

How to deal with issues arising in the loan loss provisioning process

- A case study of a large Swedish bank

Julia Persson♦ & Magnus Lundberg•
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Abstract

By conducting a case study on a Swedish bank, we aim at filling the gap in previous research and increasing the understanding about loan loss provisioning, by identifying issues that arise during the loan loss provisioning process. We show that three main issues arise during the process: (1) how to design the internal guidelines to achieve a consistent process, (2) how to consistently identify and handle when to take a provision, and (3) how to estimate the size of provision. The process is based on the accounting standard IAS 39, but additionally the Bank sets specific internal rules. Furthermore, consistency is created by the use of internal controls, which we analyze based on a two- dimensional framework by modifying Simon's (1995) four levers of control by adding an additional dimension; to what degree the control system is founded on a rules- or a principles-based regime. We found that the Bank's rules-based system makes the Bank focus on diagnostic controls and boundary systems. Furthermore, our study shows that earnings management can occur internally, as empowered relationship managers have incentives to manipulate the input used for the diagnostic control system, and that the Bank aims to mitigate this issue by using separation of powers. We conclude that the process is complex and involves difficult subjective measurement issues. The incurred loss model of IAS 39 is backward-looking and it is evident that management judgment has a large impact when estimating the size of the provision.

♦ 21253@student.hhs.se • 40176@student.hhs.se

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1 Introduction

When a customer defaults and cancels the repayments of the loan, the bank will take a credit loss and the loan should be impaired or written off. But what if the bank knew far in advance that the borrower would be unable to fulfill his obligations; should it not report the expected losses earlier? The answer is yes (IAS 39, 2005, para. 59a); a provision should be taken when the bank has significant evidence of financial difficulty of the borrower. But the question then arises; when did the financial difficulty begin (Barth, 2006)? Was it at the time when the borrower's savings were depleted? When he lost his job, even though his savings account balance equaled several months of his income? When the factory at which he worked announced it planned to lay off a fraction of its workforce? When the demand for the factory's production declined? When the price of oil increased, thereby raising the price of the factory's output? IAS 39 does not directly answer such questions, and the bank has to make its own interpretation. Not surprisingly, many view IAS 39 as one of the most complex of all standards to apply in practice, if not the most complex one (Mirza & Holt, 2011).

The problem to identify when a loss event has occurred is one of many problems for a bank when taking a loan loss provision (LLP). The financial crisis put an even stronger spotlight on the problem as banks recognized losses rather late, which further contributed to the crisis (Barth & Landsman, 2010). Barth and Landsman (2010) say that financial markets rely on timely information to make capital allocation decisions, and the current accounting for LLP leads to delayed and asymmetric recognition of losses. A fair level of provisioning on bad and doubtful loans is of great importance for investors and bank regulators in the calculation of bank profitability, capital and solvency (Dermine & Neto de Carvalho, 2008).

The problems with accounting for loan losses were also shown in Sweden as the two banks, SEB and Swedbank, suffered record-breaking losses following the financial crisis. When the Baltic market crashed in the aftermath of the financial crisis, Swedbank reported credit impairments that constituted 44 percent of the interest income and helped cause a SEK10 billion loss in 2009. However, just a year earlier, in 2008, Swedbank reported credit impairments that were only 4 percent of the interest income and a profit of over SEK10 billion (Swedbank, 2009). This was a considerable swing in financial performance, especially since the crisis was already severe in the fall of 2008, and also as the bank already in its 2008 annual report acknowledged that there was a "hard landing" in the Baltic countries (Swedbank, 2008).

In Swedish banks, loans to customers are the largest and most important assets. As an example were 74 percent of Handelsbanken's total assets loans to the public or other credit institutions in the end of 2011 (Handelsbanken, 2011). The corresponding LLP account is also the banks' largest accrual account. A booking of a provision will affect the result immediately in the current period and, therefore, it will also cause a large income statement effect, as was seen in the example of Swedbank. Credit risk is also by far a bank's largest risk, and in the end of 2011, Nordea estimated it to be 70 percent of the total risk (Nordea, 2011).

LLP has been a well-researched topic in accounting theory, and the incurred loss model of IAS 39 has also been widely debated among academics. Gebhardt & Novotny-Farkas (2011) argue that the key benefit of the incurred loss approach is that it reduces the scope of judgment compared to previous accounting methods. Barth (2006) agrees and says that only up-to-date expectations of the current economic environment will be useful in making economic decisions. However, not everyone is of the same opinion. Disagreements have evolved around what weight of the LLP that should be based on specific and objective evidence that a loan loss has been incurred, relative to evidence that are less specific and more based on judgments (O'Hanlon, 2011). Critics maintain that the restriction of the incurred loss model prevents banks from reporting 'known losses' that are inherent in loan portfolios (Gebhardt, 2008).

Previous research has mostly focused on managers' use of LLP to manage earnings, regulatory capital, and signal private information to the market (Ahmed, et al., 1999). Beatty, et al. (2002) point out that previous research interest in LLP is due to the subjective measure of an accrual account, and because of the potentially large effects of provisions on a bank's result. In their own study, they found that LLP was used to smooth earnings, something that other studies have been able to show as well (Kanagaretnam, et al. (2003), Lobo and Yang, (2001)).

Even though there have been disagreements among previous studies, they all have in common that they only looked at banks' reporting of LLP from an external perspective. Studies have looked at stock market effects, or regulatory effects such as when Spain introduced a through-the-cycle model, which was an income smoothing model. Dermine and Neto de Carvalho (2008) argue that there is a need for studying LLP on a micro level. In our study, by looking specifically at how one bank handles LLP when it comes to the interpretation of IAS 39, and the creation of an internal process for both identifying and calculating risk-classified loans, we aim at taking a step towards filling that gap of information. We hope to add to the LLP debate and think that now is a perfect time to do so, as we face uncertain economic times, with the introduction of a potential new accounting standard, IFRS 9.

1.1 Pre-study

Since very limited research has been conducted regarding issues that Swedish banks are facing when implementing regulations and directives from actors such as the Basel Committee on Banking (BCBS), International Accounting Standards Board (IASB), a rigorous qualitative pre-study was conducted in order to gain understanding of challenges that bank managers are currently facing. In order to pinpoint an existing critical problem area, more than ten experts from a broad range of different areas related to the banking industry were interviewed.

Firstly, unstructured interviews were conducted with consultants working within the field of banking and banking regulations, since those types of interviews are a good way to gain understanding about areas fairly unknown for the interviewers. We conducted an interview with consultant Jesper Skoglund at Ernst & Young's financial services division, from whom we got valuable information on banking regulations and related implementation issues. From an Oliver Wyman consultant, focused on financial services and with much experience from working with projects related to Basel, we deepened our knowledge of what issues the implementation of recommendations and standards from BCBS, in terms of capital requirements and risk-weighted assets can rise.

Peter Englund, Professor in Finance at Stockholm School of Economics with specialist knowledge about banks, provided further insights about the industry and current challenges. Further we also interviewed Pehr Wissen at the Institute for Financial Research¹, who has broad practical experience from both the industry after holding high positions within Handelsbanken for many years, as well as a strong knowledge about the academic research in finance from the role as a professor at Stockholm School of Economics.

Thereafter we discussed the challenges with implementing Basel II and Basel III and how to calculate capital requirement with Henrik Lindqvist and Per Jäderberg at Handelsbanken Debt Capital Markets Division. Since valuing the bank's asset is the foundation of capital requirements calculations, the interview focused on Handelsbanken's philosophy regarding the credit issuing process, as well as the ongoing revaluation during the financial year. Professor Anja Hjelström at Stockholm School of Economics introduced us to the area of provisions for loan losses. She also referred us to persons to contact at the Swedish Financial Supervisory authority (FI) in order to deepen our knowledge in the area.

A topic that was mentioned and highlighted during many of the interviews was the impact of a bank's loan losses from different aspects. Aspects such as how LLP relates and affect capital requirements needed to fulfill Basel requirements, the issues that auditors face when auditing LLP for external financial reporting, and how

¹ The Institute for Financial Research was started in 2001 and the aim of SIFR is to conduct and stimulate high quality research in financial economics. SIFR also has the ambition to narrow the gap between academic research and the practice of the financial industry.

LLP affects the usefulness of financial reports for the users, such as equity analyst and portfolio managers, were stressed.

The pre-study was narrowed down to cover the challenges related to the process of loan impairments more specifically. From an initial interview with an accounting expert and one supervisor for one of the main Swedish banks at FI, we acquired knowledge about the different regulations that a bank faces and the role FI plays within the industry as a supervisor.

After reading the dissertation written by Peter Nilsson, nowadays a partner within the field of Financial Services at PwC, an interview was conducted in order to gain understanding of the recent development within the area. In order to grasp the accounting-related issues concerning LLP more in depth, we interviewed accounting expert Sigvard Heurlin, senior project manager at The European Financial Reporting Advisory Group (EFRAG), and former auditor of one of the four largest banks in Sweden as a partner at PwC.

Having conducting the pre-study, we had gained understanding of the interpretation issues related to IAS 39. It became evident that banks following the same accounting standards can report LLPs in significantly different manners and we wanted to understand how that is possible. Somewhat unexpectedly we found no previous study analyzing the internal process related to LLP. Hence, we recognized a need for more research in order to understand how companies interpret the accounting standards, and what issues that arise internally when deciding about provisions for loan losses. In order to fill this gap, we decided to analyze how this process works within a bank; from interpreting the accounting standard until the result reaches the external financial reports.

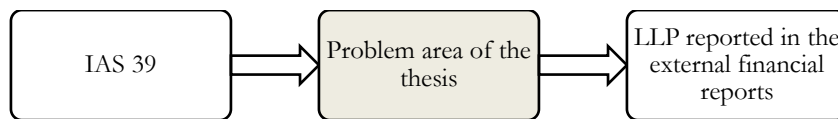


Figure 1: *The problem area of the thesis*

1.2 Purpose and research question

The overall aim of this thesis is to enhance users and other stakeholders (such as investors, other capital providers, analysts, regulators, standard setters and banks) knowledge in this rather unexplored area, for them to be able to make better decisions. The purpose of the thesis is to increase the understanding of the LLP process by identifying issues that a bank faces and how they are handled practically. We aim to do this by describing the process from IAS 39 is interpreted to LLP is reported in the external financial reports. Hence the main question that we will address is:

- *What issues arise during the loan loss provisioning process within a bank and how are they handled internally?*

1.3 Method

1.3.1 Qualitative method

We have chosen to conduct a qualitative case study in order to fulfill the aim of this thesis. Due to the scarce exploration and previous research on the topic, a qualitative method is suggested to be suitable (Eisenhardt, 1989). Also, since this study seeks to analyze rich information of one case in depth, a qualitative study is preferred (Holme & Solvang, 2007). Since we did not know what results to expect beforehand, a qualitative research approach is recommended (Yin, 2003). The aim of qualitative research is to study the world from the perspective of how people experience it, and it gives the researchers scope for a broader understanding and interpretation of results. In this study, we have worked with a hermeneutic philosophy as a basic view, since interpretation has been the main research ethos. We are not trying to find an absolute truth as there is none under the hermeneutical ethos.

Throughout the process, theory and empirics were developed and revised parallel to each other. Hence, our study followed an abductive approach, which is a combination of a deductive and an inductive approach (Alvesson & Sköldbberg, 1994). Previous research regarding principle- and rules-based accounting, earnings management, as well as other research areas related to loan loss provisions were studied initially, before the gathering of empirical information was initiated. During the collection of empirical data, we broaden the theoretical framework to also include theoretical branches of management control in order to find theories that could explain our findings.

1.3.2 Choice of study object

After the first pre-study was finalized and the research area was chosen, a description of the aim of the thesis including a presentation of the authors' résumés was sent out to all of the four major Swedish banks. The aim was to conduct the study at all four banks, and they were chosen because they are considered to be the systematically important banks in Sweden. The persons receiving the letter had first been contacted over the phone to assure that they were working with issues related to loan loss provisions and, therefore, were the right persons to contact. Three of the four banks responded and agreed to meet in person. Even though two of the banks were very accommodating and allowed us to conduct multiple interviews, they did not let us take part of confidential or internal material. One possible explanation to why they did not allow us further access is because they were afraid to let us see customer information. Also, banks in Sweden have been in the spotlight since the financial crisis and it is possible that they were afraid to get more bad publicity. Still, the knowledge that we gained from these interviews helped us in our main study and as such, they became a second pre-study. The third bank that we met with turned out to be very helpful, and gave us full access to internal information, which was a necessity in order to understand the internal process related to LLP. Due to the limited access at the other banks, the initial aspirations to do a comparative study across the four banks

became difficult and as a result, we decided to only focus on one bank. As a requirement from the management of the bank, for them to be able to allow access to internal and confidential information, the bank has to be held anonymous and will, therefore, be referred to as the Bank hereafter.

1.3.3 Pre-knowledge given by the second pre-study

In order not to reveal the Bank's identity, the two banks from the second pre-study will be held anonymous and will be referred to as Bank B and Bank C. We conducted an interview with the Senior vice president at group finance at Bank B, who also took part in developing Bank B's collective LLP model, and this interview took place before we initiated the study at the Bank. In addition to the interview at Bank B, we also conducted three interviews at Bank C; firstly with a credit manager, then with Head of group credit, and additionally with an accounting expert from group finance working with interpreting IFRS. All interviews took place before we had initiated the interviews at the Bank.

During the interview at Bank B, we learned that its goal is to have such a good customer knowledge that no collective provisions should have to be made. The bank gets this knowledge by having a decentralized organizational structure in which the local managers get freedom to make their own decisions and, therefore, they are also responsible for their own financial result. The local offices create reports and suggest what provisions they like to take, after that every customer is reviewed once every quarter. Because a provision affects the local managers results, Bank B see a need to have an internal control system. There is a regional credit division that audits the local offices, and a central division that then audits the regional division. Bank B operates with a customer focus rather than focusing on the specific loan. We also learned that large customers are rated on a scale from 1 to 5, in which a customer that is rated 3 is a "good" customer. If the rating is higher, an individual action plan is needed. According to the Vice president at Bank B, IAS 39 forces the bank to make collective LLP, and Bank B takes collective LLP for large customers, who have not yet been identified for individual impairment. It also takes something referred to as general LLP, which is collective LLP for household customers and small companies. For household customers, a scoring model which the interviewee called a "machine-like" statistical model is used. The model aggregates information from different customer accounts and calculates provision levels by grouping customers into homogenous groups. For small companies, an option model focusing on volatility is used.

According to the Head of group credit at Bank C it would be better to have a strong internal culture, rather than having a lot of rules that has to be followed, so that employees can make their own decisions. He said that IAS 39 has led to implementation problems for Bank C. IAS 39's incurred loss approach is complicated and prevents Bank C from taking provisions as a result of changes in economic outlook, even though the bank predicts that it will lead to future credit losses. Furthermore, he believed that it would be much better if banks were allowed to make their own judgments. Bank C uses ratings as a tool to identify changes in

customer status, but he claimed that changes always occur too late, and gave an example of how Bank C knew that the storm Gudrun would incur credit losses for the bank. Thus, as these could not yet be identified for individual customers, there was a need to take collective LLP. The bank uses a model for the collective LLP and it is based on historic loss statistics, however, sometimes the past losses will not be good at predicting future losses and then the bank uses management judgment. The credit manager said that if there will be a movement towards expected loss, banks' accounting practices will move closer to those for the calculation of capital requirements.

The accounting expert at Bank C explained that it is hard to implement accounting standards as they constantly keep changing, and that the collective LLP is the toughest part of IAS 39 to implement. However, he claimed that the collective LLP is needed as credit losses otherwise would be shown too late. Still, he was of the opinion that the incurred loss model takes LLP too late, but he did not see that the expected loss model would solve the problem. He was also of the opinion that IFRS lacks a good sense of what is possible to do in the real world when it comes to calculating the effective interest rate. He claimed that finding the exact discount rate for every loan, which discounts the future payments back to present value, is practically impossible to implement. Another problem according to him was that most of a bank's loans have floating interest rates, which makes it difficult to estimate the effective interest rate. It would also be a costly process to constantly revalue the loan with changes to the interest rate. He concluded that in order to follow IFRS, very costly updates to the computer systems have to be made.

As the last part of our pre-study, we analyzed the four largest Swedish banks' financial reports dating back to 2008. None of the banks reported in the exact same format, as they all used different names for at least one item, for example was provision also called both reserve and allowance. However, more importantly, the provision levels differed greatly. The most striking difference among the banks is the size of the collective provision compared to the total provision. In the end of 2011, Handelsbanken's collective-to-total provision was 9 percent, and at the same time Nordea's was 23 percent.

As a result of the pre-studies, we gained a broad understanding about different challenges that banks can face during the LLP process, as well as how the assessments of impairment are performed, and what role different divisions involved in the LLP process play. This gave us a good starting point when we initiated our study at the Bank, so that we rapidly could move into analyzing more complex issues, and have a good understanding of the analyzed material.

1.3.4 Data collection

Before the study could be initiated at the bank, confidentiality agreements were signed with the compliance department at the bank after an extensive review of the security regulations. We were given desks at the bank

and more than three weeks was spent at the office while gathering empirical information, analyzing internal documentation and conducting interviews. In addition to more formal scheduled interviews, a constant dialog was kept with persons working within the Group Credit Framework and Support, since the open office landscape spurred an informal dialog.

The possibility to use multiple methods for data collection is a strength that can be utilized better in case studies than in other kind of studies such as experiments, surveys or archival studies. Methodological triangulation combines different methods such as interviews, observations and physical evidence, to analyze the same phenomenon, which also is the process we used in this case (Merriam, 1994). By spending more than three weeks on site, we were able to analyze a substantial amount of internal documents, conducting 14 interviews, as well as participating in conference calls and observing the everyday work at the office. We could, therefore, analyze the same phenomenon from multiple angles and achieve methodological triangulation.

We have taken part of approximately 30 internal documents such as different guidelines, policies, and handbooks. To start with, we were given guidelines specifically for loans that are classified as doubtful, but subsequently we were also given access to the internal network and could download any document we wanted from there. In addition to the guidelines, we have also analyzed cases for impairment calculations for specific customers from the Wholesale division.

After explaining from which functions of the bank we wanted to meet representatives, our coordinator at the bank introduced us to the persons he knew had the best knowledge about our interest area. During the interviews, we were also recommended other persons within the bank that the interviewees thought we would benefit from meeting. After every interview, we also asked the person being interviewed for further suggestions of persons that we should meet. Through these introductions we were given access to employees at high positions at different divisions who were known to have good knowledge about the topic. However, when the sample of the employees is chosen by the organization itself there is a risk that the company will be presented in a biased way (Ahrne & Svensson, 2011). In order to mitigate that potential problem, we also identified employees ourselves from the organizational charts, who we later interviewed even though we already had gotten multiple views from the different interviewees.

