



Degree Project in The Built Environment

Second cycle, 30 credits

Trends in the Capital Structure and Risk Assessment of Swedish Real Estate Companies

A Study on the Impact of the 2022-2023 Shift in Interest Rates

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Abstract

This study aims to analyse the changes in the capital structure of Swedish real estate companies over the past five years, with a particular focus on the period 2022-2023, characterised by the policy interest rate increasing from zero to 3.5 percent. The study further explores the potential risks these companies face concerning interest rate exposure and liquidity. The research process involves a comprehensive literature review, quantitative analysis of financial key figures, and qualitative interviews with banks and consultants in the real estate market.

The findings suggest that the capital structure of real estate companies is highly influenced by the cost of capital and the companies' credit ratings. While large companies with the highest credit ratings have coped with increased capital costs in the bond market and continue issuing bonds, remaining investment grade companies have turned to the bank sector as the prices in the bond market have increased. Increased competition in bank financing has made the banks more selective, prioritising existing customers and making it challenging for high-yield and non-existing bank customers to secure debt. The high demand for bank financing further opens up possibilities for alternative financing to increase market shares.

As a consequence of escalated risk in the real estate sector, financiers are increasing credit margins and implementing stricter credit terms. A key factor for assessing the risk in today's market is the capability of the cash flow to cover the rising cost of capital, exposing the low-yielding residential segment. To mitigate liquidity risk, the findings suggest an increased need for equity and expected share issuance and asset sales. However, a stress test conducted based on the Interest coverage ratio suggests that the real estate market is able to handle additional interest rate increases, not facing alarming distress until interest rates increase by an additional 3%.

By examining theories such as the Pecking Order and Trade-off Theory, this research contributes to the existing literature, shedding light on the evolving capital structure of Swedish real estate companies and the impact of interest rate fluctuations on financing strategies and risk evaluation.

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Sammanfattning

Denna studie syftar till att analysera trender i svenska fastighetsbolags kapitalstruktur under de senaste fem åren, med fokus på perioden 2022-2023, färgad av höjningar i Riksbankens styrränta från noll till 3.5%. Studien utforskar även potentiella risker för fastighetsbolag avseende ränta och likviditet. Forskningsprocessen inkluderar en omfattande litteraturgenomgång, kvantitativ analys av finansiella nyckeltal och kvalitativa intervjuer med banker och konsulter på fastighetsmarknaden.

Resultaten antyder att kapitalstrukturen för fastighetsbolag i hög grad påverkas av kapitalkostnad och företagens kreditbetyg. Medan stora företag med högsta kreditbetyg har kunnat hantera ökade kapitalkostnader på obligationsmarknaden och fortsätter att emittera obligationer, har återstående företag med investment grade rating vänt sig till banksektorn när priserna på obligationsmarknaden har ökat. Ökad konkurrens för bankfinansiering har gjort bankerna mer selektiva, med prioritet för befintliga kunder, vilket har gjort det utmanande för high-yield betygsatta och icke-existerande bankkunder att säkra skulder. Den höga efterfrågan på bankfinansiering öppnar också upp möjligheter för alternativ finansiering att öka i marknadsandel.

Som en följd av ökad risk inom fastighetssektorn ökar finansiärer kreditmarginalerna och inför striktare kreditvillkor. En viktig faktor för att bedöma risken på dagens marknad är förmågan hos kassaflödet att täcka den stigande kapitalkostnaden, vilket exponerar det lågavkastande bostadssegmentet. För att minska likviditetsrisken antyder resultaten ett ökat behov av eget kapital och förväntade aktieemissioner och försäljningar av tillgångar. Studien inkluderar ett stresstest genomfört baserat på räntetäckningsgraden, vilket emellertid antyder att fastighetsmarknaden klarar av ytterligare räntehöjningar och uppnår ordentliga finansiella svårigheter först vid en räntehöjning på ytterligare 3 procentenheter från dagens läge.

Genom att undersöka teorier som Pecking Order och Trade-off Theory bidrar denna forskning till befintlig litteratur och belyser den utvecklande kapitalstrukturen för svenska fastighetsbolag samt påverkan av räntefluktuationer på finansieringsstrategier och riskbedömning.

Förord

Detta examensarbete genomfördes under våren 2023 som ett avslutande arbete på vårt masterprogram i Fastigheter och Byggande vid Kungliga Tekniska Högskolan i Stockholm.

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1. Introduction

This chapter presents the background to the topic that is studied in this thesis. Further, the objective and purpose, research questions and limitations are presented.

The real estate industry is closely connected with financial institutions and capital markets due to its capital-intensive nature. Acquiring, developing and managing properties generally requires significant financial resources that few property owners can or choose to finance only with equity. Therefore, it is natural for real estate companies to seek debt financing from banks or capital markets to make these capital-intensive investments possible.

Sweden has historically been a bank-oriented economy where Swedish real estate companies have primarily sought debt financing from the bank. Bank financing still forms a basis for real estate companies, and in June 2021, Swedish banks' lending to the real estate sector amounted to SEK 1,600 billion (Finansinspektionen, 2021). In May 2023, the four banks SEB, Handelsbanken, Swedbank and Nordea together had loans towards the real estate sector amounting to roughly SEK 925 billion, corresponding to 74% of the total loans given to Swedish real estate companies (SEB, 2023). However, the low-interest rate environment in Sweden for the past decade has allowed new financing trends for property companies to emerge. There has been an increased attentiveness from the public markets to invest in real estate, as it has been considered a long-term investment with a safe return. In addition, many real estate companies have taken advantage of the increased demand for real estate as an opportunity for getting a more diversified financing mix.

One of the most prominent trends has been the issuance of bonds. Large Swedish real estate companies have increased their issuance, while demand for investing in real estate bonds has been strong. In 2011, the total amount of bonds in Sweden amounted to SEK 12 billion, compared to 2020, when it amounted to SEK 150 billion (Handelsbanken, 2022). In addition to the previous low-interest rate environment, the increase is also explained by regulations that have made it easier for companies to issue bonds.

The positive phase the Swedish real estate industry has been in over the past decade has contributed to easy access to capital. In recent years, there has been a record-high activity in the transaction market for commercial properties in Sweden. Many companies have used leverage to increase growth and their real estate holdings. In 2020 however, the coronavirus disrupted the market, resulting in a significant decline in share prices during the spring of 2020. The Swedish state, and the Swedish central bank Riksbanken, provided massive support measures for real estate companies. Ultimately, the real estate industry weathered the crisis well, and the market returned to a positive phase. Still, the Swedish Financial Supervisory Authority, Finansinspektionen, concluded that the high indebtedness made Swedish real estate companies vulnerable to increased financing costs and suggested measures to be taken to be prepared for a future downturn. The recommendations included that the bond market should better redistribute risk between stable actors, and that a well-functioning secondary market should be a priority to develop. In addition, borrowers should undertake credit evaluations on the bond market rather than solely relying on credit institutions to determine their desired rating. Finally, companies should diversify by turning to the bond market in euros and having better liquidity readiness through cash or credit facilities.

However, after many years of positive belief and upswing, this positive economic phase reached a turning point in 2022. As a result of the war in Ukraine, increasing prices for energy and several raw materials, among other factors, led to a general decline in the market and, above all, a concern about how the increased inflation and interest rates would affect property companies shortly (Handelsbanken, 2022). Due to the property companies' natural connection to the financial markets, economic fluctuations can heavily influence the industry. Since April 2022, the policy rate has gradually risen from zero to 3.5 percent in May 2023, which has led to more expensive financing options from banks and capital markets (Riksbanken, 2023).

As a result of this interest rate shock on the market, stakeholders are interested in understanding how the Swedish real estate industry will navigate these fluctuations. Due to the ongoing changes in the market, it is not yet clear how real estate companies will be able to handle these fluctuations. The previously attractive bond market is now increasingly unavailable as a source of financing, and real estate shares are traded at a large discount on the stock market. There is a debate on whether property values should be adjusted downward as interest rates rise, and there is uncertainty on how real estate companies should handle the current situation from a financial perspective. In addition, it is not yet known how the interest rates will develop going forward, but it does not seem to have reached a turning point yet. Stakeholders are concerned about the consequences of increased interest rates on the financial markets, with a particular interest in the Swedish real estate market due to its dependency on debt (Handelsbanken, 2022).

1.1 Objective and purpose

To address the described dynamics, the report aims to study how the increased interest rates in 2022 and 2023 impact the capital structure of Swedish real estate companies and the previous trends in primary sources of capital. The study also seeks to analyse the overall risk assessment of the real estate sector in Sweden, including the risk exposure to interest rate increases.

1.2 Research questions

To complete the objective and purpose of this study, the three research questions below are formulated. The first research question is answered through a combination of quantitative and qualitative studies, while the second question is answered using quantitative studies and the third question predominantly using qualitative studies.

- 1) How has the capital structure among Swedish real estate companies changed over the last five years?
- 2) Based on the Interest coverage ratio, what is the break-even interest rate for real estate companies and the industry average break-even level?
- 3) Does the increased policy interest rate affect the risk evaluation of real estate companies and the industry-wide refinancing risk?

1.3 Limitation

The study is constrained within the scope of the Swedish real estate market. The quantitative part of the study is limited to analysing 33 large Swedish companies. The majority of these companies are listed on the Stockholm Stock Exchange, while the remaining companies either have listed bonds or publicly report their financial information for other reasons. The

qualitative part of the study is limited to interviewing banks and advisory companies active in the Swedish real estate sector. The interviews are comprehensive and include general questions about the Swedish real estate and financial markets. The interviews are thus not limited solely to the companies analysed in the quantitative part.

2. Method

In this chapter, the choice of method in the study is presented. In section 2.1, *Research process*, an overview of the selected research procedure is described. The remaining sections of the chapter consist of a review of the selected methods and data sources used in the study, followed by ethical considerations.

2.1 Research process

The study begins by compiling the introductory chapter and literature review, intending to provide a comprehensive understanding of the problem statement and identify the research gap. Web-based databases, mainly Google Scholar and the publication database DiVA, are examined to ensure a thorough investigation of previous research. Subsequently, the theory chapter gathers information on relevant financial theories, elements and instruments in the financial and real estate market, with a specific focus on capital structure.

The empirical section of the study consists of two parts that build on each other. The first part is a quantitative study, collecting financial key figures and numbers from real estate companies over five years. Part two of the empirical study is a qualitative interview study with semi-structured questions. The interviews aim to provide a deeper and more nuanced understanding of the real estate companies' capital demand and the impacts of changing market conditions. Selected experts in the real estate market are interviewed, and the questions in this phase are based on the output of the quantitative data collection. This research design, known as a sequential explanatory method, involves a second phase of data collection based on the initial data gathered (Saunders et al., 2019).

After the empirical chapter, a subsequent chapter focuses on the analysis of the collected material. This section aims to draw conclusions from the empirical data by applying financial theories and comparing the result to previous research. By combining qualitative interview data with the document study, a more in-depth and multifaceted analysis is achieved. The study concludes with a final chapter that addresses the research questions.

2.2 Quantitative document study

The quantitative document study consists of collecting and compiling financial data. The thesis partly aims at examining trends in the capital structure of real estate companies, making it essential to review the companies' actual reported financial figures. The key figures and numbers are collected from the online tool Sedis, which manually gathers the data from the companies' published annual reports. This data collection method is classified as secondary data (Saunders et al., 2019). An advantage of using secondary data is its providence of accessing high-quality data that is difficult to collect independently. It also enables further analysis and deeper insights into the subject matter compared to primary data analysis (Saunders et al., 2019).

The objective of the quantitative study is to identify potential trends in key figures and the demand for various sources of capital. These identified trends serve as the foundation for analysing and drawing conclusions about the capital structure. Additionally, the study analyses the interest rate risk by collecting data related to financing terms and the debt maturity structure.

2.2.1 Choice of companies for data collection

The selection of companies for the study is based on the availability of their financial data within Sedis' database. Sedis' selection includes publicly traded real estate companies and other companies of public interest. Companies without complete annual or quarterly reports during the study period (2018-2023) are excluded. Furthermore, companies registered outside of Sweden are also eliminated.

Table 1 provides an overview of all the companies included in the quantitative study. It includes their market segment, property market value, and credit rating. A definition and overview of credit ratings are presented in the theory section. The data analysis segment categorises the companies based on their primary property type, and it is essential to note that these companies may also hold other types of properties.

Table 1: Selection of companies for data analysis, with market segment, property market value and credit rating

| Company | Main property type | Market value Q1 2023, MSEK | Credit rating |
|-------------------|----------------------|-------------------------------|------------------|
| Heimstaden Bostad | Residential | 335,082 | Investment Grade |
| Balder | Residential | 214,850 | High-yield |
| Vasakronan | Office | 183,809 | Investment Grade |
| Castellum | Office | 148,214 | Investment Grade |
| SBB | Public | 134,419 | Investment Grade |
| Akademiska hus | Public | 115,356 | Investment Grade |
| Fabege | Office | 84,994 | Investment Grade |
| Hemsö | Public | 84,784 | Investment Grade |
| Corem | Office | 75,109 | Investment Grade |
| Pandox | Hotel | 69,695 | n/a |
| Wallenstam | Residential | 62,712 | n/a |
| Rikshem | Residential | 58,918 | Investment Grade |
| Willhem | Residential | 58,138 | Investment Grade |
| Atrium Ljungberg | Office | 56,726 | Investment Grade |
| Wihlborgs | Residential | 55,701 | n/a |
| Sagax | Industrial/warehouse | 53,011 | Investment Grade |
| Hufvudstaden | Office | 48,909 | n/a |
| Nyfosa | Office | 41,182 | n/a |
| FastPartner | Office | 35,848 | Investment Grade |
| Diös | Office | 30,931 | Investment Grade |
| Catena | Industrial/warehouse | 27,939 | Investment Grade |
| Platzer | Office | 27,387 | Investment Grade |
| Jernhusen | Public | 21,204 | Investment Grade |
| Intea | Public | 20,649 | Investment Grade |
| NP3 | Industrial/warehouse | 19,844 | High-yield |
| Stenvalvet | Office | 16,562 | Investment Grade |
| Heba | Residential | 15,535 | Investment Grade |
| John Mattson | Residential | 14,975 | n/a |
| Trianon | Residential | 12,965 | n/a |
| Stendörren | Industrial/warehouse | 12,534 | High-yield |
| K2A | Residential | 10,084 | n/a |
| Brinova | Residential | 8,380 | n/a |
| Eastnine | Office | 6,565 | n/a |

Source: Sedis, 2023

2.2.2 Processing and classification of data

The collected key figures and other financial parameters from the financial reports are compiled into an Excel file, which forms the database for the document study. The Excel file is structured so that each row represents a property company, while the columns contain the selected key figures and parameters for each quarter and year.

