2011). Carnegie argues that a larger risk department is needed due to recent history, and that it gives them credibility when now integrating HQ into their operations:

*[...] Considering our history I think that Carnegie needs to have larger margins than others. It is a question of survival.*

– Franz Lindelöw, CEO at Carnegie as quoted by Andersson (2011)

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<sup>20</sup> Due to lock in-programs, employees' shares could not be sold freely. By Jan 1, 2004 no shares were any longer covered by these programs (Carnegie 2001–2005). The numbers 2005–2007 are based on Carnegie's estimations.

*As previously mentioned, the organization has learned from its history. Also, the risk department has become more professional which gives it larger respect among the businessmen.*

– Fredrik Leetmaa, CRO at Carnegie (2011)

The professionalism cited above is achieved by the extended reach of a larger risk department. A better structure and documentation of measured risk has increased the acceptance and awareness of operational risk among the businessmen. The downsizing of securities finance and trading operations both meant that many co-workers had to switch tasks (or in some cases employer) and limited the amount of risk and leverage that could be taken by those who remained in Carnegie. The limitations were not welcomed by everyone, but it is assumed that the new structure affected which employees accepted and stayed despite the changes, and which employees moved on elsewhere.

The risk function of today is a more distinct unit, with its tasks, responsibilities and authorities clearly defined in internal policy documents. They emphasize that the whole industry undergoes a similar development; changing their view on risk adjustment of remunerations which contributes to a higher risk awareness among the businessmen.

## Analysis

### Changing the approach to risk management in Carnegie

In hindsight it may seem obvious what should have been done differently to avoid the incidents that occurred. Looking at the Carnegie incidents, case by case, one might think that the bank was simply a subject to bad luck and unfortunate circumstances. As many sources claim, the 2007 incident was primarily a problem bound to three fraudulent employees, committing deceitful acts to provide themselves with hefty compensations. Likewise the same sources argue that what happened in 2008 was on account of a weak macroeconomic climate as markets fell worldwide, and numerous banks joined Carnegie in their fall.

However, putting the events into the perspective of Carnegie's history, it is hard to believe that they should be coincidental. It appears rather that a pattern exists where opportunistic behavior and a weak (both in terms of cultural standing and allocated resources) internal risk control have lead to a number of incidents including the major two above.

There are differing opinions between the two views above, when discussing the sequence of events in Carnegie with the people that were involved. Opposing opinions make the analysis difficult and it is not our intention to judge which side is the correct in the debate over Carnegie.

From analyzing the case of Carnegie we have identified two independent dimensions, that are used to facilitate our further analysis as they provide us a scale of reference when evaluating risk management practices in STB:s (Figure 7). These dimensions are labeled culture and structure and, inspired by Mikes (2009), we define the opposing end points to each dimension in the tables below (Table 5 and 6). The cultural dimension ranges from a risk prone to a risk averse culture,

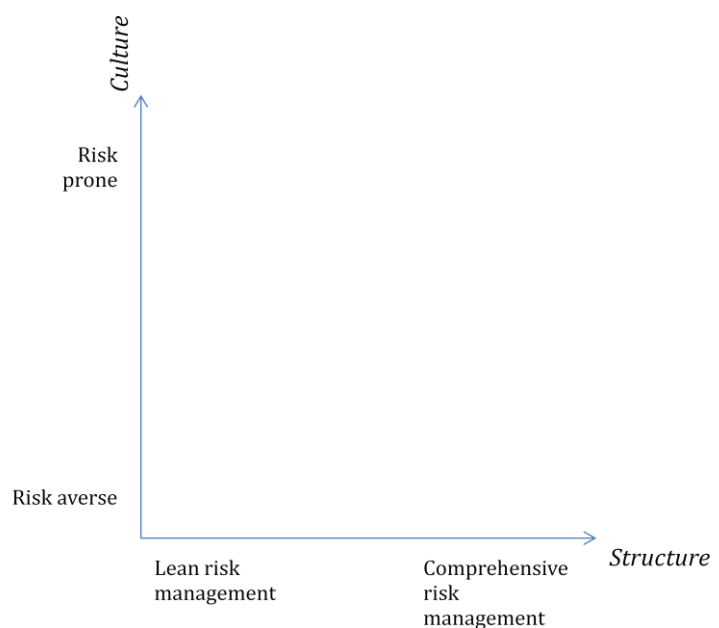


Figure 7: Two dimensions for analyzing risk management practices

and the corresponding structural dimension ranges from a lean to a comprehensive risk management.<sup>21</sup>

Table 5: End points of the cultural dimension of risk management

| <b>RISK CULTURE</b>                | <b><i>RISK AVERSE</i></b>     | <b><i>RISK PRONE</i></b>   |
|------------------------------------|-------------------------------|----------------------------|
| <b>Degree of individualism</b>     | Low                           | High                       |
| <b>Integration in organization</b> | Separated and autonomous      | Integrated                 |
| <b>Compensation horizon</b>        | Long term                     | Short term                 |
| <b>Compensation distribution</b>   | Majority stock and/or options | Majority cash              |
| <b>Ideal personality</b>           | Team spirit                   | Heroic (Kallifatides 2002) |
| <b>Base of reward</b>              | Accuracy in processes         | Results (economic profit)  |

Table 6: End points of the structural dimension of risk management

| <b>RISK STRUCTURE</b>            | <b><i>COMPREHENSIVE<br/>RISK MANAGEMENT</i></b> | <b><i>LEAN RISK<br/>MANAGEMENT</i></b> |
|----------------------------------|-------------------------------------------------|----------------------------------------|
| <b>Size of department</b>        | Large                                           | Small                                  |
| <b>Dependence on individuals</b> | Low                                             | High                                   |
| <b>Reporting style</b>           | Systematic                                      | Ad hoc                                 |
| <b>Reporting frequency</b>       | High frequency                                  | When required                          |
| <b>Lead time</b>                 | Long                                            | Short                                  |
| <b>Work assignments</b>          | Can do admin when needed                        | Only risk-related                      |
| <b>Adaptive capacity</b>         | High                                            | None                                   |
| <b>Administrative cost</b>       | High                                            | Low                                    |
| <b>Generally observed in</b>     | Large, diverse banks                            | Small niche banks                      |

Carnegie was relatively understaffed in its risk management before the takeover by Riksgälden in 2008. With only two employees comprising the whole risk department – with the responsibility to cover the risk exposure of the entire group – there could be no room for mistakes or irregularities due to sick leave, extraordinary events (for example the listing of Carnegie in 2001), financial distress etc. As a comparison, the central risk departments in the four major Swedish banks comprise 200–350 employees reviewing and monitoring risk exposure

<sup>21</sup> It should be noted that these descriptions refer to observed conditions in Swedish STB:s and not to general conditions in Swedish society.

