RISK MANAGEMENT

A comparative study of Handelsbanken and Swedbank; how risk has been managed during the last decade?

Abstract

In this thesis the authors strive to investigate the risk management phenomena in the banking sector by conducting a longitudinal comparative study in two different banks i.e. Handelsbanken and Swedbank. In a broader perspective to understand the phenomena the authors depart from theoretical framework that recognizes the social and cultural elements of risk. However, to be more specific the thesis narrows down its analysis to three main variables that come under the realm of this discussion which are; how banks organizing for risk, how they measure it and the role of IT and human judgment. This study contributes to the banking sector by providing a road map of how successful banks manage risk. It highlights that the risk question should be addressed strategically and deemed to be a continuous phenomenon.

Key Words: Risk management, Centralization, Decentralization, Corporate Culture, Risk Measurement, IT, Banking Sector

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For their valuable time and output

Our families and friends

For their patience and never ending love

And

Our master group students

For their constructive feedback and support
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1. INTRODUCTION

Recently the world has witnessed one of the most devastating financial meltdowns since the great depression. The effects of the crisis were widespread and hit almost each and every sector of global businesses; the most affected sector was the financial services industry, specially the banking sector. The banking sector not only observed the dramatic disappearance of the most distinguished institutions such as Leman-Brothers and Bear Stearns to name a few, but it became a regular target for tougher regulations, public anger and academic critics (Valencia, 2010; Nocera, 2009). For instance, Taleb (2007) in his book “The Black Swan” criticizes the banking sector for its extensive reliance on complex statistical models. These models provide the decision makers a false confidence about the risks which cause the society chaos such as the current crisis (Taleb, 2007; Callahan, 2008).

There are a myriad of explanations about the cause of the current financial crisis. Finding the exact cause of the crisis is a daunting task and is beyond the scope of this paper. However, one factor that has received considerable attention during this crisis is risk management discourse. It seems that risk management at least rhetorically becomes an important tool, from which banks try to achieve legitimacy in the eyes of public and regulators. For instance, Göran Bronner the chief risk officer of Swedbank said “For Swedbank financial crisis was an incredibly revolutionary period. We went on an extremely short time from being a highly successful bank to fight for our survival.” (Kjellberg, 2010, p.6) He concludes that Swedbank like many other banks has underestimated risk.

According to Finansinspektionen’s 2009 stress test, the country’s four largest banks - Nordea, Svenska Handelsbanken, Swedbank and Skandinaviska Enskilda Bank (SEB) - were assessed to see whether they were sufficiently capitalized to withstand three scenarios of differing severity over three-year period between 2009 and 2011 (Marsh, 2009). Under the conservative base scenario in 2009 all four banks occurred credit losses that ranges from the highest SEK 24.5 billion in Swedbank to lowest SEK 3.8 billion in Handelsbanken. During the crisis Swedbank is forced to ask its owners for new capital twice in short time (Eriksson, 2010). On the other hand, Handelsbanken has enjoyed less financial loss and better publicity. For instance, in a panel debate the president of SEB’s Wallenberg gave an unexpected tribute to its rival bank, saying that Handelsbanken “is the bank which was perhaps best to manage risk during this crisis, together with JPMorgan” (DagensPS, 2010, Feb 17).
The dramatic differences between the two banks in the above paragraph motivate the authors to carry out this study. It is intellectually coherent to raise the question why two banks running similar operations have revealed such a contrasting picture. In order to investigate the answer the authors conducted a longitudinal study about how these two banks have managed risk during last decade. The thesis, in a broader perspective departs from theoretical structure that appreciates the social and cultural ingredients of risk management (Power, 2007; Lane & Quake, 2001; Taylor-Gooby & Zinn, 2006). However, the authors choose to narrow down their analysis to three specific variables that are, how banks organize for risk, how they measure it and the role of IT and human judgment.

The purpose of the thesis is to closely examine the risk practices of the two banks during the last decade. Studying these three variables would yield useful insight that has both practical and theoretical application. Authors intend to approach the study by answering the following research question:

How risk is managed at Handelsbanken and Swedbank during the last decade and what are the risk management practices adopted by the banks during this timeframe.
2. THEORY

The theory part is divided into two sections; the first part outlines the concept of risk in academia and encompasses the different aspects of risk. In this section we attempt to analyze what risk is and how risk is defined in the literature. The second section stresses how risk is handled at the banking sector. Three apparent factors that dominated the current risk management discourse are discussed in detail; i) how banks organize for risk, ii) how they measure risk and iii) the role of IT and human judgment. The first factor, organizing for risk, is illuminating the importance of organizational structure and culture in regard to risk management. The second factor, risk measurement, deals with the three main risk areas that banks face i.e. credit risk, market risk and operational risk and their correspondent measurements. The final factor discusses the role of IT and human judgment in risk decision-making process.

2.1. What is risk?

Historically in the field of safety and health, risk is linked with possible hazards and dangers, while in finance it is a technical matter of unpredictability in expected outcomes, both negative and positive. In other businesses and political settings risk is closely associated with the spirit of enterprise and value creation (Power, 2007, p.3). Ewald, (1991) states: “Nothing is a risk in itself; there is no risk in reality. But on the other hand anything can be a risk; it all depends on how one analyses the danger, consider the event” (p.199). Willet (as cited in Ale, 2009, p. 4) defined risk as “the objectified uncertainty regarding the occurrence of an undesired event” and Frank Knight (1921) as “measurable uncertainty”. Risk can be associated with every human decision-making action of which the consequences are uncertain, but defining risk is still not a straightforward task. Different authors give us different views about risk but almost all of them agree that it is hard to measure risk because there are no specific boundaries to define it (Ale, 2009; Power, 2007).

Slovic et al (2004) state that there are three fundamental ways that modern world confronts and deals with risk. Two of them (risk as feeling and risk as analysis) are the focus point in our current discourse. Discrepancies between subjective judgment and statistically based measures are not only known in the field of risk assessment. But it can also be explained with different theories which may consider not only individual preferences but also social and cultural conditions (Porske, 2008). According to Slovic et al (2004), subjectivity of risk refers to the use of intuition, instinctive and gut-feelings while trying to avoid danger and/or managing risk. On the other hand, objectivity of
risk can be defined as the use of logic, reason and scientific deliberation to bear on hazard management.

In academia sometimes risk and uncertainty are ambiguously and interchangeably related. However, Knight (1921), pioneered the differentiation between risk and uncertainty in a systematic way and also argues that what mostly is ignored in the literature of economic problems is the distinction between uncertainty and risk. According to the author there are two circumstances, a case where the distribution of outcome is known “risk” or the case where the distribution of outcome is unknown “uncertainty”. Similarly Power (2007), though different from Knight’s view, argues that the distinction between uncertainty and risk is “in essence an institutional and managerial distinction between those events and issues which are expected to be treated within management systems as ‘risks’ and those which are not” (p.5-6).

Although in the above paragraphs the authors’ endeavor of answering the question about ‘what risk is’ and several specialist definition and taxonomy of risk is revealed, yet the thesis is in line with Power’s (2007) argument that defining ‘what is risk’ is less important than the question: how do we know risk and what are the social and economic institutions which embody that knowledge? (p. 3). Similarly Lane & Quake (2001) argue that in order to comprehend cross-organizational divergence in the bank managerial practice of risk assessment, it is essential to consider the institutional environment in which these relationships are embedded. Therefore, in a broader perspective the thesis’ theoretical framework is anchored in the recent acknowledgement of social and cultural elements of risk management (Taylor-Gooby & Zinn, 2006).

2.2. Organizing for risk

Lane & Quake (2001) emphasis the lack of sociological study on how banks handle risk and they proclaim that for a long time risk has been analyzed by economists. In the paper they problematized that the most economic theories conceptualized decision-making of and within banks as ‘rational actor’ models and mathematically stimulated decision theory. The authors stated that such economically oriented theoretical framework failed to explain the variation in approaches towards risk assessment which exist between different types of organizations. Furthermore, they argue in order to comprehend cross-organizational divergence in the bank managerial practice of risk assessment it is essential to consider the institutional environment in which these relationships are embedded. (2001)
When discussing about organizing for risk one of the important factors to consider is the organizational structure which plays crucial role in the orientation of the desired risk taking behavior. The implementation of a particular type of structure enables organizations to achieve different informational properties and thereby better equip them to facilitate transparency and risk control (Roy, 2008). Prior studies suggest that banks with a decentralized structure tend to better deal with the credit constraints compare to the centralized ones (Canales & Nanda, 2008; Stein, 2002). The lending decisions in small banks tend to be decentralized. They possess an increased ability of using “soft information” in their lending decision compare to the more hierarchical banks. This view indicates that banks which run through a decentralized structure rely extensively on information that cannot be easily verified by the others (Stein, 2002).

In such framework, branch managers at decentralized banks find themselves more flexible and autonomous in their lending decisions compare to managers who rely much more heavily on “hard information” such as credit scoring models etc (Canales & Nanda, 2008). Decentralized banks possess a comparative advantage in lending through the use of “soft information” which enables the branch managers to be more responsive to the competitive environment (2008). With reference to the customer selection, decentralized banks are more likely than the centralized ones to cherry pick the best customers and these help them to decrease the level of risk (Canales & Nanda, 2008).