Subsequently, the data is processed by applying formulas and generating diagrams in the Excel file. This step enables the review of trends and comparisons in the data. Initially, the companies are interpreted as a single group, and the average key figures and selected parameters are calculated. Diagrams are used to illustrate the development of these key figures and parameters over time. Examples of calculated key figures include the Loan-to-value ratio, the share of bank loans, bonds, and equity, as well as the Interest coverage ratio. An explanation of the selected key figures is covered in the theory chapter.

The companies are then organised into clusters and analysed based on their primary property type, size, and credit rating. The average value is computed for each cluster, and diagrams are generated to visually represent the data.

2.3 Qualitative interview study

The qualitative interview study consists of a semi-structured approach with predetermined questions, where the interviewer can ask additional, more in-depth questions based on the respondent's answers. The semi-structured format is advantageous as it enables respondents to provide more detailed and nuanced answers (Blomkvist et al., 2018).

The interviews aim to provide a deeper and more nuanced understanding of the real estate companies' demand for certain sources of capital. Experts in real estate financing and banking are selected as interviewees to provide insights into financing trends within the real estate industry. The interviews are valuable in identifying market trends and changes that may not be apparent solely from analysing financial changes in annual reports. Semi-structured interviews answer the "how" and "why" questions (Saunders et al., 2019). Understanding the motives behind the demand for different sources of capital and how it has changed with rising interest rates is crucial to achieving the study's purpose.

Potential factors that could introduce bias in the interview results include respondents withholding information or subjectivity in data handling. This could lead to incomplete or misinterpreted data, resulting in potential falsification (Saunders et al., 2019). Although the risk of respondents not revealing the complete truth cannot be eliminated, efforts have been made to cross-check interview answers and ensure consistency. Regarding the risk of subjectivity in data handling, the authors conducted an in-depth preliminary study and consulted with the study's supervisor to mitigate this risk.

2.3.1 Choice of interview respondents

The choice of interview respondents is crucial for the quality of the study as the results rely on the statements of individuals (Saunders et al., 2019). To ensure a diverse range of information and perspectives, the interview study includes various real estate financing experts representing different market actors. Interviews are conducted with Swedish banks to gain insights into financing trends within the real estate industry. Additionally, consulting companies operating in the real estate sector are interviewed to increase the understanding of the current real estate market. This approach allows for a broad array of insights to be collected. The list of interview respondents in this study is provided below:

Pontus Sundin, CEO, Niam Credit

Soli Koroniadis, Sector head Midcorp Real Estate, Swedbank

Lars Hegg, Head of Real Estate Finance Nordics, Helaba

Michael Johansson, Analyst, Arctic Securities

Joakim Nirup, Head of Debt and Financial Advisory, JLL

Patrik Kallenvret, Head of Capital Markets Nordics, CBRE

2.4 Credibility of study

In this study, all respondents have chosen to disclose their identities, which can increase the study's credibility as the respondents are aware that their statements will be made public. However, a potential disadvantage of disclosing identities is that respondents may not provide as thorough answers as they would if they were anonymous. They may adapt their statements, knowing that their responses will be made public. Some respondents in this study hold active roles in the banking sector, and they may be concerned about the portrayal of their banks' activities and positions as positive and strong.

2.5 Ethical considerations

Ethical considerations are important when analysing quantitative data. Since company names are included in the study, it is crucial to present the companies objectively and accurately without bias in the data presented. To address this risk, all relevant data, even if it does not align with the expected results, is presented. Additionally, the financial data is analysed primarily in categories and groups based on various attributes such as size, property segment, and more.

In order to maintain the integrity of the study, the statements provided by the interview respondents are reviewed and approved by them before the report's publication. This step is taken to minimise the possibility of misinterpretation of the respondents' statements. Furthermore, the interviewees were given the option to remain anonymous, and they also retain the right to withhold certain information due to confidentiality concerns.

3. Literature review

This chapter aims to identify a gap in the research on demand for sources of capital in the real estate sector and the capital structure of real estate companies in terms of changes in interest rates. In addition, the literature search aims to contribute to increased knowledge of the selected subject.

Real estate has been extensively researched from a magnitude of perspectives. Researchers have analysed issues relating to construction, pricing, financing, management, urban and regional development, and sustainability, among others. This thesis is closely related to research on the determinants of the capital structure of real estate companies. Previous research findings are summarised below.

3.1 Capital structure of real estate companies

In a study from 1990, Gau and Wang investigated real estate transactions in Vancouver, Canada, and revealed that various factors influenced the debt levels of real estate companies. These factors included borrowers' capital constraints, non-debt tax shields, the absolute cost of debt financing, and the cost of financial distress.

Brounen and Eichholtz (2001) instead conducted a study focusing on issues of debt and equity and how announcements of issues affect the share prices of European real estate companies. They observed that the debt issue announcement led to a modest but non-negative price reaction, while the equity issue announcement resulted in a significant negative price reaction. Additionally, when comparing European countries, they discovered that companies facing higher corporate taxes experienced a more substantial negative price reaction when announcing equity issuance (Brounen and Eichholtz, 2001).

Harrison et al. (2011) conducted an extensive study in the United States examining the factors influencing capital structure decisions in Real Estate Investment Trusts (REITs) from 1990 to 2008. The study identified several relevant factors affecting the capital structure. Interest rates were found to be crucial, as lower rates were associated with a higher likelihood of REITs utilising debt financing due to the affordability of financing costs. Additionally, company size was found to have an impact, with larger firms exhibiting even lower leverage than smaller firms. This can be attributed to the fact that larger companies generally are provided with favourable terms when accessing debt capital.

A positive correlation between leverage and company size has also been identified to be true for European real estate companies (Cristanziani and Morri, 2009). The study analysed the relationship of various factors with the leverage effect for listed real estate companies included in a selected European benchmark index. The study also showed that profit had the largest impact on leverage, with more profitable companies preferring to finance investments through retained earnings instead of debt. The authors also found a correlation between high operational risk and lower leverage. The cost of debt, growth and ownership structure did not significantly affect the leverage effect for real estate companies. In addition, the trade-off theory was more effective than the pecking order theory in explaining the capital structure choices of the companies studied.

Yousef (2019) also investigates the relationship between various factors with real estate companies' leverage, however, in the geographical areas of the Gulf Cooperation Council (GCC) and the United Kingdom (UK). The findings indicate that UK firms have higher leverage than GCC firms, potentially due to lower debt costs. A correlation was also identified between size and profitability, where GCC firms tended to be smaller and more profitable, with more growth opportunities. UK companies, in contrast, were larger and had a higher level of tangibility and retained earnings. The study results thus supported the trade-off theory because the size of the companies was found to have a relationship with different debt measurements. The pecking order theory was also supported because profitability and retained earnings were found to have a negative impact on the companies in both regions.

3.2 Increased interest rates and the demand for capital

Regarding historical interest rate increases and their impact on the financing of real estate companies, Mueller and Pauley (1995) studied the rising interest rate environment in the US in 1994. The increase was linked to a period when the interest rates on US government bonds rose rapidly, which resulted in significant losses for investors. The study identified several financial risks linked to interest rate increases on the property market, for example, increased risk of falling property values and its consequences. If a property provides security for a bank loan, the credit risk for the investment increases if the property's value is reduced. This usually results in the banks raising the cost required to grant additional loans. As a result, reduced property values can limit the borrowing capacity of property companies, which negatively affects their demand for bank loans.

Peng and Thibodeau (2020) further studied how rising interest rates affect the choice of financing for commercial real estate investments. The study included data from companies in US metropolitan areas from 1997 to 2014. A conclusion is that the probability that real estate companies use of equity financing increases as interest rates rise. This is explained by the fact that higher interest rates automatically mean higher costs for debt financing. Through equity financing, companies receive an addition of capital by selling ownership shares, which means reduced exposure to interest rate risk.

The authors highlighted an additional correlation between increased interest rates and real estate companies' demand for debt financing (Peng and Thibodeau, 2020) when interest rates increase, all else constant, the valuation of properties, resulting in a change in the Loan-to-value ratio.

A similar study, Geltner and Weisbach (2017), analysed the connection between falling property values and the demand for bonds. The authors determined that demand for bonds, with real estate as collateral, also fell when real estate values fell. With declining values, the general uncertainty and risk of investing in real estate increased, which also affected the willingness of investors to invest in bonds. The demand for bonds is thus negatively affected when property values fall.

Cvijanović (2014) highlighted challenges for commercial real estate companies that want to raise capital by issuing stocks. Although acquiring capital through share issuance may be preferable in a high-interest climate for several factors, the writer believed it was difficult to implement. Investors were generally reluctant to invest in companies with declining asset values. The writer instead believed that the companies might be forced to seek other financing methods, such as borrowing money from banks and other institutions, despite the high cost of capital. Cvijanović believed that the companies may have to sell the assets at a loss if borrowing money is impossible.

3.3 Effect of financial crises on the financing of real estate companies

In past research analysing the relationship between financial crises and the capital structure of real estate companies, much of the research focuses on the global financial crisis of 2008. Artegiani and Morri (2015) aimed to examine the influence of the 2008 global financial crisis on the capital structure of European real estate companies. The authors also investigated whether the result could be explained by the variables used in the pecking order theory and the trade-off theory. The study showed that the crisis resulted in the companies becoming more leveraged as property values decreased due to the crisis. The data from before the crisis showed a negative correlation between the cost of debt and leverage. In contrast, the data after the crisis showed a positive correlation between the two variables. Another finding was that REITs were less leveraged than RECs, independent of the country of origin. Also, the cost of capital had the most significant impact on leverage, and other variables correlated with leverage were size, growth and profitability.

According to Ivashina and Scharfstein (2010), banks reduced their lending to all types of companies, including real estate companies, during the financial crisis of 2008. The authors identify factors that affected real estate companies' ability to obtain financing during the crisis. Real estate companies were hardest hit during the crisis, which had a strong negative impact on their demand for bank loans. First of all, the limitation of lending was due to the greatly reduced values of the real estate companies' underlying assets. Lenders were thus unwilling to issue additional credits on low-valued properties, especially not short-term liabilities. The banks also tightened the credit terms during the crisis, which made it more difficult for real estate companies to get loans. This, combined with the companies' already deteriorated credit rating, made it difficult for the property companies to obtain capital.

As a result of the 2008 global financial crisis, Lam et al. (2011) investigated, through case studies in Hong Kong and Singapore, the suitability of Asian real estate developers to use bond financing compared to bank financing. The authors concluded that bond financing reduced the risks caused by bank financing bottlenecks. The study showed that the size of a company was an important determinant for access to market financing. Larger property developers had broader and more diverse financing sources thanks to their stable financial standing and favourable credit ratings. Smaller developers primarily relied on private equity and bank debt for funding, as accessing bonds was less accessible due to legal fees and credit rating requirements.

In addition, the authors noted that bank financing created closer relationships between banks and lenders, unlike capital markets, where bondholder-issuer interactions are rare. However, banks impose strict loan terms and closely monitor borrowers, giving them significant authority and influence over the borrower (Lam et al., 2011).

3.4 Real estate capital market developments in Sweden

Studies show that during the early 2010s, bank loans still dominated debt financing for Swedish commercial real estate companies. However, many studies regarding the benefits of alternative financing began to emerge. Bergman and Åkerlind (2012) identified covered bonds and bilateral loan agreements as potential substitutes for bank loans. However, several sources of uncertainty were pointed out, such as what happens with the collateral when selling properties. In addition, Mårtensson and Åström (2013) studied the possible competitiveness of bonds to bank loans in Sweden. The study showed many advantages of choosing bond financing but

found that support functions for the market, such as credit rating and IPO, were still underdeveloped during this period.

Donner and Svensk (2012) studied trends in and demand for bond financing among Swedish real estate companies. One of the identified trends was that Swedish real estate companies increasingly seek alternative debt financing, and the authors attribute this trend to several reasons. Firstly, increased regulation of the banking sector in the form of Basel III led to a decrease in the supply of bank loans and an increase in financing costs. As a result, real estate companies started to seek alternative financing in the capital market to issue bonds as a supplementary source of financing. However, bank loans remained the main source of debt. Secondly, property companies considered bond financing an opportunity to diversify their financing. Despite a 6-7% return range, real estate companies believed the benefits of increased diversification justified paying a higher premium. Thirdly, the bond was considered a more flexible form of financing than bank loans.

However, the authors added that mainly large property companies would increasingly seek alternative financing as a supplementary source. In contrast, bank financing would continue forming the primary source of financing for all property companies. For bond financing to cover a larger part of the debt, the authors stated there was a need for lower yields and a higher issuance of covered bonds in the market.

As interest rates decreased, a noticeable pattern emerged, indicating a rise in the issuance of alternative financing instruments in Sweden. Brinklert and Nilson (2020) mapped how the sources of financing for real estate companies listed on the Stockholm Stock Exchange changed from 2014 to 2019. The study showed that the share of bank loans as a fraction of overall debt decreased from 67% in 2014 to 40% in 2019. At the same time, financing through the capital markets during the same period increased by 24 percentage points. Furthermore, the study showed that the investigated property companies reduced their financing costs during the period and had a lower Loan-to-value ratio and an extended capital tie-up. Algstedt and Skoglund (2020) identified a relationship between the choice of financing and the property portfolio size. The study showed that companies with more than SEK 30 billion in real estate portfolios use capital market financing more than smaller companies.

As of Q2 2023, reports issued by several real estate consultancies are highlighting a decrease in bond issuance among real estate companies in Sweden. According to JLL's Credit Watch Q1 2023, shown in Figure 1 below, bond issues including hybrid bonds summed up to SEK 3.8 billion in Q1 2023. Previous year, Q1 2022, issues summed up to a total of SEK 15.1 billion (JLL, 2023).