(Friberg 2011, Karlsson 2011). This is comparably larger than what was the situation at Carnegie, even when considering their more diverse businesses and larger geographical presence. This image is reinforced by testimonies from former Carnegie employees of workloads so heavy that they, in periods of distress, led to personal exhaustion.

Comparing Carnegie in the studied time period to its peer STB:s, we find a relatively large portion of “risk prone” as well as, what we refer to as, “lean risk management”. The most important arguments in support are the following: high compensation levels with high degree of individual variation, a small risk department with low internal status and a high dependence on individual employees. The advantages of the approach Carnegie used are especially low cost and an adaptive structure which was closely integrated with other departments. The disadvantages have become quite apparent by now and comprise a low ability to discover risks without the collaboration of the businessmen, a lack of capacity when workload is high and a low internal status.

The reasons for which Carnegie had such culture and structure are hard to define. A possible source for the short term focus observed is the owner change in 2001, when the bank was listed on the Stockholm stock exchange. Although initially only selling a minor part of the shares (18 %) and forcing existing owners not to sell their shares for years, this might still have had an effect on employee loyalty, merely slowed by the lock in-programs. Since this behavior is supported by existing research (Murphy 1998), one could hypothesize that Carnegie had been better off in this respect, had it stayed partner-owned. Still, it was in the interest of the employees to list the company as it enabled and facilitated turning their long earned shares into cash. Yet another argument for this is that employees should be given the opportunity to diversify their investments; betting your employment as well as your fortune into one same firm is not a sound idea from that perspective. This is an opportunity many of them seized, seeing that most of their shares had been sold by 2007. By the end of the year the estimated amount of Carnegie shares owned by staff was only at 10,2 %. As the ownership of Carnegie stock became increasingly transferred from employees to other investors, theory explains the increasing focus on cash compensation (Beatty and Zajac 1994, Saunders, Strock and Travlos 1990). This ought to have been followed by increased monitoring, which was not as obvious an evolution.

Besides having downsized the operations which were pointed out as the sources of the problems (securities trading and securities finance), the most visible structural change is the new recruits in the risk department, now totaling nine employees which makes for a substantial increase from the

earlier two. This has changed the conditions dramatically, allowing for a more frequent and systematic monitoring and reporting of risks. It also enables what is called “empire building”, referring to the fact that a larger department automatically gains a higher status than a relatively smaller one. Consequently, risk issues are nowadays viewed upon much more seriously in Carnegie than they were before.

Carnegie now has larger and more competent systems for monitoring the types of financial instruments they handle. The additional costs for risk management may have been considered superfluous earlier, but cannot be compromised now that Carnegie wants to reinstitute themselves and their position as one of the major players on the Swedish financial market. The pressure is especially strong after acquiring HQ, to show a sound approach to risk.

All in all, FI expresses their satisfaction over the transformation that has taken place in Carnegie. The level of transparency has increased and the authority has been deeply involved in the process. This is a cooperation that both parties have enjoyed and are content with, far from the distance they kept five years ago. Earlier days there was much skepticism between the bank and FI but this seems to have changed into a mutual understanding as both of them have realized that they both gain from cooperating (Leetmaa 2011, Löfgren 2011).

Despite the fact that many of our sources convey their contentment and optimism for how Carnegie will perform in the future, there are also feelings of skepticism, occasionally shining through. They believe that it takes more than an organizational fix to turn around a dysfunctional culture. Only the future can tell, but it is definitely easier to handle risk in a strong market, such as the one we have experienced during the recovery from the financial crisis, than in a falling market. The real test will come as the next financial crisis hits global markets. Only then, if handled well, one can judge if Carnegie has been able to turn around their risk management and redeem their reputation.

### **Providing for risk management in organizational structure**

At the onset of this study, we had a clear perception of what constitutes a reliable risk management organization. The structure and size of the risk management unit was considered the deciding factor for its capacity to manage company risk exposure. As the study progressed, we realized how important internal culture is to the functioning of a company. The formal structure is often – but not necessarily – a reflection of corporate values, in the same way that these values are fortified or attenuated by the structure in the company. In a company where the risk management function is disregarded, the issues it handles will be similarly disregarded. With

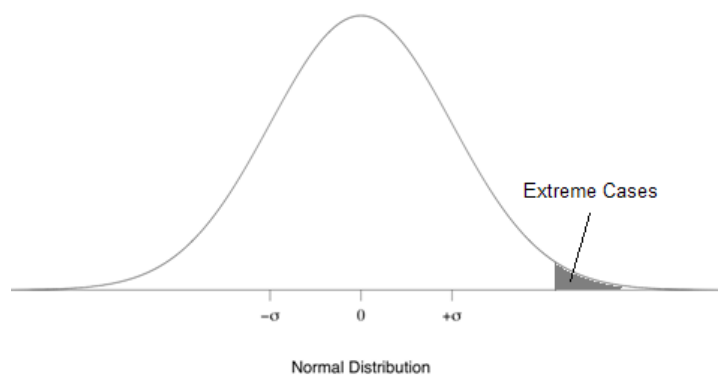
employee compensation being of large importance in the financial industry, the method of allotting salaries and bonus payments influences the perception of what are important functions in a company.