In contrast to Canales & Nanda (2008) view, there are other arguments that suggest; inappropriately applied decentralization may lead to loss of control and lack of optimum performance. “Decentralization measures are like some potent medicines: they must be taken at the right time, in the right dose, and for the right illness to have the desired salutary effect. Taken improperly, they can harm rather than heal” (Prud’homme, 1994, p.6). On the other hand, centralization promotes operational efficiency and reduces transactional costs. It can also reduce coordination channels by reporting to one authority. Centralization can also be a control mechanism in the area where delicate information needs to be kept in house.

Another critical factor which needs to be considered while organizing for risk is the organizational culture, which according to Salzer (1994) is an on-going process of reality construction through which structures, actions, events, etc., are created and given meaning. A strong organizational culture facilitates employees to have a common platform for change. In contrast, organizations with
different cultures often fail to develop one common mind set among its employees. Employees usually create dissimilar perceptions and interpretations of organizational changes, which in turn affect employees’ embracing changes (Weiling & Kwok, 2008; Rad, 2006).

Power (2007) stated that there are tendencies among private and public organizations to align risk management towards enterprise values. The author symbolizes the transformation of risk management since in the mid 1990s as a practice of descriptions which embodies ideas and belongs to large systems of value and belief. Similarly Valencia (2010) in his seminal article “The gods strike back” argues that instead of empowering risk officer there should be a solid risk culture. He continues to reason that at the best-run banks senior officers spent as much time discussing over risk as they do chase opportunities. Therefore, it is a plausible argument that if banks align organizational culture towards risk taking behavior; it may support practice of higher risk awareness. On the other hand, one can argue that the narrative of organizational culture is not always a story of success. Gilmore et al. (1997) in their study about the side effect of corporate culture transformation identify four side effects, which are: ambivalent authority, polarized image, disappointment and blame and behavior inversion.

### 2.3. Risk measurement

It is hard to predict risk but it is necessary to find ways to reduce it, different companies and researchers strive to find ways to measure it in order to prevent it. But as Douglas & Wildavsky (as cited in Power, 2007, p.6) state ‘Can we know the risk we face, now or in the future? No, we cannot: but yes, we must act as if we do’. The most important rules and regulations regarding the measurement of risk in banks come from Basel 2 Committee. The purpose of Basel 2 is to create an international standard that banks could use when making regulations about how much capital they need to put aside to guard against various types of risks. Basel 2 seeks to develop on the existing rules by aligning regulatory capital requirements more closely to the underlying risks that banks face. It rests on three pillars: minimum capital requirements, the supervisory review process, and market discipline. (Cornalba & Giudici, 2004; Chapelle et al, 2004; Bonson et al, 2007; Moosa, 2008; BIS, 2010)

Basel 2 rules urge banks to focus on the following three important risk areas; credit risk, market risk and operational risk. Banks adopt diverse methods to measure these risks. Frequently used method for measuring **credit risks** are the internal rating based approach (IRB) and the standardized credit
rating models used by international credit rating agencies such as Moody and Standard & Poor. (Thomas & Wang, 2005; Tasche, 2006)

To measure risks through *Internal Rating Based* approach each bank divides its assets into different classes. For all of those classes (except equity stock) the IRB formula applies. Based on its own internal rating system banks subdivides their main assets class by borrower credit grades of relatively homogenous characteristics. Banks also implement credit grades for different internal functions such as loan pricing and monitoring in order to meet regulatory requirements. For each credit grade, the bank offers major variables to plug into the IRB formula. To quantify its credit risk, banks calculate the probability of default (PD), the exposure at default (EAD) and the proportion of the loan that the banks would lose in the case of default, loss given default (LGD) (Thomas & Wang, 2005).

**Market risk** is measured through *Value-at-Risk* (VAR) method which is used by banks to measure the risk of loss in a portfolio of financial assets and by regulators to calculate banks’ capital buffers. In order to evaluate the effectiveness of VAR, banks also use back-testing and stress tests (Dowd, 1998; Cornalba & Giudici, 2004). VAR was invented at JP Morgan in the late 1980s, and has grown steadily in popularity. What makes it interesting is that its complex formula which distils the range of potential daily profits or losses into a single dollar figure (Valencia, 2010). VAR systems are improving, and their coverage is being stretched to more instruments and people who are developing and using them are becoming more experienced (Dowd, 1998). Beside its benefits the model has also been the focus of harsh criticism as a measure of risk in general terms. For example, VAR does not measure the distribution or the extent of risk in the tail, but only gives an estimate of a particular point in the distribution. Another problem concerning VAR is that VAR figures give an indication of the amount of risk but not of its form (Moosa, 2008).

The third type of risk which Basel Committee emphasis is **operational risk**. In order to establish the capital requirement to cover operational risks, three methods are proposed; the Basic Indicator Approach (BIA), the Standard Approach (SA) and the Advanced Measurement Approach (AMA) (Cornalba & Giudici, 2004; Chapele et al, 2004; Bonson et al, 2008).

*The Basic Indicator Approach* consist of determining the capital requirement for operational risk by applying a fixed factor of 15% of the mean of the gross income obtained by the entity in the last three previous accounting periods (i.e. periods when the gross income figure was not zero or
negative). However, banks that are internationally active are strongly recommended not to adopt this simple model (Chapelle et al, 2004; Bonson et al, 2008).

The Standard Approach represents an increased degree of sophistication and refinement compared to the BIA. The capital requirement is calculated by applying a fixed percentage factor to the gross income. Here the regulator differentiates among various operational risk levels according to the type of activity performed. The purpose of this procedure is to recognize that not all the lines of business necessarily have the same degree of risk (Cornalba & Giudici, 2004; Bonson et al, 2008).

Finally the Advanced Measurement Approach (AMA) was proposed by the Basel 2 Accord and includes all measurement techniques which guide to a precise measurement of the exposure of each business line of a financial institution to each category of operational loss events. This approach allows much better management control and planning in a particular business line (Chapelle et al, 2004; Cornalba & Giudici, 2004; Bonson et al, 2007; Moosa, 2008). This vital risk measurement approach (AMA) has also its limitations. According to Moosa (2008) the AMA approach is problematic because there is no consensus on what actually constitutes this approach. Its implementation is a complicated process and it is doubtful to pay off in terms of costs and benefits. (2008)

2.4. The role of IT and human judgment

One of the factors contributing mostly to the development of risk management is the rapid progress in the field of information technology (IT). Improvements in IT have increased both computational power and the speed with which calculations can be done (Dowd, 1998). According to Gibson (1998) risk management was the original inspiration for the development of sophisticated information systems to measure risk-taking activities. The author eloquently stated that information technology have facilitated financial firms to better monitor and control the risks taken by various parts of the firm. (1998)

The effect on IT in the banking sector is beyond computational packages and risk management information systems, but it influences most of the firm’s levels. The goal is to use IT systems efficiently for long-term success of the organization i.e. using the IT systems to process information for better support of the organizational mission (Stoneburner et al, 2002). However, one of prominent challenges that senior managers face is to realigning the IT into organizational mission and strategy. “Those who succeed will find that technology can be a vital strategic tool, not just a necessary expense” (Lohmeyer et al, 2003, p.). Even though it is important to guarantee efficient
functioning and satisfactory evolution in the IT of banks, not all banking organizations implement
the same strategies to achieve the same degree of success in the implementation of an advanced IT
(Bonson et al, 2004). According to Basel Committee (2005), the malfunctioning of the bank’s IT
have caused a significant number of crises within the banking sector, therefore the importance of
the IT has increased in the recent years.

Davenport and Harris (2007) in their influential book “Competing on Analytics” argue that the
range of analytical software changes from relatively simple statistical and optimization tools in
spreadsheets to statistical packages, complex business intelligence suites and to predictive industry
applications. The authors argue that competing on analytics is the new science of winning and
provides a distinctive competitive advantage to the firms that adopt it. However, they adamantly
warn that people shouldn’t confuse information technology with competing on analytics. What
make the difference are the human and organizational aspects of analytical competition, and not
technology per se. (2007)

Besides basing our measurement of risk only on IT aided statistic models, there is also a different
view that highlights the fundamental role of human judgment in risk management. For instance
Taleb (2007), in his book “The Black Swan” expresses the need to focus more on human
experiences and judgments instead of complex models. According to the author, life is not an
artificial laboratory in which we are supplied with probabilities (2007a). He poses the question of
how we can know the future (predict risk), given knowledge of the past (statistics). No one knows
what will happen tomorrow, because the future is uncertain and we should not underestimate the
impact of the highly improbable because they may create black swans (e.g. big financial crises,
market collapses, 11 September 2001 etc). (2007b)
3. METHODOLOGY

This research is conducted in the banking sector because this sector has been the most relevant one considering risk management and to some extent is the epicenter for the current financial crisis. Although the current financial crisis is not the focal point of this paper but the consequences of such calamity on the overall business environment cannot be overlooked. The last two decades have brought huge changes in the field of risk management. Almost every company exhibits plenty of information about this phenomenon and also strives to minimize different risks that they are facing. In order to analyze the underlying essence of risk management during the last decade, two major Swedish banks namely Handelsbanken and Swedbank were studied.