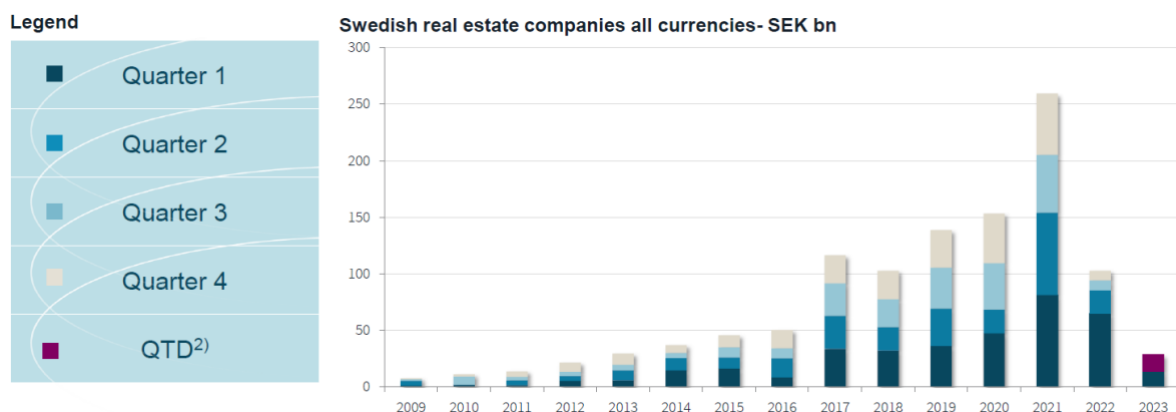


Figure 1: Bond issuance of Swedish real estate companies in Swedish Crowns, by year, as of 2023-05-22. Source: JLL, 2023

Further, reports show a continued increase in bank lending towards real estate companies in Sweden and during the first quarter of 2023, Handelsbanken increased its lending by approximately SEK 10 billion (JLL, 2023). This is presented in Figure 2 below.

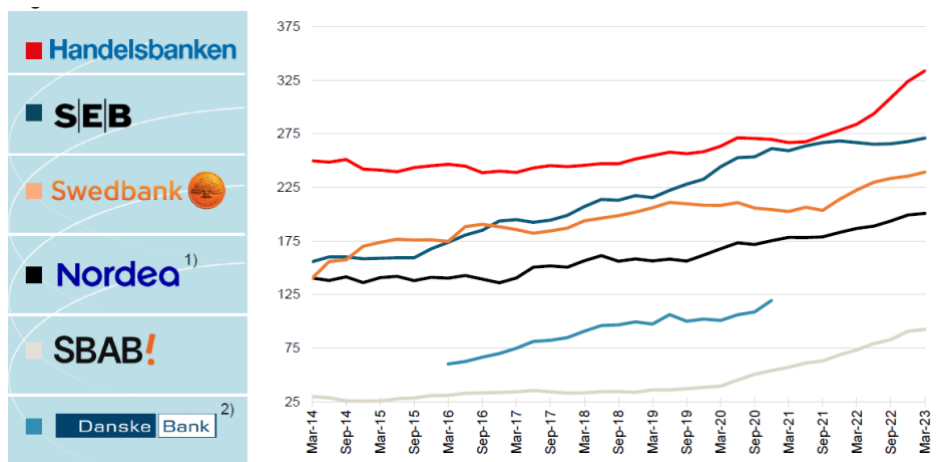


Figure 2: Bank lending volumes, by bank, between 2014 and 2023. Source: JLL, 2023

- 1) Also includes lending to Tenant owners' associations in their volume
- 2) Has not reported volume for Sweden since Q1 2021

SEB is at the same time reporting that Swedish banks are well-equipped to respond to a bank run. This is with a graph (see Figure 3) showing the amount of liquid funds as a percentage of the amount required to cover “stressed” withdrawals for 30 days. (SEB, 2023)

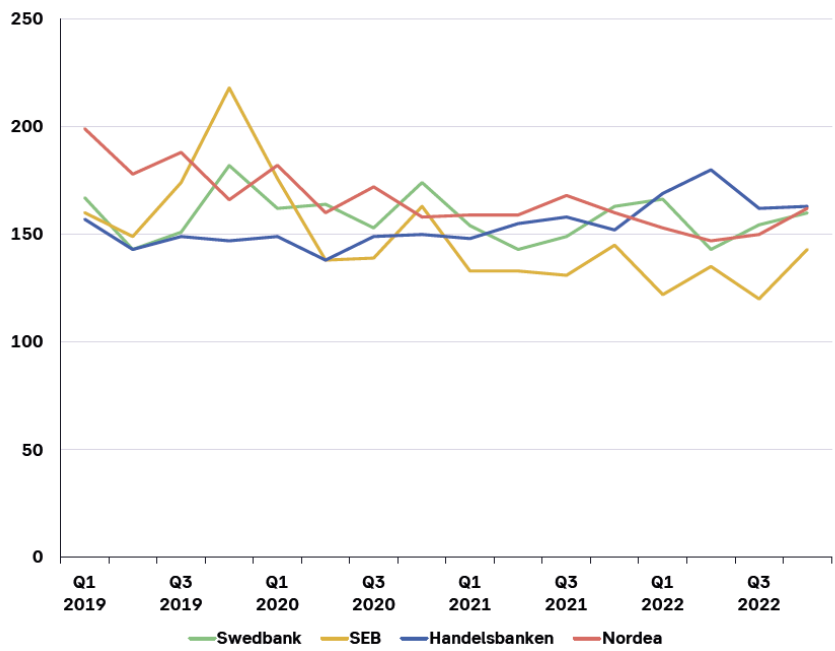


Figure 3: Banks' resistance towards a bank run. Source: SEB, 2023

4. Financial theories and instruments

The following chapter presents relevant literature and theories explaining the Swedish real estate and financial markets, as well as financial instruments and components in these markets. The theory on capital structure aims to provide the reader with an understanding of how capital structure can be influenced.

4.1 Capital structure

Capital structure refers to the distribution of debt and equity to finance a company's operations, assets and growth. Capital structure also concerns the approaches and models used to decide how debt and equity should be optimally combined. When considering the optimal capital structure for a company, a fundamental principle is to minimise the weighted average cost of capital while balancing the advantages of borrowing with the more significant expenses of equity capital (Harris and Raviv, 1991). The choice of financing for real estate companies is based on many different factors. Partly external conditions on the financial and property market and availability. But also internal decisions and the owners' approach to risk and return (Larsson and Lennartsson, 2008).



Figure 4: *The capital stack pyramid. Source: MontpellierPF, 2020*

The capital stack pyramid serves as an introductory framework for understanding the priorities within capital structures. As seen in Figure 4, senior debt represents the lowest risk and is prioritised first in the event of payout allocation. Next is mezzanine debt, which is a type of debt with equity characteristics (Enz and Ravara, 2005). Lastly, equity entails the highest risk but is granted the lowest priority in case of a payout or default. By understanding the hierarchical nature of the capital stack pyramid, stakeholders can make informed decisions about their investment strategies, risk appetite and potential returns. In the subsections below, a more detailed description of each type of capital and its importance follows.

4.1.1 Financial leverage

An important concept when analysing the capital structure and risk for real estate companies is leverage, which means borrowing money to earn more profit on an investment (Hayes, 2023(a)). Leverage is based on an expectation that the invested money will increase in value. By borrowing money at a lower cost, the investment portfolio size can increase. If the invested

money increases in value, the loan can result in a greater return. A larger investment portfolio can also mean an opportunity to diversify the holding, which can reduce the risk and volatility of the investment.

$$\text{Financial leverage} = \frac{\text{Debt}}{\text{Equity}}$$

However, there are also major risks linked to financial leverage that can have serious consequences (Hayes, 2023(a)). Higher borrowing increases the risk of losing more money than was initially invested, including leveraged funds. This happens if the portfolio decreases in value compared to the initial investment. Leverage is thus a strategic issue that investors can use to multiply their purchasing power in the market and is based on the choice of capital sources. Below is a description of different types of equity and debt.

4.1.2 Equity

Equity represents ownership shares in the company, and the basic and most common form of ownership is through **common shares** (Swedish Companies Registration Office, 2023). Holders of shares have a big upside if the company makes a profit, as they can take part in dividends with no upper limit (Algstedt and Skoglund, 2020). However, the major risk shareholders possess is that they have the lowest priority claim if the company is unprofitable or goes bankrupt. However, all stocks in a company do not need to have the same rights regarding voting rights and dividends (Swedish Companies Registration Office, 2023).

In addition to common shares, companies can issue **preferred shares** to grant certain shareholders priority in dividends and ownership. Preferred shares often have priority over common shares in terms of dividends and are also entitled to a predetermined amount that takes priority over the common shares in the event of default. However, the common shares carry greater voting power (Swedish Companies Registration Office, 2023). In the event of no dividend payments, the sum of outstanding dividends, including interest, is accumulated and must be paid primarily to the preference shareholders (Berk and De Marzo, 2016). Preferred shares have a disadvantage of missing out on potential upside in the market compared to a common share, as they have a fixed dividend. One advantage, however, is its classification as equity which thus strengthens the company's creditworthiness. (Vernimmen et al., 2014).

When a limited company needs to raise capital, it can be through a **new share issue**. There are several ways to make a new share issue, and it is up to the board or the general meeting to approve which method is to be used (Nordea, 2023a).

A **rights issue** allows existing shareholders the opportunity, but not obligation to purchase additional shares at a discounted price. The share is issued at a discounted price because a rights issue implies a share dilution, and the profit per share thus decreases. Distressed companies often use rights issues to raise capital for debt payment. Other companies may use them to raise capital to buy out a competitor or to expand and, in the long run, hope for increased capital gains. (Mcclure, 2022). Shares that have not been subscribed by the existing shareholders are then made available to the public. Alternatively, companies can issue **shares without preferential rights**, allowing anyone to subscribe to the newly issued shares, regardless of current share ownership (Nordea, 2023a).

Companies can also issue shares aimed at a specific group of existing shareholders or external investors, called a **directed issue**. They are easier to implement and have a faster process, but they primarily benefit the specific group of investors included. Other shareholders are disadvantaged as their shares can be diluted. A directed share may be motivated by the belief

that a particular investor can bring value to the company. It can, for instance, be directed at institutions, major shareholders or the company's employees. (Nordea, 2023a).

Private companies commonly have one type of stock, usually common stock, with varying rights and distributions among owners. Listed companies, in contrast, have increased complexity, transparency, and stricter regulations. These companies typically have multiple classes of shares with different rights, some of which can be bought and sold on the open market. Convertible shares are also present in listed companies, allowing conversion into other securities within the company. (Nordea, 2023a).

4.1.3 Bank credit

Historically, bank credit has been the main source of financing for Swedish real estate companies. The real estate sector is also the largest non-financial corporate sector to which the five major Nordic banks have credit exposure (Finansinspektionen, 2019).

When real estate companies borrow from banks, the banks usually demand a security in the form of a mortgage certificate on the property. This certificate constitutes proof of the mortgage on the property, allowing the lender to claim the property if the borrowing company ends up insolvent (Lennander, 2020). Most commercial real estate transactions today occur through company acquisitions, which has led to the possibility of pledging shares in the real estate company (Finansinspektionen, 2019). A common requirement from the banks when lending with a property as security is covenants in the loan agreements. They are often formulated as key figures the borrower undertakes to meet (Sung, 2005).

Banks have been forced to become more restrictive regarding their lending due to the financial crises in recent decades. The introduction of the Basel III banking regulation in 2009, due to the global financial crisis 2008, resulted in higher capital adequacy requirements for banks. (Riksbanken, 2016). The Swedish Finansinspektionen has also drawn attention to the importance of capital adequacy requirements for Swedish banks when lending to real estate companies. In 2019, Finansinspektionen assessed that banks should have more capital to cover their loss risk in lending to real estate companies. As a result, they came up with a proposal for stricter capital requirements for banks when lending to real estate companies (Finansinspektionen, 2019).

4.1.4 Capital market debt

In the capital market, the primary debt instruments traded are bonds and commercial papers. In the bond market, investors and issuers meet to buy and sell long-term debt with more than one-year maturities. Bonds are categorised according to the type of institution that is the issuer. When a Swedish real estate company issues a bond, it is categorised as a corporate bond, but there are also government bonds, municipal bonds, etc.

Corporate bonds are interest-bearing debts with a given term where the debt is repaid at the end of the term. As with a traditional bank loan, the capital is lent in exchange for a predetermined interest rate, known as the coupon rate. This coupon rate, for a corporate bond, remains constant throughout the term. (Berk and De Marco, 2017).

The value of a corporate bond is determined by its future generated cash flows, consisting of the coupon rate returns and the sale price at the end of the term. The market price is calculated as the sum of the present value of the bond's future cash flows, discounted with a market rate of return. The pricing of bonds has an inverse relationship with interest rates, which means that when interest rates on the market rise, the prices of bonds fall. (Berk and De Marco, 2017).

Convertible bonds are like traditional bonds except that it also gives the investor the right to exchange the bond for one or more shares at a predetermined price during a predetermined period in the issuing company. Convertible bonds offer lower interest rates than the underlying bond since the issuing company compensates investors with the opportunity for the stock value to increase above the conversion price. Different convertibles are unique in their terms and conditions, and they may therefore differ between different convertibles. (Vernimmen et al., 2014).

Commercial Papers have characteristics similar to a bond, where the investor receives a return as an interest payment from the issuing company. A difference is that commercial papers have a maturity of less than one year, while bonds have maturities of up to ten years. For bonds and certificates, there is usually no requirement for a security to issue the credit. This way, capital market debt differs from bank credit, as it usually demands security in a mortgage certificate. In Sweden, the bond market is the most important part of the capital market. (Berk and De Marco, 2017).

4.1.5 Mezzanine debt

Mezzanine financing is a type of debt with equity characteristics. Thus, it represents the highest-risk form of debt and is also a form of hybrid financing (Enz and Ravara, 2005). Compared to a senior traditional bank loan, the mezzanine has a higher yield requirement and thus can provide a higher return. Mezzanine financing can be used by companies to cover an equity gap for a specific project or acquisition. Like preferred capital, mezzanine financing can be converted into equity shares in the event that the financed project or investment goes into default and is a second priority in case of default (Hayes, 2022(b)).

Regarding the financing of real estate companies, mezzanine debt can provide the opportunity to use additional capital in addition to senior debt. With the help of mezzanine debt, they can maintain flexibility in exit strategies which can promote growth and execution of larger projects (Hayes, 2022(b)).

4.2 Risk and risk management

Several risks are associated with commercial real estate financing. One of the risks is the **interest rate risk**, which means the vulnerability for the interest rate to rise. Real estate companies are dependent on interest rates in several ways. Firstly, they generally have a high level of debt due to their capital-intensive nature. Secondly, the yield requirements on real estate are based on the risk-free market interest rate, leading to a rise in the interest rate, thus affecting the valuation of the company's assets. (Anderson et al., 2009).