The risk function is to be viewed as the 2<sup>nd</sup> line of defense against operational risks. Consequently it cannot be the only part responsible for compliance with internal rules and control of risk exposure. Clearly stated responsibilities for each division provide for a mutual understanding of each division's risk exposure and ways to control it. The risk management function needs to be a separate unit, organizationally detached from the divisions it supervises. There are exceptions from this rule, where a close, almost integrated relationship with the departments which are supervised can function to strengthen the 1<sup>st</sup> line of defense. No matter the degree of integration, it needs to include enough people with adequate competences and seniority, and they need to be assigned adequate resources for the task. This ensures that they understand the business and how the related financial instruments function. Furthermore, having the capacity to deal with unanticipated events and workload peaks is crucial for an effective risk management. Fulfilling these requirements is also important for attracting talents for a department which has traditionally been less prestigious and less well-paid than other departments in the financial industry (Karlsson 2011, Stadler 2011).

Good internal communications in a company assures that possible problems are identified and brought to the attention of the right level of management at an early stage and dealt with in time. In Carnegie, the lack of a strong central management allowed national subsidiary to largely disregard what was being done at the others. Also within subsidiaries, each business division was autonomous and coordination was limited. Internal communication is acclaimed as a prerequisite for internal improvement and development of a business, but a most elemental purpose is to communicate risks before they become alarming threats (Jacobsen and Thorsvik 2008). When at its best, a risk function is described as a "communicational highway" for internal reporting of risk factors and changes therein (Karlsson 2011).

We observed different practices on what was being reported through the risk function. Quantitative reports make up the core of reporting, assessing risks through previously established frameworks. They summarize large volumes of information into key figures that can be observed and tracked over time. Regular reports need to be accompanied by ad hoc studies and qualitative scenario modeling, to attempt to foresee future changes and the results of less possible events. This becomes increasingly important with globalization, as an event in Japan or China can have

direct effects on the Swedish financial market. The qualitative assessments also assure a continuous re-evaluation of what the company is exposed to, risks that are changing with time and the natural evolution of business activities. Another strong argument to not overlook qualitative reporting is, especially when considering operational risk, that it can cover the most extreme cases; plotting all operational risks like a normal distribution illustrates that most of the risks can be estimated quantitatively while the most improbable risks are the most difficult in calculating (Figure 8). These might be risks referring to natural disasters, market crashes, epidemics or alike. Ironically, these are the risks of which the implications tend to be the most grave – like bankruptcy, loan impairments and financial crises (Karlsson 2011).



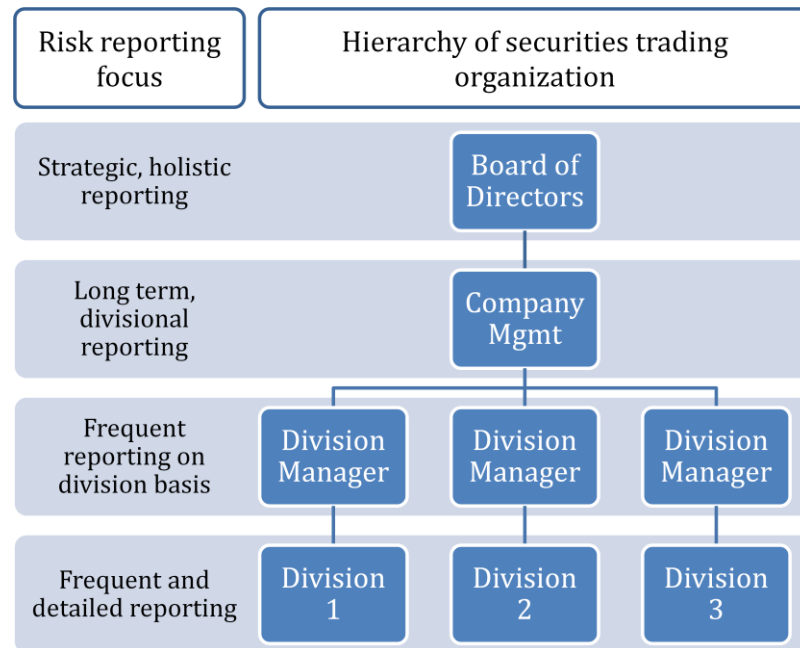
**Figure 8: Distribution of operational risks and their probabilities**

**Source: Karlsson 2011**

Of great importance is also who receives the information as it often must be adjusted to be presented properly to the right level of management in the organization. The larger a company gets, the more hierarchical levels develop. For optimizing the usefulness of collected risk data, each level should be aware of its own risk exposure as well as for the nearest levels' (above and below). The management of a business division such as for example derivatives trading should know in detail the risk levels of their co-workers and be aware of the risk exposure of the trading division as a whole. Similarly, the top management of the bank or STB has better use of the aggregate risk exposure of the whole group and would be too distracted by detailed information on each employee. Instead, the scenario modeling enters as a regular survey of new what-if outcomes. Inspiration on scenarios to test can be drawn from the variety of events in STB:s internationally.

The idea of adapting the content of reports depending on management level is quite in parity with how most of the banks observed in this study perform their risk reporting. In SEB, Stefan

Friberg (2011) explained the importance of adapted reporting using the model illustrated below (Figure 9). A holistic and qualitative level of reporting is more adequate for higher levels of management as these focus on strategic issues, whereas a more detailed and quantitative reporting is fit for the more operational



**Figure 9: Reporting of risk analyses adapted to horizontal levels**

**Source: Friberg 2011**

levels of the company. What appears to set the banks

apart in this aspect is rather which distribution between qualitative and quantitative reporting that is focused upon, as suggested by Mikes (2009). This distinction has however not been so obvious in our study. We fail in establishing any clear relationship between the size of the bank and its approach to risk reporting; it seems merely to depend on the conviction of the risk managers on which approach is the most appropriate. However, as capacity becomes less of a restriction, the bigger the risk department, the more systematic and regular its reporting becomes.

