Credit Risk Assessments of Swedish Real Estate Companies

A Comparative Analysis of Actors Assessments

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Abstract

The real estate industry is a sector where the companies generally have a capital structure which is high leveraged. The financing – with the related terms – is therefore specifically of high importance for the companies in the sector. Traditionally, the way of obtain financing is by borrowing from the bank. Lately, due to new bank regulations, the banks have become more restrictive in their lending which have lead to a growth of other financing alternatives. For instance, the corporate bond market has grown rapidly. The development has increased the number who acts as lenders. Institutional investors are for an example an actor which invests in corporate bonds. Furthermore, the credit rating agencies plays indirectly an important role in the financing process since their credit ratings are a part in the process of determining the terms.

The terms (such as the interest rate) of the financing are mainly based on the credit risk of the company. Since the topic is of big importance and the financing for real estate companies is changing, the main focus is to create further knowledge and understanding regarding the assessments of the credit risk by each actor. The present thesis shows the credit risk assessment process by each actor where the banks and the credit rating agencies have the most clear framework. The banks and the agencies do a deep assessment which then is discussed in “committees” internally to reach the final assessment. The investor’s combines own analyses with evaluating earlier credit analysis done by a credit rating agency or a financial advisor in a corporate bond issue.
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Finally, I would like to thank Daniel Figueroa for providing me with important and useful information in the topic.

I hope that the paper will provide a further knowledge and understanding in an important subject.

Stockholm, May 23th, 2013
Johan Claesson
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1. INTRODUCTION

The introduction aims to provide a background to the topic and why it is interesting to look further into. It will also identify the research problems and explain limitations in the paper. Furthermore, the disposition is presented to provide an understanding for the reader how the thesis is organized.

1.1 Background

The traditional way to obtain financing for real estate companies in Sweden is by borrowing from the bank. Lately, due to new bank regulations, the banks have been more restrictive in their lending towards Swedish companies (Jaffee and Walden, 2010). This fact has made the companies to look at alternative ways of financing through the capital markets. For instance the corporate bond market has grown rapidly the last years (Fastighetstidningen, 2013).

The number of actors that is lending to Swedish real estate companies has been increased due to the changes of sources of financing. Except from the banks, institutional investors such as pension funds and insurance funds are lending money to real estate companies through corporate bonds which work as a loan. This development has therefore led to a growth of actors that has to do credit risk assessments as a part of their lending.

Other actors that play an important role on the market for credit risk assessments are the credit rating agencies. Today there are several credit rating agencies on the market where the three biggest ones are Standard & Poor’s, Moody’s Investor Service and Fitch Ratings; known as the “big three”. They assess companies’ capacity to meet their financial commitments (Credit Rating Agencies Resource Center, 2012). According to Becker and Milbourn (2011), the ratings are important for many investors’ since they face regulations and guidelines according to them.

The credit rating agencies has recently been strongly criticized by two reasons. The first reason is that the financial crisis starting in 2007 exposed some deficiencies in the credit rating process.
Companies that were given very high ratings collapsed and defaulted. An example of this is Lehman Brothers Holding Inc. – which was a global financial firm and the fourth largest investment bank in the US – which was assessed with high ratings by the “big three”, just before it defaulted in mid-September (Nasiripour, 2009). The collapse of the Lehman Brothers Holding Inc. also played a major role in the global financial crisis.

The second reason – which also may be an explanation to the too high ratings – is the competition between the credit rating agencies. Becker and Milborn (2011) show that the entrance of a third major rating agency in Fitch Ratings on the market – which increased the competition - coincides with lower quality of the ratings. The rating levels went up, the correlation between ratings and market-implied yields fell, and the ability of ratings to predict default deteriorated.

Companies as well as institutional investors, in general, are facing the change in source of financing and the possible shift of awareness in the credit rating agencies rating process respectively. Real estate companies does with its unique characteristics - compared to companies in other sectors - add another dimension in the credit risk assessment process, regardless if the assessment is done by banks, institutional investors or by credit rating agencies. Firstly, the real estate companies are generally having capital structures with high leverage ratios (Myers, 2001). Secondly they are also often using the real estate’s as a security in the loans.

The credit risk assessments are vital for the terms of the loan or the bond loan for the lender as well as for the borrower. The cost for the loan is also an important item in the cash-flows for the real estate companies and the lender which their operations are based on. The pricing of the risk is based on the assessments done by or on behalf of the lender.

1.2 Research Problem and Research Purpose

The sources of financing for real estate companies are currently in a period of changes. In this development, a growth of different kind of actors acts as lenders. Withal, the credit rating
agencies, which play an important role in the financing process, have been struggling following the criticism.

The aim and purpose of the thesis is to provide a comparative analysis of how different actors assess the credit risk of real estate companies. This will show if and how different actors differ in their assessments. Methods that are used by different actors will be identified as well as main determinants, and how collaterals are handled. The thesis will also include an analysis of how different types of real estate companies are assessed and the financial crisis effects on the assessments.

The thesis should be of interest for real estate companies as well as for consultants. It will provide real estate companies with analysis about the assessments and determination of the important terms of their financing and the consultant often works as an advisor in processes linked to financing and credit risk assessments. It should also be of interest for lending actors based on their perspective of the process. The thesis may identify deficiencies or shortages in credit risk assessments which can be used to contribute to an improvement in the assessments.

The object of interest that will be investigated in the thesis is:

- What framework is used by market participants in assessing the credit risk of Swedish real estate companies?

To answer the main research question of the paper and to produce further understanding in the subject, the following sub-questions are identified as;

- How is the credit risk assessments process organized?
- Are standardized models used in the assessments?
- Which factors are the main determinants of assessing the credit risk?
- How are collaterals in securitized loans or bonds handled? Are they valued by the lenders themselves?
• In what ways do the methods of assessing the credit risk differ regarding different types of real estate companies?
• What effects has the financial crisis had on the assessments?

1.3 Limitation

The main data collection tool in the present thesis is interviews with actors whom are primarily established on the Swedish market. Therefore the thesis will be limited to credit risk assessments on Swedish real estate companies. If collected information can be generalized in a broader context, it will be stated in the thesis.

1.4 Disposition

The paper consists of five subsequent chapters. The second chapter will provide information about the methodology which was used to answer the research questions. It will also discuss important research concepts such as validity and reliability. Thereafter, the theoretical study will be presented in the third chapter. The purpose with this part is to give the reader good and appropriate background knowledge to better understand the research topic and the analysis and conclusions. The structure of the theoretical part is to start with a wide context – why credit risk assessments are important – and narrow it down to models and concepts. The empirical part is found in the fourth chapter, which consists of collected information from the interviews supplemented with reliable secondary sources. Thence, analysis of the collected data based on both primary and secondary data will be executed in the fifth chapter. Finally, the sixth chapter contains of the conclusions which can be drawn and a summary of the findings which has been made in the paper.
2. METHODOLOGY

This chapter aims to explain the methodology used in the paper and discuss concepts such as validity and reliability. The method used to answer the research problems is needed to be analyzed to reach valid conclusions.

2.1 Research Design

The research design provides a plan for the data collection and its analysis (Ghauri and Grønhaug, 2010). Ghauri and Grønhaug (2010) have identified three types of research designs; exploratory, descriptive and causal research design. The present thesis requires a combination of a descriptive and a causal research design to solve the research problems in the greatest possible way. The descriptive research design requires the researcher to clarify and describe what is meant by the underlying research topic; Credit risk assessments. Then, the task is to produce the necessary information – through a research strategy - to answer the research problems. The information can be collected through primary or secondary data collection. The data sources and data collection in the present thesis are further discussed in Chapter 2.2.

The causal research designs are under the scrutiny structured and are similar to the descriptive design. Beyond this, a casual design also face another dimension – the so called ‘cause-and-effect’ problems (Ghauri and Grønhaug, 2010). An example of a ‘cause-and-effect’ problem – the last sub-question above - is if the research identifies that the credit risk assessments methods have been changed after the financial crisis. Therewith, the causes must be isolated to analyze to what extent the ‘cause’ results in the effects. It may be the case that the assessments have been changed after the crisis but mainly due to other reasons.

2.2 Data Sources and Data Collection

An important choice in the research is to decide which type of sources for data collection that should be used. It is a crucial decision to choose the best data collection tool on how the needed
information to answer the research problems should be collected. The sources for the thesis are a combination of primary and secondary data. It will although mainly be based on primary data to answer the research problems but be supported with available secondary data of already existing work.

2.2.1 Primary Data

Data that has been collected directly by the researcher are called primary data (Ghauri and Grønhaug, 2010). There are several options for collecting primary data and normally this includes observations, experiments, surveys (questionnaires) and interviews. An advantage of primary data is that it’s more consistent with the research problems and the research purpose. A main disadvantage is that the data may take a long time to collect and cost a lot of money. To answer the research problems in the present paper, personal interviews will be held.

Interviews

Interviews can be done in several ways, and can be classified as structured or unstructured interviews. The first one deals with an emphasis of fixed response categories and systematic sampling and may be used together with statistical methods. Unstructured interviews contain of leading questions and give the respondents more freedom to discuss reactions and opinions on the research topic. (Ghauri and Grønhaug, 2010)

The interviews can be a combination of a structured and unstructured interview. These interviews are called semi-structured and will be performed in this paper. The interviews will contain of pre-determined questions but also give the respondents the freedom to develop their arguments to make it possible to catch other important thoughts in the research topic. Since this thesis aims to describe the differences in credit risk assessments by different actors, it’s of importance that the interview questions are asked and framed relatively similarly. (Ghauri and Grønhaug, 2010)
**Interview Respondents**

The perspective of the paper is – as the stated main research problem – to investigate the framework that is used by market participants to assess the credit risk of Swedish real estate companies. Since the thesis is mainly based on information collected from interviews, the interviewee respondents has been chosen carefully. The respondents works daily and actively with questions regarding credit risk.

The respondents that are representatives of banks are: Per Jäderberg, Head of Structured Finance & Advisory, Debt Capital Markets, Handelsbanken; Urban Häkansson, Senior Vice President, Head of Real Estate & Construction, Large Corporates, Swedbank. In addition to above, an interview has been held with two credit analysts who work at a lender that plays an important role for real estate companies as a source of financing. As wished by the respondents, they will be anonymous in the paper and will be referred to as ‘Credit Analysts, 2013’.

The respondents that are representatives of investors are: Karin Haraldsson, Fund Manager, Lannebo Fonder; Babak Houshmand, Credit Analyst, Öhman Fonder. The respondent that is representative of a credit rating agency is: Gabriel Forss, Associate, International Public Finance, Standard & Poor’s. Daniel Figueroa, Head of Nordic Region, Business & Relationship Management at Fitch Ratings have given access to information about their credit rating process and procedures.