Another risk is **refinancing risk**, which means not being granted refinancing of existing debts when their terms expire. Two decisive factors that govern this risk are interest rates and market volatility. Due to the high leverage of real estate companies, it is essential to analyse and prevent this risk. Some strategies to prevent the refinancing risk are diversification of lenders and seeking alternative sources of financing. (Anderson et al., 2009).

Refinancing risk is closely related to **liquidity risk**, which is the risk of insufficient cash to pay unforeseen events or existing liabilities when their maturities fall due. For a real estate company, the liquidity risk can mean increased pressure to sell properties for a real estate company. However, since properties are relatively illiquid assets, selling is time-consuming, and the transaction costs are often high. Therefore, checking the company's loan maturity date and future cash flows is essential. (Anderson et al., 2009).

Credit risk primarily affects the lenders and refers to the risk of borrowers not paying off their debt on time. To minimise the credit risk, the lender must thoroughly review the borrower's creditworthiness before accepting a loan. **Market risk**, such as economic downturns, changes in real estate market competition, or reduced demand for a specific real estate segment, is another risk to consider. (Anderson et al., 2009).

4.2.1 Risk management strategies

Given the capital-intensive nature of the real estate sector, applying strategies is essential to mitigate interest rate risk. One effective approach to keep the risk low is to avoid being highly leveraged and thus reduce the debt by selling properties or increasing the equity ratio through various ways. (Chen and Tzang, 1988).

Extending debt maturity can also be employed to manage interest rate risk by securing a favourable interest rate for a more extended period. Diversifying financing sources through, e.g. equity financing or joint ventures are additional methods to reduce dependence on debt financing. To mitigate the interest rate risk, another way is to maintain a solid credit rating since a better credit rating often correlates with better loan terms through lower credit spreads. (Chen and Tzang, 1988).

A common strategy for managing different financial risks is **hedging**. It involves companies purchasing special financial instruments, products or assets to protect investments and adapt the interest rate to the company's strategy and current market conditions. Common hedging methods include financial derivatives such as interest rate swaps, interest rate caps, and interest rate floors. (Nordea, 2023b).

An **interest rate swap** protects against interest rate increases and means that a floating interest rate becomes a fixed interest rate or vice versa. An interest rate swap can be applied to an entire loan portfolio or a specific loan.

With an **interest rate cap**, the company receives an assurance/guarantee that the reference interest rate for a loan does not exceed a given rate in the event of an interest rate increase. This type of interest hedging has no floor and can fall if the interest rate falls. As compensation, the lender charges a hedging fee based on the loan amount and period.

An **interest rate floor** has a given minimum interest rate and thus gives the company insurance to receive a guaranteed minimum return to protect an investment if the interest rate falls. (Nordea, 2023b).

4.2.2 Default risk and the role of rating

Credit ratings serve as standardised measures of default risk and are often used by investors and lenders to assess creditworthiness of their investments and clients. Credit rating agencies, such as Fitch Ratings, Moody's and Standard and Poor's (S&P) play an essential role in the financial market, providing credit ratings primarily for bonds and other financial instruments such as shares, preferred shares and structured financial products. The credit rating agencies utilise different scales for creditworthiness. (Mishkin et al., 2013).

Table 2: Credit rating scales of the major rating agencies, classified as investment grade or high-yield

| | Fitch | Moody's | S&P |
|------------------|-------|---------|-----|
| Investment grade | AAA | Aaa | AAA |
| | AA | Aa | AA |
| | A | A | A |
| | BBB | Baa | BBB |
| High-yield | BB | Ba | BB |
| | B | B | B |
| | CCC | Caa | CCC |
| | CC | Ca | CC |
| | C | C | C |
| | | | |

Source: Fitch Ratings, 2023, Moody's, 2023, S&P Global, 2023

As seen in Table 2 above, there is a variation in the exact letter grades used by each agency. However, the underlying meaning attributed to each grade remains consistent. Ratings such as "AAA" or "Aaa" indicate entities with exceptional creditworthiness and minimal risk of default. Conversely, when ratings drop from "BBB" or "Baa" to "BB" or "Ba," the associated credit risk increases, reflecting an increased likelihood of default or late repayment. Ratings below the "BBB" or "Baa" level are usually considered speculative or high-yield. These ratings indicate a higher level of credit risk and indicate that the company may face challenges in meeting its financial obligations. (Fitch Ratings, 2023)(Moody's, 2023)(S&P Global, 2023).

4.3 Capital structure theories and metrics

To find the optimal combination of debt and equity in a company's capital structure, various approaches and models have been researched and developed over the years. In 1958, Modigliani and Miller published a revolutionary paper on corporate capital structure. Previously, there was a shared opinion that the optimal capital structure consisted of a mixture of debt and equity. Modigliani and Miller argued that capital is irrelevant to a firm's value in a perfect market and that the firm's underlying cash flows determine value instead. However, it can be stated that the capital market is imperfect and that there are imperfections, such as asymmetric information in the market. Despite its limitations, Modigliani and Miller's pioneering research in the 1950s laid the foundation for capital structure theory and inspired research on capital markets and their imperfections. (Modigliani and Miller, 1958).

4.3.1 Trade-off theory

One prominent theory is the trade-off theory, which weighs the advantages and disadvantages of borrowing money. The theory is originally from the 1970s but remains dominant in corporate capital structure. According to the model, companies set a target for how much they want to borrow and gradually work towards it while weighing the tax benefits against the risk of bankruptcy. The theory is divided into two parts, one where a company decides to borrow for a single period and another where the company gradually adjusts its borrowing over time. The theory considers various factors, such as the complexity of the tax system, the cost of bankruptcies and how expensive it is to borrow more money. (Frank and Goyal, 2007; Algstedt and Skoglund, 2020).

4.3.2 Pecking order theory

Another relevant theory is the pecking order theory, which suggests that firms prioritise financing their investments through retained earnings, followed by debt financing and equity financing as a last option. The fundamental underlying considerations in the prioritisation are the cost and availability of financing alternatives and the information asymmetry between managers and investors. (Brealey et al., 2008).

According to the theory, retained earnings should be prioritised because managers have the most accurate information about the firm's financial health. The second source of finance, debt financing, is cheaper than equity financing, does not dilute ownership, and should therefore be prioritised before equity. If the internal funds are insufficient and the company is growing, seeking debt financing can show signs of stability and strength. However, according to the model, if the company seeks alternative financings, such as issuing new shares, it may indicate an overvalued share, which signals weakness. (Brealey et al., 2008).

4.3.3 Market timing theory

The theory deals with investors' ability to predict and analyse trends in the financial markets. A fundamental claim is that financial markets are not always efficient, and prices do not always reflect all information. Further claims are that financial markets are predictable and that active management and risk management can add value. Thus, investors can predict in advance how the market will fluctuate and accordingly time the market and buy when the market is low and then sell when the market increases to generate a higher return. (Baker and Wurgler, 2002).

Since Robert D. Arnott and Peter L. Bernstein developed the market timing theory in the 1980s, conditions in the financial markets have changed, and the approach now has several limitations. A significant factor in the changes is due to technological development. Investors can nowadays obtain market information more easily and quickly through the Internet and advanced analysis tools than in the 1980s. Rapid access to information strengthens investors' ability to analyse and identify market trends, which aligns with the theory's assumptions. However, competition has increased sharply in the market, leading to many investors can simultaneously identify irrationalities in the market. It is nearly impossible to take advantage of arbitrage in the financial markets. (Baker and Wurgler, 2002).

4.3.4 Financial metrics

When choosing sources of capital and evaluating a company's financial health and performance, financial metrics play a crucial role. Financial metrics are also a common measure for comparing companies with each other.

The **equity ratio** shows the proportion of a company's total assets financed through equity or owner's capital. A high equity ratio often indicates long-term financial healthiness and stability. It shows that the company has a stable foundation and does not affect the company as strongly affected by an interest rate shock or decline as they are not dependent on debt financing. (Hayes, 2023(c)).

However, a company's financial health cannot solely be analysed with this key figure. A company with a high equity ratio can still have liquidity problems if the short-term liabilities increase sharply and the company mainly has illiquid assets such as real estate. (Hayes, 2023(c)).

$$\text{Shareholder Equity Ratio} = \frac{\text{Total Shareholder Equity}}{\text{Total Assets}}$$

The Interest coverage ratio (ICR) is a metric used to measure a company's capacity to cover its interest costs to its outstanding debts. If the Interest coverage ratio is 1.0, the company's income is just enough to pay the interest costs and the company's result after financial costs equals 0. The optimal Interest coverage ratio depends, among other things, on the company's industry, the general economic environment and the business model. (Hayes, 2022(d)).

$$\text{Interest Coverage Ratio} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

Loan-to-value (LTV) ratio is a standard measure when assessing the risk of a property. An increased LTV ratio means higher risk and higher interest costs (Hayes, 2023(a)).

$$\text{Loan – to – value Ratio} = \frac{\text{Mortgage Amount}}{\text{Appraised Value of Real Property}}$$

5. Empirical study

The following chapter presents the results from the two empirical studies conducted in this research. In section 5.1, *Document study results* follow a review of produced graphs and tables derived from the development of the financial data of the chosen companies. In section 5.2, *Interview study results*, a compilation of the interview respondents' answers follows, providing in-depth insights into the factors and mechanisms contributing to the evolution of capital structure and associated risks.

5.1 Document study results

The document study is conducted by collecting data from the companies' year-end and quarterly reports during the time period from Q1 2018 to Q1 2023. The data is collected through the online tool Sedis, which implies some data limitations. Regarding some numbers, the data is only available from Q4 2018, and therefore, this shorter time period is applied. Further, the collected data is compared and analysed in Excel. The results are shown below and demonstrated in tables and graphs.

As an introduction to the document study, Table 3 below lists the chosen companies according to the market value size of the property portfolio, stating the status of credit rating and comparing the current Loan-to-value, average interest rate and Interest coverage ratio to the same one year ago. This, to get an initial view of the analysed companies and the current market conditions. The Loan-to-value ratio is calculated on the company's total property portfolio, including usufruct, but excluding preferred shares in mortgage value. The Interest coverage ratio in Table 3 refers to the company's reported rolling 12 months Interest coverage ratio. As some companies do not report this quarterly, the numbers from year-end 2022 were compared to year-end 2021 in this case.

The credit ratings in this study refers to April 2023 and hence, adjustments in credit ratings of the companies later than that are not taken into account. This, as most interviews were conducted in April, giving a comparable representation.

Table 3: Current key metrics compared to previous year, by company

| Company | Market value Q1 2023, MSEK | Credit rating | LTV Q1 2023, % | LTV Q1 2022, % | Average interest rate Q1 2023, % | Average interest rate Q1 2022, % | ICR Q4 2022, x | ICR Q4 2021, x |
|-------------------|----------------------------|------------------|----------------|----------------|----------------------------------|----------------------------------|----------------|----------------|
| Heimstaden Bostad | 335,082 | Investment Grade | 56 | 50 | 2.2 | 1.1 | 2.6 | 4.1 |
| Balder | 214,850 | High-yield | 65 | 60 | 2.4 | 1.6 | 4.7 | 4.9 |
| Vasakronan | 183,809 | Investment Grade | 43 | 42 | 2.4 | 1.3 | 4.8 | 5.2 |
| Castellum | 148,214 | Investment Grade | 53 | 48 | 2.8 | 1.7 | 3.9 | 5.2 |
| SBB | 134,419 | Investment Grade | 62 | 54 | 2.3 | 1.2 | 3.9 | 5.5 |
| Akademiska hus | 115,356 | Investment Grade | 36 | 33 | n/a | n/a | 9.9 | 9.0 |
| Fabege | 84,994 | Investment Grade | 41 | 36 | 2.7 | 1.6 | 3.4 | 4.1 |
| Hemsö | 84,784 | Investment Grade | 60 | 56 | 2.1 | 0.9 | 4.8 | 5.7 |
| Corem | 75,109 | Investment Grade | 60 | 55 | 4.1 | 2.4 | 2.5 | 2.7 |
| Pandox | 69,695 | n/a | 52 | 52 | 3.9 | 2.5 | 3.7 | 2.0 |
| Wallenstam | 62,712 | n/a | 45 | 43 | 2.6 | 1.3 | 4.7 | |
| Rikshem | 58,918 | Investment Grade | 50 | 46 | 2.2 | 1.4 | 3.5 | 3.6 |
| Willhem | 58,138 | Investment Grade | 56 | 52 | 2.2 | 1.2 | 3.1 | 3.4 |
| Atrium Ljungberg | 56,726 | Investment Grade | 43 | 40 | 2.3 | 1.7 | 3.8 | 5.3 |
| Wihlborgs | 55,701 | n/a | 49 | 45 | 3.3 | 1.3 | 5.6 | 6.7 |
| Sagax | 53,011 | Investment Grade | 62 | 57 | 1.9 | 1.8 | 7.1 | 6.5 |
| Hufvudstaden | 48,909 | n/a | 21 | 18 | 2.3 | 1.3 | 7.7 | 9.1 |
| Nyfosa | 41,182 | n/a | 61 | 54 | 4.2 | 1.9 | 3.8 | 3.3 |
| FastPartner | 35,848 | Investment Grade | 49 | 46 | 4.4 | 1.6 | 3.4 | 4.2 |
| Diös | 30,931 | Investment Grade | 54 | 50 | 4.1 | 1.1 | 4.6 | 6.4 |
| Catena | 27,939 | Investment Grade | 40 | 42 | 3.4 | 2.0 | 4.9 | 4.5 |
| Platzer | 27,387 | Investment Grade | 45 | 44 | 3.5 | 1.8 | 3.5 | 4.1 |
| Jernhusen | 21,204 | Investment Grade | 44 | 44 | 2.0 | 1.1 | 6.9 | 5.8 |
| Intea | 20,649 | Investment Grade | 55 | 55 | 2.8 | 1.5 | 3.9 | 3.0 |
| NP3 | 19,844 | High-yield | 58 | 59 | 4.5 | 2.5 | 2.8 | 3.3 |
| Stenvalvet | 16,562 | Investment Grade | 54 | 60 | 2.3 | 1.4 | 4.9 | 5.6 |
| Heba | 15,535 | Investment Grade | 49 | 41 | 2.5 | 1.1 | 3.3 | 4.8 |
| John Mattson | 14,975 | n/a | 60 | 59 | 3.1 | 1.4 | 1.9 | 2.2 |
| Trianon | 12,965 | n/a | 57 | 54 | 3.7 | 1.9 | 2.4 | 3.2 |
| Stendörren | 12,534 | High-yield | 53 | 47 | 4.1 | 2.3 | 2.6 | 3.0 |
| K2A | 10,084 | n/a | 79 | 67 | 3.2 | 2.1 | 1.8 | 1.9 |
| Brinova | 8,380 | n/a | 62 | 58 | 3.4 | 1.9 | 2.4 | 3.0 |
| Eastnine | 6,565 | n/a | 55 | 56 | 3.8 | 2.9 | 2.4 | 2.7 |

Source: Sedis, 2023

5.1.1 Development of real estate capital structure

Figure 5 displays how the Loan-to-value has changed over time as an average of all companies as well as companies with an investment grade rating separated. According to the data, LTV ratios slightly decreased from Q2 2020 to Q1 2022 while rising again since then. The data also shows a breaking point in Q2 2021 where before then, investment grade rated companies had higher LTV ratios on average and, since then, lower LTV ratios on average. Further, the graph includes a line showing the average total debt in millions of Swedish Crowns, implying a steady increase in debt, even during the period when the LTV ratio is decreasing.