All the interviews took place at the Bank and the length varied from one hour to one hour and a half. Even though some questions were prepared in advance prior to the interviews, no standardized interview-guide was followed since the roles and responsibilities of the persons being interviewed differed significantly, and we therefore saw a risk of omitting issues by having too structured questions. Hence, we made an effort to ask as many open-ended questions as possible. We wanted to keep the interviews rather open and unstructured, as long as the discussion was relevant for our research area, since those types of interviews is a good way to gain understanding about areas fairly unknown for the interviewers. We aimed at letting the interviewee talk as

much as possible. However, if the interviewee went off-topic we tried to ask a question that was more specific. Due to the complex nature of the topic, more specific questions also had to be asked in order to get down into greater detail. We were aware that asking questions about internal problems might cause the interviewee to have negative associations, and, therefore, answer the question with caution. In order to mitigate this potential restriction, we carefully avoided to use the word problem, and instead formulated the questions around challenges in the process. We did not get the impression that information was withheld from us, rather the interviewees were free-spoken as they knew we had signed confidentially agreements.

We were not allowed to record the interviews, so notes were taken instead. Both of us took notes during the interviews, but we alternated between who the main note-taker and the main interviewer was. We both individually transcribed the interviews after conducting them, and then compared the notes afterwards in order to avoid misunderstandings and misinterpretations. Then one of us used the notes to write an extensive interview summary. It should be noted that the information we gained from the interviews represents the individual views of the employees, thus it might not be the Bank's official viewpoint.

In addition to the interviews in person, we have also participated in a telephone conference in which the central credit risk functions and all the regional credit committees from the retail division, among other things, discussed how to improve the credit risk process with participants from the regional committees. By doing so, we have generated an understanding of how the persons responsible for the implementation and execution of the guidelines view the process. By hearing multiple views from people at different horizontal and vertical levels of the organization, we have been able to get a better understanding of the complexity of the process.

2 Theoretical framework

According to Diamond (1984), the accounting and finance literatures previously analyzed four main issues of LLP: the extent that banks use earnings and capital smoothing, the impact of reported provisions on a bank's stock return, the systemic impact of banks' disclosure of LLP on the banking industry, and the time lag between credit growth and loan losses. All these issues originate from the fact that banks hold private information about their loans that the market does not have access to (Diamond, 1984). Dermine and Neto de Carvalho (2008) argue that there is a need to study LLP on a micro level, and more specifically the issue of how provisioning is done at the time of default. One Swedish study was conducted in 2003 analyzing the introduction and implementation of general LLP in Swedish banks (Nilsson, 2003), which we will review in this section. Though, very limited previous research has been conducted regarding how the LLP process works, and how the accounting standards are implemented in practice. Therefore, we see a need for further research on how organizations interpret and implement the accounting standards for LLP, and how the calculations are conducted.

In order to account for LLP, a bank has to implement IAS 39. The IASB has constructed the Conceptual framework for financial reporting to be used as a guideline when standards are implemented. We will, therefore, start with describing the Conceptual framework and the parts of IAS 39 related to LLP. According to IAS 39, the incurred loss model should be used for LLP. It has, however, been controversial and people have expressed difficulty in establishing when an incurred loss has happened. Another issue with the model is that it has been suggested to be pro-cyclical. To mitigate these problems, two alternative models for LLP have been suggested, and we will briefly explain these. Furthermore, since our study originates in the implementation of IFRS, and because the standard is considered to be principles-based, we have reviewed previous literature on the principles- compared to rules-based debate.

To better understand the underlying processes and the issues related to the implementation process in a large organization, we have also analyzed management control studies. We found Simon's (1995) four levers of control to be a fitting framework because it is multidimensional and focuses on the interplay among many control mechanisms. In that way we can compare and contrast the Bank's use of these, and see whether one or two are dominant and how they then affects the others. Hence, the theory section will end with a review of Simon's (1995) framework.

2.1 Conceptual framework

2.1.1 The objective of financial reporting

According to International Accounting Standards Board's (IASB's) Conceptual Framework for Financial Reporting the objective of general financial reporting is to:

"...provide financial information about the reporting entity that is useful to existing and potential investors, lenders and other creditors in making decisions about providing resources to the entity" (International Accounting Standards Board [IASB] 2010, para. OB2)

The objective of a bank's external financial reporting should, hence, be to provide information that is useful that helps primary users in making resource allocation decisions. The decisions consider providing or settling loans and other types of credits, as well as decisions regarding buying, selling or holding equity and debt instruments (IASB, 2010, para. OB62). Users can be both existing or potential investors, lenders and other creditors, and they all need information to assess expected future net cash inflows to an entity (IASB, 2010, para. OB3). Furthermore, users cannot require reporting entities to provide information directly to them, which makes financial reports the key resource of financial information (IASB, 2010, para. OB).

IASB recognizes that financial reports to a large extent are based on estimates, judgments and models rather than exact depictions. To guide preparers, The Conceptual Framework establishes the concepts that underlie those estimates, judgments and models (IASB, 2010, para. OB11). These concepts should guide preparers of financial information to report a perfect reflection of the true economic conditions, but IASB also recognizes that a total fulfillment of this vision is unlikely to achieve, at least in the short run. Constructing the framework in this way, standard setters have based it on principles rather than rules, and by having clear goals for financial reporting these principles should help improve usefulness (IASB, 2010, para. OB11).

2.1.2 Qualitative characteristics

The qualitative characteristics of useful financial information, discussed in the Conceptual Framework, identify the types of information that are likely to be most useful to the users (IASB, 2010, para. QC1). The two fundamental qualitative characteristics are relevance and faithful representation. Together with the four enhancing qualitative characteristics- comparability, verifiability, timeliness, and understandability- they are able to make financial information useful (IASB, 2010, para. QC4).

Information is relevant if it is capable of making a difference in the decisions made by users (IASB, 2010, para. QC6). In order to be able to make a difference, it has to have a predictive value, a confirmatory value, or both (IASB, 2010, para. QC7). If the user can use the information as an input to predict future outcomes, the information is said to have a predictive value, but it does not by itself need to be a prediction (IASB, 2010,

para. QC8). If the information confirms or changes previous evaluations it has a confirmatory value and does normally also have a confirmatory value if it has a predictive value (IASB, 2010, para. QC9, IASB, 2010, para. QC10). In the case with loan losses for example, if the information for the current year can be used as the basis for predicting loan losses in the future, it can also be compared with loan loss predictions for the current year that were made in previous years.

There is also an entity-specific aspect of relevance that depends on the magnitude or the nature of the items. Information is material if the user's decisions could be affected if the information is omitted or misstated. Since the materiality characteristic is an entity-specific aspect of relevance that relates to the context of an individual entity's financial report, the board cannot decide beforehand what is material in a particular situation, nor set a standardized quantitative threshold for materiality (IASB, 2010, para. QC11).

In order for financial information to be useful, not only should it represent a relevant phenomenon, but it must also faithfully represent what it purports to represent. To be faithfully represented, the information must have three characteristics: complete, neutral and free from biases (IASB, 2010, para. QC12).

2.2 Impairment according to IAS 39

An entity is required to classify its financial assets into one of four categories. Loans and receivables are financial assets with fixed or determinable payments with no quoted price in an active market and should, therefore, be carried at amortized costs. According to IAS 39 an entity shall at the end of every reporting period assess whether there is any objective evidence that an individual or group of financial assets has been impaired (International Accounting Standards 39 [IAS 39] 2005, para. 58). The entity should include all credit exposures in the process and not only those that are of low credit quality (IAS 39, 2005, para. AG85). Financial assets should be impaired if, and only if:

"...there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or group of financial assets that can be reliably estimated." (IAS 39, 2005, para. 59A)

The standard states that the effects of future cash flows should be able to be reliably estimated (IAS 39, 2005, para. 59A). However, IAS 39 also recognizes that the use of reasonable estimates is an essential part of the preparation of financial statements and does not undermine their reliability (IAS 39, 2005, para. 62).

2.2.1 Loss event

The standard recognizes that it may not be possible to identify a single event that causes the impairment; rather the combined effect of several events could cause the impairment.

IAS 39 states that if the holder of financial assets has observable data of losses from one or more of the following events it should be regarded as objective evidence of impairment:

- a) significant financial difficulty of the issuer or obligor;*
- b) a breach of contract, such as a default or delinquency in interest or principal payments;*
- c) the lender, for economic or legal reasons relating to the borrower's financial difficulty, granting to the borrower a concession that the lender would not otherwise consider;*
- d) it becoming probable that the borrower will enter bankruptcy or other financial reorganization;*
- e) the disappearance of an active market for that financial asset because of financial difficulties*

If the decrease in future cash flows cannot yet be identified for individual assets, impairments should be made in a group of assets if there is objective evidence from observable data that there has been a decrease in future cash flows from one of the following events:

- I. adverse changes in the payment status of borrowers in the group*
- II. national or local economic conditions that correlate with defaults on the assets in the group*

The standard also gives some guidance of events that are not eligible as objective evidence on its own. For example a downgrade of an entity's credit rating is not by itself evidence of impairment (IAS 39, 2005, para. 60). Another example is that a decline in the fair value of a financial asset below its amortized cost value not necessarily is evidence for impairment (IAS 39, 2005, para. 60). However, if such events are analyzed together it could be regarded as evidence for impairment.

2.2.2 Individual or collective assessment

The entity should not include individually assessed and impaired assets in a group of assets that are collectively assessed for impairment. However, those assets that have not been found to be impaired individually should in all events be included in a collective impairment testing (IAS 39, 2005, para. IN21). But as soon as information becomes available that an individual asset has been impairment it should be removed from the group (IAS 39, 2005, para. AG88). Groups of assets should be based on similar credit risk characteristics that are indicative of a debtors' ability to service the contractual terms. An exception should be made if an entity cannot identify groups of assets with similar risk characteristics (IAS 39, 2005, para. AG87).

In order to reduce possible differences between expected and actual losses the standard's application guidance states that the assumptions and methodology used for future cash flows should be reviewed regularly (IAS 39, 2005, para. AG89). The standard also emphasizes that the methodology for measuring impairment should make sure that an impairment loss is not recognized on the initial recognition of an asset. After a financial asset has

been impaired, the interest income is thereafter recognized by using the same interest rate used to discount future cash flows when measuring the impairment loss (IAS 39, 2005, para. AG93).

2.2.3 Amount that should be impaired

When the entity is estimating what amount should be impaired the outcome may be either an absolute number or a range of possible amounts. If the result is a range of amounts, the entity should take all relevant information available at the end of reporting period about existing conditions in order to find the best estimate within that range, and then impair that amount (IAS 39, 2005, para. AG86). The preparer should add current observable data to the historic loss experience data and then remove the historic data that is no longer relevant to get current loss expectations (IAS 39, 2005, para. AG89). Sometimes only limited or no longer relevant data exist for estimating the impairment loss and the preparer may lack historical data for comparable borrowers. If so, then the entity should use its experienced judgment to estimate the amount of any impairment loss (IAS 39, 2005, para. 62). An entity could also have no, or insufficient entity-specific loss experience, upon which the entity should use peer groups for comparable financial assets (IAS 39, 2005, para. AG89).

A previously recognized impairment loss shall be reversed if the loss decreases as a result of an event occurring after the impairment and the decrease can be objectively related to the event. The amount of the reversal should be recognized in profit and loss, but the reversal should not result in that the financial asset has a carrying value higher than what the amortized cost would have been at the same point in time if the impairment would not have happened (IAS 39, 2005, para. 65).

2.2.4 Amortized cost

Amortized cost is the cost of an asset or liability as necessarily adjusted, to achieve a constant effective interest rate over the life of the asset or liability. By doing so, the effective interest will with other words generate a constant interest income as a percentage of the carrying amount of the financial asset. For an entity to determine the amortized cost of an asset it applies the effective interest rate method, which also determines how much interest income that should be reported in each period. By doing so, the rate will be the internal rate of return of the cash flow from the asset, of which the original amount paid or receives, interest payments, as well as principal repayments are included. The effective interest rate can be computed using a spreadsheet program or a calculator, and is found by solving this equation for the interest rate (y) that equates the initial carrying amount of the asset (PV) with the present value of the estimated future interest and principal cash flows (CF) in each period (i) (Mirza & Holt, 2011).

$$PV = \sum_{i=1}^N \frac{CF_i}{(1+y)^i}$$

However, Barth and Landsman (2010) see it as a shortcoming that the effective interest rate method does not change the discount rate used when calculating the present value of the expected cash flows to reflect changes in interest rates. Because it does not fully reflect the value of expected future cash collections, they argue that the information provided to financial markets about the value of bank loans is incomplete. They argue that if this could be overcome and a fair value model would be used instead, it would give the most market discipline because it will show the best information of loan values. However, Eckel, et al. (2003), warns that comparability would decrease as there is a risk that managers would set their own interest rates when calculating loan values.

2.3 Previous research

2.3.1 The incurred loss model and alternative models for LLP

IASB's model for calculating LLP is called the incurred loss model among academics (Wall & Koch, 2000). An incurred loss model assumes that all loans will be repaid until evidence of the opposite is identified, i.e. until a loss event has occurred (Deloitte, 2012). That means that evidence of such an event has to be found in order for the bank to impair a loan. The model has its bases in conservative accounting since only past events should be taken into consideration in impairment decisions (Ditchkuss, 2006). She says that another way to describe the model is that it fulfills The Conceptual Framework's principle of reliability since it does not involve foreseeing future events that could lead to loan losses. Barth (2006) supports IASB and says that only up-to-date expectations of the current economic environment will be useful in making economic decisions. Furthermore, she points out that it is self-evident that not all expectations of the future should be recognized in financial statements today, particular those that do not arise from events or transactions that have yet to occur.

The IASB is, however, currently looking at revising IAS 39's incurred loss model and move towards an expected loss model, which will shift the focus from what has happened in the past to what is likely to happen in the future (Deloitte, 2012). Hence, losses will be recognized earlier, which should give a better match between revenues and losses. With this model, accounting for loan losses will move away from amortized costs and to a fair value approach as it is the value of the expected cash flows that should be shown (Wall & Koch, 2000).

With the incurred loss model LLP has traditionally been backward-looking and highly pro-cyclical (Anglormkiew, et al., 2009). That is, provisions has tended to be low ahead of banking crises, and then increased sharply, as losses amounted because of higher unemployment rates and larger amounts of bankruptcies (Bikker & Metzemakers, 2002). According to Deloitte (2012), the incurred loss model front-loads interest revenue but only recognize the losses as they occur, i.e. revenue is recognized in economic

upswings while losses are recognized in downturns. Bikker and Metzmakers (2002) found evidence that LLP is highly correlated with the business cycle as they found that when GDP growth was less than 3 percent, provisions were 60 percent higher compared to when GDP growth was greater than 3 percent.

To mitigate the problem, a through-the-cycle model for LLP has been suggested (Saurina, 2009). According to this view, provisions should be positively correlated with the business cycle because banks should recognize this cyclical pattern of credit risk and build up LLP in good times to be drawn on in bad times. This is a counter cyclical approach and is something that could be positive from a capital regulators view if it leads to greater capacity to absorb unexpected losses (Wall & Koch, 2000). In this model larger provisions are taken in good times in order to build up a buffer that then is used during bad economic times.

Cavallo and Majnoni (2001) found that inadequate provisioning in the upswing phase of the cycle, forces institutions to increase provisions during periods of financial distress. Bikker and Metzmakers (2002) agree and say that credit risk is built up during economic upswings and then materializes during downturns. The through-the-cycle model has been tested in Spain and the stricter rules that the Central Bank dictated lead to less room for managerial discretion (Perez, et al., 2006). Furthermore, they argue in favor of the approach as society will not become as vulnerable to the risk of bank managers using LLP to distort earnings. According to Wall and Koch (2000) the counter cyclical approach could be positive from a capital regulators view if it leads to greater capacity to absorb unexpected losses. However, arguments against the through-the-cycle model have also been made. A major problem with the model is that you would have to be able to predict the business cycle, which Yeh (2010) thinks is impossible to do as no business cycle seems to be similar to another. Bushman and Williams (2007) also found evidence that shows that banks exhibit more risk-shifting behavior in countries with accounting regimes characterized by higher levels of earnings smoothing.

2.3.2 Principle-based accounting compared to rules-based accounting

IFRS is generally characterized as principle-based compared to the more rules-based US GAAP. However, some of IFRS standards, such as IAS 39, have been argued to have characteristics of a rule-based standard (see for example E&Y (2010), ICAS (2006), IASB (2008)), though this is mostly discussed in relation to hedge accounting. IASB is currently working on completing IFRS 9 as replacement of IAS 39, one reason being that IAS 39 has been criticized for its rules-based character. However, arguably some parts of IAS 39 could nevertheless be characterized as principle-based².

Principles-based accounting provides a conceptual basis for accountants to follow instead of a list of detailed rules (Toppe Shortridge & Myring, 2004). Nobes (2004) notes that the main difference from a standard that is

² Heurlin, Sigvard , Senior project manager EFRAG, 2012-02-08

based on rules, is that principles work more like guidelines. IFRS sets the guidelines in The Conceptual Framework, which Hague (2004) says becomes important when new standards are adopted because it helps to frame particular aspects of a new standard. Guidance should not be provided in every possible situation, but if the reader is in doubt he should be directed back to principles (Toppe Shortridge & Myring, 2004). Furthermore, Nobes (2004) argues that by having a set of principles, preparers and users of financial statements can address issues from the same references and do not have to worry about endless amounts of solutions. In any activity involving multiple participants some conventions are necessary to get consistency in the manner in which participants act. If every project started off with a blank sheet of paper the results would not be compatible with those of other projects that might be based on other guiding principles. However, Nobes (2004) also says that guiding principles are not enough and while some people might disagree with standards they are also very important because they lead to that further consistency can be achieved.

The academia has been much against a too rules-based standard. Nobes (2004) says that even though rules can have advantages as they lead to increased comparability, increased verifiability for auditors and regulators, decreased earnings management, and increased communication of standard setters' intentions, standards should still not be based on rules. The reason is that they will also lead to excessive complexity and to the structuring of transactions to get around the rules. When a standard is very precise they may offer a "safe harbor" for structuring transactions to match the rules. Strongly rules-based standards may thus encourage aggressive reporting (Nelson, 2003). This view is supported by the SEC, which in its 2003 study, pointed out that chances are big that complex financial engineering is designed to circumvent a rules-based regime (SEC, 2003). In 2004, Deputy Chief Accountant Scott Taub (2004) argued that the process of setting standards is a vicious cycle, where restructuring of contracts and the creation of innovative new financial structures lead to revisions in GAAP, which are then followed by the creation of additional financial structures. Under this scenario, the detailed rules themselves come to provide a roadmap for avoiding their intent (Taub, 2004). A rule-based regime can also risk de-skilling the profession, by requiring a "tick-box" mentality at the expense of judgment real understanding of the business (ICAS, 2006). The user does not have to perform much analysis, since the rules often become very detailed in a rules-based approach, with standards approaching hundreds of pages (ICAS, 2006).