The ownership structure affects employee motivation and sense of responsibility for the company as a whole. A good rule of thumb is tying payments for revenue generation to the whole life cycle of the revenue-generating actions. This can be applied to both management compensation for strategic decisions and to long derivatives contracts on the financial markets. A too short-sighted compensation scheme promotes short-sighted decision making. As previously noted, monetary remuneration is of special importance – and consequently especially important to handle deliberately – in the financial industry, as money is, as previously argued, probably the strongest motivation factor and the most visible and recognized sign of success.

Partnership in the firm, achieved by paying part of the remuneration locked up in stock or stock options, also leads to responsibility being taken in the longer run, as their values cannot be realized in the near term. Although efficient, a partnership could be difficult to implement in a

large financial institution where the advantages of solidarity and belonging are harder to achieve. Therefore it is more common in small niche banks, corporate finance firms and alike.

Many bank employees express a feeling that FI has taken the step too far when forcing companies to lock in bonus payments for a longer period of time than the cash cycle for the traded instruments. The intention is to strengthen the bonds to employers and increase long-term focus, but risks also bring bad will on FI and deteriorate their professional relationship to the banks. There is a strong sense of vocational pride within the guild, which is why many bankers express a preference for self-regulation to governmental regulation, and fear FI is becoming autocratic and punishes institutions collectively. The question of how to ensure a sustainable long-term culture in banking remains subject to an ongoing public and regulatory debate.

### **Cultural conditions for effective risk management**

Depending on the size and number of business areas of an STB, the optimal sizing of the risk department and its internal cultural standing varies. As some of the interviewees noted, they could theoretically double the size of the risk function and conduct ever so detailed risk assessments. What constrains them is the trade-off between cost and contributed value. Risk management clearly adds value by lowering the chances for unexpected economic loss, but it also takes resources and focus from the profit-generating activities. Hence, a culture of risk awareness and responsibility is needed also among the businessmen and 3<sup>rd</sup> line, to facilitate the work of the risk function employees.

In an ideally functioning STB, there would be no need for a specific unit charged with risk management. The sense of responsibility for the company as a whole would be widely assumed and each co-worker exposed to risk would control it after best knowledge. Now the Basel framework describes both risks more subtle and those caused by external factors. The risk function needs to have a holistic perspective and resources to think beyond everyday business risks. Still, it remains the 2<sup>nd</sup> line of defense and is not primarily responsible for losses caused by failing routines in the 1<sup>st</sup> line.

The risk management needs to hold a natural place in corporate culture. A lacking respect for its function undermines its authority and ability to work. The value added needs to be communicated from the company management (ultimately from the Board of Directors). Historic evidence as well as interviewees have indicated that the function may otherwise be disregarded since it is not considered part of the revenue-generating activities.

In addition to the cost-utility tradeoff, there are other consequences than outright financial to be considered. Though able to perform more thorough risk analyses and more frequent reporting, a larger risk department might have side-effects as well, not the least cultural side-effects. Even as the risk function is organizationally detached, it needs to be culturally integrated and share values with the divisions it supervises. Otherwise separate cultures risk building up instead of a common one, with possible consequences as group think, sub optimizations and internal conflicts (Jacobsen and Thorsvik 2008). A healthy risk function constitutes a safety valve inside the business, where regular business operations can be questioned and discussed openly. The risk awareness also has to incorporate senior management, and ideally the Board of Directors, as they act important role models and are the final decision-makers in decisions regarding risk-appetite, internal policies and trading limits etc. Unless this is true, there is a chance that company management will undermine the risk department and, more or less, its entire operations. An openness between each and every hierarchical level makes for a facilitated reporting in case an error or unwanted risk exposure is discovered.

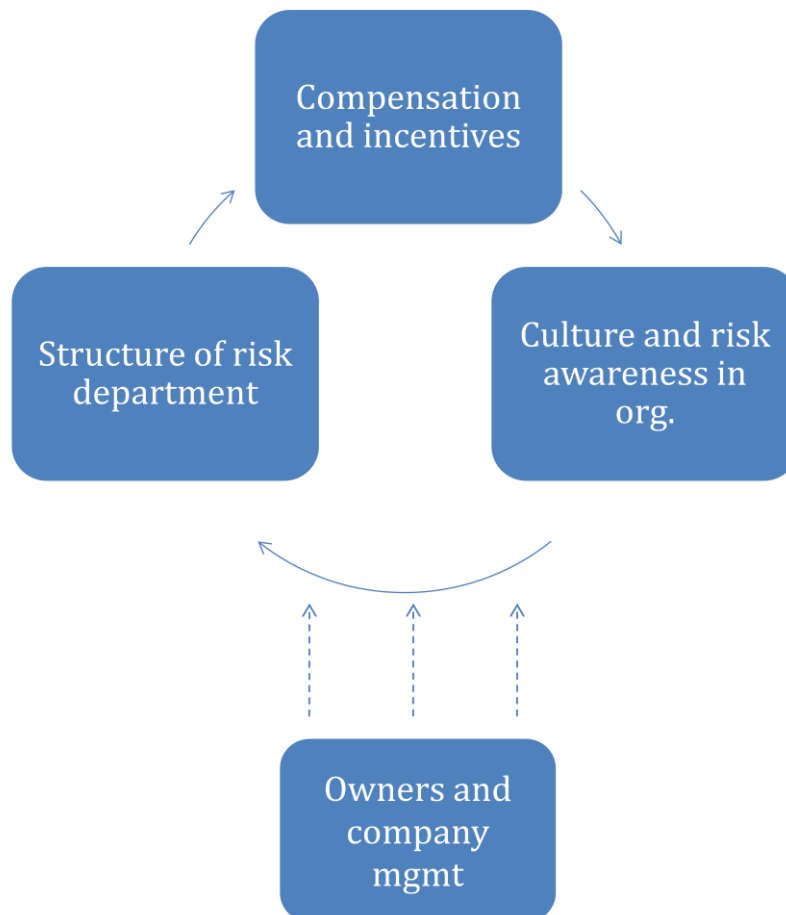
### **Culture and structure – an integrated framework for risk management**

So far our analysis has been dependent on two separate variables – culture and structure – but in order to go deeper into how these are formed, we want to look at how they interact and what other factors can be used to shape the risk management.