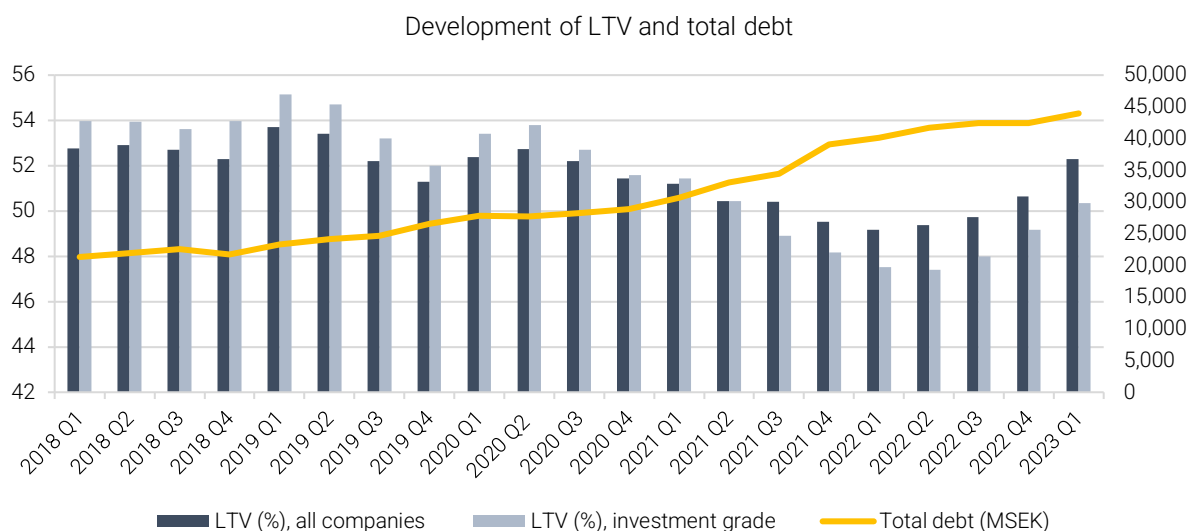


Figure 5: Development of Loan-to-value and total debt. Source: Sedis, 2023

In Figure 6, the average total debt is compared to the average total interest-bearing liabilities and non-interest-bearing liabilities. The trends of total debt and interest-bearing liabilities follow the same pattern, with the interest-bearing liabilities corresponding to the majority of the total debt. The non-interest-bearing liabilities stay at an almost constant level over time. Interest-bearing liabilities here refer to all debts or financial obligations that incur interest expenses

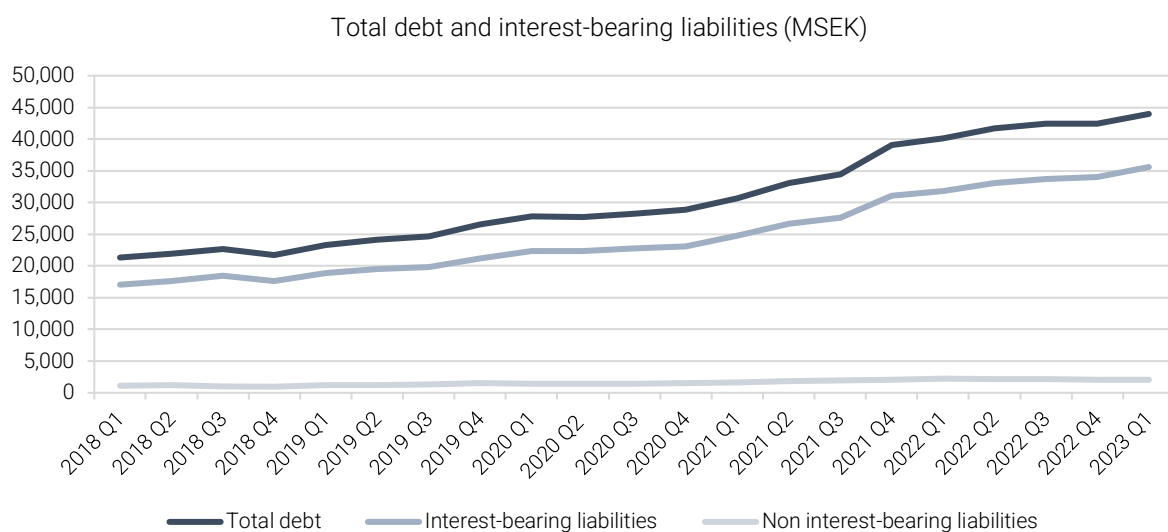


Figure 6: Total debt compared to interest-bearing liabilities and non-interest-bearing liabilities. Source: Sedis, 2023

Figure 7 and Figure 8 both show the development of average debt and equity in the analysed companies, Figure 8 with a focus on the split between debt and equity. According to the data, debt and equity are increasing over time, apart from equity decreasing slightly since mid-2022.

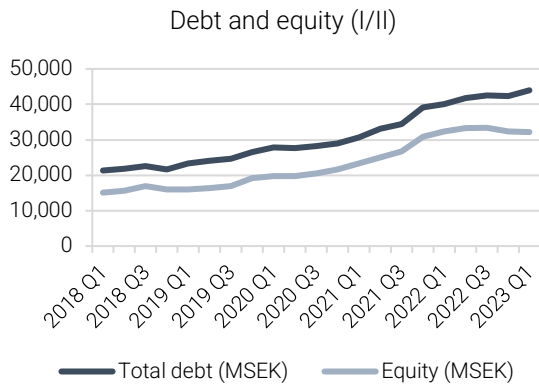


Figure 7: Debt and equity development 2018-2023
Source: Sedis, 2023

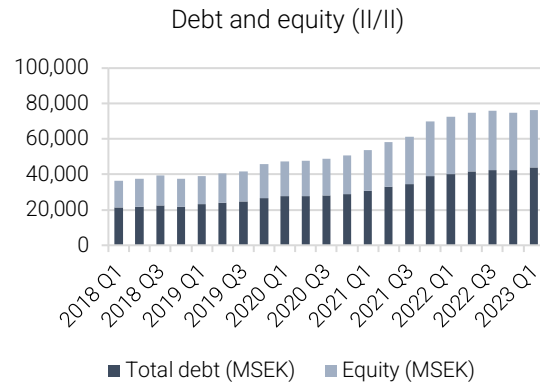


Figure 8: Debt and equity split, 2018-2023
Source: Sedis, 2023

5.1.2 Type of financing

In the following results, equity has been excluded from the capital structure. This is to focus on different sources of debt and be able to see the development of different types of debt clearly. The debt is categorised into bank loans, bonds, commercial papers and others. Other refers to debt such as direct loans or promissory notes. This categorisation is due to data availability in Sedis.

To initially get an understanding of the average capital structure, Figure 9 shows the split between sources of financing as of Q3 2023. The chart shows that bank and bond financing are the two primary sources of debt, corresponding to 48% contra 47%.

Type of debt, average of all companies in Q1 2023

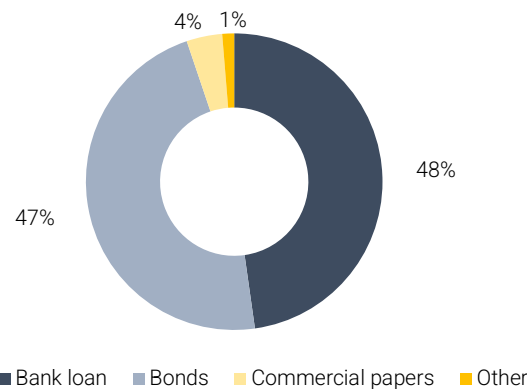


Figure 9: Average split between sources of financing in Q1 2023. Source: Sedis, 2023

Further analysing the development of capital structure, Figure 10 displays the split between sources of financing over time.

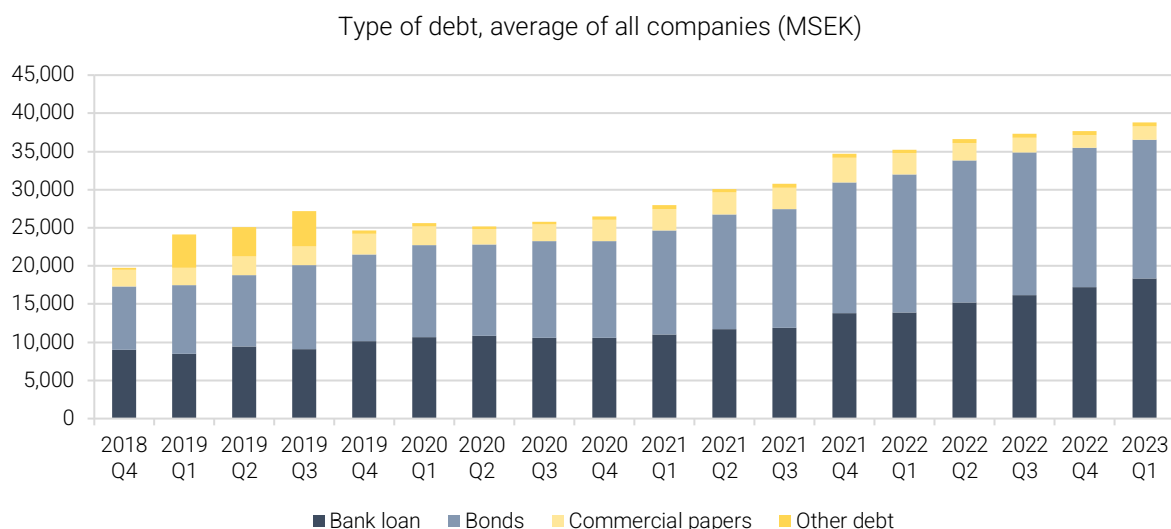


Figure 10: Development of capital structure, the share of different types of debt. Source: Sedis, 2023

By instead looking at the individual development of each type of debt, the data show a steady increase in bank financing over time, except for a slowdown at the end of 2021. Since the beginning of 2022, bank financing has been increasing significantly. Over time bond financing has been increasing as well, being the largest source of financing since mid-2019 but on the contrary to bank loans, decreasing slightly since Q2 2022. See Figure 11. The graph displays a small decrease in commercial papers at the end of 2021, at the same time as bank financing had a dip, but in contrast to bank financing, commercial papers have continued to decrease.

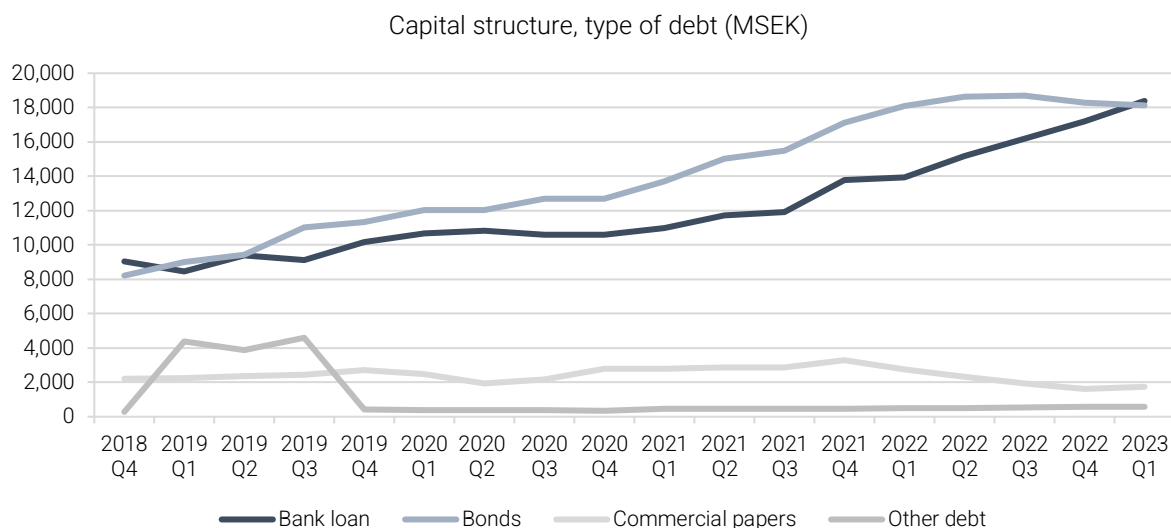


Figure 11: Development of capital structure, type of debt. Source: Sedis, 2023

Clustered by company size

Further, the companies are clustered based on the company's market value as of Q3 2023. Companies with a market value over SEK 50 bn are categorised as large, while companies with a market value under SEK 50 bn are categorised together as midsize and small companies. This is to get an equal distribution between categories.

Figure 12 and Figure 13 show the development of each type of debt for large companies and mid to small, respectively. The main difference is that large companies, on average, have bond financing as the largest source of financing, while mid to small companies' largest source is bank loans. For both categories, bank financing has been increasing over the last few years while bond financing has decreased slightly since Q2 2022. For both categories, commercial papers are decreasing as well.