Within several accounting topics the use of principles instead of rules can lead to clearer communication and to more precision Nobes (2004). Toppe Shortridge and Myring (2004) argue that the primary benefit of principles-based accounting rests in its broad guidelines that can be applied to numerous situations. When providing broad guidelines, the representational faithfulness of financial statements should be improved. Kivi, et al. (2004) regard the presentation of economic substance as the most compelling argument in favor of principles-based standards. To that, Toppe Shortridge and Myring (2004) add that principles-based accounting

standards allow accountants to apply professional judgment in assessing the substance of a transaction. A company's actual performance will be more accurately reflected in financial statements as principles-based accounting standards would reduce manipulations of the rules (Toppe Shortridge & Myring, 2004).

A major issue with a principles-based standard is to get consistency so that comparisons can be made between companies and across reporting periods (Toppe Shortridge & Myring, 2004). If the only requirements were that information should be relevant and reliable, entities would adopt reporting methods to best reflect the economic realities for their particular entity. But this often becomes hard to achieve with a principles-based standard, and it often becomes a rules-based standard in an effort to increase comparability and consistency. Toppe Shortridge and Myring (2004) give evidence of this phenomenon by using the example of fair value accounting for a derivative. They say that if no guidance is provided on this issue, numerous measures such as the asking price, the bid price, or the average of bid and ask prices are potentially justifiable. Thus, a rule was added to delineate exactly how fair value should be determined. The result is that a principle, stating that financial instruments should be measured at fair value, becomes detailed rules. Arthur, et al. (2006) agree and note that a principles-based standard often becomes a rules-based standard in an effort to increase comparability and consistency. However, they also argue that allowing scope for interpretation leads in fact to greater comparability and consistency because the company has more freedom to represent economic reality as perceived by the management. Also the language of standards is an important aspect in relation to convergence and comparability if different interpretations are possible in different countries and cultures (ICAS, 2006).

A skeptical view towards accounting says that if managers' intent is to produce false financial statements, then both rules and principles will be ignored (Arthur, et al., 2006). Nelson, et al (2002) agree that such a view is possible and add that if managers want to manage earnings, they will find a way to do it and will use a method that fits with the type of accounting standard in question. There are the very complex business models now operating in the market and it's not the standards that will make it difficult for investors to see managements' intent (Kivi, et al., 2004).

The debate about whether accounting standards should be rules- or principles-based has revealed both advantages and disadvantages with both approaches. In the end, the final debate seems to evolve into a question of "who makes the judgment" (Arthur, et al., 2006). Most scholars seem to agree that managers, rather than standard setters should make the judgments. However, when they make judgments they will inevitable do so based on society's views of acceptable conduct (Arthur, et al., 2006).

2.3.3 Implications of a principles-based standard

There will be a number of implications for prepares of financial statements based on principles. Toppe Shortridge and Myring (2004) point out the problem that a lack of precise guidelines could create inconsistencies in the application of standards across organizations. Toppe Shortridge and Myring (2004) call this problem a lack of bright-light and say that it is a primary problem of financial accounting.

Today, accountants and auditors would need even more knowledge to be able to determine the economic substance of a transaction (Arthur, et al., 2006). Jackson (2004) says that the financial sector is very complex, and that it, therefore, is very hard to make economic decisions. A principles based approach requires a different professional attitude, and managers will have to make more professionally-based decisions (Arthur, et al., 2006). Hence, the implication is that the organization can make more independent decisions now and these decisions will be based on the judgment of its different managers. Managers could potentially be worried about possible litigation over the exercise of their judgment and prefer rules-based standards (Toppe Shortridge & Myring, 2004). But it could also be as Tweedie (2004) points out, that without detailed rules, management could for example defer losses and manage earnings by the selective recognition of gains and losses. This could be a problem and Jackson (2004) argues that in the financial sector there is a need for strict rules in order to not leave room for a lot of loopholes.

2.3.4 Earnings management

According to Scott (2003), earnings management takes place when managers choose accounting policies to maximize their own utility and/or the market value of the firm. Furthermore, he says that it is important for accountants to understand earnings management because it enables an improved understanding of the usefulness of net income, both for reporting to investors and for contracting. Earnings management is also one of the most researched topics in LLP accounting. Many studies have tried to find whether or not banks use LLP to manage earnings. The reason for such vast research is probably that LLP is the largest accrual account for most banks and that bank managers are given wide latitude in estimating the future expected loan losses (Wall & Koch, 2000). According to Ahmed, et al. (1999), LLP could potentially be used to manage earnings, regulatory capital, and signal private information to the market. However, even though those are the potential areas for the use of earnings management, there have been disagreements among previous studies whether banks really smooth earnings.

Lobo and Yang (2001) used a statistical approach to show a strong result in favor of the income smoothing hypothesis. Beatty, et al. (2002) also found patterns indicating income smoothing. They were also able to show that public banks use management discretion in their LLP to avoid reporting small declines in earnings to a much larger extent than private banks. An explanation for this finding is that public bank managers are under

greater pressure to report increasing earnings. Beatty, et al. (2002) also think that private banks have less information asymmetry and a greater portion of long-term investors, which give them less incentive to manage earnings. Adding to the argument in favor of earnings management, Kanagaretnam, et al. (2003) show that banks push earnings back and forth in time through provisions. It happens because bank managers are worried about current and future performance relative to that of their competitors and, therefore, will smooth earnings to match competitors' performance. Hence Kanagaretnam, et al. (2003) argue that bank managers worried about their job security is an explanation for earnings management.

Out of the three possible reasons to smooth earnings mentioned above, Ahmed, et al. (1999) found that an incentive to manage capital was the only reason to smooth earnings. No relationship between earnings and LLP was found, suggesting that it is not actively used for earnings management. They also studied the use of LLP as a signaling instrument to the market. No relationship was found between the LLP in the first year and the change in earnings the second year. Liu, et al. (1997) studied whether the reported LLP and the resulting market reaction was different when comparing different quarters. They found that LLP only generated a good signal in the fourth quarter for banks that appeared to be at risk of default. In the other cases it was concluded that any good news of the provision were dominated by the potential of loan defaults. The use of LLP to signal to the market does, therefore, not seem to be of great importance.

2.3.5 Measurement issues

Every empirical study of loan provisioning and credit risk raises two measurement issues; which criterion should be used to define the time of the default event, and which method should be used to measure the recovery rate on a defaulted transaction? (Dermine & Neto de Carvalho, 2008). Loans should be carried at amortized costs on the balance sheet which means that the value of the loan is the present value of future cash flows. If an event takes place that would lead to that the expected cash flows will decrease, asset impairment should be made. The problem, however, is to determine which past transactions and events that are appropriate to consider when determining an assets future cash flows (Barth, 2006). Wall and Koch (2000) says that you should only take provisions for losses that are expected from occurred events. Barth (2006), however, notes that identifying an occurred event requires applying judgment and even though IAS 39 gives examples to aid making the judgment, it does not specify when the past ends and when the future begins. She gives an example, and refers to paragraph 59(a) of IAS 39, which indicates that significant financial difficulty of the borrower is evidence of impairment. But, significant financial difficulty could be established at different times. It might be obvious that a borrower failing to make payments when due is evidence of impairment. But, when did the financial difficulty begin? Barth (2006) points out that IAS 39 does not directly answer the question, which shows that it leaves room for a preparers own interpretation. She agrees that the standard is vague, as it only says that there needs to be objective evidence linking a past event to a reduction of the

present value of future cash flows. By using accrual accounting, the incurred loss model says that you should consider the reduction of future cash flows in the current period and report a loss in the same period (Wall & Koch, 2000). Barth and Landsman (2010) see a problem that if you do not identify a loss event in a timely manner, you delay the recognition of losses, which will lead to less timely information to financial markets.

There is not only a problem of identifying a troubled loan in a timely manner, but also problems of measuring loan values (Dermine & Neto de Carvalho, 2008). In their study concerning measurement issues when estimating loan defaults, Dermine and Neto de Carvalho (2008) first reviewed previous literature and found that there are three different definitions of default:

- A. A loan is classified as doubtful as soon as "full payment appears to be questionable on the basis of the available information".*
- B. A loan is classified as in distress as soon as a payment has been missed.*
- C. A loan is classified as default when a formal restructuring process or bankruptcy procedure is started*

Since bank loans by their economic nature are private, there is not much market-based information to assess their current value at the time of distress in many countries, and, therefore, loan-loss provisions must often be estimated (Dermine & Neto de Carvalho, 2008). The second issue, therefore, concerns the measurement of recovery on defaulted loans, since provisions is the amount that will not be recovered, and the two measurement approaches are market loss given default and workout loss given default (Dermine & Neto de Carvalho, 2008). In first approach, the price of the loan is defined most frequently as the trading price one month after the default. In the second approach, the recovery equals the discounted value of future cash flows recovered over time subsequent to the default date (Dermine & Neto de Carvalho, 2008). They also conclude in their study that past recovery is a good indicator of future recovery.

2.3.6 General LLP in Swedish banks

IAS 39 was implemented in Swedish banks in 2005, but FI started to require banks to make general LLP already in 2002, in addition to the individual provisions that only were required before (IAS 39 has since then been modified and general LLP is now called collective LLP). Nilsson (2003) studied the effects of the change in regulations on four large Swedish banks' financial reports. He found differences in the implementation of the regulations, since SEB and SHB did not even report collective reserves in the first quarter of 2002, while the two banks that did, reported significantly different provisions. Swedbank reported 70 percent and Nordea reported around 22 percent of total provisions as general provisions. SHB stressed that by keeping close customer relationships there was no need to make general LLP. During the interviews that Nilsson (2003) conducted, it became evident that the standards could be interpreted differently and thereby also be implemented differently among the banks, which also left room for SHB to make its own interpretations.

Another major finding of the study is that the total provisions did not increase with the use of general provisions. Instead, it seems like the banks reclassified individual provisions into general ones. From a standard setter's perspective this could be seen as a disappointment as the idea of using general provisions is to show losses that have not yet been identified on an individual level, i.e. the accounting should show losses earlier than before. However, as the study was carried out after a recession with a positive macro trend it is possible that it counteracted the use of a more forward looking accounting approach.

Another finding was that in all four banks, it was the local offices that had granted the loan, that also was responsible of estimating the LLP. After having gathered information from the credit quality checks, the office reported to central functions, which then set the total LLP levels. Nilsson (2003) found that if there is a divergence in the level of provisions assessed at a group level contra the level the branch has assessed, the higher level's decisions would overrule the lower level's decision.

Nilsson (2003) focused more on the reported provisions from an external point of view compared to this thesis, since he was unable to analyze the internal processes at the banks in depth, given the lack of access. Hence, our study could help to explain some of the external findings made in his study, by doing a comprehensive analysis of the internal LLP process.

2.4 Management control systems - four levers of control

Simons (1995) says that in today's dynamic and competitive market, managers cannot control everyone so closely that they know exactly what everyone is doing. However, managers cannot simply achieve control by hiring good people. So the problem is how to get control while employees are still encouraged to initiate process improvements and finding new ways of responding to customers' needs. A management control problem is created as a dynamic tension is created when managers both need to control and enable the employees (Widener, 2007). Sprinkle (2003) agrees that when the dynamic tension is created, the controlling use mitigates the problems of information asymmetry, whereas the enabling use reduces uncertainty and improves decision-making. If an organization is unable to balance the dynamic tensions of management control systems it will lead to slower decision making, wasted resources, instability and in the end, lower performance (Bisbe, et al., 2006). Simons (1995) identified four key processes- belief, boundaries, diagnostic, and interactive systems- that should be used in order to both control and enable employees. He calls this management control system the four levers of control (Simons, 1995).

2.4.1 Diagnostic control systems

Diagnostic control systems are used to monitor goals and profitability, and to measure progress toward targets such as revenue growth and market share (Simons, 1995). According to Perera and Harrison (1997)

diagnostics can be both financial data, which indicates when targets are being achieved, and non-financial measures, which enable managers to monitor and control critical success factors. Together they will motivate managers in achieving goals as both will help to highlight performance (Norman, 2001). However, Simons (1995) points out that diagnostic control systems will not alone be adequate to ensure effective control as they can lead to control failures. There is a risk that empowered employees who are held accountable for performance goals, meaning that they are liable for both rewards and punishment, will manipulate financial data. Therefore, a need is created for other counterbalancing controls.

2.4.2 Interactive control systems

When an organization becomes large, senior managers will not be able to solely gather information through face-to-face meetings and, therefore, new formal systems have to be created (Simons, 1995). He calls these formal information systems interactive controls, and says that it is through these managers involve themselves regularly and personally in the decisions of subordinates. The interactive control system facilitates a formal process of debate within the organization (Mundy, 2010). Frow, et al. (2005) give an example that strategy days with face-to-face meetings can be used to discuss and resolve problems. A debate is created in which individuals exchange information about the organization's different activities (Abernethy& Lillis, 1995). Ahrens and Chapman (2004) say that the information allows managers to obtain local knowledge that can be used to develop strategic plans.

According to Simons (1995) there are a few characteristics that set interactive control systems apart from diagnostic control systems. First, managers at all levels of the organization have to think that the information is significant enough to give it frequent attention. Second, face-to-face meetings of superiors, subordinates, and peers have to be the best way to interpret the data. Third, an ongoing debate should be created about underlying data, assumptions, and action plans.

2.4.3 Belief systems

Mundy (2010) says that the belief system should communicate an organization's core values and priorities. Dent (1991) adds that in more routine management control systems such as the diagnostic, goals and values are not reflected upon. In order for an effective communication of values, senior managers should design the belief system so broad that it appeals to many different groups within an organization (Simons, 1995). As such it should inspire employees in the search for opportunities and solutions (Marginson, 2002). Simons (1995) argues that belief systems become increasingly important as empowered employees generate new ideas in order for the firm to get a competitive advantage. In this way, employees should be able to base decisions on the organizations belief system, which, hence, establish it as the paradigm under which the other levers operate (Dent, 1991).

2.4.4 Boundary systems

To allow innovation, but within clearly defined limits a successful organization needs a boundary system (Simons, 1995). When constructing the boundary system, Simons (1995) thinks that the guiding question should be what you want your employees not to do rather than what you want them to do. Hence, unlike the diagnostic or belief systems, the boundary systems are stated in negative terms. Boundaries are set by financial data, which protect an organization from financial risk, and by non-financial data, which indicates what strategic boundaries management should operate under (Tuomela, 2005). They become an organization's brakes that the most performance-oriented business needs (Simons, 1995). Furthermore, Simons (1995) adds that boundary systems are especially critical in a business such as banking, in which a reputation built on trust is a key competitive asset. Additionally, the risk of failure becomes larger in performance-oriented decentralized organizations, which makes formal systems more important to communicate and ensure that the boundaries are maintained (Simons, 1995).

3 Empirics

The empirical section will describe the internal process following a chronological order, starting with the process of developing internal guidelines as well as the organization structure. Then the credit risk review process with the rating process will be covered, followed by how the calculations for individual and collective impairments are performed.

3.1 Interpreting IAS 39

We have taken part in a comprehensive material of internal policies and guidelines covering everything from how the internal rating should be performed, to how collaterals should be valued in an impairment calculation, to how Powers to Act within the Bank should be allocated. At the Bank, the Group Finance department reads and interprets the accounting standard, and then creates internal accounting policies. To make the internal guidelines clear and understandable, the Group Credit Framework and Support function takes the accounting policies and create internal guidelines. It is important that these guidelines are as easy to understand for the end-user as possible³. In some cases the guidelines could be further developed to a handbook with concrete instructions used in the daily business at local levels. The guidelines should ideally leave little room for different interpretations since the Bank aims to achieve consistency in the LLP process⁴. There are step-by-step instructions for how the responsible employee should act in situations such as if a customer defaults. Because the organizational language is English, it is also the main language in the guidelines. However, since English is not the mother tongue in any of the countries in which the Bank operates, problems are sometimes created when English is used for communication⁵. The problems are solved by translating some of the guidelines into the local language. However, as the Bank translates the guidelines, the problem is that not all words have the same meaning in all languages⁶. However, different interpretations can never be fully avoided, and there is always a need to further develop and concretize existing guidelines⁷.

³ Senior Credit Officer, 2012-03-15

⁴ Head of Group Credit Framework & Support, 2012-03-15

⁵ Head of Group Credit Retail Banking Sweden, 2012-03-28

⁶ Accounting expert, 2012-03-14

⁷ Head of Group Credit Retail Banking Sweden, 2012-03-28

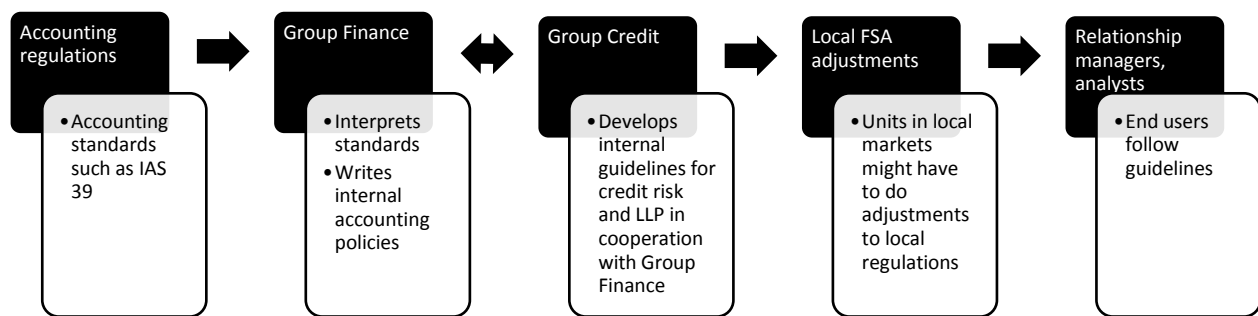


Figure 2: *The process of developing and implementing internal guidelines*

The end users of the guidelines concerning LLP are employees within units exposed to credit risk. Guidelines are developed for the group, but sometimes they have to be adjusted to local regulations⁸. The Head of Group Credit Framework and Support explains that the guidelines function as the umbrella, i.e. the frame that everyone has to act according to. However, local markets can develop guidelines as long as those are within the scope of the umbrella and the local regulators' requirements. The Danish Financial Supervisory Authority has developed a rulebook for banks to follow with regards to LLP. The rules are based on IAS 39, but the FSA has narrowed-down the scope and limited the choices and interpretations that the Bank can make in the LLP process⁹. The Bank, therefore, has to adjust internal guidelines in order to be compliant with the requirements of the local FSA. Group Finance to some extent questions whether this restricted view of the standards are compliant with IAS, since it only leaves limited room for banks to make their own judgments¹⁰. The Bank ideally would like to see that at least the Nordic FSAs could agree about a common view so that the Nordic market can be harmonized, which will also lead to harmonization within the group.