**2.2.2 Secondary Data**

Secondary data are information collected by others for purposes that can be different from your own purposes. The biggest advantage with this type of data is the enormous savings in time and money. The main problem is that the data may not completely fit your research problem since it’s collected by others that have different objectives. A reliability check is therefore of great importance, which will be discussed further in the credibility part of this paper. (Ghauri and Grønhaug, 2010)
The sources for secondary data can be divided into two groups; internal sources and external sources. While doing a work for a company, a lot of information can be collected from internal sources. It could for example include information about customers, suppliers, employees and marketing plans. This thesis – however – will partly be based on secondary data which was collected from external sources, for example published books and journal articles. The choices of secondary sources have been done carefully to ensure the reliability of the thesis.

Secondary data has been used for two purposes. The first one is to understand the underlying background and concepts in credit risk assessments. The secondary data that explains the background aims to provide a better understanding for the research topic. In the assessments, lots of concepts are used where secondary data provides definitions of those. The second purpose for using secondary data is to supplement the collected information in the thesis with useful and accessible information in and around the topic of the research.

2.3 Credibility

Without rigor – a research is worthless, becomes fiction and loses its utility (Morse et al, 2002). Therefore, a great attention has to be applied to validity and reliability in the research process to state that the thesis is trustworthy and credible.

2.3.1 Validity

Validity is defined by Gregory (1992) as, “the extent to which [a test] measures what it claims to measure”. Validity can be of internal or external nature. Internal validity refers to the question whether the results obtained within the study are true. External validity on the other hand refers to the degree the results can be generalized (Ghauri and Grønhaug, 2010).

As stated in the first chapter, the interviewee respondents are mainly established on the Swedish market. Together with the fact that all countries and actors have their own characteristics, the degree to which the conclusions can be generalized, i.e. external validity, can’t be fully identified
within the thesis. Therefore, the stated limitation above holds and further generalizations cannot be guaranteed to be completely valid.

Validity threats – that belongs to the internal validity and are worth mentioning - is that the interviewee respondents may answer differently depending on their main working tasks and on what company they are working at. One example is that the respondent might answer in a way that is favorably for their employer. Another example is that the questions may be asked in different ways in the interviews which may lead to different answers. Since the thesis is comparative of its kind, this is specifically important.

To make the study as valid as possible, the interviewee questions have been designed as similar as possible for all interviewee respondents – no matter what actor that is being interviewed. The interviews have also been recorded if allowed by the respondent. Afterwards, the recordings have been listened through to minimize possible validity threats.

### 2.3.2 Reliability

Reliability is defined as “the degree to which measures are free from error and therefore yield consistent result”. It describes how reliable the study is and can be tested through a test-retest method. If a research is completely reliable, a re-test of the research problem should yield the same result. (Thanasegaran, 2009).

Since the main data collection tool is interviews, the test-retest method is hard to implement as re-creation of the interviews are simply not possible for practical reasons. The interviews are thereto semi-structured which might cause the respondents to answer differently since the interview form gives them more freedom to answer and discuss. The data are however collected from a number of interviewee respondents who have been chosen carefully. The primary collected data are also supplemented with secondary sources for which a reliability check have been done. To the largest extent as possible, the sources consist of scientific journals, companies’ websites or well-known institutions such as the Swedish Tax Agency and the Swedish Financial Supervisory Authority.
3. THEORETICAL STUDY

The theoretical part will provide the reader with information in the topic and the underlying factors to better understand the analysis and conclusions. It begins with a wide explanation of the lending process and why credit risk assessments are important. Then it will be narrowed down to explaining the credit models and financial concepts.

3.1 Principal - Agent Relationship

A principal – agent relationship arises when a principal hires an agent to perform some form of task. The principals and agents are also called players and can for instance be persons, companies, parties or countries. Both players are in general looking to maximize their own benefits, and therefore they are acting to benefit their own interests. Asymmetric information occurs when one part (often the agent) has more information than the other part. This leads to a couple of principal – agents problems which are further discussed below in the context of the topic of the thesis. (Hendrikse, 2003)

Figure 1: Principal - Agent Relationship
3.1.1 Financing Possibilities

The emergence to the principal – agent relationship between real estate companies and lenders arises when real estate companies are looking for financing. The contract – including the terms – is negotiated depending on the characteristics of the real estate companies and the lenders as well as the relationship between them. The credit risk is crucial for determining the terms.

Often used financing alternatives can be divided into two groups; Equity financing and debt financing. One way to increase a company’s own equity is by issuing common shares or preference shares. The two most common ways of financing for companies through liabilities are bank loans or by issuing corporate bonds. There are several other financing options, but those will not be explained further in this paper.

**Common Shares and Preference Shares**

Shares are a corporate equity ownership and give the owner rights to the company’s assets and earnings after the company’s creditors receive their part. Common shares are issued when a new limited liability company has started but can also be issued thereafter. The difference between common shares and preference shares is the priority of dividend payments where preference shares are senior which means higher priority for dividends and in the event of liquidation (Nationalencyklopedin, 2013(b)). Different kind of shares also has different voting power.

Issuing of shares is a financing instrument which includes some financial risks for the buyers. One of those risks is the credit risk which affects the terms of the issue. Often, the shares are issued to a price which guarantees an annual dividend level. Terms also regard other factors such as the right to equity in the event of financial distress.

**Bank Loans**

The corporate bond market has grown rapidly in the last years as an alternative source for financing. Bank loans are debts evidenced by a note and are still the most common source for obtaining debt financing for Swedish real estate companies. The terms of the loan are partly
based on the credit risk, i.e. the risk that the borrower cannot fulfill their financial commitments. Examples of those terms are the interest rate and the length of the loan.

**Corporate Bonds**

A corporate bond is a security sold by corporations to raise money from investors today in exchange for promised payments in the future. It could be priced through the following pricing model; (Berk and DeMarzo, 2011)

\[
P = \frac{C_1}{1+i} + \frac{C_2}{(1+i)^2} + \ldots + \frac{C_n + FV}{(1+i)^n}
\]

where;

- P = market price of bond
- C = coupon payment (interest payment paid periodically)
- i = yield
- FV = face value
- n = number of payments

The terms of the corporate bond is as with the other financing alternatives partly based on the credit risk of the borrower. Another factor is the payment priority following a default (Fabozzi, 2012). The higher the risk is the higher will the yield of the bond be. The yield can be divided in a risk-free part and a risk premium part. The risk-free part can be derived from government bonds since the risk that the country will go bankruptcy is (often) almost zero.

3.1.2 The Consequences of Financial Regulations on Financing

The financial crisis starting in 2007 showed deficiencies in the of that time current bank regulations. It revealed defects involving legislative gaps, ineffective monitoring, opaque markets and excessive complexity of products (European Commission, 2012). This has lead to an
implementation of a new bank regulation, Basel III, which has had consequences on the credit market.

**Basel III**

The overall aim of the new regulation is to strengthen the ability of banks to withstand losses and to reduce the likelihood of new financial crises (The Riksbank, 2010). Basel III, which is a development of the Basel II regulation, concerns new regulations regarding capital requirements, leverage ratios and liquidity requirements. The various parts of Basel III will be phased over the next few years, starting in 2013.

Regarding the capital requirements, it obliges banks’ to hold 4.5 % of a so called “common equity” and 6 % of “Tier I capital”. The common equity refers to the common stockholders and neglects the preferred stockholders. The Tier I capital is often used to measure the financial strengths of banks and is composed of “core capital” which includes “equity capital” and “disclosed reserves”. Furthermore, the Basel III includes two liquidity requirements. The first one concerns the “Liquidity Coverage Ratio” (LCR) and states that the banks’ need to hold liquid assets that is covering its total net cash flow during a stressed period of 30 days. The second one, “The Net Stable Funding Ratio” requires the banks’ to have a stable financing that is greater than their need for stable financing. The leverage ratio – calculated by dividing the Tier I capital with the banks average total consolidated assets – should according to the regulation be maintained at a minimum level of 3 %. (Basel Committee on Banking Supervision, 2010)

**Consequences of the new Regulations**

The aim of the Basel III is as mentioned to reduce the risks due to big losses for the banks. The regulation will although simultaneously lead to higher costs for the banks – and thus also for the clients (Slovik and Cournède, 2011). This development causes companies to search for alternative markets for financial services. For instance the corporate bond market has grown rapidly the last years (Fastighetstidningen, 2013).
3.1.3 Principal and Agent Actors

In the financing agreements – in some of the financing possibility forms - arises the relationship between the principal and the agent. Credit market participants are those actors who are lending money. In this category are banks, credit market companies and other financial institutes included. In Sweden, there are a numerous of banks established. The biggest four are Handelsbanken, Nordea, SEB and Swedbank. A Swedish central administrative authority, the Swedish Financial Supervisory Authority (FI), are supervising banks and credit market companies since their activities require authorization from the FI (Swedish Financial Supervisory Authority, 2013). Examples of financial institutes are companies offering payday loans, such as telephone and SMS loans. Except from that, the investment managers are also playing a role in the credit market. Those managers could represent funds such as pension funds.

The credit rating agencies have an indirect impact on the credit market but a direct impact as an actor in principal – agent relationship. They are not acting as a lender or investor, but the market participants can use their work in their lending or investment decisions. Today there are several credit rating agencies on the market where the three biggest ones are Standard & Poor’s, Moody’s Investor Service and Fitch Ratings as previously stated. They assess companies’ capacity to meet their financial commitments (Credit Rating Agencies Resource Center, 2012). The credit rating agencies are most often rating companies on behalf of the companies themselves.

3.1.4 Asymmetric Information

Asymmetric information occurs in contracts where one part doesn’t have all the information that the other part has. In the context of the present thesis, the borrower knows more about their own credit worthiness than the lender does. This creates a relationship between the actors which puts the lender into a weaker position. Asymmetric information can lead to two problems; Adverse selection which occurs before the contract is agreed and moral hazard which occurs after the contract is agreed. (Hendrikse, 2003)
3.1.5 Adverse Selection

Adverse selection is a market process where asymmetric information leads to a situation where “bad” products or services are more likely to be selected. This can be exemplified by the famous Market for Lemons theory developed by George Akerlof in 1970. The theory describes the market for used cars to illustrate how “good” products are driven out by “bad” products. The buyers don’t know – cause of asymmetric information – if a car is “good” or “bad”. This leads to a situation where the buyers are not willing to pay the value of “good” cars since they don’t have knowledge about the quality of the car. Therefore, the owners of “good” cars don’t want to sell their cars for a price that is below the value. (Akerlof, 1970)

This can be applied to the lending process if the lender doesn’t know the status of the borrower. If the lender can’t completely distinguish whether a potential borrower is associated with low risk or not, this could lead to a situation where there’s a higher degree of borrowers whom are associated with a high risk and are actively looking for loans (Mishkin and Eakins, 2009). This puts borrowers with high creditworthiness in a situation where the lender may refuse to lend money to them since they have the adverse selection problem in mind. Mishkin and Eakins (2009) are further explaining that the adverse selection problem occurs in the early phase before a loan agreement is made and could be avoided by an increased amount of knowledge about each other. Two solutions to the adverse selection problem are signaling and screening – which credit risk assessment is practically about.