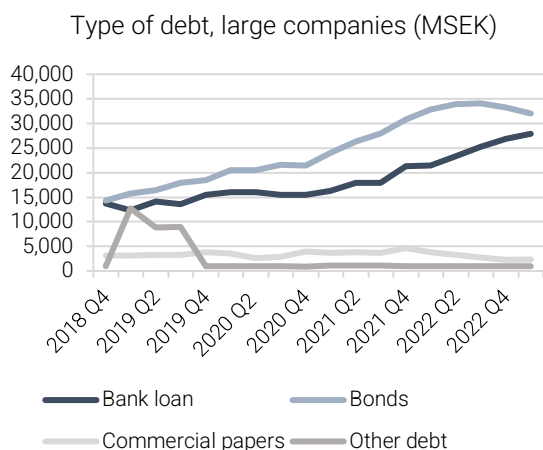


Figure 12: Type of debt, large companies

Source: Sedis, 2023

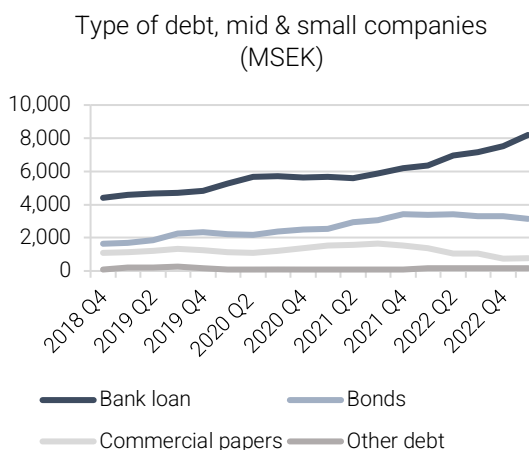


Figure 13: Type of debt, mid & small companies

Source: Sedis, 2023

5.1.3 Fixed interest and tied-up capital

To analyse the interest rate exposure of the companies, average interest rate, fixed interest period, tied-up capital period and Interest coverage ratio are compared. Firstly, as an average of all companies to then be clustered by primary property type as well as company size and credit rating. In the results below, the Interest coverage ratio refers to the rolling 12 months' Interest coverage ratio on net finance, as this data is available quarterly in Sedis.

According to the data in Figure 14, the Interest coverage ratio has been decreasing significantly since Q1 2022. Since Q2 2021, both the fixed interest period and tied-up capital period have been slightly decreasing, with a slowdown in Q4 2022. The average interest paid on interest-bearing liabilities has been remarkably increasing since Q4 2021.

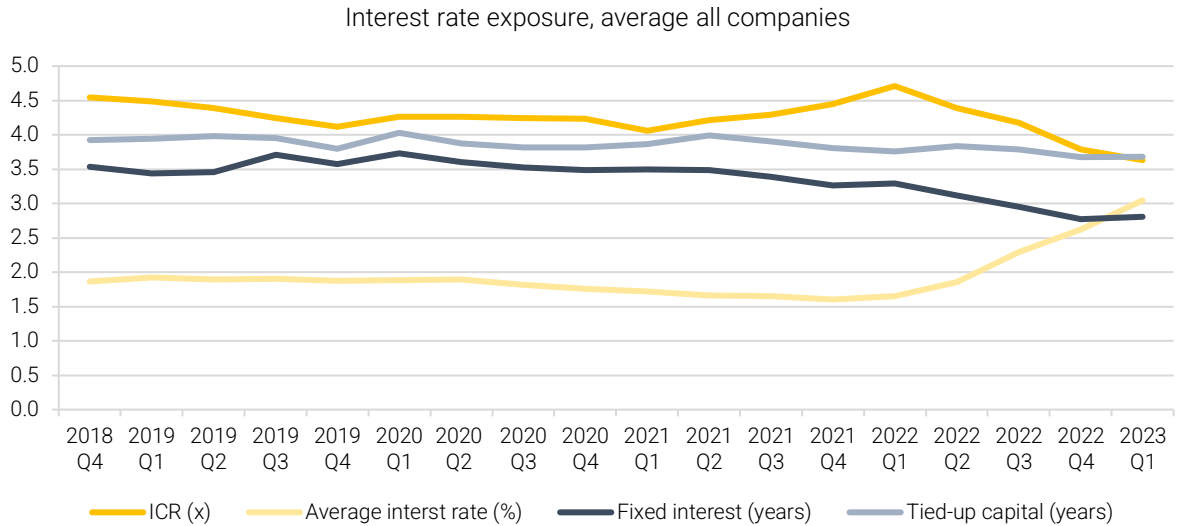


Figure 14: Interest rate exposure, average of all companies. Source: Sedis, 2023

Clustered by primary property type

Below in Figure 15-18, the results are clustered by primary property type in the company’s total property portfolio. The segment trending most differently in all metrics is industrial & logistics with a higher average interest, shorter fixed interest and tied-up capital and an Interest coverage ratio that went from being the lowest in 2018 to being the highest among the segments in Q1 2023. The remaining segments follow a similar pattern, with the average interest rate increasing since Q4 2021, slightly decreasing fixed interest period, relatively stable tied-up capital period and decreasing Interest coverage ratio since Q1 2022.

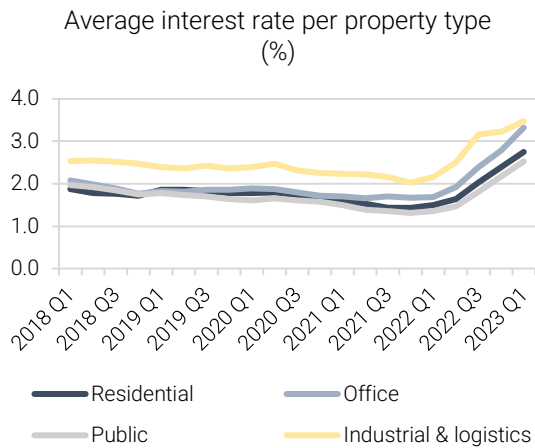


Figure 15: Average interest rate per property type. Source: Sedis, 2023

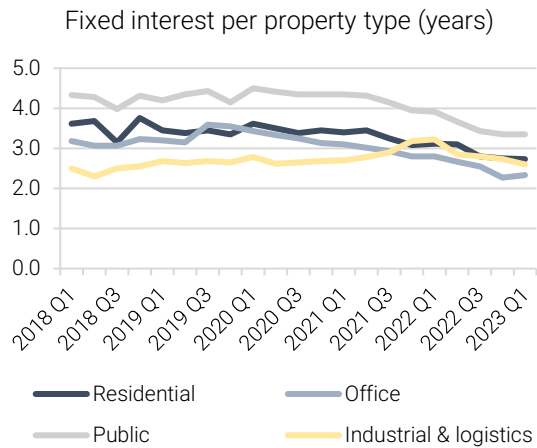


Figure 16: Fixed interest per property type. Source: Sedis, 2023

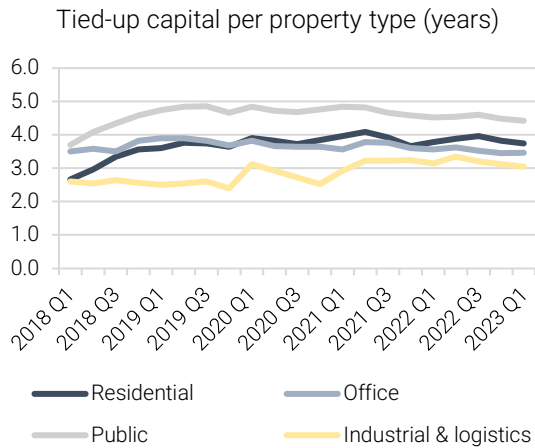


Figure 17: Tied-up capital per property type
Source: Sedis, 2023

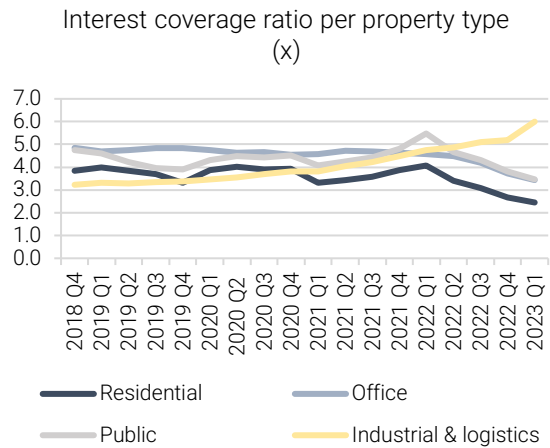


Figure 18: Interest coverage ratio per property type
Source: Sedis, 2023

Clustered by company size

In the following results the data is clustered by company size by the same categorisation as in chapter 5.1.2 *Type of financing*. Further, the companies with an investment grade credit rating are separated to analyse potential financing benefits.

The average interest rate is in general at the same level, slightly spreading in Q3 2022, with large companies staying at a lower percent than mid to small companies, shown in Figure 19. Investment grade companies, on average, have a slightly lower average interest rate. Regarding fixed interest period and capital tie-up, Figure 20-21, there are no major differences in the development except for large companies, on average, having a longer period of secured financing. The Interest coverage ratio is lower among mid to small companies on average, Figure 22. Since Q2 2022, the Interest coverage ratio for mid to small companies with an investment grade rating aligns with large companies.

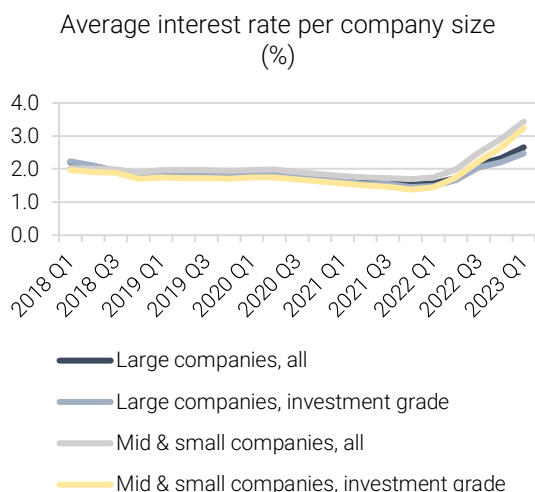


Figure 19: Average interest rate per company size
Source: Sedis, 2023

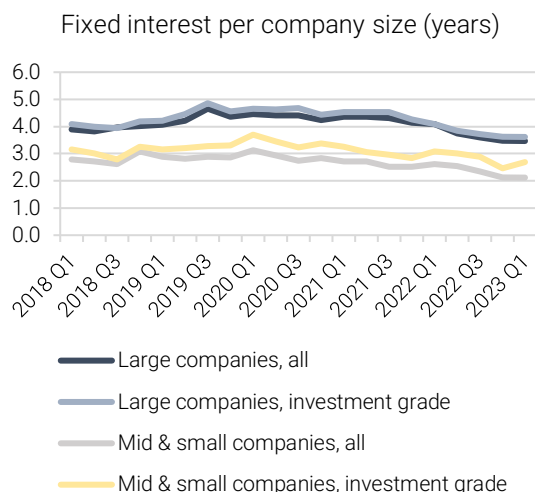


Figure 20: Fixed interest per company size
Source: Sedis, 2023

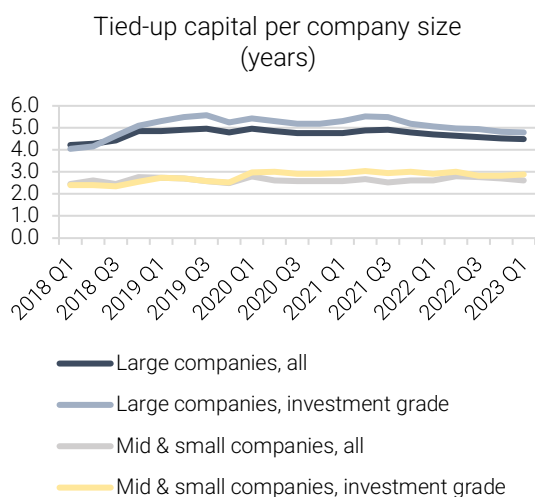


Figure 21: Tied-up capital per company size
Source: Sedis, 2023

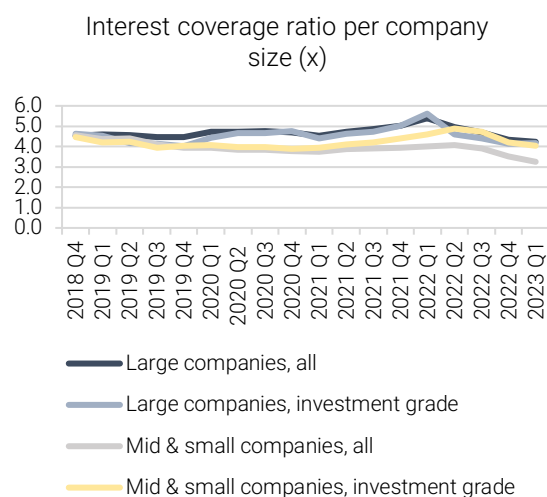


Figure 22: Interest coverage ratio per company size
Source: Sedis, 2023

5.1.4 Stress test of Interest coverage ratio

To analyse the companies’ sensitivity towards interest rate increases, a stress test is conducted. The stress test is run by calculating the Interest coverage ratio based on the companies’ EBIT, interest-bearing liabilities and average interest rate. EBIT refers to the earnings before interest and taxes of rolling 12 months in Q1 2023, interest-bearing liabilities to the current outstanding in Q1 2023 and average interest rate to the reported in Q1 2023.

Further, the average interest rate is increased by 50 basis points, 200 basis points and 300 basis points, respectively. However, this stress test does not take into account the companies’ fixed interest term and the EBIT does not necessarily reflect the long-term earning capacity. Therefore, this is a theoretical scenario of the companies’ direct reactions towards interest rate increases, regarding Interest coverage ratio. The results of the stress test are shown in Table 4 below.