Albeit all major banks in Sweden have experienced losses to some extent during the current turbulent period, the most significant outcomes belong to the banks studied in this thesis. Swedbank went from a successful bank towards fighting for its survival while Handelsbanken was ranked as the best bank to manage risk. These compelling facts became the major motivation for selection of these two banks. One can also wonder why choosing only Swedish banks and not making a comparison with the American banking sector. The authors from the beginning intended to involve American banking in their research but due to the difficulty of accessibility and time constraint the idea was disregarded.

The major variables observed in this study are the following; organizing for risk, risk measurement and the role of IT and human judgment. Organizing for risk is operationalized into centralization, decentralization and organizational risk culture. Risk measurement consists of three types of risk namely credit risks, market risks and operational risks. Finally the role of IT and human judgment examines the banks attitude towards IT related models and expertise decision making.

The empirical observation from the two banks were approached using the case study methodology that appears to be the most fitting given the exploratory phase of current research and the aim of this study. The outline of the case study methodology is adopted from Yin (1994). Risk management during the last decade at both banks is the unit of analysis. According to Yin (1994) in replicate studies the cases should have some similarities and differences. The similarities between the banks are; both are Swedish and have their major market in Sweden, both offer the same products and both have the same way of measuring different types of risks i.e. credit, operational and market risks. However there are explicit differences among these two banks so that they are not exact
copies of each other. The banks differ in size, the way they approach their customers, the organizational structure and culture. According to Walk (1998) there are two basic ways to organize the body of a comparative paper namely in text-by-text (discuss all of A, then all of B) or point-by-point (exchange points about company X with comparable point about company B). According to the authors of this thesis a point-by-point method better draws the attention towards the conflict and therefore the data is analyzed according to this format.

The research has a longitudinal approach with the aim of analyzing the change and development of the variables being studied. This type of approach helps the authors to analyze the narrative of risk management over a longer period. Even with the time constraints it is possible to conduct a longitudinal study. One can acquire plenty of information through published data such as press reports, newspaper articles and analysts’ reports etc. (as cited in Saunders, Lewis & Thornhill, 2007, p.155). The authors intended to thoroughly scrutinize the annual reports in order to highlight the major changes and developments in the risk management pattern. The underlying strategy allows the authors to draw diverse conclusions about the way the banks handle risk.

The authors use a mixed-method strategy where both quantitative and qualitative choices have been made. The combination of the methods can extract essential information which helps the researchers to accurately study the subject and discover the required findings. Using mix-method approach of gathering and evaluation increases the validity and accuracy of the data (Saunders, Lewis & Thornhill, 2007, p.153). One can criticize the use of this particular model in different aspects such as the vagueness associated with the mix-model approach. As it combines two diverse approaches and produces one single outcome but according to the authors the advantages of the model rise above the disadvantages. The research also demands data gathering through semi-structured interviews and deep analysis and interpretation of them, to derive the underlying methods of handling risks.

### 3.1 Data collection

The most critical part of the research was the choice of data collection method; what information source could best answer the underlying research question and also the issues of accessibility. Both companies found themselves in tough conditions, one struggles for its survival while the other fought to maintain an even stronger market position. The authors strongly emphasized analyzing the annual reports of both companies from the last decade. These reports are perceived as the primary
data for this research. One can criticize the choice since the primary data is classified as data that is collected specifically for the research project being undertaken (Saunders, Lewis & Thornhill, 2007, p.256). All annual reports published by the two banks from the last decade have been thoroughly analyzed and a summary of the findings is deducted for further comparison. The authors also constructed two tables from the annual reports of the two banks. Table 2 & 3 (See Appendix 1) contains summary of the performance of the banks in various vital financial figures while the table below (Table 1) highlights how frequently certain terms that are important for this research such as risk, decentralization etc. have been mentioned in respective annual reports. The table helps the readers to observe the ups and downs the banks experienced during the last decade and also the attention paid to certain important terms such as risk, centralization etc. The reason for putting table 1 in the method section is to emphasize the importance of the annual reports from both banks and also to explicitly demonstrate the efforts allocated in this process. Appendix 2 contains seven different figures taken from the annual reports of both banks. These figures demonstrate the overall risk management set-up during the last decade.

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<td></td>
<td>2001</td>
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<td><strong>Swedbank</strong></td>
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<tr>
<td>Centralized/decentralized</td>
<td>3/1</td>
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<tr>
<td>Risk mentioned in the AR</td>
<td>206</td>
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<td>Low risk mentioned in AR</td>
<td>1</td>
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<tr>
<td><strong>Handelsbanken</strong></td>
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<tr>
<td>Centralized/decentralized</td>
<td>2/10</td>
</tr>
<tr>
<td>Risk mentioned in the AR</td>
<td>311</td>
</tr>
<tr>
<td>Low risk mentioned in AR</td>
<td>0</td>
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Table 1, Deducted from the annual reports of Handelsbanken and Swedbank during the last decade
Note: The figures in the boxes demonstrate how frequently these terms have been mentioned by the banks in their respective annual reports.

In order to verify the findings from the annual reports one face-to-face interview with each credit risk manager of both banks has been conducted. The interviews are complementing the findings from annual reports. The choice of interviewees was based on their position and the relevance to the topic. Both interviewees were deeply involved in risk related issues. The interviews were of semi-structured type with an average duration of one and half hour. The interviews were recorded with the help of voice recorder which helped the authors in writing an accurate interview transcript. The author contacted the interviewee for further questions and clarification of vague answers. Moreover the interview transcript has been sent back to the interviewee for conformity of interpretation.
It is also worthwhile to mention the involvement of both banks websites in disclosing the recruitment policies for certain vacancies in the area of risk management. These requirements have also been thoroughly analyzed by the author to extract useful conclusions about the banks approach towards the importance of IT and human judgments in handling risk.

Although the choice of conducting a longitudinal study is perceived to be a useful data collection approach, yet one can criticize this decision. The authors’ choice of observing the annual reports of both banks may have the consequences of obtaining biased and unrealistic data. The same applies the choice of interviewing risk managers at respective banks. They may provide impractical data to manipulate the conclusions of the research as both the subject and the current time frame is perceived to be sensitive for the banks. In order to increase the validity of the primary data the authors collect data from the secondary sources i.e. both banks websites, data monitor reports as well as various analysts view about the banks development over time.
4. EMPIRICS

4.1 Company presentation (Handelsbanken)

Svenska Handelsbanken (Handelsbanken) was founded in 1871 with the name of Stockholms Handelsbanken. From this point on the bank had been having an organic growth inside Sweden opening new branches and acquiring different local banks. During the 1990s an acquisition strategy was adopted by the group which started to expand in the regional market. In 1990 the group made its first acquisition abroad with the purchase of Oslo Handelsbank in Norway. In the coming years the company made different acquisitions and opened many new branches in Finland, Norway, Denmark and Great Britain which are considered Handelsbanken’s domestic market (Datamonitor, 2009).

Handelsbanken has a strong position in the Swedish market with more than 460 branches. Over the past 15 years, universal banking operations have been developed in the other Nordic countries and since 2000 also in Great Britain. As of 31 December 2009 Handelsbanken had 53 branches in Denmark, 45 in Finland, 48 in Norway and 62 in Great Britain. In addition there are 36 branches and 4 representative offices in 17 other countries. In total there are more than 700 branches in the world (Handelsbanken, 2010).

Handelsbanken is a universal bank covering all types of banking services for both corporate and private customers (Handelsbanken’s Annual Report, 2001, p.49). Today it is one of the leading banks in the Nordic region and one of the most cost-effective banks. Since 1989, when the first customer survey was conducted, Handelsbanken have had the most satisfied customers among the major Nordic banks (Handelsbanken, 2010). “Handelsbanken was ranked as the best investment bank in the Nordic region by the international financial periodical “Global Finance” in April 2009” (Datamonitor, 2009, p.7).

The group recorded revenues of SEK 29,890 million in 2008, an increase of 10.2% over 2007. While in 2009 the revenues were SEK32,335 million, an increase of 8% over 2008. The operating profit in 2009 were SEK13,727 million, a decrease of 10.4% over 2008, since in 2008 the operating profit were SEK15,326 million, an increase of 4% over 2007. Total assets were SEK 2,123 000 million in 2009, a small decrease of 1.7% over 2008, while in 2008 the total assets were SEK 2,159 000 million with an increase of 16.1% over 2007 (Handelsbanken’s Annual Report, 2009, pp.18-
The number of employees in 2009 was 10,616 a decrease of 356 from 2008 (2009, p.16). According to Datamonitor report (2009) Handelsbanken’s top competitors are Nordea, Danske Bank, Skandinaviska Enskilda Banken (SEB) and BNP Paribas Group.