The formation of organizational structure is more apparent when explained than the one of the culture; the structure of the risk management, as well as for the rest of the organization, is shaped by the management. This refers to the management group and the Board of Directors of the company, who in turn are appointed by the owners.

When searching for the linking element between structure and culture, we find an intersection is in the area of compensation and incentives. We consider the compensation (regarding levels, distribution and type) to be a part of the formal structure as it is set by top managers. Through these decisions they decide how and when to reward the employees, affecting their incentives and motivation. Presuming that employees aim at maximizing their compensations, there is a chance of goal diversion occurring; when the goals of the employee conflict with the ones of the company and the employee has to choose whether to do what is best for himself or for the company (Williamson 1975, Jacobsen 2006). Without going deeper into the outcomes of such a dilemma, the most convenient way to avoid mentioned sub-optimizations is to minimize the discrepancies between the company's aims and the aims of its employees. Therefore in a perfect

culture, compensation would be solely based on the criteria bringing utility to the company. Since the measurement of company utility from intangible values such as an effective risk management is so complex, these are in practice neglected in favor of easily measured and more transparent key performance indicators (KPI).



**Figure 10: The interplay of culture and structure in risk management**

The last link in our model is probably the most subtle, but we dare assert that culture in the long run does – if not intersected by owners – affect the structure of a company and eventually complete the circle in the model above (Figure 10). By this we mean that a certain culture attracts a certain kind of people – both for regular employees and for management – and this paves the road for a complementary structure. This implies that in a bank with a dysfunctional culture (such as the one observed in Carnegie during the studied events) the model eventually becomes a vicious circle. The only way to stop this development would be to engage the owners, which actually happened when Riksgälden assumed control over Carnegie. This model is not in any way an absolute truth but a connection observed in our study and a possible hypothesis for research to study further.

## Conclusions

The existence of a strong risk management awareness in corporate culture has proven not only to bring value to an STB, but has in certain cases also proven to be vital for its survival.

The parallel to other business sectors can be drawn, as the values generated from effective risk management are similar there. Minimizing the risk of loss resulting from inadequate or failed internal processes, people, systems and from external events is equally important irrespective of industry. Securities trading has given a good area to analyze for several reasons. The high volumes and values in transit paired with a multitude of counterparties expose an STB to substantial operational risk. The ongoing debate over last years' large losses in major financial institutions in Sweden and abroad provides a captivating backdrop to the study.

Two aspects have been identified and analyzed; the existence and structure of the risk management function, and the awareness of responsibility in the company's internal culture. Organizations with an internal culture where employees are encouraged to feel a responsibility for group performance are more likely to create "communicational highways" for risk exposures to be clearly communicated. A good example of an organization striving in this direction is the reformation of Swedbank's risk management function after the large losses in the Baltic meltdown 2009. The bank's losses were larger than others', much due to its aggressive expansion and lacking risk control the years before. The new management emphasized the awareness of operational risk and changed corporate structure accordingly (Karlsson 2011).

With a new management in place and a close cooperation with FI, Carnegie works to integrate a risk awareness into its corporate culture. The strengthened risk department is capable of conducting a wide range of standardized reporting, along with preparing for alternative future scenarios on an ad hoc basis. Incentive schemes have been overhauled in accordance with the developing regulation. The structural changes made are the most tangible when comparing today's Carnegie to the Carnegie of 2007–2008, but also the culture has changed through changes in personnel and efforts from the new owners. We find ourselves unable to tell for certain, whether these changes are enough or not. Perhaps, as the merger with HQ proceeds, the larger operations that this implies will bring a prudence of a "large bank". Only time will tell, but the changes made have been extensive.

As of today, harmonization of risk control functions come from the discussion of each institution with FI and external parties. The financial sector does neither have forums for

exchange of experiences in risk management specific to the industry, nor does it participate in general risk management forums (SWERMA 2011). A communicational highway for risk managers to discuss work routines and improve their knowledge of assessing risk factors would allow the industry to discover mismanaged organization at an early stage. The mission of FI has repeatedly proven too large for it to discover serious flaws also in substantial financial institutions, such as Carnegie and HQ. Also culture-wise, risk managers would be strengthened by meeting peers in a similar position as themselves, in an effect similar to the “empire building” previously described. In all respects it lies in the interest of the financial industry that potential problems are resolved before they turn into public scandals with financial consequences.

A trade association of risk managers would legitimate itself by publishing codes of conduct, which would complement and further specify FI regulations. The existing associations are apparently not regarded sufficiently attractive by the industry professionals. On fast-developing aspects of securities trading, self-regulation by the companies initiating the development would anticipate changes better than a regulatory authority. The drawbacks of self-regulation lacking systems of control and penalties would have to be monitored by FI, and the threat of stricter laws would need to remain what incites companies to follow their codes of conduct.

A revaluation of the risk management function as described above would increase its standing both in corporate structure and culture, thereby increase its ability to foresee and preclude the damages caused by operational risks.

## Discussion

With regards to the media turbulence around the financial industry – in Sweden and globally – we hope that our study will be found relevant by academic researchers and business professionals alike. Events such as the collapse of HQ in 2010, Swedbank's crisis in 2009 and the studied events of Carnegie in 2007–2008 all point in the same direction; there is still much to learn on how to manage operational risks within the Swedish financial industry. Our study gives the reader an insight in one of the most notorious cases of banking incidents in recent history and with this as a starting point we try to find a best practice of managing operational risk for the entire industry of financial securities trading. It fills a gap in academic knowledge, as existing literature on the topic remains limited. We have chosen to focus on giving qualitative explanations to observed relationships, as this method is expected to give the most accurate description of a complex reality.