Table 4: Stress test on Interest coverage ratio, based on EBIT, interest-bearing liabilities and average interest rate in Q1 2023

| Company | EBIT (MSEK), Q1 2023 | Interest-bearing liabilities (MSEK), Q1 2023 | Average interest (%), Q1 2023 | Current ICR (x), calculated, Q1 2023 | ICR (x), +50bps | ICR (x), +200bps | ICR (x), +300bps |
|-----------------------|----------------------|--|-------------------------------|--------------------------------------|-----------------|------------------|------------------|
| Heimstaden Bostad | 7,754 | 186,260 | 2.2% | 1.9 | 1.5 | 1.0 | 0.8 |
| Balder | 7,057 | 143,302 | 2.4% | 2.1 | 1.7 | 1.1 | 0.9 |
| Vasakronan | 6,077 | 81,597 | 2.4% | 3.1 | 2.6 | 1.7 | 1.4 |
| Castellum | 5,698 | 79,487 | 2.8% | 2.6 | 2.2 | 1.5 | 1.2 |
| SBB | 4,409 | 84,383 | 2.3% | 2.3 | 1.9 | 1.2 | 1.0 |
| Pandox | 3,152 | 37,310 | 3.9% | 2.2 | 1.9 | 1.4 | 1.2 |
| Hemsö | 2,991 | 51,478 | 2.1% | 2.8 | 2.2 | 1.4 | 1.1 |
| Sagax | 2,948 | 32,962 | 1.9% | 4.7 | 3.7 | 2.3 | 1.8 |
| Corem | 2,809 | 46,056 | 4.1% | 1.5 | 1.3 | 1.0 | 0.9 |
| Wihlborgs | 2,352 | 27,168 | 3.3% | 2.6 | 2.3 | 1.6 | 1.4 |
| Fabege | 2,132 | 35,219 | 2.7% | 2.2 | 1.9 | 1.3 | 1.1 |
| Nyfosa | 2,027 | 25,214 | 4.2% | 1.9 | 1.7 | 1.3 | 1.1 |
| Atrium Ljungberg | 1,747 | 25,743 | 2.3% | 3.0 | 2.4 | 1.6 | 1.3 |
| Rikshem | 1,633 | 29,355 | 2.2% | 2.5 | 2.1 | 1.3 | 1.1 |
| Wallenstam | 1,618 | 28,800 | 2.6% | 2.2 | 1.8 | 1.2 | 1.0 |
| Willhem | 1,615 | 32,854 | 2.2% | 2.2 | 1.8 | 1.2 | 0.9 |
| Diös | 1,429 | 16,736 | 4.1% | 2.1 | 1.9 | 1.4 | 1.2 |
| Hufvudstaden | 1,339 | 10,214 | 2.3% | 5.7 | 4.7 | 3.0 | 2.5 |
| Catena | 1,236 | 11,243 | 3.4% | 3.2 | 2.8 | 2.0 | 1.7 |
| NP3 | 1,144 | 11,653 | 4.5% | 2.2 | 2.0 | 1.5 | 1.3 |
| Jernhusen | 932 | 9,423 | 2.0% | 4.9 | 4.0 | 2.5 | 2.0 |
| Platzer | 913 | 12,399 | 3.5% | 2.1 | 1.8 | 1.3 | 1.1 |
| Intea | 698 | 11,362 | 2.8% | 2.2 | 1.9 | 1.3 | 1.1 |
| Stenvalvet | 617 | 8,930 | 2.3% | 3.0 | 2.5 | 1.6 | 1.3 |
| Stendörren | 499 | 6,764 | 4.1% | 1.8 | 1.6 | 1.2 | 1.0 |
| Trianon | 371 | 7,491 | 3.7% | 1.3 | 1.2 | 0.9 | 0.7 |
| John Mattson | 352 | 9,146 | 3.1% | 1.2 | 1.1 | 0.8 | 0.6 |
| Heba | 341 | 7,615 | 2.5% | 1.8 | 1.5 | 1.0 | 0.8 |
| Eastnine | 289 | 3,684 | 3.8% | 2.1 | 1.8 | 1.4 | 1.2 |
| Brinova | 271 | 5,209 | 3.4% | 1.5 | 1.3 | 1.0 | 0.8 |
| K2A | 205 | 7,937 | 3.2% | 0.8 | 0.7 | 0.5 | 0.4 |
| Average all companies | 2,150 | 35,064 | 3.0% | 2.3 | 1.8 | 1.2 | 1.0 |

Source: Sedis, 2023

5.2 Interview results

Below, the responses from the interview respondents are summarised by theme. The chapter begins by examining the evolving capital structure of Swedish real estate companies as a result of the changing market conditions due to increased policy interest rates. Subsequently, it presents the trends in the duration of interest rates and capital maturity by real estate companies and the management of their interest rate risk. Finally, it provides a market overview and presents the interview respondents' outlook on the future of real estate finance.

5.2.1 Development of real estate capital structure

Bank financing

The interviews reveal that the prolonged period of low-interest rates, including instances of negative policy interest rates, resulted in the availability of cheap debt capital and an increase in property values. Traditionally, bank loans have constituted the majority of debt for real estate companies across all sizes. However, the low-interest rate environment led to a shift in the attractiveness of different sources of debt, with real estate companies increasingly considering unsecured debt from the bond market in addition to traditional secured bank loans.

The challenging market conditions during 2022 and 2023 have led to a slowdown in the property transaction market and reduced demand for issuing new senior bank loans as security for properties. Banks are, however, generally willing to roll over existing financing for real estate companies as long as the secured properties are let out and generate sufficient cash flow to cover the interest costs. On the contrary, the interviews reveal that obtaining bank loans for non-existing bank customers can be challenging, highlighting the importance of good relations with banks.

The interviews highlight examples of companies that have relied on short loan terms with the intention of selling properties at maturity. However, given the challenging market conditions, selling properties at maturity has not been advantageous, leading companies to refinance the loans instead. Companies that roll over debt or refinance in the current market face stricter loan terms, including higher credit margins, amortisation plans, stricter covenants, or lower Loan-to-value ratios, reflecting the increased market risk.

Banks' risk assessment of real estate companies

The interviews indicate changes in the risk assessment conducted by banks in the real estate sector due to rising interest rates. Banks have increased credit spreads to account for the heightened risk associated with real estate companies, and their internal rating models have likely downgraded all real estate companies. Despite the decline in property values, there remains a potential risk of further decreases. According to Helaba, the banks thus aim to reduce the LTV ratio to mitigate the risk and create a buffer against presumed reduced property values.

Arctic and JLL also reveal that nominal interest rates have significantly risen, requiring real estate companies to secure additional equity to cover the increased interest costs. Risk weights in real estate lending were adjusted in 2020, forcing banks to assess the risks in real estate companies differently. This adjustment was made because the Swedish Financial Supervisory Authority observed a significant concentration of Swedish banks and the Swedish Krona bond market in the real estate sector.

A finding from the interviews is that banks prioritise cash flow analysis over LTV ratios when assessing the risks of real estate companies. The LTV ratio for real estate lending by banks has decreased by approximately 5-10 percentage points over the past year. However, JLL describes the LTV ratio as self-regulating due to the associated increase in interest costs. A higher LTV ratio leads to higher interest costs, significantly impacting the Interest coverage ratio. Positive cash flows are crucial for meeting Interest coverage ratio covenants. Therefore, banks in the current market do not necessarily need to decrease the LTV ratio actively; instead, it depends on the company's cash flow capacity.

The ability of cash flows to maintain a specified Interest coverage ratio is considered crucial. All respondents agree that meeting the requested Interest coverage ratio covenants is challenging. Arctic supports the banks' approach of focusing heavily on cash flows and believes many stakeholders in the industry focus too much on property values and LTV ratios rather than the cash flows. Johansson states, *"Companies do not go bankrupt on the balance sheet; they go bankrupt in the cash flow"*.

Housing developers, construction companies, and project developers have primarily been affected by changes in risk assessment due to the challenges they face. Companies with halted development projects find it particularly difficult to obtain financing, especially if they do not have cash flows from an asset management division to cover fixed costs. Swedbank provides guidelines for interest rates and LTV ratios for its midcap clients. Previously, housing companies were required to cover at least 6% interest, while a mix of residential and commercial properties required 7%, and commercial properties required 8%. However, housing companies within Midcorp currently pay around 4.5-5% and amortise 2%, resulting in a total of 6.5-7%, which their cash flows cannot handle.

For companies with an increased credit risk assessment seeking refinancing, Helaba expresses that it is crucial to demonstrate a financial plan that includes the possibility of raising more equity. Banks may require companies to sell properties, issue new shares, or take a combination of actions. However, forced sales driven by banks are not prevalent at this time, as companies and banks seek to avoid trouble and market turbulence.

Leverage strategies vary among companies, with some funds having restrictions. Companies with credit ratings may prefer maximum leverage on low-risk properties while leaving more risky properties or projects unleveraged. This strategy is particularly relevant for development properties that face challenges in securing financing in the current market.

Bank lending capacity

The interviews highlight the lending capacity and approach of banks in the real estate sector. Banks must carefully manage the amount of new lending they offer to avoid rapid expansion of their balance sheets. Currently, companies are only interested in loan extensions rather than repayments, which can result in a shortage of available bank debt.

Concerning the capacity of large Nordic banks, Helaba believes that these banks have the ability to provide loans to commercial real estate companies. However, they may hesitate due to concerns about their significant exposure to the real estate sector. Nordic banks hold a substantial amount of real estate assets on their balance sheets compared to international banks, which can raise scepticism among international stakeholders and bank shareholders. Increased exposure could further raise concerns. However, several interview respondents suggest that due to strong customer relationships, the large Nordic banks may face pressure to do business regardless of these concerns. The higher credit spreads enable them to charge higher lending margins, which is advantageous for their overall business operations. Furthermore, unlike other sectors, the real estate industry currently demonstrates a demand for lending. While banks may prefer lending to other sectors, there is currently no immediate need for additional debt.

Capital market debt

The interviews reveal a clear trend among larger real estate companies during the past decade, showing a preference for unsecured debt from the bond market. This shift is attributed to the emergence of favourable financing options with longer maturities in the bond market, making it a more competitive choice compared to other forms of debt.

Previously, there has been a notable interest in investing in Commercial Papers issued by real estate companies. These instruments attracted investors as they offered a modest positive return of approximately 10-15 basis points with maturities ranging from three to nine months. However, from 2017 to 2020, liquidity in the Commercial Papers market steadily declined due to the increasing demand for bonds. Accordingly, the bond market experienced steady growth during this period.

In 2021 larger companies could issue unsecured bonds at a lower cost in the bond market than secured loans from banks, Niam points out. As a result, many real estate companies sought growth capital in the bond sector, enabling rapid growth. The shift towards bonds was driven by lower costs and the availability of longer-term financing. Investment grade rated companies could issue five-year bonds at around 80-100 basis points during zero interest rates. In contrast, banks have shown less interest in providing long-term financing and imposed stricter terms. Thus, bonds emerged as a natural alternative for especially large real estate companies, offering cost advantages and effectively meeting their longer-term funding requirements.

However, the bond market experienced a shift in March and April 2022 due to increased policy interest rates, which led to a significant change in price dynamics. Consequently, credit spreads and nominal interest rates in the bond market rose three to four times higher compared to the previous year. As a result, many companies lacked sufficient equity or cash flows to absorb the increased costs in the bond market.

Currently, only single A-rated companies, such as Vasakronan and Hemsö, issue bonds, albeit with a credit margin three times higher than two years ago. Investment grade companies rated BBB or better, including Sagax, Atrium Ljungberg, and Fabege, are no longer active in the bond market. This trend also applies to companies operating in property development, where the bond market has become nearly inaccessible. As of April 2023, investment grade rated companies have, on average, around 60-70% of their debt financing in unsecured bonds. On the other hand, real estate companies in the high-yield segment rely on the bond market for top loans, with 75-80% of their financing coming from the banking sector. The high-yield rated bonds are linked to Stibor, with the margin increasing from 0 to 3.30 as Stibor rises. With an additional five to six percent on Stibor, the cost of capital reaches nine to thirteen percent.

Refinancing bonds in the current market poses significant challenges. However, companies with a substantial portion of their debt in the bond market have established backup facilities in the banking system. According to the interviews, backup facilities are only available to investment grade rated companies with a majority of their debt financed through bonds. These backup facilities, provided by major banks, ensure the coverage of bond maturities and facilitate the flow of bond debt back into the banking system. Companies without backup facilities for bond debt must be handled via written procedures, new bond issues, equity issues, property sales or bond buybacks. Swedbank believes that banks will support their customers to the best of their ability. On the other hand, high-yield-rated companies face challenges in refinancing their bonds in the banking system and struggle to obtain customary secured real estate financing in today's market.

To restore attractiveness to the bond market, Arctic suggests, credit spreads need to decrease. Additionally, if the current price situation persists, large real estate companies cannot rely as heavily on bond market financing. Some of these companies intend to repurchase their bonds in the coming years, but uncertainties remain in the long run. CBRE mentions that bonds carry additional risks, as foreign investors driven by economic motivations could potentially push real estate companies into bankruptcy. Conversely, banks, despite their stringent nature, adopt a longer-term perspective and are less likely to precipitate company bankruptcies, as they have more at stake in such scenarios.

Alternative financing

According to some interview respondents, alternative sources of financing are expected to gain significance due to the less attractive nature of the unsecured bond market. The interviewees believe that direct loans could become a preferred option for companies aiming to maintain flexibility within the banking system and avoid utilising too much of their bank lending capacity. Previously, D-shares and hybrid bonds were popular, enabling rapid growth and improved company credit ratings. However, these instruments are currently less relevant for issuance. According to Helaba, in 2017, many companies issued hybrid bonds when the bond market experienced rapid growth. Preferred shares were issued before the existence of hybrid bonds. However, limitations were identified with preferred shares, leading to the introduction of D-shares, which are classified as equity and better suited for rating agencies. Despite attempts by some companies to issue D-shares in 2023, their success in the current market remains uncertain. The classification of hybrid capital as equity or debt is a matter of debate among experts, and varying opinions from rating agencies influence the attractiveness of preferred shares.

According to Arctic, convertibles are a financing option worth analysing, as they could provide advantages for companies facing significant pressure on interest coverage. By offering a lower interest rate compared to bonds, convertibles strengthen interest coverage. However, the drawback is that companies must sacrifice some potential upsides if the stock performs well, as convertibles can be converted into common stock. Some companies, like Balder, have already implemented this strategy, and it is anticipated that more will follow. Another suggestion made by JLL is the possibility of finding convertible loans that can be converted into shares. According to Niam, as an alternative debt fund, their long-term products are gaining increased favorability and attracting willing investors. Additionally, CBRE believes alternative debt funds may be more appealing in the current landscape due to heightened competition for conventional bank debt.

Equity

To manage increased interest costs and adapt to the current reality, companies are advised by all interview respondents to increase their equity ratios. This can be achieved through directed new share issues, preferred share issues, property sales, or joint ventures. The demand for stock issuance has generally increased. However, according to Arctic, few real estate companies are happy to issue new stocks due to significant drops in company prices and stocks currently being traded at a considerable discount.