4.2. Summary of the risk reports and secondary data (Handelsbanken)

4.2.1 Organizing for risk

A thorough examination of Handelsbanken’s annual reports from the last decade, discloses the consistency in its organizational strategy namely a strong reliance on decentralization. “The branch is the bank” philosophy communicates the essential role of the branches in attaining the overall goal of the organization (Handelsbanken’s Annual Report, 2004, p.12). In Handelsbanken the person who best knows the customer and the market conditions is also in the best position to evaluate the risk. It is self evident that for a company like Handelsbanken, the most valuable asset is its employees (2004, p.16). The company’s corporate culture is manifested in an internal document called “Our Way”. The document is read and discussed by all employees for better understanding the overall strategy of the bank (Handelsbanken’s Annual Report, 2008, p. 132). Handelsbanken mitigates risk by strategically cherry picking its customers and two criteria that they look for customers are good track of cash flow and that the customer is the most valuable in its segment (Martin Blåvarg, 2010).

The bank’s strategy of understanding and individually evaluating each customer in detail requires a strong decentralized organization where responsibility for group’s credit exposure lays the individual employee who makes the decision. It is worthwhile to mention that the bank restricts both credit and financial risks through credit or limit decisions. For all commitments over SEK 1 million and for mortgages over SEK 3 million, consultations with higher level are required (Handelsbanken’s Annual Report, 2001, p.44). Since all customers’ responsibility is decentralized to the local branches, the bank finds no reason to make central decisions on these matters. According to Handelsbanken’s Annual Report (2006) “The high degree of independence that the branches enjoy gives the staff the feeling that the customers of the branch really are the branch’s own” (p.6). The immediate response results in high customer satisfaction and tighter customer relationship which is almost impossible for the competitors to imitate. (2006, p.6)

Handelsbanken approaches risk in strict way and the bank deliberately avoids high risk transactions, even if the remuneration is higher in such cases, adjusted for relative risk. At Handelsbanken it is
incentivized to avoid excessive risk taking behavior and employees are held accountable for taking ambiguous risks that they don’t understand (Blåvarg, 2010). A low risk tolerance strategy is maintained through a strong risk culture that is sustained over time and applied to all areas of the group (Handelsbanken’s Annual Report, 2001). According to Mr. Blåvarg (2010), it is very important to have skillful people with proper education, who are well familiar with the bank’s culture. With increased decentralized decision making the need for centralized management and follow up of risks are crucial. The bank’s overall view of capital management is divided into four levels of risk management which are; Business operation, Operation-related risk control, Central control and Capital planning (Handelsbanken’s Annual Report, 2007) (See Figure 1 in Appendix 2).

### 4.2.2 Risk measurement

Handelsbanken has different methods for measuring different risks. During the last decade this pattern of measuring risk has not changed that much, which illustrates the bank’s consistency while implementing measurement models. In 2001 Handelsbanken was focusing more on credit risk, financial risk and operational risk, adding payment risk, as an important area. In 2004 credit risk became the most important risk area for the Bank and today Handelsbanken is the best bank in handling credit risk (See Figure 2, Appendix 2). (Handelsbanken’s Annual Report, 2004, p.24).

When calculating the **credit risk** a business evaluation of the customer was performed in order to scrutinize credit worthiness of the customer and to make the limit decision. An assessment is also made of the level of credit risk in the Bank’s exposure where the customer’s repayment capacity was examined and graded (Handelsbanken’s Annual Report, 2001, p.44). The bank used an internal rating system, in a scale from one to five, which the bank was applying for more than 20 years (Handelsbanken’s Annual Report, 2002, p.21). This method continued till 2007 where the new rules of Basel 2 necessitated Handelsbanken update its system to match the risk classes stipulated by the new regulations. To quantify its credit risks, the Bank calculates the probability of default (PD), the exposure at default (EAD), and the loss given default (LGD). For corporate exposures, the internal rating is directly converted to a risk class on a scale between one and ten (Handelsbanken’s Annual Report, 2008, p.52; Blåvarg, 2010).

**Market risk** is calculated through Value-at-Risk (VAR) method. At Handelsbanken, VAR is calculated using daily changes in interest rates and prices for the latest year; a 99% confidence interval and 1-day and 10-days holding periods respectively (Handelsbanken’s Annual Report,
2001, pp.46-47). Since VAR is based on model assumptions and is dependent on the quality of available market data, it is important to verify the quality of the model on a continuous basis through back testing. The VAR model does not always identify risks associated with extreme market fluctuations, which to a certain extent was the case in the past year. The calculations are therefore regularly supplemented by stress tests (Handelsbanken’s Annual Report, 2001, pp.46-47; Blåvarg 2010).

To increment the day-to-day control of operational risk, all main departments, regional banks and subsidiaries in the Group carry out annual self-evaluations of operational risks. The purpose of this review is to identify operational risks and quantify the losses that may arise. Following the review, measures are to be taken to reduce the risks. A general review of the Group’s operational risks is performed twice a year by the heads of the regional banks, main departments and subsidiaries. The outcome of these reviews is reported to the board (Handelsbanken’s Annual Report, 2007, p.53).

4.2.3. The role of IT and human judgment

In 2001, Handelsbanken’s IT operations, according to Handelsbanken’s Annual Report (2001), were stable and the level of accessibility was high. Two benchmark surveys were performed, one for mainframes and one for minicomputers, and both reported satisfying results in terms of quality, cost-effectiveness and system accessibility (Handelsbanken’s Annual Report, 2001, p.26). The Bank aims to run its IT operations with its own staff, because they believe that this promotes a sense of community with the business operations and thereby a greater feeling of joint responsibility for the Group’s results (Handelsbanken’s Annual Report, 2001, p.26; Blåvarg, 2010).

In 2003 several units of Handelsbanken Europe launched a system to support the Bank’s international operations outside the regional banking operations. This system is operated from Stockholm and was already used in Asia. This was yet another step that the bank tries to concentrate all IT production to Stockholm, including subsidiaries and units outside Sweden. Handelsbanken stresses the need to closely link its Swedish and international units in order to make the IT operations more cost-effective (Handelsbanken’s Annual Report, 2003, p.39).

In 2005 the bank started a larger ongoing development projects aiming to further enhancing the bank’s range of cash management services for companies. As a consequence, the Bank could now offer advanced software for corporate cash management planning (Handelsbanken’s Annual Report,
During 05-06 the bank made large investments in new IT systems that allowed the bank to apply the Basel 2 regulation from the start. The bank developed a support system to gather and store data from its different units and thereafter to evaluate and calculate risk (Handelsbanken’s Annual Report, 2006, p.53). Handelsbanken is continuously improving its IT system and the average IT expenses during this decade are 2.9 billion SEK (See Figure 1, Appendix 1).

In relation to risk management Handelsbanken uses computerized support for the credit granting process for private individuals. The computerized system that is based on the proposition for internal rating helps the bank to assess the creditworthiness of the customer. However, the ultimate decision rests on the shoulder of the branch manager who can overrule the decision of the system even if the system gives very low grade to the customer. But the branch manager should motivate his/her decision making. “It is not like; you can never give a credit to a customer who has low credit rating. It is completely possible if you have other information. The decision always lies with the credit officer” (Blåvarg, 2010).

4.3. Company presentation (Swedbank)

The bank’s history dates back to 1820 with the establishment of the first saving bank in Sweden. In 1915 the first Swedish agriculture cooperative bank was founded in Stockholm, while during 1942 the saving banks’ bank was started as being the central bank for saving banks. FöreningsSparbanken was formed through the merger of Sparbanken Sverige and Föreningsbanken in 1997. The company acquired more than 50 per cent of the Hansabank in 1999, which became a part of Swedbank in 2005. The company altered its name from FöreningsSparbanken AB to Swedbank AB in 2006. The company appointed its existing CEO Michael Wolf in November 2008. In August 2009, Swedbank announced fully underwritten SEK 15 billion rights offering (Datamonitor, 2009).

The bank has 9.5 million retail customer and approximately 534,000 corporate and organizational customers with more than 1 000 branches throughout the world which serves various types of customers and offers a complete range of financial products and services. Today the bank has approximately 18,000 employees (Swedbank, 2010). Swedbank was voted Financial Educator of the year 2009 by the Swedish young shareholders association and business bank of the year 2009 by the business magazine Affärsvärd (Swedbank’s Annual Report, 2009, p.24). Swedbank’s top competitors are: Nordea, Deutsche Bank, Handelsbanken, SEB, ABN AMRO Holding N.V. and
HSBC Holdings plc (Datamonitor, 2009). In addition to the bank’s home market, Sweden and Baltic countries, the other geographical business area includes Ukraine, Russia, and branches in Denmark, Norway, United States, China, Japan etc (Swedbank, 2010).