**Signaling**

Borrowers whom are considered as having good characteristics in the lending process, i.e. high credit worthiness wants to be distinguished by the lenders as having those characteristics. This improves the borrowers’ situation in the chances to get a loan to profitable terms. One way for that kind of borrower is by signaling in which they reveal information about their characteristics (Hendrikse, 2003). This eliminates parts of the asymmetric information in the principal – agent relationship. Real estate companies are regularly sending signals about their operations to enhance a positive opinion about the company. This can be done by informing others about their history, what businesses they have done previously and so on.
**Screening**

Screening means that the lender – with less information about the borrower – focus on activities which provide information about the borrower (Hendrikse, 2003). The process of assessing the credit risk of real estate companies is basically a screening process. Example of factors that will be screened by the lender is the management of the borrower and their financial results. The empirical part and the analyzing part of the present thesis will further describe and analyze the screening process in the context of the thesis.

### 3.1.6 Moral Hazard

After a contract is agreed, there is a risk for moral hazard. In a borrower – lender relationship, for example the borrower might engage in activities that are unwanted by the lender (Mishkin and Eakins, 2009). One example is if the borrower spends the loaned money on activities that weren’t originally intended which may decrease the probability of repayment of the loan. The risk for onset of moral hazard problems can be decreased by creating terms in the agreement which concerns rules about the behavior of the borrower. This, however, puts higher demands on the lender to have a good control function to be able to observe whether the borrower is following the terms in the contract or not.

### 3.2 Credit Market

The actors and the financing possibilities create a credit market. The Swedish Tax Agency (2013) is defining the credit market as a market for borrowed capital. It can be divided into a bond and a money market. Furthermore, the banks’ lending and borrowing activities are a part of the credit market. The bond market concerns trading of bonds with a maturity time of at least a year while there is a trading of financial instruments such as Treasury bills and certificates with a maturity time of less than a year in the money market. The credit market is in a time of development as described in the introduction since companies in a higher degree are using other sources for financing than the traditional way of borrowing through the bank.
3.2.1 Credit

The Nationalencyklopedin (2013(a)) is defining credit as the “fact that a creditor (lender) allows a debtor (borrower) to dispose a sum of money (money account) with the promise of later repayment of money”. They are also stating that banks and other credit institutes are providing the monetary credits for payment, usually in the form of interest. Credit can be given with collaterals, often properties in real estate financing.

3.2.2 Credit Risk

The credit risk is the risk, which the lender faces, that the borrower will default on a debt by failing to make the payments which they are obligated to do. Credit risk is as old as lending itself, which means that it dates back as far as 1800 B.C.. It is the oldest form of risk in the financial markets. (Caouette et al, 2008)

3.2.3 Credit Ratings

The credit rating agencies have an indirect role on the credit market since the investors have rules according to the ratings. The agencies evaluate the creditworthiness for issuers of debt securities. In other words, it measures the probability of repayment. The “big three” have similar rating systems, where Standard and Poor’s rating symbols are explained below. The ratings are also classified as “investment grades” or “non-investment grade” (Caouette et al, 2008). The top ratings AAA to BBB are considered as being “investment grades” while the rating BB to D is “non-investment grades”. The ratings are not set by the credit rating agencies as an investment recommendation (Forss, 2013).
Table 1: Standard and Poor’s long-term ratings

<table>
<thead>
<tr>
<th>Rating</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAA</td>
<td>Extremely strong capacity to meet financial commitments.</td>
</tr>
<tr>
<td>AA</td>
<td>Very strong capacity to meet financial commitments.</td>
</tr>
<tr>
<td>A</td>
<td>Strong capacity to meet financial commitments, but somewhat susceptible to adverse economic conditions and changes in circumstances.</td>
</tr>
<tr>
<td>BBB</td>
<td>Adequate capacity to meet financial commitments, but more subject to adverse economic conditions.</td>
</tr>
<tr>
<td>BB</td>
<td>Less vulnerable in the near-term but faces major ongoing uncertainties to adverse business, financial and economic conditions.</td>
</tr>
<tr>
<td>B</td>
<td>More vulnerable to adverse business, financial and economic conditions but currently has the capacity to meet financial commitments.</td>
</tr>
<tr>
<td>CCC</td>
<td>Currently vulnerable and dependent on favorable business, financial and economic conditions to meet financial commitments.</td>
</tr>
<tr>
<td>CC</td>
<td>Currently highly vulnerable.</td>
</tr>
<tr>
<td>C</td>
<td>Currently highly vulnerable obligations and other defined circumstances.</td>
</tr>
<tr>
<td>D</td>
<td>Payment default on financial commitments.</td>
</tr>
</tbody>
</table>

*Source: Standard & Poor’s, 2009*

3.3 Credit Risk Assessment Model Theory

3.3.1 Credit Scoring Models

Credit scoring models are used by lenders and include several factors that determine the credit worthiness of the borrower, which could be a person or a company. The models are used as a decision tool for the lenders whether to lend money or not and to what terms. They are further objective, consistent, fairly simple and easy to interpret. (Caouette et al, 2008)

*Altmans Z-model*

Altmans Z-score model is a famous credit scoring model developed by Altman in 1968. The theory is used to predict the probability for bankruptcy of firms and includes five variables
assigned with weights. Altman found that a company which corresponds to a Z-value of 1.81 fails, a company corresponding to a Z-value of 2.99 will not fail and that the range 1.81-2.99 comes with a level of uncertainty. The original formula is defined as; (Altman, 2000)

\[ Z = 0.012X_1 + 0.014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5 \]

where;

- \( X_1 = \) working capital/total assets,
- \( X_2 = \) retained earnings/total assets,
- \( X_3 = \) earnings before interest and taxes/total assets,
- \( X_4 = \) market value equity/book value of total liabilities,
- \( X_5 = \) sales/total assets, and
- \( Z = \) overall index

**Moody’s KMV Model**

Moody’s KMV model is similar to the Z-score model and was first introduced in 2000. The model has thereafter been developed into different versions for countries since the risk drivers between countries vary. Version 3.1 of the KVM model, which can be used to assess the credit worthiness of companies in Sweden, identifies the following risk driving categories; Leverage, profitability, debt coverage, activity, size, liquidity and growth. (Moody’s, 2007)

**Another Approach: Closed-Form Solution**

Kim (2011) explains that modeling the credit risk, i.e. the probability of default, for commercial real estate mortgages is more complicated than for non-commercial real estate mortgages. The closed-form solution model is a development of the KMV model and predicts the probability for default on commercial real estate mortgages. The characteristic with those mortgages – which makes it more complicated – is that the borrower will only default if both the net operating income and the property value fall below a threshold level. The model concerns the above mentioned risk driving categories (regarding the KMV model). A sector risk analysis is also
important in the model since it affects the net operating income as well as the property value (Kim, 2011).

3.3.2 Expert Systems

Expert systems are computer-based and used as a decision tool in credit decisions (Caouette et al, 2008). The systems are built on algorithms for financial simulations and statistical forecasting, and interact with the user by asking questions. Caouette et al (2008) further explains that the algorithms tells the system, “what to do if”, which leads to a big amount of different questions which differs depending on the answers on the earlier questions. The system is asking questions until enough information is collected to give a credit decision recommendation. Researchers have found that expert systems perform very well in complex and unstructured problems compared to other more statistical approaches (Mahmoud et al, 2008). One problem with expert systems is that the global financial system is changing quickly which requires the systems to be continuously updated and redesigned. The following variables are identified as being accurate in anticipating borrower’s credit risk in commercial real estate projects (Caouette et al, 2008):

- Debt coverage ratio below 1.2 and dropping
- Future criteria (e.g. that a major tenant will not renew their lease)
- Real estate tax delinquency
- Revenue that don’t growth
- Expense growth is high in relation to the revenue
- Changes in the ownership recently
- Whether they use secondary financing
- Refinancing issues
- Complicated financing structure
- Signs that the real estate is not properly maintained
- Financial statements that are not credible
- Property that is not near economical strong areas
3.4 Financial Concepts

This part explains different statements and financial concepts (key ratios) which are discussed in the empirical and analysis chapters.

3.4.1 The Balance Sheet

The balance sheet is also called the statement of financial position and lists the company’s assets and liabilities which give an overview regarding the financial position of the firm. As seen in the example below is the balance sheet divided into two sides; Assets and liabilities and shareholders’ equity. The left side of the balance sheet shows how the capital in the firm are used while the right side shows the sources of capital. Since the left side equals the right side, this leads to the balance sheet equation; Assets = Liabilities + Shareholders’ Equity.