In our recommendations, we have been deliberately careful in being too specific due to the complexity of the matters; although FI has given their judgment on the reasons for the mishaps in Carnegie, many interviewees did not at all agree with them and had completely different opinions. Due to our large number of interviews and its comprehensive distribution, we feel confident about the analysis performed and the collection of data that it is based upon. Opposing views have underlined the complexity in the matter studied and kept us from drawing too bold conclusions.

We have throughout the study strived to keep a neutral and critical attitude towards the information collected. Thought has been paid to the balance between interviewing people deeply involved in the matter studied and those that may retell neutral descriptions. With many interviewees being involved but from different viewpoints, their at times diverging descriptions have been considered with respect to the context of each source. The opportunity to discuss findings with the interviewees has been valuable to the accurateness and legitimacy of the study. The events around the takeover by Riksgälden in November 2008 have been given the utmost discretion, as they are still being treated in court. Continuing discussions with the interviewees have allowed us to describe the events as precise as possible without compromising our mutual confidence.

With the results in hand, there are many questions still to be answered, whence we stress the relationship between structure and culture as most relevant and interesting for future use in risk

management theory. Other possible subjects for further research would be to dig deeper and compare the effectiveness of our proposed approaches to risk management, in the light of the new Basel III accords. Making forecasts about the future of the financial industry is complex and even the most experienced professionals fail to do so. Therefore we are prudent and keep to general assumptions on what implications Basel III might have for the industry. The accords and their local implementation around the world are described by both risk managers and executives as the dominant legislation in the coming years, being more comprehensive than previous accords by the Basel committee. Implementation of the recently published accords has already begun as banks start to prepare for the coming regulations. They are however not supposed to be entirely and globally implemented until the end of 2019. The main points in Basel III are listed below (BIS 2010, FI 2010c, McKinsey & Co 2010):

- Tougher capital adequacy requirements and leverage ratio limits
- The quality of capital is strengthened as the definitions for risk-adjustment of equity becomes stricter
- Quantitative liquidity reports and conditions
- Increased coverage for counterparty risks
- Increased incentives to move OTC derivative contracts to clearing houses

All in all these new rules do not affect the Swedish banks as much as many of the foreign banks, since the Swedish equivalents already fulfill the main requirements (Löfgren 2011). According to the risk managers interviewed in our study the biggest news are the requirements for liquidity reporting, increased capital adequacy for counterparty risks and the credit value adjustment.<sup>22</sup> Even as no major structural reforms will be needed in the main Swedish banks due to the new Basel regulations, the framework tightens the spread in which they may vary and will have larger implications for smaller institutions not currently reaching the requirements. Additionally, they should stress the importance further of the constant evolution in the risk management of securities trading. The understanding for what implications corporate culture has on risk management, and its interplay with corporate structure, would be a logical next step for related academic theory to develop. We dare not say future crises in securities trading will be avoided by this change, but with a well-grounded approach to risk management, the likelihood of their occurrence could be lowered

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<sup>22</sup> The difference in valuation between the risk-free portfolio and the true portfolio value when accounting for the possibility of a counterparty's default (i.e. the market value of counterparty risk).

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## Appendices

### Timeline Carnegie

#### Background

The company's origin is a Scottish nobleman named George Carnegie who started a trading house in Gothenburg, Sweden, 1758. His son David Sr. later founded the actual company D. Carnegie & Co in 1803. In these days the company imported goods such as flax, salt, wines and colonial goods while the export comprised mainly Scandinavian goods such as herring, tar and wooden products. During the 19th century the company came to acquire large brewery operations and sugar industries which made the company flourish and expand, with exception for some minor bumps in the economy. In the 1900s the group was restructured and the brewery was sold and eventually became Carlsberg Sverige which still today serves a brew of the name Carnegie.

The group became increasingly focused on investments in stock as well as in property and by the year 1964 they became a bank by the successful acquisition of Langenskiöld. The same year they went public on the Swedish stock market and moved to Stockholm. The success the following decades can partly be explained by the renowned key people who were recruited to the firm, among other Erik Penser and later Mats Qviberg. During the 1980s the bank expanded internationally in the Nordic countries and Luxemburg, Switzerland, the UK and the USA.

Today the ownership of the bank is spread over many parties while 12 % of the stock value is owned by the staff. The group consists of the following divisions: Securities, Investment Banking, Private Banking and the independent Max Matthiessen, bought in 2007.

#### 2007

- In 2007 the bank was involved in a major scandal originating from optimistically performed valuations of derivative instruments. In brief, these were very illiquid instruments with a long maturity which made valuation to market prices difficult. Therefore "theoretic pricing" was applied, leading to inflated results and balance sheets. A major part of the debate was the following record bonuses given to traders and management as these rewards were based on the reported results.
- Already the winter 2006/2007 the OMX exchange started questioning some of the prices stated by the Carnegie traders, while the bank responded that they never use "theoretic pricing".

- In April 2007 the current trading manager, Aleksandar Adamovic, resigned himself saying that the trading portfolio was overvalued by about 40–50 million SEK, which was considered within the normal as traders occasionally performed their own valuations leading to this discrepancy. Normally these differences would successively be deleted over the year without making much notice.
- In the beginning of May 2007 Carnegie reported that their trading portfolio that the profit from the trading portfolio had been overstated by, at first estimate, 370 million SEK.
- Later in May three people, among one was the trading manager, were reported to the police for overestimating the values of their respective trading portfolios during the years 2005–2007. The total value of the overestimation was now said to be 630 million SEK, leading to too high bonuses being paid out, by an amount of 175 million SEK.
- The 28<sup>th</sup> of September 2007 the FSI fined the company for their lack of routines and internal control by the highest amount possible – 50 million SEK.
- There is still much debate over how much money that was really lost, as many believers do not consider the number 630 million SEK credible. Others are of course displeased over the fact that the shareholders had to cover the entire loss while the staff could keep their improper bonuses.