Swedbank recorded revenues of SEK 34,782 million in fiscal year ended December 2009, a decrease of approximately 4.6 % over 2008. The company’s operating profit was SEK (–9,461) million in fiscal year 2009 a decrease of 168 % compared to 2008. The company’s total assets for the fiscal year 2009 were SEK 1,794 687 million, a decrease of 0.01% compared with 2008 when the total assets were SEK 1,811 690 million. This huge loss highlights the intensity of the global financial crisis that hit the banking sector (Swedbank’s Annual Report, 2009, p.60). (See also Table 2, Appendix 1)

4.4. Summary of the risk reports and secondary data (Swedbank)

4.4.1. Organizing for risk

In 2001, Swedbank’s risk was divided into three main areas i.e. credit risk, financial risk, and operational risk. The overall responsibility of credit exposure rests on Board of Directors. The board sets the guidelines for managing risk through its Credit and Capital Market Committee. The Board also appoints the Central Credit Committee and the boards of the local banks (Swedbank’s Annual Report, 2001, p.79). The bank appoints credit manager for each business unit with lending responsibility, who is held responsible for the quality in the lending process and credit portfolio. Besides that the credit manager has a duality role in day-to-day credit operations and the decision-making organization (Swedbank’s Annual Report, 2001, p.79; Jonny Belchatowski, 2010).

While dealing with financial risk The Board of Directors sets the financial policy for the Group. This includes risk profiles, delegation of responsibilities, risk management, risk control and reporting. The Board appoints the Bank’s Finance and Trading Sub-Committees. The former distributes and monitors risk mandates in the Group within the limits set by the Board. While the latter distributes risk mandates between the various departments within Swedbank Markets’ area of responsibility. The Group’s financial risk control unit, which is directly subordinated to the Group’s Chief Financial Officer, performs risk control and monitoring function independent of the risk-taking units. An underpinning of the Group’s risk management is that each risk-taking unit is responsible for continuous monitoring and control of all risks that arise in its operations, including financial risks. Consequently, unit managers are responsible for adequately managing and
controlling the risks in their operations on a daily basis within the guidelines established for the Group (Swedbank’s Annual Report, 2001, p.79).

The responsibility of operational risk management rests within the entire Group and with each responsible manager, who must identify, limit and control his or her operational risks. The Board of Directors’ Audit and Security Committee, has responsibility for particularly monitoring operational risks. Within the Group’s various business areas and subsidiaries, employees have been specially appointed to be responsible for coordinating risk controls within each operation (Swedbank’s Annual Report, 2001, p.80).

In 2004 some important organizational changes occurred at Swedbank. A new group staff, called Group Risk Control, was formed with the responsibility of analyzing, monitoring and controlling all risks in the group. It operates independently and reports the group’s risk directly to the President and the Board. Another unit that was created in 2004 namely the Central Credit Unit, is responsible for operational management and monitoring the Group’s credit operations and credit risk management as well as credit instructions (Swedbank’s Annual Report, 2004, p.48).

In 2006, Swedbank introduced a seven steps process to manage risks. These steps are: preventing risks, identifying risks, quantifying risks, analyzing risks, suggest actions, control and follow up risks, and report risks (See Figure 6, Appendix 2). These processes cover every risk area and simultaneously concrete activities are adapted to each risk area in order to protect the group against unwanted risk-taking (Swedbank’s Annual Report, 2006, p.41). Recently these seven steps were rearranged and became eight (See Figure7, Appendix 2) (Swedbank’s Annual Report, 2009, p.49).

In 2008, Swedbank started a program called “One Swedbank” with the aim to develop coordination, efficiencies and sharing of competencies within various parts of the group. This was a strategic maneuver to align company’s overarching vision and values to all its different geographical markets. The program strives to communicate the importance of the bank’s performance oriented culture (Swedbank’s Annual Report, 2008, p.7).

The financial year 2009 was seen as a new beginning for Swedbank “with management changes, new strategic priorities, a new organization and a renewed focus on customer relations and the capabilities and responsibilities of the branches” (Swedbank’s Annual Report, 2009, p.4). The bank changes its structure in order to shift decision-making authority to those with direct customer contact (Belchatowski, 2010). In addition, the role of Chief Risk Officer (CRO) was introduced.
Reorganization was also performed to clarify authority locally and to reinforce the mandate of the risk organization by having the business areas’ credit and risk managers report directly to the Group Credit Officer (CRO) and the head of Group Risk Control respectively (Swedbank’s Annual Report, 2009, p.48).

4.4.2. Risk measurement

In 2001 credit risk was coordinated and monitored by the Central Staff Unit and its monitoring role included active evaluations. When necessary, initiating measures in consultation with the unit in question. All credit decisions were made by at least two persons, and in the case of small loans, by one employee with the help of an IT-based evaluation system. While all corporate loan exposure that were over a certain level were subject to internal ratings (Swedbank’s Annual Report, 2001, p.79; Belchatowski, 2010). In 2005, with respect to credit risk, Swedbank made some major changes in the group’s internal system for classification of customers/counterparties and exposures. The central factor in the risk classification system was fifty models for classifying credit risk. The risk classification system played a central role in the Group’s day-to-day credit operations. The scale expresses the risk of insolvency in 23 stages; where 0 represents the highest risk and 21 the lowest, while “D” for credits that have defaulted (Swedbank’s Annual Report, 2005, p.43; Belchatowski, 2010).

Financial risk, at Swedbank, is divided in market risk and liquidity risk. In 2001, market risks were controlled mainly through daily monitoring of risk exposures vis-à-vis established limits and continuous analysis of outstanding positions. Limits on interest risks, currency risk and share price risk were calculated using sensitivity measures. These sensitivity measures were complemented by continuous scenario and stress tests (Swedbank’s Annual Report, 2001, p.80). In 2002 the Group introduced a model-based risk measurement to complement its existing risk measurements. A model for fluctuations in interest rates, stock prices and exchange rates was used to estimate a probability distribution for the Group’s total portfolio, under the hypothetical assumption that the portfolio will remain unchanged over a specific timeframe. The results were presented with VAR, which had become the international standard for risk measurement (Swedbank’s Annual Report, 2002, p.78).

In regard to operational risk measurement, self-evaluations were conducted on a broad scale within all the business areas and within priority Group staff and support functions. The results of
these self-evaluations served as an important basis for upcoming targeted measures to control operational risks (Swedbank’s Annual Report, 2001, p.80). In 2002 developments were being made with regard to both qualitative methods, such as self-evaluations, and more quantitative methods, e.g. loss databases, modeling, etc. During this year a so-called operational loss database was implemented and work on special risk indicators were initiated (Swedbank’s Annual Report, 2002, p.78). In 2005, to manage operational risks, except of self-evaluations, Group-wide methods, techniques and procedures were used based on a standardized internal risk structure (2005, p.45).

In 2007, when the new Basel 2 rules entered into force, Swedbank decided to use the IRB approach for calculating the capital requirement for credit risk. On the other hand, to calculate the capital requirement for operational risks Swedbank decided to use the standardized approach (Swedbank’s Annual Report, 2007, p.60). In 2008, Swedbank’s internal capital adequacy assessment was based on two different methods: the Building Block model and the Scenario model. The first one is a static model with an evaluation horizon of one year, while the second one is a dynamic one with a multi-year horizon (Swedbank’s Annual Report, 2008, pp.51-52).

4.4.3. The role of IT and human judgment

In 2001, IT started to play an important role at Swedbank. In terms of service development, many of the new services that the Bank launched were based entirely or partially on IT. Development is conducted by the Bank’s own employees and supported when it is necessary by outside consultants. Swedbank’s IT production, like its system development, is centralized in Stockholm. According to the Bank’s annual report, IT in the Bank’s products and services simplifies banking for customers and improves efficiency (Swedbank’s Annual Report, 2001, p.64). In 2002, Swedbank gradually expanded its IT cooperation with Hansabank in the Baltic area. The cooperation covered systems development, operations and production. According to Belchatowski (2010) banking is about the numbers and Swedbank looks forward to expand its operations. The bank possesses a totally different customer portfolio than its rivals, which makes it hard to have a closer relationship with its customers. One of the problems that the bank faced in the Baltic region was the lack of historical background of the customers. Therefore, the bank heavily depended on IT and models for risk management in the region (Annual Report 2002, p.57; Belchatowski, 2010).
For measuring operational risk, self-evaluations are made. The self evaluations were complemented by the risk evaluations in all business units where the focus has been on risks associated with the Bank’s dependency on IT systems. In conformity with the duality principle, each credit decision at Swedbank is performed by at least two persons jointly. In a situation of decision making for small credits, the branch manager with the help of IT-based evaluation system approves the underlying credit applications (Swedbank’s Annual Report, 2005, p.44). The system provides the branch manager with the following three suggestions; to accept the loan, to reject the loan or to further analyze the request. The branch manager doesn’t have the authority to approve a loan that is either rejected or referred for further analysis (Belchatowski, 2010).

When it comes to the expenses, Swedbank has always been investing in new IT development and improving its systems. Especially the IT costs increased in the last years when the Bank needed to adapt to the new rules of Basel 2. In average during the last decade Swedbank has spend SEK 2.5 billion each year (See Figure 1, Appendix 1). In February 2008, Swedbank entered into a five year agreement for IT development and applications management with WM-data, a Logica CMG. As part of the agreement Logica CMG will set up a development and applications management center for Swedbank as part of its operation in Bangalore, India (Datamonitor, 2009).