![Consolidated Balance Sheet prepared according to IFRS (reformatted)](in € millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Current Assets</td>
<td>8,305</td>
<td>4,031</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goodwill</td>
<td>1,384</td>
<td>532</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Property plant and equipment</td>
<td>1,912</td>
<td>1,602</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other non-current assets</td>
<td>5,009</td>
<td>1,897</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inventories</td>
<td>2,876</td>
<td>1,564</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts receivables</td>
<td>11,200</td>
<td>5,888</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other current asset</td>
<td>13,093</td>
<td>9,665</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank and cash</td>
<td>2,125</td>
<td>1,479</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>37,599</td>
<td>22,617</td>
<td></td>
<td>17,338</td>
<td>12,060</td>
</tr>
<tr>
<td><strong>Total Liabilities and Shareholders’ Equity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
<td></td>
<td>18,976</td>
<td>10,161</td>
</tr>
<tr>
<td>Short-term financial debt</td>
<td>11,902</td>
<td>6,429</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts payable</td>
<td>7,074</td>
<td>3,732</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total liabilities</td>
<td>20,261</td>
<td>10,557</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Figure 2: Balance Sheet Example*

3.4.2 The Income Statement

The income statement lists a company’s revenues and expenses over a specific time. A measure of how profitable a company is can be the “bottom line” in the income statement which shows the
net income. The statement is sometimes also referred to as a profit and loss account. It does however not show the amount of cash that the firm has generated. There are two reasons for this, the first is that the statement includes non-cash entries such as depreciation and amortization. Secondly, all cash expenses are not included, such as purchases of buildings or expenditures on inventories. Figure 3 illustrates an example of how an income statement can look like; (Berk and DeMarzo, 2011)

<table>
<thead>
<tr>
<th>Income Statement</th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Net sales</strong></td>
<td>51,068</td>
<td>41,121</td>
</tr>
<tr>
<td><strong>Cost of sales</strong></td>
<td>-33,754</td>
<td>-27,742</td>
</tr>
<tr>
<td><strong>Gross Profit</strong></td>
<td>17,304</td>
<td>13,379</td>
</tr>
<tr>
<td>Selling, general, and administrative expenses</td>
<td>-4,778</td>
<td>-3,804</td>
</tr>
<tr>
<td>Research and development</td>
<td>-5,647</td>
<td>-3,897</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>-1,206</td>
<td>-712</td>
</tr>
<tr>
<td>Other income</td>
<td>2,312</td>
<td>522</td>
</tr>
<tr>
<td><strong>Operating Income</strong></td>
<td>7,985</td>
<td>5,488</td>
</tr>
<tr>
<td>Share of results of associated companies</td>
<td>44</td>
<td>28</td>
</tr>
<tr>
<td><strong>Earnings Before Interest and Taxes (EBIT)</strong></td>
<td>8,029</td>
<td>5,516</td>
</tr>
<tr>
<td>Interest income (expense)</td>
<td>239</td>
<td>207</td>
</tr>
<tr>
<td><strong>Pretax Income</strong></td>
<td>8,268</td>
<td>5,723</td>
</tr>
<tr>
<td>Taxes</td>
<td>-1,522</td>
<td>-1,357</td>
</tr>
<tr>
<td><strong>Net Income (after adjusting for minority interest)</strong></td>
<td>7,205</td>
<td>4,366</td>
</tr>
<tr>
<td>Earnings per share:</td>
<td>1.85</td>
<td>1.06</td>
</tr>
<tr>
<td>Diluted earnings per share:</td>
<td>1.83</td>
<td>1.05</td>
</tr>
</tbody>
</table>

*Figure 3: Income Statement Example*

### 3.4.3 The Statement of Cash Flows

As explained above, the income statement does not indicate the amount of cash a firm has generated. The statement of cash flow is however – based on information from the income statement and the balance sheet - showing how much cash the firm has generated and the allocation of the cash during a specific period. The statement is divided into three different sections; Operating activities, investment activities and financing activities. An example of the statement is seen below. (Berk and DeMarzo, 2011)
### Statement of Cash Flows
Year ended December 31 (in € millions)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Income</td>
<td>7,205</td>
<td>4,306</td>
</tr>
<tr>
<td>Depreciation and amortization</td>
<td>1,206</td>
<td>712</td>
</tr>
<tr>
<td>Cash effect of changes in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>−2,146</td>
<td>−1,770</td>
</tr>
<tr>
<td>Accounts payable</td>
<td>2,996</td>
<td>893</td>
</tr>
<tr>
<td>Inventory</td>
<td>−245</td>
<td>84</td>
</tr>
<tr>
<td>Other adjustments</td>
<td>−1,134</td>
<td>253</td>
</tr>
<tr>
<td><strong>Cash from operating activities</strong></td>
<td>7,882</td>
<td>4,478</td>
</tr>
<tr>
<td>Investment activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital expenditures</td>
<td>−715</td>
<td>−650</td>
</tr>
<tr>
<td>Acquisitions and other investing activity</td>
<td>± 5</td>
<td>1,856</td>
</tr>
<tr>
<td><strong>Cash from investing activities</strong></td>
<td>−710</td>
<td>1,006</td>
</tr>
<tr>
<td>Financing activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dividends paid</td>
<td>−1,760</td>
<td>−1,553</td>
</tr>
<tr>
<td>Sale or purchase of shares</td>
<td>−2,832</td>
<td>−3,325</td>
</tr>
<tr>
<td>Increase in short-term borrowing</td>
<td>661</td>
<td>−137</td>
</tr>
<tr>
<td>Increase in long-term borrowing</td>
<td>99</td>
<td>49</td>
</tr>
<tr>
<td><strong>Cash from financing activities</strong></td>
<td>−3,832</td>
<td>−4,966</td>
</tr>
<tr>
<td>Foreign exchange adjustment</td>
<td>−15</td>
<td>−51</td>
</tr>
<tr>
<td><strong>Change in cash and cash equivalents</strong></td>
<td>3,325</td>
<td>467</td>
</tr>
</tbody>
</table>

*Figure 4: Statement of Cash Flow Example*

### 3.4.4 Capital Structure

The capital structure is the proportions of debt, equity and other securities that a company has outstanding and explains how the company finances the operations. Most companies are using different kind of sources for financing where the most common ones were explained above regarding financing possibilities. A company that is heavily financed through debt instruments, i.e. high leverage ratio, faces a higher risk. Real estate companies are generally having high leverage ratios. (Berk and DeMarzo, 2011)

### 3.4.5 Interest Coverage Ratio

The interest coverage ratio assesses a firm’s leverage by comparing its income or earnings with its interest expenses. The income or earnings can consider operating income, EBIT or EBITDA.
The most commonly used concept are however EBIT which yields the following formula for the interest coverage ratio; (Berk and DeMarzo, 2011)

\[ \text{InterestCoverageRatio} = \frac{EBIT}{InterestExpense} \]

The interest coverage ratio should be interpreted as being better as the higher the multiple is. If the interest coverage ratio is below 1, it means that the company is not generating enough revenues to pay the interest expenses.

### 3.4.6 Loan to Value Ratio

The loan to value (LTV) ratio is simply the relationship between the amount of a loan and the value of an asset or assets. For real estate companies, the asset mainly consists of the property or properties that they own. Generally, real estate companies have capital structures with high leverage ratios (Myers, 2001).

### 3.4.7 EBIT

Earnings before interest and taxes (EBIT) which except from the operating income also include other sources of income or expenses that arise from activities that are not the central part of the company’s business. As it states, it is the earnings before interest payments (or incomes) and taxes, which are also illustrated in the income statement example above. (Berk and DeMarzo, 2011)

### 3.4.8 EBITDA

Earnings before interest and taxes less depreciation and amortization (EBITDA) is a often used concept since it only reflects the cash which a firm has “earned” from its operation. Depreciation
and amortization are non-cash expenses. The EBITDA in the income statement example above is $8,209 + 1,206 = $9,415 \text{ million}.

**EBITDA Margin**

The EBITDA Margin is used to measure a company’s profitability and is calculated by dividing the firm’s EBITDA with the net sales. The EBITDA Margin is \( \frac{9,415}{51,058} \approx 18.4\% \) in the above income statement example.

3.4.9 **Return On Assets**

The return on assets (ROA) is often used by analysts and financial managers to measure the company’s return on investments and shows how efficient the management is at using the assets to generate earnings. The return on assets is calculated by dividing the net income with the total assets. (Berk and DeMarzo, 2011)

3.4.10 **Return On Capital**

The return on capital (ROC) is also often used by analysts and financial managers and measures a company’s ability to generate earnings on the capital employed. It’s calculated by dividing the net income with the shareholders equity and the long-term financial debt.

3.4.11 **Net Operating Income (NOI)**

The net operating income (NOI) is the result of the operations by subtracting the operating expenses from the revenues (rental revenues and other incomes). NOI is the most used concept to measure the operating profit ability of properties and the performance of the company. (Geltner et al, 2007)
3.4.12 Other Financial Ratios

Other financial ratios which will be mentioned in the empirical part are defined as; (Standard & Poor’s, 2011)

*Debt service coverage ratio* = EBITDA / interest expense + regularly scheduled principal amortization

*Fixed charge coverage ratio* = EBITDA + ground lease payments / interest expense + ground lease payments + regularly scheduled debt principal amortization + preferred dividends

*Total coverage ratio* = EBITDA + ground lease payments / interest expense + ground lease payments + regularly scheduled debt principal amortization + preferred dividends + common dividends + other distributions to unit holders
4. EMPIRICAL STUDY

The empirical study aims to reach answers to the research problems and is based on interviews supplemented with reliable secondary sources. The respondents and the companies they are representatives of are presented below. For further information about the interviewee respondents, see chapter 2.2.1.

Bank representatives: Credit Analysts, Major Bank in Sweden (anonymous by request); Urban Håkansson, Swedbank; Per Jäderberg, Handelsbanken.

Investor representatives: Karin Haraldsson, Lannebo Fonder; Babak Houshmand, Öhman Fonder.

Credit rating agencies representative: Gabriel Forss, Standard & Poor’s.

4.1 The Bank’s Perspective of the Credit Risk Assessment Process

4.1.1 The Organization in the Lending Processes

The credit risk assessments are a crucial part in the lending process for banks. Organizationally, there are differences regarding the assessments depending on the borrower and the amount of the loan. The banks have limits for whom is responsible for the lending process (Credit Analysts, 2013; Håkansson, 2013; Jäderberg, 2013). Smaller customers are mainly handled on the local offices and larger customers with a larger wished loan amount is handled in a higher degree by the central department. Jäderberg (2013) however, states that Handelsbanken as a business idea – compared to other banks - has a much more decentralized operation where a lot of responsibility is placed on the local offices.

Jäderberg (2013) explains that real estate companies initially contacts the local office, no matter of the size of the credit. Thereafter, the local office does an assessment of the borrower and the
credit. If the office assess that Handelsbanken may want to go on with the credit, the next step is depends on the wished loan amount. Jäderberg (2013) further says that there are three levels in the organization between which the responsibility of the credit differs. These levels are distinguished through limits which are not disclosed in the interview due to confidential reasons.