There could be a potential trade-off when trying to achieve consistency in the LLP process by having extensive guidelines¹¹. The retail division has expressed a concern of having too many and too detailed guidelines since people might reflect less and use less of their own judgment when very detailed rules are followed. Employees at the branches have also complained about that were too many rules being used¹². Having multiple guidelines handling the same topic creates confusion and complexity in the organization¹³. Also the central divisions want to have fewer guidelines, but with less room for interpretation¹⁴. Even small changes in guidelines can be difficult to implement, and people in the branches have also complained as it is

⁸ Head of Group Credit Framework & Support, 2012-03-15

⁹ Head of Group Credit Framework & Support, 2012-03-29

¹⁰ Head of Group Credit Framework & Support, 2012-03-15

¹¹ Senior Credit Officer, 2012-03-29

¹² Head of Group Credit Retail Banking Sweden, 2012-03-28

¹³ Senior Credit Officer, 2012-03-29

¹⁴ Management partner, Group Credit, 2012-03-21

hard to stay up-to-date with the changes¹⁵. As a result it can lead to inconsistency, as seen when the interest rate used for discounting cash flows in the impairment testing was not decided by the head quarter, and numerous of different rates were used across the organization.

The Bank was early adopters of IAS 39 and it spent significant efforts trying to adapt to it¹⁶. Later on, the standard was adjusted and IFRS provided better guidance on how it should be interpreted. As a result of this, the Bank does not find it meaningful to spend too many resources on the proposed replacement of IAS 39, the new IFRS 9, until the standard has been confirmed¹⁷.

3.2 Organization

Many units within the organization are involved in the process of implementing IAS 39. As mentioned before, Group Finance and Group Credit Framework and Support are involved in interpreting the standard and developing internal guidelines, but they are not responsible for the implementation.

Much of the implementation work is done at group credit's different divisions, which support both the retail and wholesale division. Both divisions represent the business side of the Bank, and are responsible for the customers, thus together with group credit; they carry out a large part of the LLP process. The difference between the divisions is that within retail, only household and small corporate customers are handled, while in wholesale there are only deals with large corporate customers.

Group Credit is responsible for the credit analysis process and the credit decision process in the Bank; that includes offering support to the branches to ensure an efficient credit process. It translates the group level targets, related to credit risk, into frameworks for credit risk assessment and decision making by developing and maintaining credit policies, instructions and guidelines. The Group Credit function consist of four different divisions; Group Credit Framework and Support, Credit and Industry Analysis (C&IA) that conducts the credit analysis for wholesale customers, as well as Group Credit Wholesale Banking and Group Credit Retail Banking, which are support functions acting as quality controllers and coordinators.

The process for deciding on LLP is rather different for the retail division compared to the wholesale division. This is to some extent because of the different character and size of the loans. Additionally, the different organizational structure of the divisions affects the process of determining provisions. The retail division is decentralized and consists of different regions with analysts and relationship managers covering many more customers compared to what are done in the wholesale division. In order to centralize some of the decision making power in the division, a computer system, FAR, is used, which leaves less room for management

¹⁵ Head of Group Credit Retail Banking Sweden, 2012-03-28

¹⁶ Head of Group Credit Framework & Support, 2012-02-15

¹⁷ Head of Group Credit Framework & Support, 2012-02-29

judgment. Through this system, decisions taken by Customer Responsible Units (CRUs), such as setting customer ratings, are instantly communicated to the central credit unit. People within wholesale are generally more specialized on a few companies¹⁸. Even though there are differences between the divisions, both follow the same group guidelines.

In the coming sections of the empirics section the different methods used to assess whether objective evidence exists that an individual or a group of financial assets has been impaired, as it is referred to in IAS 39 paragraph 59a, , will be described. In order to conduct these assessments, the Bank's internal rating system is of central importance. The internal credit risk process includes a long list of issues that have to be considered: how a loss event is interpreted, whether objective evidence exists, when impairment test needs to be calculated, and how allocation of decision rights (Powers to act) is constructed.

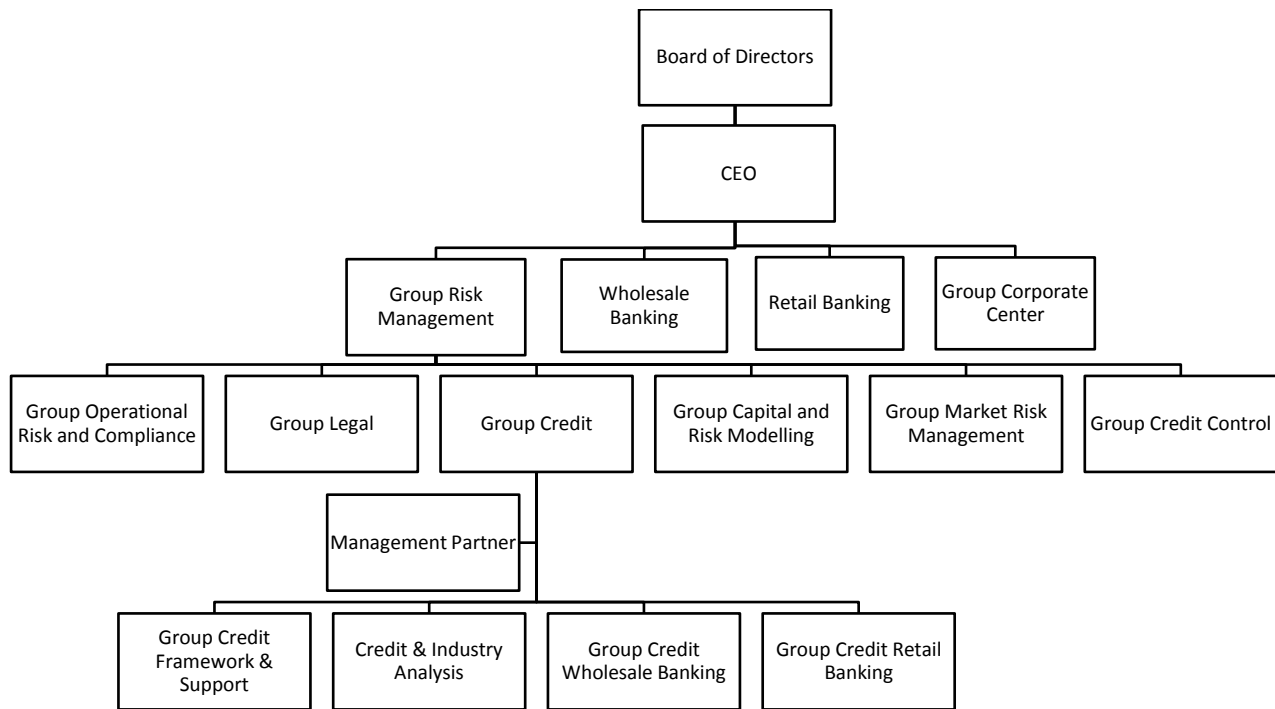


Figure 3: *Simplified organization chart of the Bank*

¹⁸ Head of Credit & Industry Analysis Sweden, 2012-03-19

3.3 Credit risk review: a bottom up process

3.3.1 Customer responsibility

The credit risk review process is a bottom up process starting from the business units. The Bank follows a customer relationship driven approach and the credit responsibility is decentralized to customer responsible units (CRUs). For the retail network, a branch is the CRU and for wholesale banking, CRU level is the same as the country level. Each customer is assigned to a CRU and corporate customers are also appointed a relationship manager as a general rule. The purpose of the CRU is to decentralize responsibilities and to ensure that all aspects, including that the risks are understood and that the service is maximized, of a customer relationship are handled from that the loan is granted. The CRUs have authority to issue credit facilities up to certain decided group limits. They are responsible for the profit and loss throughout the lifetime of the credit. By having a customer responsibility approach, the Bank can entail evaluation of a customer's total obligations (exposure) towards the Bank, risk assessment, and the approval.

The CRU has to among many things establish a customer strategy, ensure that the customer holds a correct internal rating and ensure that an annual review is performed. It also has to respond to early warnings signals, identify special mention and risk-classified customers, perform impairment testing, and propose a LLP. Furthermore, actions should be in accordance with the agreed credit procedures, with the goal of ensuring full insight into customers' financial situation. Lastly, the CRU also has full responsibility for the financial outcome.

When a customer has limits towards more than one CRU within the Group, which is rather common for corporate customers, one unit will always be the Main Customer Responsible Unit (MCRU). This unit is as a general rule the unit where the parent company either conducts its business or where the company most closely resembles the parent company, has its organizational headquarters. The MCRU has the same responsibilities as the CRU but on a customer group level, which among other things includes coordination of the CRUs involved. The MCRU also has the ultimate responsibility for the risk evaluation for the customer group. This entails looking at the risk from a group perspective and in co-operation with other CRUs. Furthermore, it is also in charge for the whole risk profile of a customer group. The MCRU is responsible for the rating of the customer group, parent company and any other subsidiaries, having limits or credit to different legal banks, business units or branches. This responsibility does not necessarily extend to the MCRU having to undertake the actual rating, but the MCRU must approve the final rating given to the subsidiary even if the rating is given by the CRU.

3.3.1.1 Decision-making authorities

The chart below shows the overall decision-making procedure in accordance with which the Decision-making Authorities take decisions regarding limits and credits for customers.

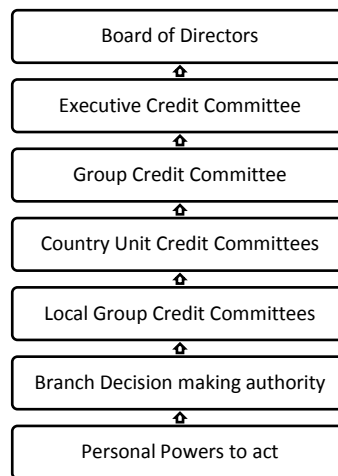


Figure 4: *Ladder of Decision-making Authorities*

Depending on a customer's rating and the size of the credit limit, different decision-making authorities have different powers to act. It starts with the personal power to act at the branch level, and if the limit is too big, the right to make a decision is transferred to committees higher up in the organization. This structure starts with the regional decision-making authority, and then proceeds with the local group credit committee, the country credit committee, the group credit committee, the executive credit committee, and ultimately the board of directors. Approval from an authorized decision-making authority is needed for any increase in a customer's group limit, if the risk is materially increased due to events that have happened after the last approval such as breach of financial covenants, or if a rating deteriorates down to special mention or lower.

The different authorities have more limited powers to act depending on if the event affects the claim towards the customer (and potentially finalizes the loss), then if the event does not affect the claim. The regional credit committee has authority to decide on non-affecting events up to 1 MEUR, but it is still the central credit retail department that has to approve the decision.

There are many different committees in place in order to assure a good risk control, but the policy within the Bank is that cases should go straight to the right one, the ultimate decision-making authority, so that not all the steps have to be passed on the way¹⁹.

3.3.1.2 Group Credit Control's operating model

The Bank uses a Three Lines of Defense in its credit risk management. There are clear responsibilities among the three different lines: the business units, the Group Credit Control, and the Group Internal Audit. There is a general credit risk framework that guides all the three lines, and aligns their functions and procedures with regulatory requirements.

¹⁹ Head of Group Credit Framework & Support, 2012-03-29

As been described above, each CRU is responsible for its own credit quality. In order to monitor and follow up on the branches' activities and risks, the Bank has implemented a few key metrics that they follow up. The probability of default (PD) for each branch's portfolio of loans, as well as the actual default rate (ADF) are calculated and then analyzed to find differences between them. If the PD is not higher than the ADF, something needs to be changed. Also, the rating distributions are kept track on for each branch portfolio.

The Group Credit Control has the overall responsibility for credit controlling and monitoring of the quality of the credit portfolios. To fulfill its responsibility it analyzes both the credit risks and the credit processes. For credit portfolios it is important to identify early warning signs and focus on the risk classified customers. Because the Bank has a strong focus on rating and scoring, the Group Credit Control is also responsible for monitoring these processes.

As the third line of defense the Group Internal Audit has its own separate auditing program in which it does an independent evaluation of the work and performance of the Group Credit Control.

3.4 Internal rating

The Bank has developed its own internal rating system for its customers and the model below summaries these categories. A similar terminology is also used for customers that are assigned a rating grade based on the scoring model that will be described in depth later. The rating assessment is an important part in the credit process and ratings are prerequisite for credit approvals. Furthermore, ratings are essential information for monitoring and reporting the credit quality, and rating migrations are considered to be loss events. Ratings are also input to the economic and regulatory capital calculations according to Basel, as an internal rating based approach of the capital requirements directive.

		Rating Grade	Rating Category
Observation {		+ 6 -	<i>Excellent</i>
		+ 5 -	<i>Strong</i>
		+ 4 -	<i>Good</i>
		+ 3 -	<i>Acceptable</i>
Special Mention		+ 2 -	<i>Special Mention / Weak</i>
Risk Classified		+ 1 -	<i>Substandard / Critical</i>
	Defaulted	+ 0	<i>Doubtful -> Performing</i>
		0	<i>Loss -> Non-Performing</i>
		0 -	<i>Loss -> Bankruptcy</i>

Figure 5: Internal rating classifications

A rating is an estimate that reflects the quantification of the repayments capacity of the customer, i.e. the risk of the customer defaulting. The internal rating scale consist of 18 rating grades²⁰ from 6+ to 1- for non-defaulted customers, and three rating grades from 0+ to 0- for defaulted customers. The repayment capacity of each rating grade is quantified by the one year probability of default (PD). Ratings are assigned to customers on the basis of a specified and distinct set of rating criteria, both quantitative and qualitative.

The rating system at the Bank is based on customer level, and one customer can hold several loans and other exposures against the Bank. IAS 39 states that the assessment of objective evidence should be made on each financial asset, but the Bank has concluded that a customer approach does not lead to significant misstatements, as it is the customer's cash flows that will serve all loans.

3.4.1 Definitions of default

According to The Bank's internal guidelines, it considers its default definition to be compliant with IAS 39's definition of impairment as well as Basel II definition of default.

Default is considered to have occurred when any of the events described below have taken place:

- A. Performing (internal rating 0+): The customer is performing but based on objective evidence it is considered unlikely that the customer will be able to repay its debt obligations in full, and the situation cannot be satisfactorily remedied.*
- B. Non-performing (internal rating 0 to 0-): The customer is non-performing, i.e. no longer able or willing to fulfill its payment obligations for one or more of the following reasons:*
 - a. Material payments are past due >90 days on any debt obligation*
 - b. Demand for repayment has been made*
 - c. Interest has been suspended because full collection of principal is in doubt (non-accrual loans)*
 - d. A write-off or distressed restructuring involving forgiveness of principal, interest or fees or other concessions that are done caused by the borrower's financial difficulties*
 - e. Suspension of payments, or under protection from creditors due to a deed of arrangement or scheme of composition*
- C. Bankruptcy (internal rating 0-): The customer is in bankruptcy or has been filed for bankruptcy.*

3.4.2 Defaulted but not impaired customers

There could be customers that are classified as defaulted (0+) without being impaired due to full collateral coverage. This is explained by the different definitions of the two concepts defaulted and impaired. The term impaired is associated with cases when there is a risk of loss, and consequently a need to write down the booked value of the asset. Defaulted on the other hand is related to missed payments, or when it is deemed unlikely that the customer will continue to pay according to the loan agreements.

²⁰ One notch down rating is for example from 6- to 5+, or from 5+ to 5

In the same manner, a customer could be downgraded but not impaired. Group Credit Retail Banking had a recent example. It changed a CRU's proposed rating, and downgraded the customer but without taking an impairment. A loan can be classified as defaulted without being impaired, but the main rule states that a loss provision cannot be established for a customer rated above the default rating categories. However, exceptions can be made under certain conditions for the largest corporate and institutional customers but, only the Executive credit committee (ECC) and the Group Credit Committee (GCC) can approve those.

3.4.3 Early warnings signs

The Bank closely monitors its customers and assesses the need for a potential downgrade, since it is considered crucial to react early in order to reduce the credit losses. A CRU continuously assesses its customers and considers the need for a downgrade or whether the customer should be identified as Observation. A negative development in the credit risk profile should be identified before it is reflected as a LLP in the financial reports. Early warning signs identify changes in the customer's behavior, as well as both internal and external factors capable of influencing the customer's repayment capacity, as described in the table below.

<i>Examples of internal factors</i>	<i>Examples of external factors</i>	<i>Example of behavior towards the Bank and other lenders</i>
<ul style="list-style-type: none"> • Profit warning • Decline in order book • A sudden change in top management or ownership • Resignation of key persons • Poor and/or delayed disclosures of financial information 	<ul style="list-style-type: none"> • Loss of major customer • Defensive actions by other lenders • Damaged reputation • Impact of regulatory or environmental legislation • Sudden decrease in share price 	<ul style="list-style-type: none"> • Unusual payment behavior • Unapproved overdraft • A statement that it may breach covenants • A request from the customer for financing that is vaguely described

Figure 6: Early warning signs of changes in customer behavior

3.4.4 Customers identified as observation, special mention, or risk-classified

The Bank wants to give customers who show early signs of credit deterioration, which eventually affect the credit risk profile, extra attention. These customers have a credit rating above 2+, but are identified as observation. Even though these customers are not subject to special decision-making procedures, they are put on an observation list, which means that they will be assessed during the quarterly credit risk review meetings.

The Bank consider a rating grade of 2+ or lower to be considered an indication that the customer has significant financial difficulties in accordance with IAS 39 §59a. This requires a more comprehensive impairment test that will be done through what is internally referred to as the Action Plan (with associated enclosures) to establish whether objective evidence of impairment exists.

If a customer migrates down to the special mention (2+ or lower) category or lower, according to the internal rating system, special procedures and requirements will take place internally: the customer's flexibility within the approved limits will be restricted, repayments should result in a corresponding reduction of the limit, and collateral and loan documentation will be reviewed.

The CRU is responsible for identifying a customer as observation, special mention or risk classified, and a customer with a potentially negative credit risk profile must go through a thorough assessment as soon as possible. If the situation is considered to be material and permanent, the CRU must downgrade the customer immediately.

The CRU has the authority to downgrade customers between 6+ and 3- in-between Credit Committee decisions, and it must immediately downgrade to an appropriate internal rating level if new customer information makes the existing rating non-representative. The formal approval of a manual downgrade between two proposals can be postponed until the next decision-making meeting, conditioned that the customer keeps a rating grade above 2+, special mention.

If the customer belongs to a customer group, the local CRU is responsible for advising the MCRU of any deterioration in the credit risk profile of the local customer relationship, and the decision to downgrade has to be taken in conjunction with the MCRU. As a general rule, all members in a customer group should be downgraded if one company in the group is rated at 2+ or below, and the total customer group limit determines the relevant decision-making authority. However, the decision-making authority can decide to only downgrade the relevant customers if the downgrading of all members in the group is not considered to reflect the perceived risk.