Swedbank uses complex mathematical models while dealing with risk and try to use them as simple tools to gather information before taking decisions. Complex models are required because of the complexity of some areas; however their understandability is clear. At Swedbank IT are considered just tools and should not over ride human judgments. The main reason for Swedbank’s failure in the Baltic region was over-reliance on IT rather than combining it with human judgments. The models are nothing but tools to extract information, which helps the managers to make better decisions (Belchatowski, 2010).
5. ANALYSIS AND DISCUSSION

The empirical evidence presented above shows that Handelsbanken and Swedbank have some features in common, especially when it comes to measuring risk and the role of IT & human judgment. What mostly differs between these two banks is the way they organize for risk. The table below demonstrates a brief summary of the empirics.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Handelsbanken</th>
<th>Swedbank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizing for risk</td>
<td>• Decentralized</td>
<td>• More Centralized</td>
</tr>
<tr>
<td></td>
<td>• Strong risk culture</td>
<td>• Weak risk culture</td>
</tr>
<tr>
<td>Risk Measurement</td>
<td>• Credit risk: IRB (History matters).</td>
<td>• Credit risk: IRB.</td>
</tr>
<tr>
<td></td>
<td>• Market risk: VAR complemented with back testing &amp; stress tests.</td>
<td>• Market risk: VAR complemented with back testing &amp; stress tests.</td>
</tr>
<tr>
<td></td>
<td>• Operational risk: day-to-day control and self-assessments.</td>
<td>• Operational risk: day-to-day control and self-assessments.</td>
</tr>
<tr>
<td>The role of IT &amp; Human Judgment</td>
<td>• Mixed</td>
<td>• Mixed but more IT in Baltic</td>
</tr>
</tbody>
</table>

5.1 The essence of structure & culture

The information offered above shows that the two banks exhibited a different strategy in regard to organizing for risk. Handelsbanken deploys a decentralized strategy while Swedbank adopts a more centralized one. Decentralization according to Handelsbanken is that the person who makes the credit granting or risk decision has the ultimate responsibility and authority. The dual purpose of this strategy is to develop a close relationship with customer and to mitigate risk. While Swedbank in their annual reports emphasize that each risk-taking unit is responsible for continuous monitoring and control of all risks that arise in its operations. Yet in practice it is difficult to observe this decentralized risk management strategy. The bank’s hierarchal structure doesn’t allow room for decentralization in respect to risk management. The empirics show that Swedbank’s Board of Directors has the ultimate responsibility of risk decisions which confirms their centralized way of working. One major difference between the two banks is that in Handelsbanken decentralization is
explicit and has strategic value and goes as far as the lowest level employees, while on the other hand Swedbank’s decentralization is implicit and is limited to the unit manager. However, Swedbank during 2009 initiated an organizational change where the demand for a more decentralization strategy is taken into consideration.

The empirical findings indicate that by adopting a decentralized strategy Handelsbanken manages credit risk better than its rivals and this is factual in prior researches which argue that banks with decentralized structure tend to better deal with credit constraints compare to centralized banks (Stein, 2002). However, decentralization has its ill-fated consequences if it’s not properly implemented. World Bank Report (1994) strongly warned that improper implementation of decentralized structure could be destructive. In order to avoid such trap of decentralization Handelsbanken complemented its decentralization risk management by strong centralized risk policy and demands its employees to be equipped with proper skills and be familiar with the banks corporate culture.

According to Canales & Nanda (2008) decentralized banks are more likely than the centralized ones to cherry pick the best customers and this helps them to decrease the level of risk. This also is true in the case of Handelsbanken; where the empirical data suggests that decentralization facilitated the bank to cherry pick its customers. This is also supported by Handelsbanken’s risk manager who stated that they don’t tend to be a mass market bank, but they want to pick the best and the most valuable customers in each segment. On the other hand, Swedbank is a mass market bank and their strategy is to have a broad customer portfolio. Thus it is difficult for the bank to develop a close relationship with their customers.

In addition to organizational structure, the evidence from the case analysis substantiates the importance of organizational culture for risk management. A profound analysis of Handelsbanken’s empirical data illustrated that the bank has a strong organizational culture towards risk. This is in line with Power’s (2007) argument that there is a tendency among private and public organizations to align risk management towards enterprise values, as well as Valencia’s (2010) argument that instead of empowering risk officer there should be a solid risk culture. The bank strongly advocates a low risk tolerant culture throughout the entire group and this policy is maintained by educating employees about the overall organizational culture. Handelsbanken provides its employees with an internal document called “Our Way” which meticulously explains...
their corporate culture. As stated by Weiling & Kwok (2008) the purpose of having a strong organizational culture is to develop one common mindset among the employees which enables them to have a common platform for change.

Similarly, Swedbank possesses a strong organizational culture. The bank’s ‘One Swedbank’ program communicates employees about efficiencies, sharing competencies and embracing performance oriented culture. But the question of aligning risk with the corporate culture has no substantial weight compare to Handelsbanken. Swedbank’s annual report rhetorically emphasizes growth and setting financial objectives while Handelsbanken’s annual reports rhetorically stress the importance of risk culture (See Table 1 in methodology).

5.2 You can’t manage it if you can’t measure it

In regard to credit risk the empirical findings does not illustrate a clear difference, both banks use an IRB approach to calculate credit risk. However, the decisive factor that distinguishes these banks is that Handelsbanken has been using an internal rating approach for more than 20 years while Swedbank started to use internal rating only in 2004. This indicates that Handelsbanken has long experience and when Basel 2 regulation is introduced, the bank easily assimilated the new regulations. At the same time this experience helps the bank to better manage credit risk and see how the customer behavior been during the years. Another important factor to mention here is customer history, in Handelsbanken the history of customers is considered when taking credit decisions.

When it comes to measure market risk both banks use VAR model, back-testing and stress tests. The models are used in the same way by both banks and no differences exist between them. What actually changes are the investments and the markets where these banks operate. Swedbank has as its home market Sweden and the Baltic countries. In the Baltic region, which is a developing market, Swedbank suffered significant losses during the financial crisis. In this region the risk was higher than what the bank was expecting. Another reason that exacerbated Swedbank’s failure in the Baltic was the lack of historical data. These countries changed from planned economy to market economy only in the beginning of the 90s. In contrast, Handelsbanken has as its home markets Scandinavia and United Kingdom, which have a large historic data and their economies are more stable. Therefore the calculation of market risk from Handelsbanken had been more accurate than Swedbank.
Both banks use day to day control and self-assessment to measure operational risk. There are no significant differences between these banks in the way that they measure operational risk. In 2010 both banks are planning to implement the AMA approach to measure operational risk.

5.3 Math Nerds or Sixth Sense

In reference to the role of IT and human judgment, a thorough analysis of the data reveal that both banks give attention to the IT related models. Both banks are aware of the fact that IT plays an important role in their success. However empirics divulged that Handelsbanken follow a stable and consistent pattern which makes it convenient for the authors to analyze their strategy. IT expenses for the last decade increased gradually year by year at Handelsbanken except the increase in year 2006 and onwards which indicates the measurements taken in advance for the new adequacy rules (See Figure 1, Appendix 1). However Swedbank increased its investments in IT the year after the new adequacy rules (Basel 2) come to existence.

Another important factor the authors discovered concerning the IT was the heavy reliance on internally developed IT operation at both banks. The banks’ strategy is analogous to the conclusion accomplished by Lohmeyer et al. (2003), who emphasizes the importance of realigning IT and business department through preservation of IT operations inside the company and making the business leaders accountable for the IT related decisions. The models developed internally increases the understandability and awareness among the employees as well as making the IT operations risk conscious. The only difference to be mentioned is that Swedbank in 2008 outsourced its IT operations by signing a five year contract for IT development and application management with Logica SMG.

Although Handelsbanken uses IT aided models to handle various types of risks, however they stress that the understandability of the models should be given vital role. On the contrary Swedbank relies more on the IT based models especially in the Baltic market. Since the bank possesses a large customer portfolio and the history of Baltic customers was missing the models helped them to calculate and coordinate the risks associated with their operations. The strong reliance on IT models while ignoring the dynamics of the market cause severe problems for the bank. As stated by Taleb (2007) the models provide the managers with a false assurance about the risk which exacerbates the current financial crisis. The models often ignore the overall customers’ mindset, the complexity of business culture as well as the huge bureaucracy presented in the Baltic region.
Both banks use computerized support models to assess the credit worthiness of private customers, however at Handelsbanken the ultimate decision is rested on branch managers’ shoulders. The managers can reject the suggestion brought forward by the computerized models as long as they motivate their decision. Similarly the branch manager at Swedbank with the help of IT-based evaluation system can approve the underlying credit applications. The system suggests different alternatives for the manager, where they will further process the application accordingly. This strategy reflects the reliance on IT-based systems at Swedbank, on contrary Handelsbanken prefers flexibility and relies on their branch manager’s evaluation and expertise. Finally, when presented the Taleb’s critics to both managers of the respective banks, they both agreed that some of the critics have a valid argument. They emphasize that the importance of models is not something that can be denied, but the difference is who uses and how it is used.
6. CONCLUSION

In this thesis, the authors strive to investigate the risk management phenomena in the banking sector by conducting a longitudinal comparative study in two different banks i.e. Handelsbanken and Swedbank. In a broader perspective to understand the phenomena the authors depart from theoretical framework that recognizes the social and cultural elements of risk (Power, 2007; Lane & Quake, 2001; Taylor-Gooby and Zinn, 2006). However, to be more specific the thesis narrows down its analysis to three main variables that come under the realm of this discussion which are; how banks organizing for risk, how they measure it and the role of IT and human judgment.