The three levels are:

1. Local office level
2. Credit committee on regional bank level (there are 12 such credit committees)
3. Board level

Swedbank, unlike Handelsbanken, doesn’t have such a decentralized business. The local offices does handle smaller debts but the larger debts are handled directly by the “large corporation department” where one group is concentrated on real estate and construction companies. The group is responsible for a total of about 30-35 large corporate customers in Sweden and a total of about 55-60 in the Nordics and is very aware about the relationship with the customers. The department focusing on large corporations does an initial assessment and suggests a price of the debt depending on the assessed risk. It is most often the case that the department is handling the first step in the process since they are very relation conscious and have done business with the customer previously. Thereafter, the assessment is sent to a so called business or allocation committee at Swedbank which does an assessment from a business perspective. As earlier stated, the department handles the big debts, which means that a prioritization has to be done since the bank doesn’t have an unlimited amount of capital. The committee does an overall assessment of the debt and the corresponding risk. (Håkansson, 2013)

Håkansson (2013) explains that if the business committee approves the debt, the next step is handled by Swedbank’s credit risk committee. They are only looking at the credit risk associated with the debt and not the proposed price by the above mentioned department. The steps for who is responsible in the lending process for large debts at Swedbank – organizationally – can be summarized as;
1. Department for large corporate
2. Business committee
3. Credit risk committee

Note that the explained organization handles large corporations which demands big debts. Smaller debts are handled by the local offices. The limit regarding whether the debt should be handled by the local offices or by the central department is not disclosed during the interview.

Credit Analysts (2013) explain that the initial step in the lending process is handled by the department for customer contacts. They further say that this department does a first assessment of whether the debt could be of interest for the bank. If the debt is assessed as interesting, the case is further analyzed by credit analysts. They do a credit risk assessment of the credit and the company. The assessments done by the customer contact department and the credit analysts are then presented for two summing boards; one specialized on business issues and the other on issues related to the credit risk. The business summing board assess whether the credit is acceptable to go on with in the perspective of what it yields and the associated risk. The summing board for credit risk is however completely looking at the risk of the credit.

The Credit Analysts (2013) states that the final step in the lending process is handled by a committee which does a final assessment - whether the bank should proceed with the credit - based on the inputs from the others involved. The parts in the organization which are responsible in the lending process for large credits, step by step, are:

1. Customer contact department
2. Credit risk analysts
3. Summing boards
   a. Business summing board
   b. Credit risk summing board
4. Final credit committee
4.1.2 The Usage of Credit Models in the Assessments

Jäderberg (2013) explains that Handelsbanken has an internal credit model which yields a credit score to measure the repayment capacity of the real estate company wishing a credit. The model is however not a scoring model but a structured process where key ratios and other knowledge about the company combined leads to an assessment of the credit worthiness. In other words, no type of credit scoring model is used, but the companies are assessed with a rating. Jäderberg (2013) also says that they have the unique characteristics of real estate companies – such as high leverage ratios - in mind when setting the rating.

Swedbank however use a shadow rating credit scoring model which leads to a rating for the assessed company (Håkansson, 2013). The ratings follow an internal scale of 21 notches. As supplement to the model, the rating could be modified based on other factors that are not involved in the model and can affect the rating one notch up or down. Håkansson (2013) further explains that the shadow rating model is specifically developed for real estate companies which mean that it takes into account the characteristics of real estate companies – as earlier described – compared to other type of companies.

The interviewee respondents of the third bank inform that they are working with a shadow rating model to measure the credit worthiness of companies (Credit Analysts, 2013). If risks of a specific company aren’t involved in the model, the assessed rating by the model can be adjusted afterwards.

4.1.3 The Main Determinants in the Credit Risk Assessments

Regardless if or what kind of models the banks are working with, their goal is to catch the whole picture of the company from a credit risk perspective (Credit Analysts, 2013; Håkansson, 2013; Jäderberg, 2013). The respondents are all noting that key ratios from the income statement and the statement of cash-flow are used in the assessment. They are further viewing the loan to value (LTV) ratio and the interest coverage ratio as the most fundamental key ratios.
In addition, the banks analyze the real estate market and the specific real estate or real estate’s for which the company needs financing or is used as collateral for the loan Håkansson, 2013; Jäderberg, 2013; Credit Analysts, 2013). The market is analyzed from a local perspective with predictions of future levels of vacancies and market rents. Håkansson (2013) says that they prioritize to do business with companies with real estates in growth areas because of risks for high vacancy levels in other areas. The respondents also points out the risk with different kind of real estates, such as residential having a relatively low risk.

The Credit Analysts (2013) discuss tenant structure where the contracts have to be analyzed. For instance, two important aspects are the length of the contracts and the characteristics of the tenants. This is especially important when there is a few tenants renting a large part of the property since a rental income loss from one of the tenants will have a big impact. Thereto, there are some different cases with companies owning special real estates - such as schools and prisons - where the remaining length of the contract is crucial.

Finally, the management and the owners are identified as essential (Håkansson, 2013; Jäderberg, 2013; Credit Analysts, 2013). The management and owners are therefore analyzed thorough – in aspects of what they have done earlier - since the banks only want to do businesses with companies which they assess as trustworthy. According to the respondents, they often know the company – and their management – since earlier lending processes. The owners are as previously said also vital. Owners that are related to the government are for an example viewed as very strong owners.

**4.1.4 The Valuation of the Real Estate’s in Securitized Loans**

Most often, real estate’s are used as collaterals in loans. The value of the real estate’s is therefore of high importance in the lending process and in determining the terms of the loan. How the banks are handling the valuations - done internally and externally - of the real estate’s differ. Jäderberg (2013) says that Handelsbanken is valuing all real estate’s that are used as collaterals in loans. Their valuations are supplemented with external valuations done on behalf of the real estate company.
The interviewee respondents of the two other banks inform that the bank requires a valuation done by an external part on behalf of the company. They further say that those valuations are examined. If necessary, the banks also have valuers with the knowledge of doing valuations. (Credit Analyst, 2013; Håkansson, 2013)

4.1.5 The Credit Risk Assessments for Different Types of Real Estate Companies

The credit risk assessment process - in principle – is the same, no matter of the type of the company. The characteristics of different kind of companies are included in the assessment described above and therefore affect the terms of the loan. For instance companies with properties that aren’t located in growth areas are given a lower rating – in that aspect - in the rating model since it concerns the local market. Further the ownership of the real estate companies and the type of the real estate’s affect the rating by the same argument. (Jäderberg, 2013; Håkansson; 2013; Credit Analysts; 2013)

The size of the real estate company has some organizational differences for the banks in the lending process as stated above, where they have different departments which handle the process, depending on the company and the amount of the loan they wishes.

4.1.6 The Effects on the Credit Risk Assessments of the Financial Crisis

All respondents explains that the financial crisis has not had any significant impact on their lending process and carefulness (Jäderberg, 2013; Håkansson; 2013; Credit Analysts; 2013). Håkansson (2013) says that they have always been careful and on the department for large corporations they haven’t had a single credit loss since the middle of the nineties. He further explains that they learned a lot from the financial crisis in the beginning of the nineties when many lenders made big credit losses. The Credit Analysts (2013) inform that there haven’t been any changes in the shadow rating model as a result of the crisis.
4.2 The Investor’s Perspective of the Credit Risk Assessment Process

4.2.1 The Organization in the Investment Process

Haraldsson (2013) informs that about 30% of the bonds in their Lannebo corporate bond fund are issued by real estate companies including, among others, Klövern, Vasakronan and Balder. The amount of corporate bonds from the real estate sector is based on diversification aspects. Houshmand (2013) says that Öhman Fonder is having a relatively low part of the bonds in their corporate bond fund due to strategically reasons. He further says that corporate bonds issued by real estate companies generally have a relatively low yield which doesn’t correspond with the profile of the fund.

When a company issues corporate bonds, they most often do it together with a financial advisor, often in form of a bank. The financial advisor does a credit analysis of the company, which is attached to the corporate bond prospect among other information about risks and terms for the issue. Those credit analyses – together with credit risk assessment done by credit rating agencies – are essential in the assessment done by the funds. (Haraldsson, 2013; Houshmand, 2013)

Haraldsson (2013) explains that Lannebo Fonder’s organizational process in an investment decision depends on whether they have invested in the company earlier or not. She says that they have an internal list with “approved companies” for which the fund managers can make their decisions – whether to invest or not – without consulting other employees. When making a decision whether to invest in a company that is not listen as “approved”, the fund managers has to present their analysis to a credit group. If the credit group agrees with the fund manager – to “approve” investments in the company – it will be listed among the other companies. This list of companies is regularly controlled by Lannebo Fonder since the credit worthiness of companies can change relatively quickly. (Haraldsson, 2013)

Houshmand (2013) explains that he presents his credit risk assessment of companies for a specific group at Öhman Fonder before an investment. He further says that they sometimes have to make quick decisions whether to invest or not. In that case it is possible that they invest in an
instrument after just a quick analysis - if the liquidity is high - and that they then do a further analysis later on. The liquidity therefore plays an important role in the assessment process.

4.2.2 The Usage of Credit Models and the Main Determinants in the Assessments

Lannebo Fonder and Öhman Fonder differ in the question of using credit scoring models. Houshmand (2013) explains that they don’t use any scoring models. He says that Öhman Fonder instead are doing a second opinion on credit risk assessments done by the financial advisor in the corporate bond issue and – if it’s done – the assessment done by a credit rating agency. The reason that they aren’t using a scoring model is because it’s practically the same work that has already been done (by the financial advisor and the credit rating agency). However, Öhman Fonder does supplement the assessments with their own analyses. In the analysis, they are looking at key ratios where the most important one are the loan to value ratio (LTV) and the interest coverage ratio. They also look at the real estate market situation, specific characteristics for the real estate which the company owns and the income statement. Additionally, the history of the company is vital together with the management. Houshmand (2013) further says that it’s interesting to see how the company (board, management and owners) has handled earlier periods of economic downturns. The management is also important since it sends signals about how the company is handled. If, for instance, well-known business profiles are part of the management, it has a positive impact in the assessment of the credit risk of the company. Houshmand (2013) summarizes that the overall credit risk assessment is made by doing a second opinion together with their own analysis to catch the whole picture.

Lannebo Fonder, however, use a credit scoring model as complement to a second opinion of the done credit risk assessment(s). The included components in the model are the same for companies in all sectors but the weights of the different factors are set depending of the characteristics of each sector respectively. The factors that are involved are divided into two groups - financial key ratios and qualitative parameters – and are; (Haraldsson, 2013)
I. Financial key ratios
   a. EBITDA margin
   b. Leverage ratio
   c. Interest coverage ratio
   d. Cash-flow analysis

II. Qualitative parameter
   a. Maturity of debts
   b. Market & economy
   c. Management & Strategy

Haraldsson (2013) further explains that the leverage ratio, interest coverage ratio and the management and strategy as being the most important factors with highest weight in the scoring model. The leverage ratio and interest coverage ratio are easier to quantify while the management requires a closer analysis about the people that are a part of it, the owners, potential expanding plans and to get an impression about future plans for the company. Haraldsson (2013) further explains that some information for their credit scoring model is collected from the assessments done by the financial advisor and the credit rating agency while other information is collected by themselves. The market and economy component is one for which information is collected from the other assessments. Lannebo Fonder’s credit scoring model leads to a rating on an internal scale which can be converted to the Standard & Poor’s scale. Beyond for the importance of credit analysis by the credit risk purpose, it’s also important since they have different strategies for their funds.