The bank considers it to be very important to ensure full consolidation of all risks, so that the total risk can be evaluated for customer groups in the rating categories special mention and below. The CRUs are, therefore, responsible for gathering the information and the MCRU must inform the CRU about the credit strategy, and the action plans for the relevant customer and the customer group.

3.4.5 Definition of a loss event

The first step in the assessment of impairment is the task of identifying loss events that have occurred after the loans were granted. At the Bank, all available data is analyzed in the process of identifying loss events. The rating policy highlights that only events that actually have occurred after initial recognition of the asset are taken into further consideration.

When a loss event has been identified, the next step is to perform assessments to establish whether the loss event has an impact on the future cash flows of the financial asset or group of financial assets, which can be reliably estimated. If these assessments indicate that the carrying value is higher than the net realizable value,

objective evidence of impairment is considered to be identified. Then, if objective evidence of impairment exists, analyses based on cash flow or historical loss experience are performed in order to determine whether an impairment loss should be recognized or not. The process is graphically described in the figure below.

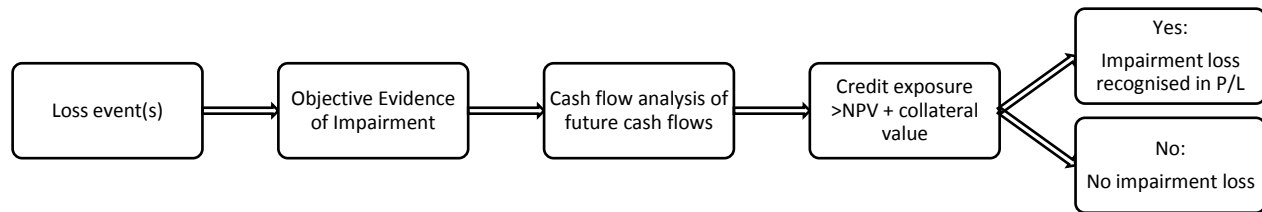


Figure 7: *Identification of loan loss events and objective evidence of impairment*

3.5 Rating assessment

3.5.1 Which customers to rate

CRUs are responsible for making sure that all legal entities with an exposure to the Bank are rated. The main rule states that all legal entities with liabilities towards the Bank should be rated using any of the different rating models listed in the guidelines. The only exception is corporate customers with limits below or equal to 250 TEUR²¹, since they are considered Small Business and should be scored instead of rated.

However, if a corporate customer defaults, the rating is conducted regardless of whether the limit might decrease to a level below 250 TEUR. The rating should be done until the customer no longer is in default, or until the limit is cancelled. If any subsidiary in a group shall be rated, then the parent company should also be rated.

3.5.2 Who performs the rating

The Credit and industry analysis (C&IA) department within Group Credit is a support function for the wholesale division as well as for some large customers from the regional retail customer service units (CSU). The C&IA is responsible for analyzing new and existing customers, and gives them a rating. This credit analysis is the first step in the credit process and the relationship managers within the wholesale division produce the information needed (the credit memos) to support the credit decisions taken in the next step by the Group Credit Wholesale Banking. C&IAs role is to do an objective analysis independent and uninfluenced by the side responsible of the sales side of the Bank, the CRUs²². Because of this separation of powers, rating decisions are removed from the relationship managers, meaning that they cannot rate their own customers. If

²¹ For new European markets all corporate customers with a limit above 100 TEUR are rated

²² Head of Credit & Industry Analysis Sweden, 2012-03-19

the relationship managers could rate their customers, there is an inherent risk that they might disregard potential risks and keep the rating as high as possible, since the relationship managers has incentives to maximize earnings by issuing more loans²³. The risk adjusted return (Rarocar) that the CRU earns from a customer is to a large extent dependent on the customer's internal credit rating, and a lower rating would imply higher capital requirements, and, therefore, lower profitability for the CRU. The CRUs are, therefore, keen on keeping a high rating for their customers and they are trying to influence the analysts' credit PMs in a favorable way²⁴. This behavior is shown in both retail and wholesale, even though the compensation for relationship managers and analysts within wholesale is to a larger extent based on bonuses than that within the retail division. Too high ratings are undesirable and might cause fallen angels, meaning that no sharp down rating of a customer should come as a surprise since the risk should be well known before that²⁵.

Previously a relationship manager within the Wholesale division was able to perform the credit analysis himself, but this sometimes led to credit memos with too much focus on sales²⁶. This biased analysis is now considered to be eliminated thanks to the split of the two units' authority and decision making, and the sell-sides' risk exposure is objectively controlled²⁷. The Head of C&IA also thinks that the current system is well-balanced and well-functioning. The CRUs are still accountable for loan losses, even though they do not have the authority to set the rating.

The analysts within C&IA also monitor and analyze industries and writes specific branch reports. By doing so, C&IA can identify events and developments within the industry that potentially could affect the credit quality of the customer. They also perform peer-group analysis in order to be able evaluate and compare the specific customer against similar companies.

In addition to the credit analysts within wholesale there are also credit analysts within retail, who are working with smaller customers, and who are decentralized to the branch offices as well as to the regional CRUs in Sweden. The credit analysts, regardless where they are located, are specialized in credit analysis, meanwhile the relationship managers are in charge of all parts of the customers' relationship, and are, therefore, more generalists than specialists²⁸.

The C&IA claims that there is no problem for them to get access to financial information since it only works with listed companies that are used to report all types of information externally²⁹. The companies are responsible for sending extensive information to the C&IA on a quarterly basis with updates on how they

²³ Head of Credit & Industry Analysis Sweden, 2012-03-19

²⁴ Management partner, Group Credit, 2012-03-21

²⁵ Head of Credit & Industry Analysis Sweden, 2012-03-19

²⁶ Head of Credit & Industry Analysis Sweden, 2012-03-22

²⁷ Head of Credit & Industry Analysis Sweden, 2012-03-19

²⁸ Employee in Group Credit, 2012-03-27

²⁹ Head of Credit & Industry Analysis Sweden, 2012-03-19

fulfill covenants and how the calculations have been made. In most cases, the rating is based on that information, rather than events identified by the C&IA that have occurred in-between the reporting occasions. However, the Head of C&IA points out that it can be difficult for the analysts at the branches to get access to financial information from the companies since those companies are small and sometimes have limited knowledge about financial reporting. If the information is too limited, it can lead to greater risks for the Bank.

3.5.3 When rating is needed

The CRUs are responsible to continuously monitor customers' repayment capacity and credit risk. It is their responsibility to evaluate when a significant change in a customer's repayment capacity should lead to a new rating. The main rule states that ratings should be assigned at least in conjunction with the annual review and in conjunction with limit and credit proposals if the proposal significantly changes the repayment capacity of the customer.

For large corporate customers within the wholesale division, customers are rated in relation to the annual review. Analysts also receive quarterly updates on how the companies fulfill their covenants. The analysts are, thereby, able to keep track of the customers throughout the year. However, the head of C&IA explains that it wouldn't be possible to re-rate every customer on a quarterly basis due to the extensive amount of resources it would require. If signs of deterioration in the customer's repayment capacity emerge, there will be a discussion among the relationship manager, the analysts in charge, and Group Credit, with the purpose of deciding how it should be handled³⁰. It is usually one of these three parties that identify the warning signs, but other source within the Bank can also do so.

3.5.4 The rating model

The Bank has decided to use different rating models in order to better reflect the risks of customers with different characteristics. All models have 18 rating grades for non-defaulted customers (6+ to 1-), and reflect the repayment capacity. The repayment capacity is calculated by weighting financial factors, quantitative factors, and the qualitative factors. In the corporate rating model, which is the model most customers are rated according to, qualitative factors are given a 33 percent weight and quantitative factors are given a 67 percent weight. For the other models, however, the weights have been redistributed to be 70 percent and 30 percent respectively.

In some models, such as the corporate model, the rating can also be affected by customer factors that can increase the final grade with up to 0.35 points for factors such as what the type of company it is, and if the company is state or municipality owned. The final grade can also be decreased with as much as 1.75 points

³⁰ Head of Group Credit Wholesale Banking Sweden, 2012-03-22

due to factors such as payment remarks, location (in the real estate model), and availability of financial information among other factors.

3.5.4.1 Quantitative and qualitative factors

The CRU is responsible for punctual and correct registration of the quantitative factors in the rating model. Quantitative variables that are used in the models are financial factors obtained from the customers' financial reports. The rating should be based on an entity's own financial accounts, except if the corporate customer is a parent company. Rating of a parent company is based on consolidated accounts for a group. The rating of a subsidiary within a group cannot be higher than the rating of the parent company as a rule of thumb, unless a subsidiary's risk is ring-fenced from the group and the rating is approved by the ultimate decision-making authority.

Examples of quantitative factors are the total asset base and the return on average equity, but which factors that are used are depend on which model that is used. The calculated rating should be based on book values from the latest annual accounts, but adjustments might be made due to fair value adjustments of assets and liabilities, or to off balance sheet items etc. The same exchange rates that are used for converting credit limits into EUR, decided by Group Credit, shall be used in the credit process. In addition to the financial quantitative characteristics, customer variables such as age, payment remarks, and type of company, are included in the rating as dummy variables.

Newly formed entities³¹ are special cases and should be rated on reliable forecasts or pro-forma figures based on the base case. The proposed rating for these companies should be at least one grade lower than to the calculated rating since unaudited numbers has to be used, which makes the risk higher.

The qualitative factors used in the rating are customer characteristics, such as company outlook, asset structure, and quality and ownership structure. The qualitative factors differ between models and the weight given to each factor in the calculation also differs, even if the same factor is used. For some models the factor of "Management and competence" is as much as 76 percent of the qualitative rating, while it is only given 12.5 percent in another model. They are a complement to the financial factors and emphasize the company's future performance. The factors are then subjectively assessed and given values in the range from one to six. In wholesale credit analyst within C&IA set the rating, while the relationship managers set the qualitative rating within Retail, thereby, make subjective assessments of their customers³². Since a few months ago the Bank has

³¹ Newly formed entities are companies that not yet hold audited financial accounts based on their existing business, such as start-ups, restructured to avoid bankruptcy, merged and similar entities

³² Employee in Group Credit, 2012-03-27

implement a data-based system for the Retail division that calculates the rating based on automatic sourcing of the company's key figures, hence, limited room is left for analysts' own judgment³³.

If the sum of the qualitative factors differs more than 1.0 from the sum of the financial factors, it needs to be commented in the rating sheet in the credit memo, and approved by a higher authority. According to the head of rating, this is a security check built into the system in order to prevent the analyst and the CRU from being able to improve a bad quantitative rating by raising the qualitative rating. CRUs and analysts may also be unaware that they are not objectively representing the company when they set the qualitative rating. The Head of C&IA claims that it is more common for analysts covering small companies at the branch offices due to the close and maybe personal relationships they might have with customers, i.e. they might be biased and have a more positive view and be unwilling to see negative indications. This bias is less of a problem for analysts covering large companies as the relationship with the customer is more professional³⁴.

There is also an incentive for the analysts to keep the rating above Special mention since it requires much more work to have a company rated as special mention compared to a rating above 2+. This is because the analyst then has to perform a quarterly rating instead of the usual yearly one, as well as conducting the NPV calculations for the impairment test³⁵. Another factor that gives the CRU an incentive to keep the rating high is because they otherwise have to seek approval from higher levels in the organization for future decisions³⁶. As a consequence, there are un-proportionally many companies are rated 3-. Group Credit Retail Banking Sweden, therefore, spends a lot of time assessing these cases to see if reasons for downgrading exist. The effect with an overrepresentation of ratings just above special mention is expected from the department in charge of writing the guidelines, and they spend extra time assessing such cases³⁷. The Head of Group Credit Retail Banking Sweden also claims that no one wants to downgrade, and even though that is an exaggerated statement, many persons seems to agree with that opinion. Furthermore, she says that the LLP is driven by emotions rather than logic³⁸. People working at the branches are sometimes reluctant to admit mistakes with the attitude that they want to solve the problems themselves, instead of reporting them to higher authorities³⁹.

There have been cases in which the Customer Project division has asked why a three year old provision is still in the local branch's books even though there is no longer a reason for impairment⁴⁰. However, from a local

³³ Head of Rating, 2012-03-26

³⁴ Head of Credit & Industry Analysis Sweden, 2012-03-22

³⁵ Head of Rating, 2012-03-26

³⁶ Head of Group Credit Framework & Support, 2012-03-29

³⁷ Head of Rating, 2012-03-26

³⁸ Head of Group Credit Retail Banking Sweden, 2012-03-28

³⁹ Head of Group Credit Retail Banking Sweden, 2012-03-28

⁴⁰ Employee in Group Credit, 2012-03-27

branch perspective there are strong reasons for not reversing the provision until it can be netted against another provision to smooth earnings⁴¹. By doing so, branches can show more stable results.

3.5.5 Proposed rating

The proposed⁴² and approved⁴³ rating should as a main rule equal the calculated rating. An override is made when the approved rating differs from the calculated rating, unless the approved rating is due to any of the exception rules such as for newly formed entities. It is done with great care and only if the calculated rating is clearly misrepresentative. Any upgrade must be argued for explicitly as it is associated with much harder internal regulations.

Since the Bank does not want to underestimate its risks, upgrades are associated with much higher risks, since a too positive view of the customer might be shown⁴⁴. Also, the different incentives to keep the rating high have amplified the rigorous administration surrounding an upgrade⁴⁵. However, there is a dilemma concerning having too low ratings if it is not necessary, since lower ratings require the Bank to keep more capital as a result of Basel regulations. Holding more capital is expensive, and customers will become less profitable for the Bank.

CRUs' loans to customers are based on their own determined interest rates, and they can increase the interest rate if the rating goes down, in order to maintain the same Rarocar. However, they seem reluctant to do so for different reasons, but mainly because they do not want to jeopardize the relationship with the customer⁴⁶.

3.6 Scoring

All household customers and small companies with a limit of 250 TEUR or below are assigned a risk grade based on a behavior score instead of a rating. However, corporate customers with limits above 250 TEUR are behavior scored even though they are rated. The score is used in the early warning process for those customers. The Head of Group Credit Wholesale Banking Sweden does not find the scoring very useful for large customers though, since problems need to be addressed before they affect the payment patterns. The scoring is foremost used by CRUs when new credits are issued in order to gain customer knowledge. It is also an input for calculating capital requirements, as well as an input in the collective LLP model.

Group Credit Process within Group Credit Retail Banking is responsible for implementing the scoring throughout the organization, but it is a team in Denmark that builds the models based on the different

⁴¹ Employee in Group Credit, 2012-03-27

⁴² The term proposed rating refers to the rating grade from 6+ to 0-, which is proposed by the MCRU to the Ultimate Decision-making Authority

⁴³ The rating from 6+ to 0-, finally approved by the Ultimate Decision-making Authority is referred to as the approved rating

⁴⁴ Management partner, Group Credit, 2012-03-21

⁴⁵ Senior Credit Officer, 2012-03-29

⁴⁶ Head of Group Credit Retail Sweden, 2012-03-28

scorecards. Even though the models are considered to be standard models within the banking industry, and can be purchased from external vendors they are very complex⁴⁷. Scoring is done based on customer data, normally collected during the last 12 months, and kept in a data warehouses in the Bank. The data includes for example information about cash flows, deposit, exposure, limit, unauthorized overdrafts and payment remarks. Hence, a change in customer status such as decreased salary will be reflected in the future scoring. These factors have statistically been shown to have a predictive value for forecasting twelve months probability of default. To improve the predictive value, the model is tested continuously to. There are multiple scorecards for different types of loans, such as credit cards and house loans. However, a customer only has one card as the Bank aggregates all values per customer.

A new scoring is made each month and if the customer falls to a scoring level 2+ or lower, a message is sent through the computer system to the relevant CRU. It is then supposed to contact the customer and be proactive in order to prevent a default. However, due to cost restrains, credits with a value under 200 TSEK will not be processed.

3.6.1 Personal judgment

For the CRU it might be difficult to understand why a customer has a low scoring since it may not be visible on a paper. The scoring model can sometimes be considered to be a black box that can give the worst rating, a red sign, to a customer that the CRU considers to be a good customer⁴⁸. The reason is that negative factors can outweigh positive ones if they have a higher predictability of default. The CRUs should follow the score as it has been shown that credit losses are higher in cases when the scoring has been replaced by personal judgment.

There are no qualitative factors in the scoring model as the Bank wants to reduce the room for personal judgment. This is because of the risk of biased personal judgment, especially at small branches when the CRU has close relationships with the customer and, therefore, might be reluctant to reject a customer⁴⁹. This is also because it is difficult for the employees at the branches to recognize customers with a high risk profile, as most of them were not working during the crisis in the beginning of the 90th for example⁵⁰.

⁴⁷ Head of Section Group Credit Process, 2012-03-27

⁴⁸ Head of Section Group Credit Process, 2012-03-27

⁴⁹ Head of Section Group Credit Process, 2012-03-27

⁵⁰ Employee in Group Credit, 2012-03-27

3.7 The impairment calculation process

3.7.1 Risk review

The aim with credit risk review meetings is to get an overview of the economic environment and to verify the loss-events and their impact on customers' cash flows. The credit risk review meetings are carried out on a quarterly basis and the CRUs are responsible for identifying loss events and producing material ahead of the risk review meetings. The aim is also to ensure that the credit risk within the credit portfolio is acceptable and to ensure that sufficient LLP is made.

Group risk management sets cut-off levels for the customers that are reviewed. Customers are reviewed yearly but if they have a 2+ rating or below they are review quarterly. However, customers on the observation list are also reviewed quarterly. Participating at the meetings are the head of respective business units, Head of Group Credit, Head of Group Credit Control, Head of Group risk management as well as head of credit for the respective business unit. It is the branch region that is responsible for organizing a process to ensure that all material loss events are identified, taken into account and that documentation is up-to-date. The country credit organization is responsible for establishing a process for gathering the information from the branch regions.

3.7.2 Action plans

If a customer migrates down to Special mention or below, and if the exposure exceeds MEUR 10, the credit committee must establish a workout team. For large work-out cases, individual deal-teams including relevant specialist are formed. Small workout cases are handled by the CRU with support from the credit organization and other special units. Later, the follow-up of individual workout cases is part of the credit risk review process. If a customer defaults, there will be an extensive and complicated process involving different kinds of lawyers and specialists⁵¹.

The Bank works actively to improve its risk position for customers classified as special mention or lower. Actions that can be taken include: reducing limits, adding additional securities, or increasing margins among other things. Action plans are designed to be very practical and used to form a process so that the actual or potential risk of losses is reduced going forward. Additionally, they are also accounting documentation for impairment losses or reversals. The planned actions should be operational and include completion dates for when presentations to decision making authorities should take place.

The documentation of the impairment test for individual customers rated 2+ or lower, consists of three documents: the action plan itself, an appendix with foreclosure values of collaterals, and an appendix with NPV calculations of future cash flows.