The study demonstrates two factors that should be given a significant credence while organizing for risk, are organizational structure and culture. The structure of the organization plays vital role for managing risk and the two banks in this study have two different structures i.e. decentralized and more centralized. Handelsbanken’s philosophy to manage risk is based on decentralized risk management strategy which gives substantial authority to those who are taking the risk, while in Swedbank risk management policy is more centralized. Usually most of the risk that banks face is from credit losses. Hence managing credit risk is one of the primary goals of all banks and prior research emphasize that banks of decentralized nature have better chance of managing credit risk compare to centralized banks (Canales & Nanda, 2008). However, it is an intellectual abuse to assume that decentralization alone can solve the risk management problems, but what we argue is that decentralization coupled with strong risk culture can help banks to manage risk. Thus the other point that the study highlighted is the importance for align organizational culture towards risk management.

In relation to the risk measurement models Handelsbanken and Swedbank used almost the same tools to measure risk. The only difference is the markets that they operate and the lack of historical data in the Baltic region. Generally, having a proactive attitude towards risk measurement models like Handelsbanken did with the internal rating approach could be a fruitful strategy. Both banks rely on IT and they develop their IT models internally which helps to increase the understandability of the models. On the other hand, both banks have realized that to have the right employees to manage these models is the most important thing. As Mr. Belchatowski states, models are just tools, what makes the difference is who uses these tools and how they use them. Following this reasoning, Handelsbanken has been giving to its managers more power to use their judgments and expertise than Swedbank. It looks that a financial crisis will always come, so for the future,
giving more attention to human judgment and expertise is a smart way to predict and decrease future risks. A “black swan” phenomenon can always happen and banks should be flexible and ready to handle it.

This study contributes to banking sector by stressing the advantages of combining decentralized strategy and strong risk conscious culture. It highlights that the risk question should be addressed strategically and deemed to be a continuous phenomenon. From academic point of view the study contributes by specifically targeting cross-organizational practices of risk management. Most of the social and cultural studies of risk are either on an aggregate level i.e. cross-national difference or individualistically oriented. However, there are some limitations to be considered which can offer opportunities for further research. First the number of banks studied in this paper is limited and a larger sample would have provided a broader and more general understanding of the phenomena. Second the empirical data was based on the annual reports complemented by two interviews with risk managers at respective banks. Hence having access to the bank’s internal risk practice would have given the study more reliability. Finally, although the papers’ findings could be generalized to the Swedish banking sector, however generalizability to broader international context is contestable, therefore for further research we are suggesting that a systematic study of cross-organizational risk management practice involving different countries would illuminate best risk management practice among banks.
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**ANNUAL REPORTS**


**INTERNET WEB SITES**

## Appendix 1

<table>
<thead>
<tr>
<th>Swedbanks Financial Summary</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
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<td>No of branches/domestic market</td>
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<td>858</td>
<td>775</td>
<td>775</td>
<td>763</td>
<td>775</td>
<td>758</td>
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<td>901</td>
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<td>No of branches/international market</td>
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<td>289</td>
<td>282</td>
<td>276</td>
<td>200</td>
<td>234</td>
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<td>No of employees</td>
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<td>15,488</td>
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<td>No of private customers</td>
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<td>8,204,800</td>
<td>8,705,400</td>
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<td>9,136,400</td>
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<td>9,279,000</td>
<td>9,461,000</td>
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<td>No of corporate customers</td>
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<td>22,413</td>
<td>22,437</td>
<td>22,300</td>
<td>23,100</td>
<td>25,700</td>
<td>23,800</td>
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<tr>
<td>Revenues</td>
<td>959,632M</td>
<td>957,503M</td>
<td>1,002,344M</td>
<td>2,468,83M</td>
<td>2,946,0M</td>
<td>2,919,7M</td>
<td>3,924,0M</td>
<td>3,645,3M</td>
<td>3,478,2M</td>
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<tr>
<td>Total Assets</td>
<td>8,039M</td>
<td>6,848M</td>
<td>9,564M</td>
<td>10,222,81M</td>
<td>11,972,83M</td>
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<td>16,079,84M</td>
<td>18,116,90M</td>
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<td>Operating profit</td>
<td>130</td>
<td>109</td>
<td>141,5</td>
<td>105,78M</td>
<td>150,10M</td>
<td>142,83M</td>
<td>155,86</td>
<td>138,19</td>
<td>-94,61</td>
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<td>Share price</td>
<td>79,381,6M</td>
<td>82,059,7M</td>
<td>82,639,5M</td>
<td>165,5</td>
<td>216,5</td>
<td>248,5</td>
<td>183</td>
<td>44,40</td>
<td>71,00</td>
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<tr>
<td>Nr of loans (Public + Credit institutions)</td>
<td>(-1,137)</td>
<td>(-1,603M)</td>
<td>(-987M)</td>
<td>83,834,9M</td>
<td>97,477,3M</td>
<td>110,741,6M</td>
<td>130,9301</td>
<td>141,5960</td>
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<td>Nr of loan losses</td>
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<td>(-180M)</td>
<td>(-987M)</td>
<td>(-494M)</td>
<td>(-294M)</td>
<td>(-203M)</td>
<td>(-619M)</td>
<td>(-315M)</td>
<td>(-24541M)</td>
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### Table 2

<table>
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<tr>
<th>Handelsbankens financial Summary</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
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<td>No of branches/Swedish market</td>
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<td>456</td>
<td>453</td>
<td>453</td>
<td>455</td>
<td>473</td>
<td>461</td>
<td>664</td>
<td>461</td>
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<tr>
<td>No of branches/international market</td>
<td>93</td>
<td>96</td>
<td>101</td>
<td>133</td>
<td>128</td>
<td>142</td>
<td>172</td>
<td>38</td>
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<td>No of employees</td>
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<td>975,2</td>
<td>935,8</td>
<td>935,5</td>
<td>935,5</td>
<td>1000,0</td>
<td>1076,8</td>
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<tr>
<td>No of private Customers</td>
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<td>191,000</td>
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<td>225,000</td>
<td>244,000</td>
<td>255,000</td>
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<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Nr of corporate Customers</td>
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<td>30,000</td>
<td>40,000</td>
<td>42,000</td>
<td>42,000</td>
<td>44,000</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Revenues</td>
<td>21,487,7M</td>
<td>21,376,7M</td>
<td>21,797,7M</td>
<td>23,963,7M</td>
<td>26,232,7M</td>
<td>29,559,7M</td>
<td>27,126,7M</td>
<td>25,890,7M</td>
<td>32,335</td>
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<tr>
<td>Total Assets</td>
<td>1,175,7</td>
<td>1,277,7</td>
<td>1,260,7</td>
<td>1,316,7</td>
<td>1,532,7</td>
<td>1,790,7</td>
<td>1,859,3</td>
<td>2,158,7</td>
<td>2,122,8</td>
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<tr>
<td>Operating profit</td>
<td>1,127,07M</td>
<td>1,019,7M</td>
<td>1,155,7M</td>
<td>13,67B</td>
<td>15,70B</td>
<td>17,27B</td>
<td>14,732</td>
<td>15,376</td>
<td>13,777</td>
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<tr>
<td>Share price</td>
<td>154</td>
<td>116</td>
<td>147</td>
<td>173</td>
<td>157</td>
<td>207</td>
<td>209,5</td>
<td>204,5</td>
<td>204,5</td>
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<tr>
<td>Nr of loans (Public + Credit Institutions)</td>
<td>80,005,8M</td>
<td>83,934,0M</td>
<td>82,314,7M</td>
<td>86,887,4M</td>
<td>98,124,7M</td>
<td>104,821,7M</td>
<td>92,566,9M</td>
<td>148,147,7M</td>
<td>147,718,7M</td>
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<tr>
<td>Nr of loan losses</td>
<td>(-152M)</td>
<td>(-392M)</td>
<td>(-492M)</td>
<td>(-167)</td>
<td>(-261M)</td>
<td>(55M)</td>
<td>(-27M)</td>
<td>(-941M)</td>
<td>(-882M)</td>
</tr>
</tbody>
</table>

### Table 3
Figure 1

Appendix 2

Four risk management levels

Figure 1
Figure 2

Decision levels for credits

Figure 3
Figure 4
Handelsbanken’s risk classification of companies compared to Moody’s rating for companies.

Figure 5
Handelsbanken’s risk classification of institutions compared to Moody’s rating for institutions.