4.2.3 The Valuation of the Real Estate’s in Securitized Corporate Bond Loans

Corporate bonds can be secured as described in the theoretical chapter and real estate companies often use the real estates they own as the collateral. The value of the real estates are therefore of great importance in measuring the credit risk. A real estate that for instance is overvalued can be a cause for repayment problem of the corporate bond loan. Investors – which also work as borrowers - in secured corporate bonds therefore have an interest in the valuation of the real estate. Lannebo Fonder and Öhman Fonder aren’t doing any valuations on their own since they
don’t have that type of knowledge (Haraldsson, 2013; Houshmand, 2013). However, they do a second opinion of an external valuation which is attached to the corporate bond prospect. They can however not question the estimated market value since the lack of knowledge.

4.2.4 The Credit Risk Assessments of Different Types of Real Estate Companies

Haraldsson (2013) and Houshmand (2013) explain that the characteristics of different kind of real estate companies affect the credit worthiness in the assessments of the companies. Real estate companies that have properties located in growth areas often have a lower credit risk since the risk for vacancies are lower. In the same way are companies which have a management and owners that are assessed as trustful, a lower credit risk as explained above. Public real estate companies have a very strong owner which gives them a relatively low credit risk. The management and owners are one key component in the credit risk assessment for Lannebo Fonder as well as for Öhman Fonder and is in Lannebo Fonders credit scoring model assessed under the factor “Management and strategy” (Haraldsson, 2013; Houshmand, 2013).

4.2.5 The Effects on the Credit Risk Assessments of the Financial crisis

Haraldsson (2013) says that Lannebo Fonder have always been careful regarding the credit risk, but – as a consequence of the financial crisis – they have become a little bit more careful than earlier. She further explains that they are observant regarding foreign companies which they don’t have a lot of knowledge about. Houshmand (2013) are of the same opinion and explains that the risk premium due to the credit risk has increased after the financial crisis. The reasoning can be shown by the graph below, which illustrates the credit risk spread between a corporate bond and the government bonds which are concerned as being risk-free. Observe that the graph is a very simplified one.
Figure 5: Credit risk spread as a consequence of the financial crisis

4.3 Credit Rating Agencies Perspective in the Credit Risk Assessment Process

4.3.1 The Organization in the Credit Rating Process

Standard & Poor’s has an international organization where the offices co-operate with each other regarding the rating procedure. Gabriel Forss (2013) explains that Standard & Poor’s has a team in Stockholm focused on sovereign and international finance which assesses credit ratings for countries, municipalities and government related companies. The credit worthiness of the countries and municipalities are directly linked to the credit risk of government related companies because of the ownership situation. In the organization there is a team responsible for the credit rating assessment. They later are presenting the assessment – and the underlying factors - to other expertise in the area internally at Standard & Poor’s to get through to a final rating. Forss (2013) further says that the credit rating procedure is an ongoing process and that their ratings continuously must be updated.

The credit rating procedure for government-related real estate company (public and non-profit real estate companies) differs from the general procedure for rating real estate companies. Since
the respondent is focused on credit ratings for sovereign and international finance, he cannot in
detail explain for the procedure real estate companies generally. As a consequence, the empirical
part for real estate companies in general will be based on the criteria’s published by Standard &
Poor’s and aren’t as detailed as the description for public real estate companies (example
concerning the weights of different factors). The criteria’s are however – as explained below -
very similar for different kind of real estate companies.

4.3.2 Standard & Poor’s Usage of Credit Models and the Main Determinants in the
Assessments

Forss (2013) explains that Standard & Poor’s has a very structured model to assess the credit
rating, i.e. the credit worthiness. When assessing the credit ratings for real estate companies
(global criteria’s) there are determinants divided into two major segments which are analyzed;
Business risk analysis and financial risk analysis of the company which are weighted together to
a final rating (Standard & Poor’s, 2011).

Business Risk Analysis

The business risk determinants are evaluated and weighted which yields a score for the segment
on a scale of: Excellent, Strong, Satisfactory, Fair, Weak, or Vulnerable. The determinants within
the segment are in the categories of;

- Country risk and macroeconomic factors (economic, political and social environments)
- Industry risk characteristics
- Competitive position (including management)
  - Diversity and operating stability
  - Asset quality
  - Market position
  - Operating strategy execution
- Profitability/peer comparisons
The first category plays a critical role in determining ratings for companies in the specific country since it has a substantial effect on companies’ credit worthiness. Except from taking the country’s credit risk into account, other macroeconomic factors that affect the real estate company’s credit risk are analyzed. Those factors are: the extent to which a volatile economy affects real estate prices, leasing activities, and rental rates; how tax rules affects real estate earnings; the legal aspects that have an effect on property ownership and lease contracts; how government regulations is related to rental rates; the availability of financing; the difficulty level to obtain building permits; the amount of tax incentives to real estate development activities; the process related to development projects of real estates. (Standard & Poor’s, 2011)

The second category – industry risk characteristics – concerns a large amount of key industry factors which are compared to other industries. The factors are scored as: High risk (H), medium/high risk (M/H), medium risk (M), low/medium risk (L/M), and low risk (L). The table below shows of the Standard & Poor’s assessment of different industry factors for real estate companies compared to companies in other sectors: (Standard & Poor’s, 2011)
Figure 6: Key Industry Characteristics & Drivers of Credit Risk

The interpretation of the assessment above is that the lower the industry risk is, the higher is the potential rating on companies in that sector.

The third category – company competitive position – is a company-specific determinant and includes analysis of the diversity and operating stability of the company, the asset quality, the market position and the strategy/execution management. Those are divided into three categories which shows the importance of the factor, where category one is the most important. Diversity and operating stability is seen as a category one determinant and measures how effectively a
company mitigates their exposure for potential volatility in cash-flows. It is therefore showing the stability of the company in economic downturns. The diversity and operating stability concerns analysis about the asset type (retail, office, residential etc), and the geographic concentrations within the property portfolio. Further, the credit profile of key tenants is considered as well as lease terms, current market rents and occupancy rates compared to market levels. (Standard & Poor’s, 2011)

The other factor in category one is the asset quality which is important since an above-average asset quality generally can generate better returns and stability in cash-flows over the economic cycle. The assessment of the asset quality analysis includes: the location; property age and renovations; seasoning of property holdings; size of the properties owned and their desirability to potential tenants; any other unique attributes such as excess developable land. (Standard & Poor’s, 2011)

The market position is a category two determinant and considers the real estate company’s situation and relative market share in the real estate sector. This is important since a strong company can indicate a better situation in economic downturns under the assumption the larger actors are better to attract and retain tenants. The operating strategy execution – as a part of the competitive position group – is a category three factor and regards the management, organizational structure and track records of executions of key strategic projects. (Standard & Poor’s, 2011)

The fourth determinant in the business risk segment is the profitability and peer comparison. The profitability is a key measure for credit protection since the returns on capital and margins affect the ability to withstand downturns in the economy. The two key profitability ratio’s that is used by Standard & Poor’s is the EBITDA Margin and return on capital and is compared with companies within the sector and with companies in other industries. Other ratios that are analyzed and set into a broader context are the return on assets and the NOI on property-level. (Standard & Poor’s, 2011)
Financial Risk Analysis

The financial risk is analyzed – based on five determinants - and assessed on a scale of: Minimal, Intermediate, Significant, Aggressive, or Highly leveraged. The determinants are mainly based on financial ratios and are:

- Accounting characteristics
- Financial governance/policies and risk tolerance
- Cash flow adequacy
- Capital structure and leverage
- Liquidity/short-term factors

Accounting characteristics is important to analyze since financial statements often work as a source for collecting financial ratios. Therefore there is important to determine if the ratios derived in the statements appropriately measures a company’s performance. The credit rating process is partially about comparing different companies which means that it’s important to have a common framework for financial ratios. Some financial ratios from financial statements therefore sometimes have to be adjusted to be comparable between companies. (Standard & Poor’s, 2008)

The management philosophies and policies concerning financial risk are of great importance. The policies regards among others the debt leverage, dividends to shareholders and plans for buying or selling assets and is important but also have to be set in a context of what the management says and what they actually does (Standard & Poor’s, 2008). The real estate company’s terms with their tenants as well as the terms for the financing are also considered. If the company for instance is having leases with rents that are not floating depending on the inflation but are having borrowings that are at a floating rate, there is an interest rate risk depending on the inflation changes (Standard & Poor’s, 2011).

The third financial risk factor above – the cash-flow adequacy - is partly about analyzing the relationship between the cash-flows to debt and debt services. The used ratios in analyzing companies in the real estate sector are; EBITDA to interest, debt to EBITDA, debt service
coverage ratio, fixed charge coverage ratio and total coverage ratio. Another aspect that also has to be considered is future capital investments where a big part is the tenant improvements. (Standard & Poor’s, 2011)

The fourth factor that is analyzed regarding the financial risk is the capital structure and leverage which are particularly important in the credit risk assessment for real estate companies since they generally are highly leveraged. Therefore the composition of the debts is important where the following characteristics are analyzed: Maturity structure; borrowing costs; mix of fixed and floating rate debt; mix of secured and unsecured debt; location of debt; flexibility to retire debt; composition of the investor base, and the diversity of debt funding source. (Standard & Poor’s, 2011)

The final factor under the financial risk analysis is the liquidity/short-term factors which evaluates the company’s liquidity options under stress (Standard & Poor’s, 2011). The liquidity is, unlike most of the other factors that affect the rating, a determinant that can cause a company default in an otherwise healthy entity (Standard & Poor’s, 2010). The liquidity is referred to as the amount of cash that will be generated or used over the next six to 24 months. The sources for liquidity are, according to Standard & Poor’s (2010): Cash and liquid investments; Forecasted funds from operations (FFO), if positive; Forecasted working capital inflows, if positive; Proceeds of asset sales (when confidently predictable); The undrawn, available portion of committed bank lines maturing beyond the next 12 months; and Expected ongoing cash injections from a government or corporate group members, as appropriate.

4.3.3 Fitch Ratings Usage of Credit Models and the Main Determinants in the Assessments

Fitch ratings provide criteria’s for rating REITs (real estate investment trusts) which is a company that generally owns and operates income-producing real estate or real estate-related assets. REITs provide a possibility for investor to buy a share in the REIT and earn money without actually buy commercial real estates (U.S Securities and Exchange Commission, 2012). Fitch (2012), identifies three categories which are weighted together to assess the credit risk and
the final rating of the company. Those categories are; Sector risk profile, company-specific traits and financial profile.