## 2008

- 2008 came to be a disastrous year for Carnegie much due to the Credit Crunch, but also due to the same time being exposed to great risks on single clients. These clients are according to various sources a Norwegian business man named Jostein Eikeland and the Swede named Maths O Sundqvist, known investor through his investment company AB Skrinda. According to the same sources the bank lost totally about 225 million SEK on the first mentioned client and all the way up to 1 000 million SEK on the latter.
- Although Carnegie having decreased their trading portfolio with circa 13 000 million SEK after the crisis they still had a portfolio worth about 17 000 million SEK with 5 000 million SEK of these in derivative instruments. According to a later report from the FSI 27 % of the derivative instruments had been valued using “theoretic pricing”. At the same time the company’s equity was decreasing significantly because of the bad macroeconomic conditions. In October 2008 the margin to the required minimum amount of equity capital was said to be 381 million SEK, leaving the bank sensitive for further mishaps.
- The 26<sup>th</sup> of October the bank was given a 1 000 million SEK credit from the Swedish Central Bank via Riksgälden, which was two days later increased to 2 400 million SEK, since the bank was considered too important an institute to the financial system to go bankrupt. Meanwhile the management of Carnegie were desperately working on a way to convince Riksgälden and the FIS of ways to solve the liquidity crisis they found themselves in.

- On the 10<sup>th</sup> of November the board of the FSI decided to withdraw the bank's permission. Only 10 minutes later however, the decision was withdrawn as Riksgälden took control over Carnegie, securing the loans, as a bankruptcy would only hurt the tax payers and the state as their money was on stake.

**2009**

- The 11<sup>th</sup> of February 2009, Carnegie was sold to the private equity firm Altor and the investment firm Bure Equity for a sum of 2 200 million SEK.

**2010**

- Carnegie acquires HQ for 1 100 million SEK after its collapse and withdrawn permission.

Intervju den *datum* 2011 vid Handelshögskolan

Kandidatuppsats

Handelshögskolan i Stockholm

Max Friberg

Mikael Nyström

## Interview questions

### Intervjuperson

#### *Titel och relation till studerat ämne*

- I uppsatsen diskuterar vi en rad alternativa förklaringar till Carnegies tradingskandal 2007 och fallissemang 2008, såsom bristande rutiner för riskhantering, missledande incitamentssystem, kulturen på arbetsplatsen, snabb expansion utan helhetsbild och kontroll ("framgångsfällan" efter flera goda år) eller t.om. illojala medarbetare. Även om flera av dem kan ha varit skäl till utvecklingen 2007–2008, vilka anser du ha varit särskilt betydande?
- Vilka likheter finns mellan kulturen i styrelsen och kulturen i bolaget som helhet? Kan en bristande kommunikation dem emellan leda till att styrelsen underskattar bolagets risker?
- Upplevde du några stora skillnader mellan arbetsprocesser och kultur i styrelse och bolagsledning i Carnegie jämfört med andra styrelser?
- När du rekryterades till *bolag*, *titel* skall detta ha varit i ljuset av dina kunskaper inom riskhantering. Hur såg du på din roll och delades den av styrelse och bolagsledning? Tillmättes du den roll du hade förväntat dig?
- Den 10 november 2008 löste Riksgälden panten i aktier och gick in som ägare för Carnegie och Max Matthiessen, minuterna efter att FI dragit in bankens tillstånd. Efter ett år under ägande av Riksgälden och ett halvår med Altor och Bure Equity ansågs banken stabil nog att förvärva den havererade HQ. Vilka genomgripande förändringar hade skett under denna period som garanterar en bättre framtida riskhantering?
- Vilken är din syn på företagskulturens roll i bankernas [Carnegie, HQ] fallissemang? Är det lätt att korrigera med en utökad riskkontrollavdelning, eller är det mer djupgående faktorer såsom respekt för deras uttalanden som spelar in?