⁵¹ Head of Credit & Industry Analysis Sweden, 2012-03-19

The template for the action plan consists of:

- (i) *Information about the customer and the CRU*
- (ii) *Short background and status of the financial problems*
- (iii) *How the financial difficulties are mitigated, in term of actions that are undertaken by the customer as well as by the Bank to mitigate the situation.*
- (iv) *Impairment test*
 - i. *Conclusion on whether it is objective evidence of impairment not (loss potential).*

As stated, it is also required that a short description of the assumptions behind the calculations of expected future cash flows, and collaterals are included in the documentation related to the impairment test.

<i>Calculations for impairment test</i>	
	Current utilized exposure booked in the Bank's BS
+	Expected increased utilization of loan and credit facilities
+	Utilization of, and estimated increase other off balance items
=	Estimated "Exposure of default"
-	Estimated present foreclosure value of all collaterals (enclosure 1)
=	Unsecured portion
-	NPV of future cash flows (enclosure 2)
=	Loan loss potential
-	Current loan loss reserve
=	Indicated need of provision (+) or reversal of reserve (-)

Figure 8: *Calculation summary for impairment test*

Exposure at default (EAD) is calculated as the estimated utilized exposure that equals the Bank's potential dividend claim to an entity in bankruptcy. The EAD less the foreclosure value of the security is defined as the unsecured portion. If the NPV of future cash flows does not equal or exceed the unsecured portion, the exposure will by definition be impaired. The impairment loss should be covered in full by the LLP in the same legal entity in which the risks are booked. However, due to the inherent uncertainty in these estimations, the Bank has implemented a materiality limit for changes of the existing provision. Only indicated needs exceeding 100 TEUR or deviation of more than 10 percent from the calculated LLP are booked.

3.7.3 Foreclosure value of collaterals

There is a template for valuation of the foreclosure value of collaterals, attached as an appendix to the action plan. There is also an extensive internal guideline, solely for collateral valuations covering 71 pages. However, the valuation will not be explained into that level of detail here, but just on an overall level.

The Bank calculates the collateral values based on a forced-sale situation and, therefore, includes a five percent reduction for sales cost. Additional deductions for other risks and uncertainties must be made as well. The ambition is to estimate the “cash value”, which is the net present foreclosure value if all collaterals are realized. In the collateral valuation template, the estimated market, book value, or face value, and the estimated present value of the collateral are calculated for all types of collaterals.

It is a challenge for the Bank in these situations to decide whether to claim default and realize the pledged collaterals, or whether to continue the relationship based on future cash flows. Even though it is of great importance to have good security coverage and good collateral values, the Bank emphasizes on the customer’s cash flows and repayment capacity, since collaterals cannot pay interest⁵².

3.7.4 NPV calculations of future cash flows

An NPV calculation of the most realistic scenario of future cash flows is included in the action plan for all customers with an unsecured portion exceeding TEUR 500. The calculation is done according to an internally developed template, and the bottom line shows the expected cash flows based on the customer’s repayment capacity, less cash flows to other creditors. To discount the cash flows, the national capitalization rates are used. Group Credit sets the rate and presents it on the Bank’s intranet page. The centrally decided discount rate was implemented last year to increase comparability, before then, the CRUs were able to set different discounts rates⁵³. However, the central functions within Credit Retail Banking still have to put significant effort into making sure that the retail organization follows these instructions⁵⁴. The Head of Group Credit Retail Banking explains that it is a learning organization and that time always is required before new directives are implemented in all units. At the branches, it is the decentralized analysts that are supposed to conduct the impairment tests, but the relationship managers are involved to different degrees⁵⁵.

In the wholesale division, the C&IA analysts conduct the NPV calculations and discuss them with Group Credit Wholesale, and with the relationship manager. The Head of Group Credit Wholesale Banking emphasizes the difficulties related to NPV calculations for companies in distress, since even the next quarter is uncertain as liquidity problems can arise very fast. Still, forecasts of cash flows many years into the future, are supposed to be done. Due to the high uncertainties, it is possible to get whatever values you desire according to him. Within wholesale Sweden, very few customers are rated special mention or lower, but the exposure is significant⁵⁶.

⁵² Head of Group Credit Wholesale Banking Sweden, 2012-03-22

⁵³ Employee in Group Capital and Risk Modeling, 2012-03-28

⁵⁴ Employee in Group Credit, 2012-03-27

⁵⁵ Head of Group Credit Retail Banking Sweden, 2012-03-28

⁵⁶ Head of Group Credit Wholesale Banking Sweden, 2012-03-22

As a result of Basel and IFRS regulations, Swedish FSA (FI) shows strong and increasing interest for when provisions should be made, and how the calculations should be done⁵⁷. They perform detailed reviews by analyzing individual loans with high requirements on the Bank to deliver proper and extensive documentation. If FI does not find the documentation satisfactory, the Bank could be fined. An employee working with only retail customers rated as special mention or lower, calls for better valuations⁵⁸. He believes that the valuation of collaterals and future cash flows requires more careful calculations. The collaterals are often valued too optimistically in his opinion and he highlights that valuations should be based on unfavorable scenarios. He stated four main areas for improvement with regards to the NPV calculations: firstly, too many forecast years are commonly used, secondly, the pre-determined interest rate by Group Credit have not been used, and thirdly, the customers' forecasted numbers are used too often. Finally, the forecasted numbers should be the most realistic scenario.

The Bank has no standardized number of years that should be used when calculating future cash flows; rather calculations should be based on the assumptions made. Two key factors that are considered are the stability of the industry EBITDA, and the economic lifetime of the assets⁵⁹. If the NPV of the expected future cash flows is not sufficient to repay the exposure, it is reasonable to conclude that the customer is impaired. If it is not possible to do reliable NPV calculations, the Bank sometimes on rare occasions uses market prices if they are available. However, with this valuation technique, the Bank moves away from the amortized cost method and to a fair value method⁶⁰.

3.7.5 Amortized cost and effective interest rate

Due to limitations in its current IT system, the Bank has decided to use the current contractual interest rate instead of the effective interest rate when this is a reasonable approximation. The fact that the current nominal interest rate is used raises two issues:

The first issue arises if interest payments are received with any other interval than annually, since that will result in a difference between the effective interest rate and the nominal interest rate. The Bank usually receives interest more frequently than annually, resulting in an effective interest rate that is normally higher than the nominal interest. This difference has only an effect on impaired loans which are discounted with the current nominal interest rate instead of with the effective interest rate. However, the Bank has assessed the effects and concluded that they are not significant.

⁵⁷ Head of Group Credit Framework & Support, 2012-03-29

⁵⁸ Employee in Group Credit, 2012-03-27

⁵⁹ Head of Rating, 2012-03-26

⁶⁰ Head of Group Credit Wholesale Banking Sweden, 2012-03-22

A second difference also arises if not all fees, points paid or received, transaction costs, and all other premiums and discounts, which are an integral part of the effective interest rate, are amortized over the expected lifetime of the loan. The Bank amortizes all transactions assessed to be an integral part of the effective interest rate, on a straight-line basis over the expected lifetime of the loans. The differences caused by using the straight-line, has also been deemed to be insignificant in the light of the uncertainties related to estimations of future cash flows.

The difficulties with calculating the effective interest rate in a real-world setting also arose during a pre-study interview with the accounting expert at Bank C⁶¹. Enormous investments in IT-structure was said to be necessary to be able to cope with the complex effective interest calculations that IAS 39 requires. This problem is mostly caused by the amount of loans with non-fixed interest rate. It would not be a problem if every customer paid a fixed annual interest.

3.8 Collective assessed loan loss provisions

In accordance with IAS 39, the Bank makes collective LLP every reporting period. This is done for both non-significant customers, who the Bank defines as customers having exposures below 500 TEUR, and for significant customers, who are all corporate customers with exposures above 500 TEUR. Non-significant customers, such as consumer loans, credit cards and similar, are directly included in a collective LLP model as long as they have a rating that is above default. For the individual significant corporate customers, individual impairment testing is done. If there is no evidence of an individual impairment, they are also gathered for a collective impairment testing. It is the Group Capital and Risk Modeling unit that has designed the model that calculates the collective LLP. The model for non-significant and significant exposures are the same apart from that there are more movement in and out of the portfolio for significant exposures.

The collective LLP model was developed by the Bank and it calls it a statistical model that is based on Basel II's economic capital model⁶². When using the economic capital model, banks can choose to use internal or external ratings such as ratings from e.g. Standard and Poor's. The Bank has chosen to use internal ratings, which have become very important as the model calculates expected losses based on three parameters:

$$EL_{t,i} = PD_{t,i} \times LGD_{t,i} \times EAD_{t,i}$$

EL= expected Loss, PD = probability of default, EAD= exposure at default, LGD = loss given default, t= time, and i= either customer or exposure

⁶¹ Accounting expert, Group Finance, Bank B, 2012-03-14

⁶² Employee in Group Capital and Risk Modeling, 2012-03-28

This model calculates expected losses (EL) for a customer or exposure based the probability of default (PD) which is given by the rating, loss given default (LGD) which is related to the customers recovery position, and exposure at default (EAD) of the customer or exposure, which is related to the Bank's business strategy. In order to be used in LLP calculation instead of Basel, all three parameters have to be adjusted.

3.8.1 Adjustments of the economic capital model

Probability of default is calculated through-the-cycle in the economic capital model, meaning that the default probability of multiple future periods is taken into consideration. This calculation gives expected probability of default, but in order to be compliant with IAS 39, the Bank wants to get probability of default based on incurred events, which it calls observed probabilities of default (ODF). The adjustment is made by calculating the current probability of default of a customer or exposure, which is referred to as point in time. To be more sensitive to country specific loss events, separate observed probabilities of default are established for the Nordic economies. Loss given default and exposure at default are also adjusted for in the collective model. In contrast to the EAD in the economic capital model, which includes not only the credit exposure, but also off balance sheet exposure such as derivatives, only the credit exposure is included. After making the adjustments, the Bank calculates what it calls the raw loss provision (LPR) for a customer based on the following formula:

$$LPR_{t,i} = ODF_{t,i} \times E_{t,i} \times LGD_{t,i}$$

LPR = loss provision raw (which is the unadjusted loss provision), ODF = observed (point-in-time) default frequency, E = credit exposure, LGD = given default, t = time and i = customer

A loss event will be caused by either a change in ODF or LGD, of which the former is the most important one.

3.8.2 Observed default frequency

Observed default frequency is calculated from migrations in credit ratings. Incurred events will cause changes in loans' credit ratings. For example if an event is positive, in that the likelihood that the customer will be able serve the loan better in the future, it will be reflected in an increased rating. When a customer gets an increased or decreased rating, a migration takes place in the credit portfolio. This migration is registered in a rating migration matrix and the matrix keeps track of changes in customers' ratings between two periods. Because the rating migration pattern is different for large customers compared to small customers, re-rating for large customer creates much larger effects. Therefore, the Bank has two similar matrixes but in which one is based on the number of customers while the other one is based on the exposure amount.

In the end of a quarter, migrations for all customers in the credit portfolio are added together to get a net effect that will be the base for the collective LLP. The Bank uses the annual migrations to identify the migrations that have moved into default. Default probabilities are calculated by taking a weighted average of the annual default probabilities of which the matrices based on the number of customers and the exposure amount represent 50 percent each. Because the annualized default probabilities are only based on one quarter, they become very volatile. To make the default frequencies more stable, the Bank has chosen to use observations from the last eight quarters. This is done by calculating the exponentially weighted moving average of observations from the last quarters. The observed default frequency then becomes the weighted average of annual observed default frequencies.

3.8.3 Portfolio calculations

For the collective LLP, the Bank has divided its loans into portfolios of loans with similar characteristics. The portfolios are currently split into 22 different industry segments in each of the Nordic countries. In every period there is a movement, both within the portfolios as customers migrate in ratings, and a movement in and out of the portfolio.

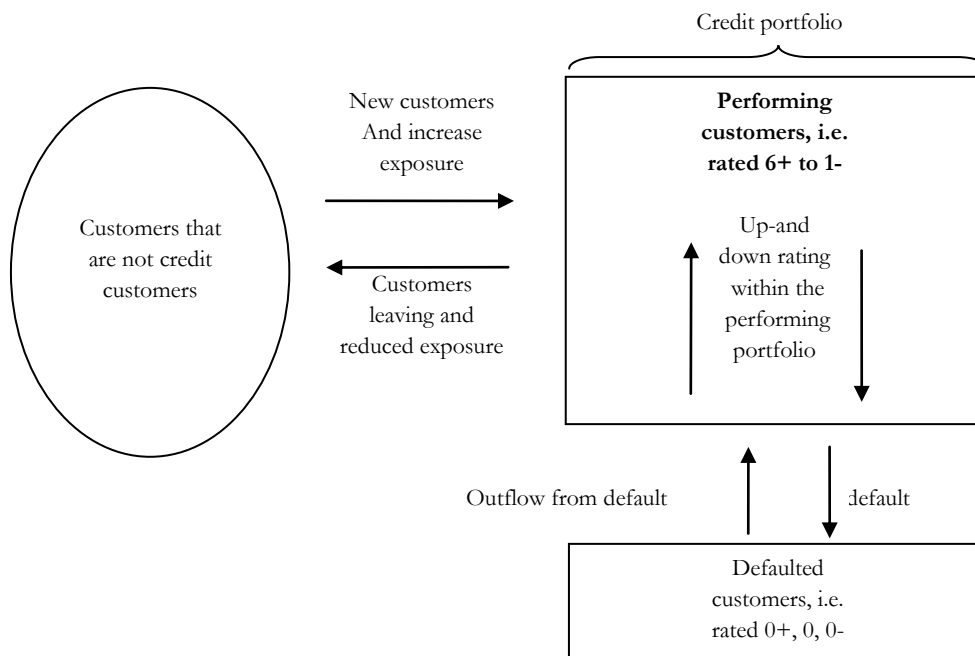


Figure 9: *Collective credit portfolio; Illustrates changes in customer status that will affect the raw loss provision on a customer level test*

At the first stage in calculating the collective provisions for a portfolio, the Bank let's all migrations affect the calculation of the provision. It calls this initial calculation for the raw loss provision, which is the change in provision levels between two periods. However, the raw loss provision does not identify if a migration is

caused by a loss event or not, and, therefore, adjustments have to be made in order to get the loss provision that each customer has contributed to. When these non-loss events have been taken into consideration, the Bank has estimated how much each customer has contributed to the total portfolio provision.

3.8.4 Main reasons to adjust the raw loss provision

A main reason why the model has to be adjusted is because it would create “day one” losses. These losses would be created because new loans go directly into the collective portfolio, since they have not been individually impaired yet. Hence, they have not yet been through a loss event and should, therefore, not cause a provision. Without any adjustment in the calculations, these loans would increase the total LLP as their ratings would be included and therefore increase the portfolio migrations. In the same manner, adjustments have to be made as a result of increased credit exposure to old customer.

A second reason why the model has to be adjusted is because loans are also removed from the portfolio when events takes place that make a loan individually visible for impairment. Most importantly, the provision would be double counted if the provision that has been booked in the collective portfolio would not be adjusted down to zero when the loan is individually impaired.

The third reason is because a loan should not to be carried on the balance sheet above its initial value. If the collective model was not adjusted, positive rating migrations could lead to net provision effects that are negative. This would mean that the provisions would be below zero, which would add to loan values. Normally, positive and negative migrations are netted in the collective LLP calculation, but if there are no collective provisions before, a positive migration will not contribute to the provision. The Bank calls this the “netting rule” and it is carried out on a portfolio level, meaning that a portfolio of loans cannot have negative net provisions.

3.8.5 Management judgment in the collective impairment model

In combination with the calculated provision from the collective model, the Bank also puts significant weight on so called management judgment when determining the level of collective LLP⁶³. The need for management judgment is caused by the fact that the model might not react and incorporate the result of a loss event fast enough⁶⁴. Since rating migrations are calculated based on numbers from financial reports, a time-lag is created as the model does not detect an event until it affects customers’ reported financial numbers. This time-lag will have a stronger impact if the loss event occurs close to the end of the quarter since the effect may not appear until in the coming quarter.

⁶³ Employee in Group Capital and Risk Modeling, 2012-03-28

⁶⁴ Employee in Group Capital and Risk Modeling, 2012-03-28

This lag can be illustrated by an example of the Norwegian salmon industry. If the price of Norwegian salmon suddenly sharply decreases, the Bank is expected to make credit losses from loans to fish plantations as a result of the inferior market conditions. The Bank considers the loss event to be at the point in time when the price of the salmon decreases, and that it, therefore, should take a provision in the current period⁶⁵. Because the model has not captured the event, management needs to use their own judgment to adjust for it. The credit risk functions and CRUs are together responsible for delivering inputs about these types of loss events to the country credit organization as part of the quarterly credit risk review process.

Collective LLP is measured on a country level, meaning that the Bank knows the amount of the collective provisions for each country. By looking at the collective provision levels for each country, we found vast differences in the impact of how management judgment was used. The differences are caused by countries vastly different historic performance⁶⁶. For example, the Swedish part of the Bank has not had large credit losses in recent years, partly because Sweden was successful in getting through the financial crisis. That means that the model, which uses historic performance, calculates a rather low provision level. Evident from the observed provision levels, management does not agree with the LLP level and has, therefore, used its management judgment to set a much higher provision level. Managers believed in a higher level of future losses because of bad economic outlook, as they believed that the Swedish exporting industry could not continue on the same high level⁶⁷. However, interesting in the case is that management did not think that the losses would occur until a few quarters from now. In this example, a bad match between past loss levels and management's expected future loss levels, led to a collective LLP, to a large extent based on management judgment.

The Bank's internal data on collective LLP shows that a large part of the collective LLP (not only in Sweden) was taken by the use of management judgment. The Bank has quarterly data on the collective LLP, for both wholesale and retail in each of the markets (e.g. Sweden or the Baltics), dating back to when collective LLP was implemented. There is a division between the part that is taken by the model and the part that is taken by management judgment, but together they equal the total LLP. Data shows that the LLP calculated by the model is never adjusted downward by management judgment, i.e. management judgment is never negative. It also shows that the use of management judgment differs a lot among the markets. In some markets it is even unusual that management judgment was used. Even though management judgment was not used to decrease the collective LLP, it could be decreased by the model between two quarters.

⁶⁵ Head of Group Credit Framework & Support, 2012-03-29

⁶⁶ Head of Group Credit Framework & Support, 2012-03-29

⁶⁷ Senior Credit Officer, 2012-03-29

4 Analysis

We have identified a number of issues and challenges that the Bank faces internally during the LLP process. Even though these issues are diverse as they relate to different functions within the Bank and to different stages in the process, three main issues have been identified. Following the chronological order of the process, the first issue relates to how the internal guidelines should be designed in order to achieve a consistent process across the organization. The second issue regards how to consistently identify and handle when to take a provision. Finally, the third issue concerns how to decide the size of the provision. The analysis will handle these three main areas respectively.