Figure 6
The risk and capital process
Prevent risks
Identify risks
Quantity risks
Analyse
Suggest actions
Control and follow up
Report
Risk profile
Risk profile
Risk tolerance
Strategic planning
Adverse scenarios
Simulation
Risk capital needed
Qualitative strategic discussion
Capital objective
Figure 7

Framework for Swedbank’s credit process

Figure 8

Strategies, policies and rules

Risk classification

- Credit-processing
- Collaterals
- Pricing
- Decision
- Customer and Credit monitoring
- Portfolio analyses
- Risk reports
Appendix 3

Interview Questions

1. Can you please give us a short introduction of your working position (working experience)?

2. An introduction of the company’s (Handelsbanken/Swedbank) Current state?

3. Working as credit risk manager; can you please give us overview of how Handelsbanken/Swedbank handle risk management?

Organizing for Risk:

1. According to the annual reports from last decade Handelsbanken/Swedbank approaches Risk through a decentralized strategy, Could you further elaborate this strategy? Why a decentralized strategy?

2. Can you name a situation where the decentralized strategy is substituted by the centralized one?

3. How does the Bank deal with the startup companies, How are the risks associated with these companies analyzed?

Risk measurement

1. How do you measure risk at Handelsbanken/Swedbank? What kind of models do you usually focus on?

2. There is a debate around the use of complex models and risk management? A leading professor in the area of risk management i.e. Taleb criticizes the financial institution for using complex mathematical models while dealing with risk. Where do you stand in this discussion?

IT VS Human judgment

1. Can you highlight the role of IT in risk management at Handelsbanken/Swedbank? Let’s suppose a local reliable customer asks for loan, but according to the computerized credit analysis system he doesn’t fulfill the criteria, would the branch manger go for the reliability of the customer or the conclusion suggested by the IT system?

2. During the current financial crisis the banking sector is criticized for using mathematicians than the banking expertise, could you justify this view?
Appendix 4

Interview summary with Jonny Belchatowski (Swedbank)

Mr. Jonny Belchatowski work as the Credit Chief Officer (CCO) in the retail unit plus the chairman of the central credit committee in Sweden at Swedbank. He has been working at Swedbank since 1981 and has experienced different ups and downs in the economic cycles plus different crisis period. According to the interviewee, the bank is going through a change phase as well as the quarter report would soon launch, therefore the interviewee adopted a defensive attitude.

One important area he deeply discussed during the interview was the organizational structure of the bank; the interviewee disclosed that Swedbank is going to implement a more decentralized organizational structure. The bank has intentions to benchmark Handelsbanken in certain business areas due to its success during the current turbulent time frame. The interviewee stated that “although the current period isn’t that favorable for the bank, still Swedbank has been positioned as the top five capitalized banks in the Europe. What more, when asked about the operations at Baltic region Mr. Belchatowski mentioned that in 1996 the Baltic countries newly became free countries, interesting developments, even SEB and Nordea did the same but not to the same extant. According to the interviewee, even Handelsbanken was close to get in to the Baltic region but decided not to initiate any investment in last seconds. The top management at the bank is aware of mistakes they did in Baltic region and have learnt from their mistakes. They are not going to expand (their operations) in Ukraine and Russia but will divest and these two countries won’t become their domestic market. Several reasons were given by the interviewee; difficult business culture, peoples’ mindset, huge bureaucracy etc.

According to Mr. Belechatowski, they differ from Handelsbanken in diverse aspects; they have totally different mindset when it comes to choosing their customers. Handelsbanken cherry pick their customers, Swedbank don’t. According to him, banking is about numbers and that they look forward to expand their operations. Swedbank has a totally different portfolio and that it can’t create closed relation due to such larger customer portfolio. They go for numbers and expansion. It is also worthwhile to mention that the bank during the current turbulent time frame altered its expansion strategy and instead focused on their existing market.

When asked how Swedbank organize for risk, the interviewee described that the bank is divided into six strategic areas. To make their operations more decentralized, the Bank has recently eliminated one organizational level. The 35 units that existed before are replaced by 160 strong
branches which are monitored and controlled by six regional banks. The bank has developed “four eyes” principle when handling credit granting process. Two persons (branch managers) work together and have to agree with each other in order to grant a loan. With disagreement the request is further referred to the credit committee. For minor loans, one person (a manager) with the help of computerized assessment program can make decision. The computerized assessment can agree, disagree or can suggest further analysis. The manager can’t approve the loan if the computerized assessment disagrees or suggests further analysis. According to Mr. Belchatowski, the Bank finds the start-up companies interesting and they like to work and develop their relations with good entrepreneurs. When required they can also finance entrepreneurs with potential.

Swedbank adopts diverse models to calculate different types of risks. Except of the traditional models they also use RAROC (risk adjusted return on capital) and RWA (risk weighted assets). For different companies (small, large and medium) they use different scales which are converted to one master scale (the 0-21 rating scale). Also outside Sweden, e.g. in Baltic region, they calculating risk differently due to various differences existing between countries but at the end of the day, all scales are converted to one master scale.

When asked about the complex statistic models and the uncertainty it develops, the interviewee agrees with Taleb’s view that the focus on complex mathematical models should be limited while dealing with risk but use them as simple tools to gather information before taking decisions. He stated that complex models are required because of the complexity of some areas; however their understandability should be obvious. IT is just a tool and should not over ride human judgments. According to the interviewee, the main reason for their failure in Baltic region was over-reliance on IT rather than combining IT with human judgments. According to Mr. Belchatowski, the models are nothing but tools to extract information, which helps the managers to make better decisions. We have quant mathematicians inside the company who elaborate different models for our different customer segments. Since we have a large number of customers these models help us find a way to calculate and co-ordinate them.

**Interview summary with Martin Blåvarg (Handelsbanken)**

Mr. Martin Blåvarg works as the head of credit risk at the central risk department of Handelsbanken. He is responsible for a team of about 22 people that is working with credit risk analysis, reporting and also the calculations of capital adequacy through the application of
quantitative models. The interviewee has been working for Handelsbanken since 2007 while his previous title before joining Handelsbanken was chief economist at the financial supervisory.

When speaking about the current economic situation, Mr. Blåvarg states that bank has managed the current crisis pretty well compare to all it competitors, maintaining a triple A from all the major rating agencies. Handelsbanken has proved to be a very low risk bank with thorough processes of not taking excessive risks. The bank’s ability of handling crisis has lead to better bond prices and to pay less for its debts than the bank’s competitors. The interviewee states that “the most important thing with Handelsbanken when it comes to risk is that there is a very strong risk culture” and that Handelsbanken is very conservative. They only take on risks which they understand and the only risks they want to have in their books is the credit risks and try to get rid of all other risks.

The interviewee states that the bank is strongly decentralized where the ultimate responsibility for the risk lies with the branch manager who grants the credit. “It is very important of course to have people that really are skilled and have a good education and also are very well familiar with the culture of Handelsbanken”. Besides being strongly decentralized, the bank also switches towards an extremely strong centralized strategy while applying the credit policy all over the world. Everyone has to follow it strictly with no exceptions. The way the bank is steered, the result measurement from each branch, capital adequacy reporting, accounting and a lot of IT processes are tightly centralized.

According to the interviewee profitability is always important as they exist because of their shareholders but it should not be gain by the expense of huge risks. “The bank should not hunt growth and market share”. Speaking about the relationship with the startup companies Mr. Blåvarg states that in startup phase you really need equity capital and not debt capital. Of course Handelsbanken is interested in developing good relationship with startup companies but maybe other than credit solutions. The role of IT is quite clear at Handelsbanken namely they only use computerized support for credit granting process for private individuals while simultaneously the bank uses information from kreditupplysning (credit bureau in Sweden).

The corporate customers are assessed completely through qualitative decision making and the use of computers is almost nothing. Private customers are assessed through internal rating or credit grading but the manager has the supremacy to disregard a suggestion of the rating system. Regarding IT VS human judgment the interviewee highlights the essence of common sense and that there is an element of human judgment when applying the models. Models are extremely useful
(quick and efficient) in making various types of decision i.e. credit decisions but one has to keep in mind the limitation of the models that exist.

Handelsbanken has recently made tremendous investment in IT which has resulted in better customer relationship and also increased customer knowledge i.e. their income conditions, their investments etc. When asked to mention three criteria that you look at customers, the interview answered, that the customer with good track of cash flow and it should be the most valuable in the segment, we want to cherry pick our customers. Speaking about the risk measurement Mr. Blåvarg thoroughly explained the use of internal rating for both private and corporate customers. He added that this grading scale (1 - 9) has been used for a time very long (since 1983) and has been specially developed after Basel 2 was introduced; the aim was to collect as much information about the customers as possible. The bank uses more advanced risk measurement to calculate capital adequacy and also the IRB model that the bank possess is approved by the supervisory authority for the use of internal models to measure capital. The bank uses VAR to measure market risk the model has been classified as a good pedagogic risk management tool.

According to the interviewee the use of models needs good understanding of its limitations; one cannot use VAR to calculate what capital is required. He further adds that the main failure of the market risk models i.e. VAR was that they have been used for capital adequacy purposes during the financial crisis. When stress increases in the market the volatility automatically is on peak and as a consequence VAR starts to stop working. Speaking about the complexity of models used in the area of risk management, the interviewee emphasized the need of having a sort of understanding of the models. When asked about the closest competitor Mr. Blåvarg mentioned SEB and to some extent Nordea. Swedbank is more a mass market bank, wanting to have any sort of customer but we are type of bank that picks its customers.