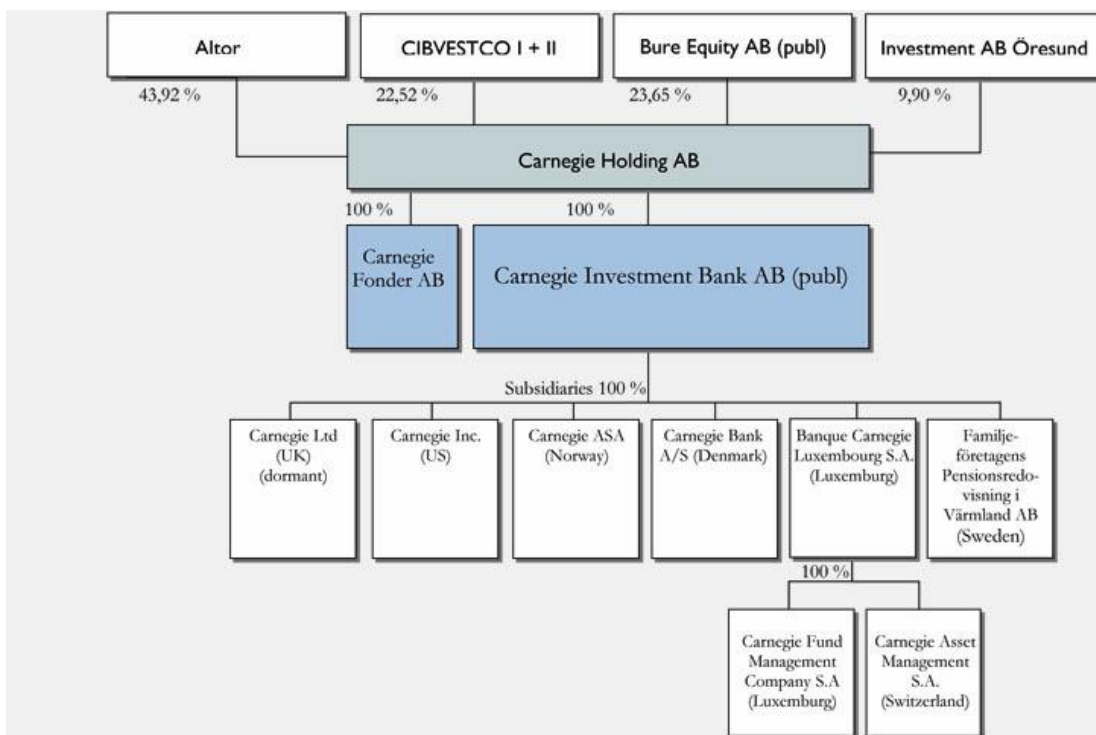
- Hur ser strukturen för riskkontroll ut inom *bolag*, rent organisatoriskt? Hur många anställda har ni och hur arbetar dessa? Vad undersöks och ”levereras” uppåt?
- Hur sker informationsrapportering från er riskavdelning till styrelse och bolagsledning? Mekaniskt, kvantitativt arbete eller involveras ni även i strategiska riskbedömningar?
- Flera bedömare menar att riskfunktionen riskerar att bli åsidosatt som en ”supportfunktion” till förmån för handladeskar och risktagare vars förtjänster till banken går att mäta i kronor och ören. Hur arbetar ni för att uppmärksamma om riskkontrollens viktiga funktion och värna dess status internt i bolaget?
- Har Riksgälden idag tillräckliga resurser och verktyg för att övervaka och förutse eventuella insatser i de ca 4000 finansiella företag och börsbolag som står under FI:s tillsyn? Frågan om FI:s resurser har aktualiserats nyligen av professor Howell E. Jackson vid Harvard University<sup>23</sup>.
- I vilken utsträckning samarbetar ni med Finansinspektionen och andra kontrollerande institut? För ni en diskussion kring utvecklingen av svenska bankers riskhantering?
- Kulturen – går det att dra liknelser till andra bolag? Känns bonuskulturen av upp till styrelsen?
- Kan man skilja på storbanker och mindre mäklarhus gällande ersättningssystem?

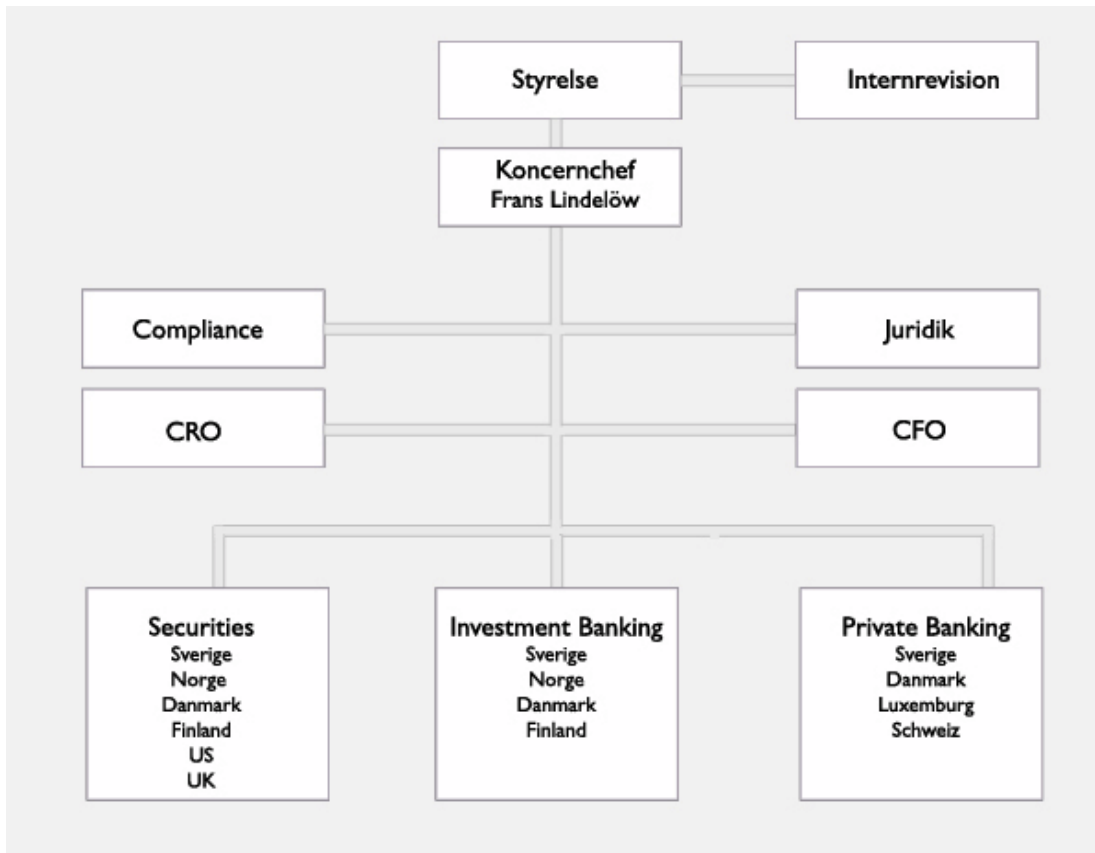
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<sup>23</sup> <http://www.dn.se/ekonomi/finansinspektionen-saknar-tillrackliga-resurser>

## Carnegie organizational structure

Current ownership structure in Carnegie, with Altor and Bure Equity, followed by CIBVESTCO AB and CIBVESTCO II AB, and Investment AB Öresund. The CIBVESTCO companies were transferred to a number of key employees in Carnegie during 2009–2010 (Carnegie 2011).





Organizational scheme in Carnegie Investment Bank AB, with a clear division of Securities, Investment Banking and Private Banking. In accordance with Swedish *law 2004:46 on investment funds*, the fourth branch (Carnegie Fonder, asset management) is organizationally separated from the bank (Carnegie 2011).