4.1 How to achieve a consistent process across the organization

The very first issue that the Bank faces in the LLP process is how to achieve a cohesive handling of LLP across the entire organization, consisting of thirty thousand employees. Previous literature shows that a major issue for standard setters is to what extent they should dictate the rules for financial reporting, that is whether financial standards should be based on principles that work more like guidelines, or whether they should be based on rules that have to be followed. The goal is to achieve financial reporting that is both relevant and faithfully represented. In this way literature is referring to the relationship between the standard setters and the different organizations following the standards. However, we can note that the same issues of standard setting are also relevant within the Bank. The Credit Group Framework and Support division can be considered the standard setters and the different CRUs the different organizations. Since the CRUs act much like stand-alone companies with their own profit and loss responsibility, we argue that the theories for analyzing the organization from an external viewpoint in relation to its external relationships, such as earnings management, also could be used to analyze the internal relationships.

We have seen that the Bank chooses to design its own internal “standards”, in the form of guidelines, when implementing IAS 39. The reason for this is to create common practices throughout the Bank leading to comparability and consistency. It is fundamental to have a consistent process in identifying loans with a potential need of impairment, both for risk management, but also due to external pressure. The Bank faces pressure from external parties, such as FI and external auditors, to have adequate documentation for how the LLP has been calculated. If FI considers the calculations and documentations to be substandard or divergent from the model that it has approved, the Bank will be informed, warned and potentially fined. There is also internal pressure to have proper documentation and coherency from, for example, internal auditors and from Group Credit Control. When the internal “standards” become more rules-based, there are issues meriting consideration. As we have seen that guidelines developed according to a rules-based regime can have similar effects internally, as it has in the relation between standard setters and preparers of financial information, the

Bank also has to consider the same potential implications. Next we will discuss these implications by analyzing the advantages and disadvantages with adopting a rules-based approach.

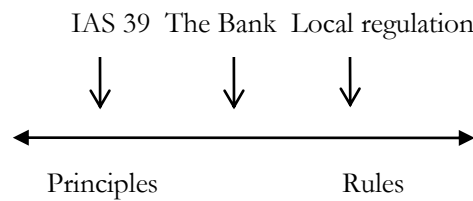


Figure 10: *Spectrum of standard setting from principles to rules*

4.1.1 Implications of a rules-based standard

ICAS (2006) noted that a rules-based approach is usually very detailed. As can be seen from our study, the Bank has developed hundreds of pages of internal guidelines for LLP. This can be compared to the paragraphs covering LLP in IAS 39, which are only limited to a few pages. By taking the standards and adding considerably more details, the Bank appears to make the standards more rules-based in its implementation of them. However, Nobes (2004) warned that adding rules might lead to increased complexity. Indications of this complexity were also seen at the Bank, confirmed by the Head of Credit Retail Sweden who received complaints from branches within the organization. These include, for instance, complaints about too many different guidelines and difficulties in keeping track of constant changes. Our study shows that in order to mitigate this problem, the Bank invests extensive resources into developing guidelines that are compliant with regulations, but also easy to follow. By having specialized divisions, the Bank can let its experts develop guidelines that replace the complex language in the accounting standards with internal standards that employees are able to understand. In this way the rules might have led to greater complexity by adding details, but with the benefit of being easier to interpret.

Arthur, et al. (2006) state that a principle-based standard often becomes more rules-based in an attempt to increase comparability and consistence. This also happened at the Bank, and led to both advantages and disadvantages compared to leaving room for judgment to the users. Toppe Shortridge and Myring (2004) say that a lack of precise guidelines could potentially create inconsistencies in the application of the standards across an organization. The Bank has tried to mitigate these potential inconsistencies by having rather precise guidelines. Previously, relationship managers could, for example, set their own discount rate when calculating NPV for impaired loans. There are now specific rules and just as Toppe Shortridge and Myring (2004) note, moving away from principles to more specific rules creates consistency, enabling comparisons between branches and across reporting periods. Because it is a necessity for the Bank to have a cohesive handling of LLP across the organization, lack of consistency is undesirable.

However, Arthur, et al. (2006) do not agree, stating that leaving the standard open for interpretations gives more room for professional judgment to the persons who know the operations best. At the Bank, these should probably be the employees who are responsible for the customer relationship and analysis. By centralizing the power through rule-setting, managers' room for judgment is being limited. We found that this could be a problem at the Bank as it operates in many different markets over large geographic areas and the types of customers differ greatly among regions. As it is not likely that rules could cover every possible scenario, allowing for a greater scope for interpretation could potentially increase the relevance of the reported information. However, this might come at the cost of deteriorated consistency and comparability, and consequently, it might be questioned to what extent the information is faithfully represented. Kivi, et al. (2004), however, see the potential to present information based on economic substance as the most compelling argument in favor of principles-based standards.

Nobes (2004) not only warned that detailed rules would lead to complexity but also to the structuring of transactions in order to get around the rules. On the other hand, financial reports under a principles-based approach could reduce manipulations of the rules and a company's actual performance will, therefore, be more accurately reflected (Toppe Shortridge & Myring, 2004). In the same way as companies may try to structure transactions to circumvent unfavorable reporting, we have seen that there is a risk that the CRUs will act in the same manner. This is especially likely to happen through rating manipulation as will be analyzed in the next section. It is clear that the principles versus rules debate has shown both positive and negative effects with both approaches, for both managers as well as for investors. In conformity with how standard setters at IASB have to consider a spectrum of choices when constructing standards, so do the guideline developers at the Bank as well, as we have identified that the Bank's implementation of rules can have effects in the LLP process.

Another issue that standard setters at the Bank have to consider when writing the guidelines is translation issues. English is used to communicate at group level and the guidelines are written in English as well. However, many employees at the branches have somewhat limited language skills. In order to mitigate these problems the guidelines are sometimes translated into the local language, but this creates translation issues such as how to translate the concept *impaired* into Swedish, since no exact translation exists. When different meanings and interpretations are possible in different cultures and countries, clarity of wording and the quality of translation is being paramount (ICAS, 2006). If different interpretations are possible, it will endanger consistency and comparability. We believe that there is a trade-off when trying to enhance consistency by having additional translated local guidelines, and trying to keep it simple by having one guideline for the entire group.

4.2 Identifying a loss event

The second main issue identified internally at the Bank is how to identify when to take a provision. IAS 39 states events that should be considered as evidence that a loss has occurred (IAS 39, 2005, para. 59a). However, Barth (2006) noted that IAS 39 does not give a direct answer to when impairment should be taken, which leaves room for personal interpretation. This problem is further enhanced by the risk that managers in the organization act arbitrary for their own CRU's good, but possibly at the cost of the Bank. Hence, the Bank also has to be able to control managers in order to mitigate internal earnings management problems, and to ensure that provisions are taken in a consistent way across the organization.

The standard gives the user the option to be rather prudent and take provisions at an early stage if the user can prove that objective evidence of impairment exists. On the other hand, the same standard allows and requires the user to postpone the provisions if no objective evidence exists. IAS 39 can thereby be said to force banks to delay provisions to a later stage than desired by the banks, as they are required to wait for objective evidence. Critics also claim that the restriction of the incurred loss model prevents banks from reporting 'known losses' that are inherent in loan portfolios (Gebhardt, 2008).

As a first step, the Bank has decided what is considered to be objective evidence of a loss event. This is done by Group Finance and Group Credit, and then stated in the guidelines by the Group Credit Framework and Support function (all are central functions). The interpretation issue is, hence, foremost solved at the headquarter. However, in order to make sure that the whole organization follows the rules, we have found that the Bank has a rigorous internal control system. This system is an important part of the overall risk management, and not solely for LLP, but it is an important function with regards to LLP.

The internal control system can be explained and analyzed by Simon's (1995) four levers of control with the belief, interactive, diagnostic, and boundary systems. Additionally, as already discussed, we have seen that in order to implement IAS 39, the Bank has moved from the standard's more principles-based approach to a more rules-based approach. We see a connection between the use of Simon's four levers of control, and whether the control system is more principles- or rules-based. A rules-based approach requires precise measures so that employees' actions can be audited closely. The diagnostic control system provides this possibility as information that consists of both financial data and non-financial measures (quantitative and qualitative rating) (Perera & Harrison, 1997) is used to monitor customer performance, hence, also manager performance. The exact measure of for example rating 2+ and 3- has large consequences in the LLP process and CRUs have to present evidence for their rating. To follow up rules, there also needs to be a clear sense of what is right and what is wrong. To do so, the boundary system is used. Hence, with more rules, the boundary system will also become more important as it becomes a guide in decision making.

We have found that there is a connection between what degree an organization uses principles or rules and its internal control system. Therefore, we have modified Simon's (1995) four levers of control framework, by adding an additional dimension; to what degree the control system is founded on a rules- or a principles-based regime, as seen internally at the Bank. This two-dimensioned framework will act as the foundation for the analysis in this section

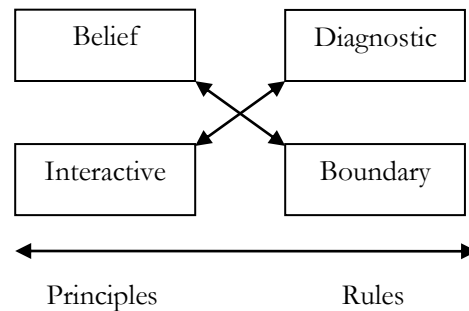


Figure 11: *Our own two-dimensioned framework developed based on Simon's (1995) four levers of control in relation to what degree the basis for information is founded on a rules- or principles-based regime, as seen internally at the bank*

The accounting standards are known to be more based on concepts rather than strict rules and, therefore, provide guidance rather than dictating what prepares should do. If the internal directives were designed more in line with this approach, this would be part of the organization's belief system in accordance with Mundy (2010). However, we have found that, as the Bank has implemented the rules, it has moved away from a control system merely based on beliefs, to a system foremost based on diagnostic controls and boundaries.

4.2.1 When to take a provision

In order to solve the problem of when to take a provision, and in order to create comparability and consistency throughout the organization, the Bank has a rating system that indicates when an impairment test has to be performed. The Bank uses three different definitions of default which are in line with the ones used in the literature (Dermine, 2008): performing (doubtful), non-performing (loss), as well as bankruptcy (loss). The diagnostic control system constitutes of the internal rating system, which among things is used by the central credit functions to monitor so that impairment tests are conducted when they are supposed to. The Bank consider the event when a customer's rating decreases from 3- to 2+, to be the signal for when an impairment test has to be made. The impairment testing could then identify a need for a provision, and that would affect the financial result for the affected CRU. Since the whole Bank uses the system, it becomes the major communication tool, and as such, it creates a common organizational language. The rating system with the three categories; observation, special mention, and risk classification, seems to work like a traffic light, as it shows a "red light" when a customer moves into special mention. In this way the Bank has created a very specific rule compared to IAS 39, which says that there needs to be of objective evidence of impairment. The

benefit with the rating system is that a strong signal is sent when a rating moves down to 2+ and every CRU knows the implications related to the lower rating.

The Bank cannot control everyone so closely that it knows exactly what everyone is doing, but with the diagnostic control system, efficiency is enhanced as ratings communicate clear-cut information. However, as Simons (1995) points out that there is a risk that empowered employees will manipulate the input used for the diagnostic control system, which in this case are the ratings. We have found that relationship managers in the branches in the retail organization, responsible for their own financial results, were unwilling to downgrade customers. Additionally, to avoid impairment testing, which is a time consuming process that can lead to LLP, there were an un-proportional large number of customers rated as 3-. Hence, ratings had been structured to avoid losses, which Nobes (2004) predicted would happen with a rules-based standard.

When ratings are managed so that a customer stays out of the special mention category, it indirectly leads to earnings management, since a provision is postponed to the future. Studies such as Lobo and Yang (2001), Beatty, et al. (2002), and Kanagaretnam, et al. (2003) found evidence that banks use LLP to manage earnings in financial reporting. Our finding shows that earnings management, by managing LLP, also takes place internally as empowered relationship managers tries to manage their own CRUs result. Previous research identified that banks smooth earnings over time (Kanagaretnam, et al., 2003), which was also found internally within the Bank, as CRUs by managing LLP, were able smooth earnings over time. To avoid showing negative results, CRUs were found to postpone reversals until they were able to match them with a new LLP.

In order to mitigate the problem, there is a separation of powers as credit analysts determines the quantitative part of the rating while the relationship managers set the quantitative rating. However, this is not always possible and in the retail division relationship managers many times also set the quantitative rating. With the separation of powers, the Bank aim to mitigate the risk of manipulated ratings, as the credit organization has less incentive to manipulate the rating compared to the relationship mangers. However, we question how effective this solution is since credit analysts also have incentives to keep the rating high. Still, a dynamic tension is created in the organization as relationship managers are measured on profit and loss, but are dependent on credit analysts to set the ratings. Furthermore, the separation of powers helps to mitigate the information asymmetry that relationship managers otherwise have about their customers as credit analysts are also required to get good customer knowledge. If credit analysts do not gather the information required, there is a risk that relationship managers use their superior customer knowledge to their advantage and possibly use it manage the earnings. We believe that the dynamic tension that the separation of powers creates is vital for the Bank's management control system, since it spurs the interactions within the organization and among the levers.

4.2.2 Management control systems in the wholesale and the retail division

Both the wholesale division and the retail division follow the same rating rules, which make their diagnostic control system identical to a large extent. The reason why the rating system becomes an efficient communication tool is because it quickly indicates the credit quality of a customer. This becomes extra important as the Bank has a great amount of different customers and all can be evaluated under the same system. The weakness of the system, as we see it, is that the rating system only results in one number as the output, meaning that the underlying information used to calculate the rating cannot be understood based on a quick overview. It seems like the Bank has tried to mitigate this problem by making the guidelines for the rating system very rules-based. To control against rating manipulation and create comparability there is a focus on the calculated rating, based on pro-forma numbers.

However, there is a risk that this rule-based approach will create a “tick-box” mentality at the expense of real understanding of the business (Toppe Shortridge & Myring (2004), ICAS 2006). This concern was also raised by the Head of credit retail who claimed that employees stop to think if they are given guidelines that are too detailed and leave little room for management judgment. The relationship managers are considered to have the best understanding of the customers’ financial situation, and if that understanding is worsened and replaced by a more automatic and standardized approach, a “box-ticking” approach, there is a risk that valuable information is overlooked. In order to identify risks, it is important to discover and monitor early warning signs so that problems can be handled before they affect financial reports. If people in CRUs just follow detailed rules instead of utilizing their professional judgment, important events that are not “a box to tick for” in the guideline may be disregarded.

To prevent against “box-ticking”, but still having a rating system that creates comparability, the Bank lets relationship managers set the qualitative rating. To do so relationship managers have to stay in close contact with the customers since they have to be able to answer the questions that the rating is based on. As such it forces managers to generate good customer knowledge. There is, however, a risk that the qualitative ratings will be used to manipulate the overall rating, especially in the retail division. To guard against this problem, the diagnostic system is constructed so that a qualitative rating that differs more than one step from the quantitative rating has to be approved by a higher authority.

Even though we have found that the rules incorporated in the rating system are the same across the entire organization, we have also found that there are differences in the control system for LLP between the retail and the wholesale banking division. Both within the wholesale and the retail division there are clear boundaries that employees have to act within. The major boundary system is the authorization ladder with different decision making authorities. It effectively sets limits to what managers on different levels are authorized to do, by setting rules that Toppe Shortridge and Myring (2004) say create a bright-light. In this

way it works similar in both divisions. Relationship managers are given responsibility for their own results, but the boundary system, given by the authorization levels, creates limits to what managers are not allowed to do, just as Simons (1995) said it should.

The difference between the wholesale and the retail division is that the limits are much narrower at the retail division, which gives it much less flexibility to handle customer exposures. With the use of the boundary system, the Bank limits the decision freedom and centralizes the power depending on the size of the customer exposure. The boundary system also creates a dynamic tension together with the diagnostic system as a customer that has been down-rated to special mention will be moved out of the relationship manager's boundary, and up to a higher decision making authority. We believe that this could create further incentives for a manager to manage the ratings.

The ratings given by the scoring model is an even clearer example of how the Bank has designed its boundary system. The decision power has been removed from the relationship managers, in favor of a statistical model that determines whether the manager is allowed to issue a loan or not depending on the rating. As such the Bank applies strict boundaries that the manager has to act within. The Bank does this in order to validate that the risk management within the decentralized retail organization is compliant with the centrally decided risk-levels for the group. These boundaries protect an organization from credit risk, which is a bank's greatest risk (Tuomela, 2005). Additionally, since the risk of failure becomes larger for decentralized organizations (Simons, 1995), such as the Bank, formal systems are important communication tools to ensure that the boundaries are maintained.

To balance the rules-based system that is built on diagnostic and boundary systems there is a need for interactive controls, and a belief system. Simons (1995) pointed out that a management control system consists of dynamic tensions among the four levers. We agree and have identified that the four levers are interlinked within the Bank, meaning that depending on how one is constructed, that will also affect the other ones. In the wholesale division we found an informal interactive system that stimulated continues communication among relationship managers, the analysts and the credit divisions, i.e. communication on a horizontal level. The Bank has, thereby, in addition to the diagnostic system, chosen to add a more interactive system in order to identify loss events. The advantage with the interactive system in wholesale is that it becomes proactive and can help identify loss events faster than if the Bank solely used the diagnostic control system. Simons (1995) says that there are three characteristics that set the interactive system apart from the diagnostic system. We have found that all three characteristics are present since the information about emerging financial problems for customers within the wholesale division is firstly very important as it can result in large loan losses, secondly, it is best analyzed during face-to-face meetings, and thirdly, it also requires an ongoing debate to verify its status.

Also the retail division shows elements of an interactive system to balance the diagnostic and boundary systems, and to mitigate the risk of ratings management. The main component in this system is the quarterly risk review, in which customers that get downgraded to special mention are included. Simons (1995) probably would call it a very formal information system because of how the CRUs are responsible for communicating and deliver material that higher authorities use in the risk review. In this way, the interactive system will allow top managers to control how relationship managers have identified loss events and, therefore, is more reactive compared to that of the wholesale division. Furthermore, compared to the interactive system in the wholesale division, it is to a larger extent based on vertical interaction among two or more organizational levels.

The credit risk review process is formal and guided by clear rules, but there is also a more continues interactive process such as the constant dialogue the Head of Credit Retail Banking Sweden keeps with CRUs about risk-classified customers. This is an example of how the managers at the central credit units get involved in the decisions of subordinates. We agree with Simons (1995) when he says that this continuity is an integral part of the interactive system. With regular communication, the central credit unit can audit decisions regarding troubled customers, and give special attention to customers with a 3- rating in order to guard against rating management.