Fitch (2012) describes that the participants in the real estate sector has good defense qualities since tenants often are long-term contracted. The sector is however vulnerable for downturns in the economic cycle since it affects rental values. The real estate sector is further very reliant on debts which can be a problem in a volatile market where lender’s appetite to refinancing may change. The sector risk profile has to be set into the context of the assessed company where companies with geographical and asset diversification, mainly owning prime properties, are conservative leveraged and those which have a strong liquidity can offset the risks related to the sector profile (Fitch, 2012).

The second category that is analyzed – company-specific traits – concerns the size and the diversification of the portfolio, the location and the quality of the properties, lease maturity profile and the tenant quality. The category is important since it sends signals about how the company will manage tougher times in the economic cycle. If the company has a relatively big portfolio and it’s well diversified, it can reduce the exposure for market cyclicality since various types of properties in different locations are correlated to the economic cycle in another way. (Fitch, 2012)

Fitch (2012) further explains that the quality of the properties and the location of them are important. They explain that prime properties which are of high quality, located strategically (for instance close to shopping avenues) and have a mix of strong tenants with leases that are longer than average. Additionally, the lease maturity profile is considered as a key credit factor. The profile is analyzed in terms of the length of the contracts which ensures future rent income. The retention rate track record is also discussed since it indicates the company’s ability to renew leases after their expiry. The lease maturity profile is set into the context of the interest coverage ratio, i.e. how the interest coverage ratio may be affected in different scenarios. To support the lease maturity profile, analysis of the tenant quality is of high importance. The number of tenants as well as the diversity is important aspects. If there for instance are very few tenants who have weak credit profiles, this risk have to be considered.
The third category is the financial profile where some key financial ratios are analyzed. Fitch (2012) explains that cash-flow orientated measures are used as well as capital value orientated measures. The cash-flow orientated measures concern the interest coverage ability and the liquidity while the capital value orientated ratios concerns the leverage and the cover for unsecured debts. The ratios are important in assessing the credit risk since they show the company’s ability to withstand losses in economic downturns. To be classified as being an A-rating, the leverage has for instance to be at the highest of 40 %.

4.3.4 The Credit Risk Assessments of Different Types of Real Estate Companies

The size of the company, what regions the company is established in and the mainly property types in the portfolio are a part of the rating procedure above. The credit rating process for government-related entities is however a bit different and contains of three factors - which are assessed on a scale 1-6 - and then weighted to a final rating (Forss, 2013);

- Stand-alone credit profile (SACP)
  - Enterprise profile
  - Financial profile
- The relationship between the owner and the companies operation
- The owners rating

The SACP analysis is very similar to the rating process described above. Forss (2013) explains that the enterprise profile includes three parameters with the respective weights in parentheses: Industry risk (30 %); Economic fundamentals and market dependencies (25 %); Market position (45 %). The financial profile involves the determinants; Financial performance (30 %); Debt profile (30 %); Liquidity (25 %); Financial policies (15 %). Forss (2013) says further that the score in the SACP analysis can be adjusted if the liquidity or/and the management is assessed as weak, since it can lead to financial distress in an otherwise healthy entity.
The respective parameters in the enterprise profile and the financial profile mainly concerns:

- **Enterprise profile:**
  - Industry risk: An assessment of the global sector risk for public entities compared to other companies and non-profit sectors.
  - Economic fundamentals and market dependencies: Concerns the average population growth (can affect the demand) and the average dwelling price as a percentage of the national average (can be seen as a measure for the opportunity cost). A potential monopoly status and market vacancy rates are also considered.
  - Market position: Concerns the strategy and management as well as the quality of the company’s assets and operational result where the two main determinants are the portfolios average age and the vacancy rates.

- **Financial profile:**
  - Financial performance: EBITDA as a percentage of revenues
  - Debt profile: EBITDA/interest and debt/EBITDA
  - Liquidity: An analysis of the sources of funding over the next 12 months
  - Financial policies: The financial policies concerns analysis in the four sub-areas; transparency and disclosure policies, reserve and liquidity policies, long-term planning policies and debt management policies.

The second factor is the owner’s role and link to the entity. The core aspect that is analyzed is the probability that the owner will provide extraordinary support for the company in the event of financial distress. An important factor in the analysis is whether the company is important as a social function (Forss, 2013). If the company is filling an important social function – the probability that the owner (government-related) will provide financial support is relatively high.

The third aspect – the owners rating – isn’t further described in this thesis but government-related owners are generally having a very high credit worthiness.
4.3.5 The Effects on the Credit Risk Assessments of the Financial Crisis

The credit rating agencies has as discussed in the first chapter, got criticism for deficiencies in the credit rating process in connection with the financial crisis. Forss (2013) says that the overall approach for the credit rating process didn’t change as a consequence of the financial crisis. He further explains that rules for rating public and non-profit real estate companies were updated in 2012 and that the new rules didn’t change the earlier assessed ratings. Standard & Poor’s (2011) also note that they don’t expect the new criteria’s for real estate companies to change in general. The model for assessing the ratings has by this reason not become “more careful”.

5. ANALYSIS

The analysis chapter will provide analysis about the actor’s answers and opinions to topic. I will compare the respondent’s answers and complement those with my own opinions.

5.1 The Actors Organization in the Lending/Investment/Rating Processes

Swedbank, Handelsbanken and the third interviewed bank have similar organizations in the lending and credit risk assessment process, especially when it comes to bigger debts. Handelsbanken, however, as stated by Jäderberg (2013), have a decentralized organization where a lot of responsibility is put on the local offices. I think that this is positive for the real estate companies to have a more personal contact locally, i.e. this gives the borrowers a good service. It does however also put high requirements on the competence of the employees at each office to provide high-quality service. Since the local offices also are involved in the large debts, in an early phase, they definitely play a big role in the organization. With the big amount of local offices that Handelsbanken has, this might be an issue over time.

The debts are handled differently depending on what kind of borrower it is and what amount they aims to borrow (Credit Analysts, 2013; Håkansson, 2013; Jäderberg, 2013). It is obvious, as in all other organizations that the thoroughness and time put in a decision is depending on the importance of the decision. The banks haven’t unlimited amount of equity and the big debts are important to be handled with accuracy and therefore have to go through committees. Even if Handelsbanken has a decentralized organization, the procedure is similar for the respective banks. The process, depending on the size of the debt, can be illustrated with the simple figure below:

![Figure 7: Organizational differences](image)

*Figure 7: Organizational differences*
The investor’s organizations differ from the banks perspective by obvious reasons. Firstly, the importance of each of their (lending) decisions isn’t as critical in terms of the amount lent. The investors are for instance buying a number of corporate bonds issued by a company, which just is a small part of the total value of all issued bonds. I would however say that the process in an investment decision – which can be said as being a lending decision in corporate bond investments – is a miniature of the banks. Lannebo Fonder and Öhman Fonder is similar in the structure where the fund managers or credit analysts (depending on who is making the assessment) in some part in the process have to present the assessment to a group at the company. Those groups can be compared to the committees at the banks.

The third interviewed actor – the credit rating agency Standard & Poor’s – organization is also similar to the organizations above. Forss (2013) explains that after the assessment is done by the responsible, it will be discussed with others in the organization with expertise in type of assessment, which also can be compared to a kind of committee. Remember, however, that Standard & Poor’s has another perspective in the process since they doesn’t act as lenders. The importance of the assessments can however not be questioned since their assessments are used by others in important decision-making and they therefore have to be consistent. Standard & Poor’s, also faces another issue which is that the assessments is an ongoing process. This is especially important in economic downturns when companies’ ratings can be in need of reanalysis. The ongoing rating process by the credit rating agencies was - as mentioned in the introduction – criticized in conjunction with the financial crisis started in 2007.

All on all, my opinion is that the different actors have relatively similar steps in the processes which are adapted to their perspectives. The actors, as in all businesses, adapt their organization to the process. The banks are for instance – as explained by the respondents - having limits to distinguish the responsibility for the debts.

5.2 The Actors Usage of Credit Models

Handelsbanken doesn’t have a scoring model such as Swedbank and the third interviewed bank. It is however a structured process which leads to a rating as in the other two banks which the
pricing of the debt is based on. I think that a clear framework – such as using scoring models – provides consistency in the credit risk assessments and is easier for the organizations to interpret. Some aspects – such as the management - in the models are however subjective assessments which aren’t always easy to assess compared with financial ratios which are what they are. Håkansson (2013) explains – as described above – that Swedbank can revise the proposed rating by the scoring model with factors that may affect and are not a part of the model (sector risk factors and company-specific factors). My opinion is that a clear framework combined with room for other inputs provides a good base for the assessments. An important aspect concerning the credit scoring models is that they continuously have to be revised and updated to meet the changes in the economy from the credit risk purpose. The room for inputs is subjective which requires a discussion internally – which is done thorough in the committees – to make the inputs factual and objectively.

Lannebo Fonder and Öhman Fonder is mainly doing second opinions on the assessments done by financial advisors – which often are a banks – and credit rating agencies (Haraldsson, 2013; Houshmand, 2013). Lannebo Fonder is however also using a scoring model – which is relatively simple – unlike Öhman Fonder to support the analysis of the done assessments by other actors. My view is that the two interviewed puts approximately equal effort in terms of time and thoroughness in the assessments. I also think that it’s healthy in general, that Lannebo Fonder and Öhman Fonder not repeat the same work done by the financial advisor and the credit rating agency. A reflection – that the investors have to be kept in mind - is however that even if the financial advisor should be objective in their credit analysis (which is attached to the prospect); they have an interest in the issue of the corporate bonds. Lastly to be mentioned regarding the funds assessments is that instruments often have high liquidity which enables an investment and credit risk assessment thereafter.

Standard & Poor’s has a very clear framework for their credit rating procedure as described in the empirical part. I think that a credit rating agency – who are earning money on companies buying the assessments – need a clear framework and provide the information to the public to create confidence and consistency. Standard & Poor’s together with Fitch Ratings and Moody’s Investor Service have detailed information published regarding the procedure compared to the for instance
the banks which not want to reveal all details in the models (such as weights for different factors). The credit rating agencies may face some skepticism since companies themselves pays for a credit rating which affect the companies’ negotiable position in determining the terms of a loan. Another aspect is the competition which they have been criticized for as mentioned in the introduction. That is also a factor that requires a clear framework for consistency and confidence reasons in the industry.