Even though the diagnostic system is very important in the retail division, it does not reflect on goals and values as Dent (1991) pointed out. To do so, Mundy (2010) said that a belief system is needed in order to communicate an organization's core values and priorities. Because the retail division is so decentralized, interactive controls are difficult as formal structures have to be organized. Instead of interactive controls, a rules-based rating system is in focus. However, Nobes (2004) says that rules lead to complexity. If managers misunderstand the rules or cannot understand them, there needs to be a set of principles to fall back on. By providing what Toppe Shortridge and Myring (2004) call broad guidelines, the belief system is able to guide managers in making decisions. We believe that the Bank can work harder to improve its belief system. The system should communicate the Bank's core values and priorities, and will if it is successful, unite employees to act in the Bank's best interest, rather than having CRUs working for their own best. As argued by the Head of Group Credit at Bank C, it would be better to have a strong internal culture that everyone acted according to, than having rules that could be bypassed. If so is done, it can help guiding the way the other levers are used (Dent, 1991), and improve the CRUs' decision making.

4.3 How to decide the size of the provision

The third main issue that we have identified in the LLP process is how to estimate the size of the LLP. IAS 39 states that a provision should be taken as soon as objective evidence exists that a loss event, able to impacting future cash flows of the customer, has occurred (IAS 39, 2005, para. 59a). However, the standard leaves the estimation of the loan holder's repayment capacity to the Bank to estimate, since the standard does not state

anything regarding what amount that should be impaired. Furthermore, IAS 39 states that individual financial assets should be tested for impairment but if no evidence is found, assets should be included in a collective impairment testing (IAS 39, 2005, para. IN21). We have seen that individual provisions, which are estimated by computing NPV calculations, are based on subjective predictions to a large extent. However, we found that collective provisions, which are calculated by a statistical model and through management judgment, involve an even greater degree of subjective predictions about the future.

If the Bank waited until the time of default, the size of the impairment could easily be decided, hence, it would be faithfully represented. However, in order to provide financial information about the reporting entity that is useful to users of financial information in accordance with the Conceptual Framework (IASB, 2010), there is a need to take provisions earlier. Hence, it is not enough that the financial information is faithfully represented; it also needs to be relevant. The estimation is hard to make, and the Bank, therefore, faces problems to report information that is both relevant and faithfully represented, when taking LLP. The optimal provision level should equal the realized loan losses that will materialize in the future, but since that has to be predicted earlier in time, before the loss is realized, it is difficult to say that any bank report provisions incorrectly at that stage. Since there is no right or wrong by that point in time, estimating the right level of provisions is not an issue that could be solved, rather it is a balancing-act that the Bank has to manage.

4.3.1 Individual assessment

The issue that arises with the impairment testing calculation is that it is based on estimations, and therefore, comparability is hard to achieve across the organization. We saw that predicting the future repayment capacity of the customer was very difficult in situations when customers were in financial distress; as survival was very uncertain, estimation of future cash flows was highly uncertain, and collateral valuation is an imprecise practice. The Bank tries to manage the issue by using templates that are standardized, both for calculations of cash flows as well as collaterals. Still, calculations are conducted at the branches, meaning that it is a decentralized process. Thus, the same management control system that was used for controlling for a consistent handling of when to make the provisions, applies also for handling this issue.

We found that individual LLP results in an additional problem. Impairment testing does not take place until a customer has been rated down to 2+, but ratings are based on financial reports, which at the best, are released one time each quarter. Also, loss events naturally occur prior to when financial reports are produced, meaning that there will be a time-lag from the loss-event until the effects are shown in the reports. We conclude that there is a time gap until the individual LLP is taken. We consider the Bank's method to determine individual LLP to be a cautious approach, since a loss-event has to be reported in a financial statement, before it is recognized.

Faithfulness is enhanced if the Bank waits for an event to be reported in financial reports, but that causes a time-lag, which will decrease relevance. A different method to determine LLP is to have closer customer relationships; through a continuous process of getting knowledge about customers, the Bank would not have to wait for information until the financial reports are published to the same extent, resulting in a decreased time-lag and reduced need for collective LLP. In Nilsson's (2003) study, there was an example of this approach as Handelsbanken argued that due to their strong customer knowledge there was no time-lag after a loss event, and, therefore, there was no need to take collective LLP. The disadvantage of this approach is that extra resources are needed in order to keep a closer customer relationship.

So the Bank has to balance between relevance and faithful representation, and we believe that IASB's aim with financial reporting are aligned with the Bank's aim for risk management, since the Bank wants financial information from the CRUs that is useful for decision making at a group level. If the CRUs can estimate provisions that faithfully represent what it purports to represent, by being complete, neutral and free from biases that would enhance the Bank's risk management. It is also in the Bank's best interest that the information from the CRUs has a predictive value and a confirmatory value, so that it can make decisions based on the LLP information. If the CRUs properly describe all the estimates and uncertainties affecting the impairment test, the faithful representation of LLP will increase. However, faithfully represented information is not by itself necessarily useful for the Bank. The estimate will not be very useful for the Bank if it is associated with a large amount of uncertainty, and it may not be relevant even though the information is faithfully represented.

4.3.2 Collective assessment

To capture losses from incurred loss-events, but for which the effects have not yet been identified in financial statements, the Bank takes collective LLP. The processes to determine the collective LLP are centralized solely to the headquarter and it is, therefore, not an issue to achieve consistency throughout the organization. However, there is a difficult estimation issue and to solve this issue, a statistical model is used. We have found that the model is backward looking and conservative, since it only calculates provisions based on historic data based on incurred events, and as a result, it will not do a good job of estimating the future if it differs from the past.

Nilsson (2003) shows that the level of provisions did not increase when collective provisions were introduced, which was surprising because the idea with the collective LLP was to sooner report loan losses and, therefore, also timelier. However, we question how effective the current model for collective LLP is to sooner identify losses since it is so backward looking. The backward-looking element of the model was indicated by the Swedish collective LLP case; the model calculated the levels based on Sweden's low historic loss-levels, but management took additional provisions based on its judgment of the economic outlook, i.e. based on national

conditions in accordance with IAS 39 paragraph 59a. Hence, the model does not solve the estimation issue, and management has to use its own judgment to make adjustments.

The question then becomes whether LLP is taken from an incurred event or from an expected event, which would imply that an expected loan loss model is used. One can argue that poor economic performance in the future is caused by an incurred event and, therefore, the loss is incurred. On the other hand, the future loss event has not yet happened, so how can it be counted as an incurred loss already? It appears that when LLP is taken by the use of management judgment, there is not a clear sense where the past ends and the future begins, which also is a problem with the incurred loss model according to Barth (2006). However, because the Swedish economy is still performing decent or at least has not shown a large drop off, we, therefore, cannot identify a significant loss event. We conclude that the Bank, when using management judgment, bases collective LLP on expected rather than incurred losses. The outcome is that in opposite to the individual LLP, the collective LLP enhances relevance because losses are identified earlier, but in contrast, relevance also decreases since it involves estimations associated with high uncertainty.

When applying the collective model, provisions that are not traceable to individual exposures emerge. This creates internal issues at the Bank, since the collective LLP is not allocated to specific CRUs. Hence, collective LLP does not affect the evaluation of CRUs. If the LLP were allocated, the CRUs would then be accountable for something that rests outside the sphere that they can affect. Because there is a high degree of uncertainty in the collective LLP, it is also an advantage that CRUs are not measured on it. However, the approach could potentially create incentives for the CRU not to take LLP on an individual level, and instead wait for the collective model to take it.

4.3.3 Through-the-cycle model as an option

Instead of having the estimation issues related to the incurred loss model, another solution would be to take provisions based on a through-the-cycle model as Spanish banks did before IFRS. To use this model, the Bank would have to calculate its loss statistic over an economic cycle to get an average LLP that it then applies every year. Perez, et al. (2006) pointed out that because it is the model that sets the provision level in this approach, there would be less room for managerial discretion. However, Yeh (2010) questioned the model, since it is impossible to predict a business cycle, as no business cycle seems to be similar to another. We see an additional problem with the model since it may not give an accurate view on the current financial performance. The Conceptual Framework establishes that financial reports should be based on estimations of true economic conditions (IASB, 2010, para. OB11), which the through-the-cycle model is unable to show. Because it smooths LLP by using average levels over a period of time, it will never show an entity's true economic condition at one point in time. Bushman and Williams (2007) found evidence that in countries where banks were allowed to use smoothing practices, the risk-shifting behavior had been greater. Hence, as

the through-the-cycle model did not show provision levels that gave an up-to-date picture of financial performance, banks got away with taking greater risks. We believe that an argument can be made that if the Bank used a through-the-cycle model it would not measure LLP as well and, therefore, miscalculate its risks. Furthermore, if relationship managers were not responsible for LLP, they could be encouraged to take more risks. However, we argue that the Bank would use the same internal control system even though a through-the-cycle model was used, since it is in the Bank's best interest to have robust internal processes for LLP, regardless of how it is reported externally.

4.3.4 A move to the expected loss model

It is difficult for the Bank to handle the estimation issues for its collective LLP with the incurred loss model, and the question is whether an expected model would work better. When studying past collective LLP data we found that the model never over-predicted the collective LLP. By doing so, it sets a lower bar for the collective LLP level. However, the low level is also a sign that it does not do a good job of estimating LLP. Currently, the model only uses one year probability of default estimates, but with an expected loss model, such as the economic capital, the probability of default would be through the business cycle.

Managers in the Swedish division had a poor view on the economic outlook for future years and believed that the Swedish export industry would not be able to continue to perform as well. They, therefore, took provisions now for events that they believed would happen a few quarters later. With the use of an expected model, collective LLP would be calculated on a longer forecast period that better would match that of management. Therefore, it should also be able to calculate LLP levels that are closer to managers' estimates.

An issue that arises within the Bank when implementing IAS 39 is how to handle the different models and definitions used for capital requirement regulations (Basel Committee on Banking) and from IASB. As the Bank bases the collective model on the economic capital model, it has to make considerable adjustments in order to be compliant with IAS 39. Having two different models within the Bank creates a complicated dualism, as different definitions are used and different teams work with the models. A move towards the expected loss model would reduce much of this complexity as the same model could be used.

Another positive effect of the expected loss model is that there will be a better match between revenues and losses (Deloitte, 2012). The incurred loss model front-loads the interest income as revenues are generated from day one, but losses are only taken as they occur. An incurred loss model assumes that all loans will be repaid until evidence of the opposite is identified (Deloitte, 2012), but this results in that losses are reported too optimistically and loan values are too high, so that usefulness is reduced. The miss-representation will be greater when the loan is riskier, and the Bank prices the loan higher; the interest rate is likely to be higher, and the Bank earns more interests income as long as the customer serves the loan. However, losses are also

expected to be higher, but these are not shown until a loss event has incurred and it, therefore, is a mismatch between income and expenses. A more conservative approach would be to match a loan's expected losses with the income over the period of the loan. We think this approach would increase relevance as it will be a better match between income and expenses.

However, we are not certain that relevance would be enhanced with an expected loss model. The same uncertainty will remain in the calculations of the collective LLP, as it still involves forecasting the future, and none of the approaches appear superior to the other in doing so. The advantage we see with the incurred loss model is that a clear division is made between what part of the total LLP that is individual and what part is collective LLP. Because the nature of the two parts is so different and the estimation problems vary a lot between them, it is beneficial for users of financial statements that they are reported separately. Individual LLP is more faithfully represented compared to the collective LLP, as it is based on better estimates. It is harder to make such division in an expected loss model as all loans should be based on expected losses. Resulting in information that will not be as faithfully represented, and as a result it will become more difficult for users to validate the information.

5 Concluding remarks

Our study shows that the Bank faces different issues and challenges during the LLP process. The three main identified issues are: how to design the internal guidelines in order to achieve a consistent process, how to consistently identify and handle when to take a provision, and how to estimate the size of the provision.

To achieve a cohesive handling of LLP across the organization, the Bank has created its own detailed guidelines for implementing IAS 39. Since the CRUs act much like standalone companies we argue that the relationship between them and the internal standard setting unit, Group Credit Framework and Support, is similar to the relationship between IASB and the different organizations following their standards. Therefore, we found that the same issues of standard setting, as previous research has discussed, also arise internally. The rules-based system led to complexity, structuring of transactions to get around the rules, and the risk of a tick-box mentality.

The Bank has a rigorous internal control system for risk management, that we identified is also used for controlling the rules-based LLP process. To analyze how the Bank controls this process, we developed our own two-dimensional management control framework; based on Simon's (1995) four levers of control we added the dimension to what degree the control system is founded on a rules- or a principles-based regime. We found that the Bank's rules-based system creates focus on a diagnostic system, as well as a boundary system. The diagnostic system constitutes of the internal rating system, which is also the major internal communication tool. Further, we identified that the rules-based approach led to clear boundaries that dictated cut-off points in the diagnostic system, such as the identification of when an impairment test is required. In accordance with Simons (1995), empowered relationship managers (responsible for their CRUs' profit and loss) showed tendencies to manipulate the input used for the diagnostic control system, as they were unwilling to downgrade customers. When ratings are managed, the identification of LLP is postponed, which indirectly also leads to earnings management. Previous research argues that banks use LLP to manage their externally reported earnings. Our findings show that also divisions within a bank use LLP to manage their earnings.

Our study shows that the Bank uses separations of powers to mitigate the issue of rating management, by allocating the main responsibility of rating setting to credit analysts nowadays. However, we question how effective this solution is since credit analysts also have incentives to keep the rating high. Furthermore, to balance the diagnostic control and the boundary system, the Bank uses an interactive system. Within the retail division the interactive system was used in a reactive manner to follow up CRUs' provision decisions, while it was used more proactively to identify impairment needs within the wholesale division. A stronger, common belief system within the Bank would unite employees to act more according to the Bank's best interest, and not primarily look to their own best interests.

Furthermore, we also found that the LLP process involves difficult measurement issues. It is evident that management judgment plays an important role when estimating the size of the provision. Especially the collective LLP involves subjective estimates. The incurred loss model is backward-looking; therefore, management has to rely upon its own judgment. To make LLP more forward-looking, the IASB is currently looking at revising IAS 39's incurred loss model and move towards an expected loss model. We found that managers were concerned about the economic outlook and took LLP based on expected future events. There is no clear line where the past ends and the future begins, but we argue that when managers use their own judgment, LLP becomes based on expected rather than incurred losses.

LLP based on expected losses leads to more timely reporting, and better matching between revenues and losses. Hence, the expected loss model will increase the relevance of LLP. However, there is a risk that when LLP is based on expected losses, faithful representation will decrease as it becomes more based on estimates about the future. To what degree LLP should be based on expected losses, therefore, becomes a balancing-act that the Bank has to manage.

We conclude that even though the Bank has a well-developed LLP process, the process is complex and involves difficult subjective measurement issues. The incurred loss model of IAS 39 is backward-looking and it is evident that management judgment has a large impact when estimating the size of the provision.

5.1 Limitations

The reliability of the thesis is related to the degree in which the result presented in the thesis could be repeated if the study was conducted again. A study with good reliability should, therefore, be able to be replicated in order to reach the same conclusions (Merriam, 1994). Since the analyzed process is in constant change as a result of internal developments and changes in external regulations, future researchers need to consider that replicating this study at a later point in time could generate different results. Since peoples' interpretation of the real world is highly subjective, the reality is interpreted rather than measured (Merriam, 1994), and, therefore, reliability difficult within social research. The result in this thesis is our interpretation of the reality, but as a result of the previously stated reasons, other researchers could interpret the reality differently at another point in time.

In order to achieve a higher reliability and to minimize misinterpretations, all empirical information that was analyzed was also read and validated by the Bank. However, only limited changes were made and these were only to correct facts such as titles, or names at different organizational divisions. Furthermore, the methodological triangulations strengthen the reliability.

The validity of the thesis relates to which degree research results depict reality, and can be divided into external and internal validity. The internal validity of the thesis is a measure on whether the results of the

research method are interpreted correctly (Merriam, 1994). External validity relates to what extent the results of the thesis can be generalized for other populations. Due to the nature of the method, researching the specifics of one case in depth, it is usually hard to attain external validity for single case studies. The results cannot be generalized to a greater population since the analyzed case object is a specific case in a heterogeneous sample. However, during the pre-study we could identify similar issues at the other banks as identified at the study object. Due to the lack of internal access, the degree of similarity cannot be known with certainty. However, the internal validity was enhanced as a result of the three weeks full-time that was spent at the Bank, since that allowed good opportunities to ask clarifying questions. Also, the thesis in its whole has been examined and approved by the Bank before publishing. This has been done without censoring the content of the thesis, and only to validate accuracy of facts.

5.2 Further research

Since provisions for loan losses by nature are subjective, it is probably not possible to expect all banks to handle the same loan in a similar manner. This is already indicated by Nilsson's (2003) study that shows significant differences in how Swedish banks report loan loss provisions in their external financial reporting. It would be interesting to experiment how different banks would handle an identical set of loan loss provision cases. An in depth comparison across different banks based on access to internal information could probably explain why some banks report such a large part as collective provisions compared to other banks.

Also, as a result of the regulations covering capital requirements in Basel III, banks will be required to hold more capital for lower rated customers than for higher rated customers. This will make lower rated customer less profitable for a bank, or lead to significantly increased lending costs for the customers. In the extension, this could imply that customers associated with higher risks, most often small companies, will find it difficult to borrow money from banks in the future, since banks could lack sufficient capital to cover for it. An interesting aspect of this was raised during the pre-study by Professor Peter Englund as he speculated that new bond-markets may emerge in Sweden as a result of this, if banks are unable to provide capital. The importance of the internal ratings will be amplified in the future, and also collaterals will become more important even for large corporate customers, since a high level of collaterals will lower the capital requirements. It could therefore be interesting to analyze how the banks choose to change their rating system as well as how they allocate their product portfolio in the coming years.

6 Bibliography

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6.1 Interviews

At the case company

- Accounting expert, Accounting policies & instructions, Group Finance, 2012-03-14
- Employee in Group Credit, Customer Projects, Group Credit Retail Banking Sweden, 2012-03-27
- Employee in Group Capital and Risk Modeling, Group Credit, 2012-03-28
- Head of Credit & Industry Analysis Sweden, Group Credit, 2012-03-19 and 2012-03-22
- Head of Group Credit Wholesale Banking Sweden, Group Credit, 2012-03-22
- Head of Group Credit Retail Banking Sweden, Group Credit, 2012-03-28
- Head of Group Credit Framework & Support, Group Credit, 2012-02-21 and 2012-03-29
- Head of Rating, Group Capital and Risk Modeling, 2012-03-26
- Head of Section, Group Credit Process, Group Credit Retail Banking Sweden, 2012-03-27
- Management partner, Group Credit, 2012-02-21 and 2012-03-21
- Senior Credit Officer, Group Credit Framework & Support, Group Credit, 2012-03-15 and 2012-03-29

Other interviews

Heurlin, Sigvard, Senior project manager EFRAG, 2012-02-08

6.2 Conference call

Head of Group Credit Retail Banking Sweden, Heads of Regional credit divisions, 2012-03-21