I think that the usage of different models is well adapted to the different actor’s organizations. It wouldn’t for instance be good that for instance the investors repeat a thorough credit risk assessment like those done by the other actors. Problems that have to be considered are the incentives the financial advisor and the credit rating agency have to distort the assessments as described above. I however think that the financial advisors and the credit rating agencies aren’t distort the assessments since they are (often) big organizations and to keep their good reputation long-term, they don’t afford to distort the assessment.

5.3 The Main Determinants in the Credit Risk Assessments

All the respondents are looking at more or less the same determinants where the Standard & Poor’s and Fitch Ratings however provide more detailed information about the process and the main determinants. The two financial ratios that are mentioned by all respondents are the loan to value ratio and the interest coverage ratio. Both components are crucial since they indicate how a company will manage up and downs in the economic cycle. Economic downturns may for instance lower the market values of the real estate’s within the company’s portfolio significantly which can be very risky if the company since earlier is highly leveraged.

The interest coverage ratio is really what credit risk is all about since it indicates the ability that the borrower can fulfill their commitments, i.e. the interest and amortization payments. The lender uses the ratio to see what margin the borrower has in their operation and how it may be changed in the economic cycle. If the interest coverage ratio is low, relatively close to 1, then the risk is high since the company will have problems in generating enough cash to pay their interest expenses. The interest expenses may vary depending on the terms on the loan, but mainly the
EBIT is volatile during cycles. The EBIT then, varies depending on a number of factors (see the income statement example in chapter 3.4.2). Mainly – for real estate companies – I would say that it’s affected by; the real estate market, property-specific factors and the management which are also mentioned by the respondents as main determinants. A number of factors can be identified as important, but those are also related to each other.

The real estate market (both locally and in a bigger perspective) and the property-specific factors have to be predicted in terms of future market rent levels, vacancy levels and so on (everything that affect the earnings for the company). As the respondents explain, the management is also vital since they are the decision-makers in the company. In a competitive market where the companies are facing problems or challenges, the decisions taken by the management – and therefore also there importance – can’t be underestimated. Besides the determinants discussed, I think that Forss (2013) identifies an important aspect that if the liquidity is weak, it has a big negative impact on the credit risk no matter how strong the company is assessed in the long run.

My final reflection is regarding the amount of determinants and factors that are analyzed in a credit risk assessment. As the determinants often are affect and correlates with each other, is it really necessary to analyze that large number of aspects? I think that the mentioned determinants above are crucial to analyze since they describes the company’s situation today and enables prediction about the future. But further analyze of factors, such as the debt service coverage ratio, the fixed charge coverage ratio and the total coverage ratio, are they really relevant among all other factors? I’m not arguing for what’s right and what’s wrong but it’s an interesting discussion whether a large amount of factors which are strongly correlated to each other increase the precision in the assessments.

5.4 The Valuation of the Real Estates in Securitized Loans or Corporate Bond Loans

The collateral in the loan and the assets owned by a company is of great importance as explained by the respondents. Whether the properties that are used as collateral in loans or corporate bond loans should be valued by the lenders differs between the actors. The banks have authorized valuers to ensure the market value of the properties, no matter if the valuers are valuing the
properties by themselves or by analyzing external done valuations. The investors – who also act as lenders in corporate bond investments – don’t do valuations by natural reasons since the lack of knowledge. My perception is that all actors give the properties great attention in the process where the valuation is handled most thorough by the banks.

5.5 The Credit Risk Assessments of Different Types of Real Estate Companies

Different types of real estate companies, such as bigger and smaller, established in different regions and ownership differences (for instance government-related companies) impacts the assessments since those companies have attributes that are involved in the assessment model. For instance is the local real estate market analyzed, which for company’s established in growth regions may have a positive impact and vice versa. The assessment of smaller companies is in principle the same but there are organizational differences for who is responsible for the assessment as earlier described.

The ownership and management is as discussed crucial and a part of the assessments. Standard & Poor’s however, has different criteria’s for real estate companies in general and government-related companies (Forss, 2013). I perceive that the first part of the assessment of government-related entities – the stand alone credit profile (SACP) – corresponds to the methodology used to rate real estate companies. In summary, all the attributes of real estate companies are reflected in the methodology and the determinants that are looked into in the assessment, and thus have an impact in the credit risk assessment.

5.6 The Effects on the Credit Risk Assessments of the Financial Crisis

The banks have always been careful in their assessment and are not of the opinion that they have become more careful as a consequence of the financial crisis starting in 2007. In the thesis, the development of the costs for a loan (from the borrower’s perspective) compared to government bonds haven’t been analyzed deeply, but if that would have been done, it’s of importance to distinguish why the costs have increased. The financial regulation, Basel III, has for instance
increased the banks cost and therefore also the borrowers. If the banks would have changed to a more carefulness attitude to credit risk, that would be another factor.

Lannebo Fonder and Öhman Fonder have according to Haraldsson (2013) and Houshmand (2013) become a bit more careful to credit risk unlike the banks, as Houshmand (2013) describes regarding the credit risk spread. The banks and the investors are however acting as lenders in different ways, but I can’t identify a good explanation to the approaches. The credit rating agencies was according to Nasiripour (2009) criticized during and after the financial crisis for the ability of ratings to predict default deteriorated. As Forss (2013) explains, the criteria’s for the assessment have been updated thereafter, but it didn’t cause any big differences comparing to the ratings done with the earlier methodology. I however think that the criticism that the credit rating agencies got for assessing ratings with low quality is an interesting topic since they – in a competitive market - sell their product to companies for being assessed.
Returning to the research questions presented in the first chapter where the main question was to investigate the framework used by each actor. Firstly, the banks, the investors and the credit rating agencies have different objectives which the credit risk assessments are adapted after. My perception is however that the banks and the credit rating agencies have the clearest framework. The framework is clear in terms of the models used and the organizational process where the assessments are presented for committees internally. The credit rating agencies have as explained in the first chapter been criticized for assessing too high ratings in relation to the default probability. With that in mind and the fact that there is a competitive market (for the credit rating agencies) where the companies which are rated are the principals and pays for the rating – can lead into a discussion regarding incentives by the credit rating agencies. From my point of view, I can’t make any conclusions whether those incentives are affecting the rating process. This can be a subject for further analysis as done by Becker and Milborn (2011). I can however imagine that the credit rating agencies face challenges when the economical climate changes quickly (such as the time before, during and after the financial crisis starting in 2007) since the rating process is an ongoing process and the ratings have to be updated.

The investors don’t have that deep analysis in the assessments as the banks and the credit rating agencies by logical reasons. In their role, earlier credit risk analysis has already been done. They must however be aware that the financial advisor that does the credit analysis which are attached to the corporate bond prospect have an interest in the issue. The financial advisor is most often a big actor who concerns about their reputation which decreases the risk for distorting the assessments.

Regarding the other sub-questions presented and discussed, the usage of credit scoring models differs but the key determinants are by all respondents identified as the loan-to-value ratio and the interest coverage ratio. Furthermore, the real estate market (both locally and in a bigger perspective) and property-specific factors are analyzed. Those factors have a direct connection to the mentioned ratios above. The determinants do also create differences in the assessments in the process regarding different types of real estate companies (such as companies established in
different regions and the ownership situation). The size of the company and the wished loan amount is however handled differently organizationally for the banks.

The valuation of the collateral is also handled differently between the actors by logical reasons. The banks have authorized valuers that value the properties or make an analysis of a valuation done by an external part. The investors don’t have the knowledge to do valuations by themselves and have to trust the valuations that is provided in the corporate bond prospect. The value of the collateral may however be a topic for further research, especially in times of uncertainty. Finally, the financial crisis starting in 2007 have not had any big impact in the carefulness to credit risk. Houshmand (2013), however, explains interesting thoughts regarding the credit risk spread which according to him has increased.
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8. APPENDICES

The appendices provide the interview questions for each actor. Note that the questions are very similar since it is a comparative thesis. The questions are however partly adapted to the different actors objectives.

8.1 Banks Interview Questions

1. What is the organization behind the credit risk assessment of real estate companies?
   a. Are you having limits for who is responsible for the credit?
   b. Are the credit presented for some kind of committee?
2. Which methods are used? Are standardized scoring models used?
   a. How is the model/method supplemented with other “soft factors” that is not including in the standardized model?
   b. Is the model/method general for all companies or is it specifically created for real estate companies?
   c. Are you supplementing your credit risk assessment with other actors’ assessments?
3. Which are the main determinants that are used in the assessments?
4. How are loans with properties as collateral handled?
   a. Are you valuing the properties?
5. Is it any differences in the assessments organizationally and methodologically for different kind of real estate companies?
   a. “Big” companies / “Small” companies?
   b. Type of real estate? (Office, retail, housing and so on)
   c. Established in different regions?
   d. Public / non-public real estate companies?
6. Has the financial crisis starting in 2007 had any effects on your assessments?
8.2 Corporate Investors Interview Questions

1. What is the organization behind the credit risk assessment of real estate companies?
   a. Are you having limits for who is responsible for the credit?
   b. Are the credit presented for some kind of committee?
2. Which methods are used? Are standardized scoring models used?
   a. How is the model/method supplemented with other “soft factors” that is not including in the standardized model?
   b. Is the model/method general for all companies or is it specifically created for real estate companies?
   c. Are you supplementing your credit risk assessment with other actors’ assessments?
3. Which are the main determinants that are used in the assessments?
4. How are corporate bond loans with properties as collateral handled?
   a. Are you valuing the properties?
5. Is it any differences in the assessments organizationally and methodologically for different kind of real estate companies?
   a. “Big” companies / “Small” companies?
   b. Type of real estate? (Office, retail, housing and so on)
   c. Established in different regions?
   d. Public / non-public real estate companies?
6. Has the financial crisis starting in 2007 had any effects on your assessments?

8.3 Credit Rating Agencies Interview Questions

1. What is the organization behind the credit risk assessment of real estate companies?
   a. Are the assessment presented for some kind of committee?
2. Which methods are used? Are standardized scoring models used?
   a. How is the model/method supplemented with other “soft factors” that is not including in the standardized model?
b. Is the model/method general for all companies or is it specifically created for real estate companies?

c. Are you supplementing your credit risk assessment with other actors’ assessments?

3. Which are the main determinants that are used in the assessments?

4. Is it any differences in the assessments organizationally and methodologically for different kind of real estate companies?
   a. “Big” companies / “Small” companies?
   b. Type of real estate? (Office, retail, housing and so on)
   c. Established in different regions?
   d. Public / non-public real estate companies?

5. Has the financial crisis starting in 2007 had any effects on your assessments?