High-yield rated companies with maturing bond debt must raise equity to secure refinancing from banks. Larger companies such as Castellum, Balder, and Catena have conducted new stock issuances as well, but these are driven by credit ratings or the pursuit of potential future business opportunities. According to JLL, companies have been able to resolve refinancing

challenges by raising more equity, although there is a risk of diluting previous shareholders when new equity capital is raised.

Real estate companies have been forced to change their capital structure in response to economic challenges, as revealed in the interviews. CBRE adds that companies also take preventative actions to avoid problems in the future. Some companies choose to sell assets under “controlled stress” to prevent the risk of falling into distress. Preferences differ among companies when deciding between selling properties or conducting new stock issuances at a discounted price. Conducting a new stock issuance incurs costs, which concerns many companies in the current scenario as they are cautious with their cash reserves and reluctant to reduce them. Simultaneously, from the perspective of current shareholders, there is an increased diversification risk to issue additional new shares.

Regarding the issuance of equity, the respondents agree that the safest approach at present is to raise common shares. Equity issues can be conducted through directed issues, which are quick and easy but may lack certainty about the share price, or through rights issues, which are more time-consuming. However, many companies still opt for rights issues despite the associated uncertainties. Nevertheless, interview respondents agree, the choice of strategy should align with investors' preferences for funding choices. Helaba believes it is not the right time to be too innovative in the Swedish real estate market, as it has faced criticism for such practices.

5.2.2 Fixed interest and tied-up capital

In terms of the duration of fixed interest rates, 40% of the real estate sector's debt had either floating interest rates or maturity within one year at the beginning of 2022, according to Arctic and JLL. The average level of fixed interest has significantly decreased in 2022 and early 2023, with companies finding the current interest rate level too high and preferring shorter interest rate binding periods. Arctic and JLL also note that the market's expectation of a rapid decline in interest rates can be observed in the pricing of 1-year interest rate swaps at 3.80% compared to 2.91% for 5-year interest rate swaps. This suggests an average Stibor rate of 2.91% over the next five years.

However, Swedbank indicates that their midcap clients currently prefer longer-term fixed interest rates, with many opting for 5-7 year interest rate swaps. The interest rate curve demonstrates that the cost and level of interest rates decrease as the time horizon extends further, indicating the market's belief in an overall decline in interest rates, even for shorter durations. CBRE mentions that the preferences for long-term fixed or floating interest rates depend on the risk profiles of each company and its investors. For instance, within the same company, such as private equity (PE) funds, there can be differences in risk-taking for different funds within the company. This diversification approach allows PE funds to manage both a more senior fund and a more risk-taking opportunistic fund. Typically, the senior fund leans towards long-term fixed-rate commitments, while the opportunistic fund is inclined towards floating interest rates. In addition, international and external investors in the PE funds can significantly affect the risk tolerance. Stable and reliable companies like the AP-owned companies and Atrium Ljungberg have worked with longer interest fixings, said Arctic. In contrast, smaller growth-oriented companies within the residential segment have generally worked with short interest rate maturities.

The most common loan period from Swedish banks is 3-5 years, and there have been no significant changes in this regard, according to JLL. Certain companies, including Sagax, Hemsö, and SBB, have previously pursued longer financing durations by issuing 10-year euro bonds. However, it is uncommon for bank loans in Sweden to extend beyond 5 years. Historically, Swedish banks have favoured 3-year financing, but to compete with the unsecured

bond market banks have been pushed to extend to 5-year financing. However, Arctic believes there is a shift back to three-year financing, given the uncertainties in the real estate market and the higher cost of capital for a 5-year loan.

Currently, according to Helaba, there is a demand for longer capital maturity among all companies as many companies have recognised the risks associated with short-term fixed capital and interest rates. Rating agencies and other stakeholders also encourage companies to opt for longer borrowing durations. Arctic agrees that companies prefer longer loans as it positively impacts their credit ratings.

According to Helaba, bond financiers often question real estate companies about their short capital durations, while banks indicate that their investors typically demand loans with a maximum duration of 5 years. This creates circular reasoning in the market. In contrast, countries like Denmark offer loans with terms of up to 30 years without encountering similar challenges.

5.2.3 Management of interest rate risk

The preparedness and sensitivity for interest rate risk are influenced by various factors, as revealed by the respondents. Real estate companies initially underestimated the rise in interest rates, shifting their perception of interest rate risk from minimal to significant. Respondents agree the companies' unpreparedness is reflected in their short-term interest rate hedging, which will continue impacting their financial figures going forward. Arctic adds that it was evident that companies relied on the Swedish central bank Riksbanken's outlook of low-interest rates going forward. This is reflected in their credit ratings as many companies have been adjusted, and almost all are driven by Interest coverage ratios.

One factor influencing how well companies manage interest rate risk is *company size*. Larger companies have, according to Swedbank, demonstrated better hedging capabilities as they have more room for risk management and do not need to take excessive risks for growth. Helaba adds that over the past decade, some large companies have paid a high price for interest rate hedging to minimise risk, even though it was never needed. Also, some companies with ratings have paid for hedging, as the rating institutes might demand a minimum interest rate protection. Larger companies also have higher ICR than midcap companies, according to Swedbank. Mainly large companies have a strict and conservative financial policy that they follow, and they are the companies managing the current situation the best, according to Helaba. Although it varies between the larger companies in terms of how much they have worked on this. Regarding smaller companies and midcap, they are generally less prepared than large companies, said Arctic. Additionally, companies smaller than midcap have not been hedging but are now inclined to hedge, says Swedbank.

Growth and speculative companies have opted for a different approach, relying on short-term and floating interest rates without any interest rate protection. Instead, they have taken advantage of the benefits of low-interest rate expenses, strategically utilising them to enable growth, explains Arctic. Helaba adds that many companies with no credit rating have been more opportunistic and, thus, have been short in interest rates. This includes, according to Swedbank, many residential companies with zero interest hedging.

Another factor influencing how well companies manage interest rate risk is *age and experience from previous crises*. However, this is considered by some interview respondents to be strongly correlated with the size of the companies. According to Niam, companies involved before 2008 or even in the early 1990s have a better preparedness that interest rates do not continue being low over time. Regarding experiences from the previous crisis, CBRE highlights a difference

between the current situation and the 2008 financial crisis. In 2008, despite limited funds for transactions, the companies had lower interest rate costs than today, leading to positive cash flows. This allowed companies to survive by remaining inactive for several years without selling assets or refinancing. However, the present situation is distinct, with real estate companies experiencing financial losses due to high-interest costs and other factors. Consequently, companies in the current situation need to be more proactive and take active measures to address their challenges.

According to the interviews, the sensitivity to interest rates also varies across different *property segments* of the real estate industry. Swedbank explains that assets with CPI-protected leasing contracts, such as retail, can transfer the entire cost of inflation to the contract and are coping with the interest rate trend well. By increasing rental income in line with a 10-11% inflation rate, these assets effectively mitigate the depreciation of property value. In the low-interest rate environment, investors heavily favoured the residential segment due to its attractive returns and low vacancy rate. According to Swedbank, residential properties were bought at 1-3% yield when the market peaked. However, as interest rates started to increase, the residential segment has become the most vulnerable and responsive segment, as those yields cannot remain if the interest rate is 4.5%. Due to its relatively low yield, it is challenging to finance and refinance the residential segment, adds JLL.

Residential developers, in particular, have been heavily affected as they struggle to find buyers for their apartments and require financing to continue the construction process. Even if they had been prepared for an increase in interest rates, those companies would have still faced significant challenges because they lack revenue streams as they are unable to undertake construction projects. According to CBRE, these companies have also been under pressure due to strong competition from other residential developers, further contributing to their difficulties. The level of preparedness, however, also varies based on past risk-taking behaviour and revenue sources of individual companies.

As a result of the recent challenges in the market, many companies have changed their views regarding interest rate management. According to Swedbank, residential companies within the midcap segment now realise they should have hedged themselves even more, which will be painful for their cash flows. Additionally, there are tendencies towards increasing interest rate hedging via interest rate swaps. In summary, the changes in how companies manage interest rate risk imply that companies focus more on financing today. Arctic concludes that companies have greater respect for the fact that the price dynamics of the bond market can change quite quickly.

5.2.4 Market outlook

Regarding the short-term outlook for the Swedish real estate market, JLL believes, the market holds promise, but there will be a need for additional capital. However, it remains uncertain whether raising equity will be possible in all cases. The respondents expect further capital injections and additional emissions in the near future. Additionally, JLL receives increased requests for acquisition financing compared to the previous months. As previously mentioned, many companies need to raise capital, either by issuing shares or selling properties. How the companies act going forward can thus be reflected in the activity in the real estate transaction market.

Arctic believes the transaction market will experience an upturn in the coming months as smaller players who are about to breach covenants in their financing terms will have to act. Those unwilling or unable to issue equity at a significant discount or inject capital will be forced to sell properties. There is a substantial capital demand from buyers, and when

companies are compelled to sell, the transaction market will gain momentum. However, the sale prices are expected to be around 20% below book values. Swedbank also expects an acceleration in activity in the second and third quarters. Moreover, Niam has noticed increased interest from international debt market participants in the Nordics. CBRE believes that many companies have been delaying property sales, hoping for market improvements shortly. However, these companies have now realised that market conditions will not improve and consequently, they need to start selling properties earlier than originally expected in order to be proactive.

JLL predicts that transactions will increase once the rate volatility decreases and becomes similar to the period between 2017 and 2019. A more stable market will emerge even with higher interest rates. Companies will be more willing to engage in transactions once the Federal Reserve and Riksbanken communicate that interest rates have peaked and will gradually decline. Although, Helaba expresses concern that today's interest rates are already higher than companies can handle in the long term.

To understand the motivations behind market deals and their pricing, Arctic highlights the importance of analysing the buyer's profile rather than generalising pricing trends. For instance, pension funds are able to purchase properties with equity, making them less vulnerable to high-interest rates. Additionally, geographical location and property segment play a significant role in pricing disparities. Niam adds that the increased risk of tenant bankruptcies is an important aspect, as it can significantly impact cash flow.

During the interviews, the respondents also discussed the long-term trends and potential changes in the market. They predict that the funding structure in the market will become more sophisticated in the future, with senior bank financing remaining a vital funding source. In addition, the future capital market is expected to be of a smaller scale and subject to repricing. Niam highlights several factors that contribute to the expectation of higher financing costs in the future. The ongoing market dynamics accelerate this trend, but it is also linked to the finalisation of Basel III in 2026, which will require banks to hold more equity capital to cover their exposure to real estate loans. In addition, there may be an increase in alternative lenders offering 10–15-year loans for low-risk asset types.

Arctic also discussed the potential effects of cross-ownership in the real estate industry. The prevalence of cross-ownership, where real estate companies buy shares in other real estate firms, can negatively impact market efficiency and transparency. As many real estate companies transition from an extreme growth phase to a consolidation phase, the implications of cross-ownership will become more apparent. The sector may witness consolidation, resulting in a cleaner market and enhancing the financing prospects for Swedish real estate companies.

Lastly, attention is drawn to long-term national risks in Sweden, particularly in relation to a concentration of a few large banks with substantial exposure to the real estate market. This raises the question of whether additional regulations should be implemented, such as reducing the size of banks so that there are ten instead of four, with reduced exposure in each bank.

6. Analysis

This analysis is based on the findings derived from both the quantitative data study and the qualitative interview study. Furthermore, it integrates relevant prior research discussed in the literature review and the theoretical frameworks.

6.1 Development of capital structure in real estate companies

The objective of this study is to examine the changes in the capital structure of real estate companies over the past five years. This period has witnessed a shift in policy interest rates, which has had significant implications for the real estate industry. To effectively analyse the changes in the capital structure, the study divides the past five years into two distinct periods: the low-interest rate environment until the first quarter of 2022 and the subsequent period of rising interest rates.

Low-interest rate environment

During the low-interest rate period, rising property values played a fundamental role in influencing the amount of capital in the real estate industry. This led to a substantial increase in capital for property companies and increased activity in the transaction market. Many companies capitalised on this opportune situation by investing their capital in new properties and expanding their portfolios. This increase in activity can be observed in Figure 7 and Figure 8, where there is a notable rise in the total capital of these companies, including both equity and debt.

Large real estate companies with investment grade ratings experienced a significant shift in their capital structure during the low-interest rate period. They transitioned from predominantly relying on secured bank loans for their debt to issuing unsecured bonds. Figure 12 and Figure 13 in this study show that companies with more than SEK 50 billion in market value have been issuing bonds for financing to a greater extent than companies with less than SEK 50 billion in market value, where bank financing is the largest source of debt. This finding supports Algstedt and Skoglund's (2020) statement that larger companies utilised capital market financing to a greater extent than smaller companies during the low-interest rate market. Interviews also confirmed that large and investment grade rated companies were able to issue unsecured bonds at a lower cost of capital compared to senior secured bank debt. This contradicts the conventional expectation that secured senior debt should be cheaper due to the lender having asset security, in line with the capital stack pyramid. The Pecking Order theory, which suggests that capital is chosen based on cost and availability, is challenged in this low-interest rate environment. High-yield rated companies also exhibited a partial shift from secured to unsecured debt but limited to approximately 20-25% of their total debt.

Rising interest rate environment

Regarding the impact of interest rate increases on the leverage of property companies, the data results show a slight increase in LTV ratios on average within the companies, since Q1 2022. The interviews, however, imply that the leverage ratio of the companies is, to some extent, self-regulating. This, as the interest rate determines the extent to which their cash flows can manage the LTV ratio and associated financing costs, which is crucial for avoiding default.

Consequently, companies are compelled to lower their LTV, as this control lies within the companies themselves rather than with banks or other financiers. This finding supports Artegianni and Morri's (2015) statement that the cost of capital has the most significant influence on leverage. Analysing from a trade-off theory perspective, companies may perceive the risk of financial distress or bankruptcy as being too high, leading to a reduction in the LTV.

The data results indicate a correlation between the timing of policy interest rate increases by the Swedish Riksbank, being implemented in May 2022, and a shift in the capital structure. Since the beginning of 2022, bank financing has witnessed significant growth across all companies, irrespective of their size. Bond financing, which is the primary source of debt for large companies, has notably decreased since Q2 2022. However, there is no significant change in the capital structure of single A-rated companies, as they continue to issue bonds despite the increased credit margin.

Investment grade rated companies rely on the bond market for approximately 60-70% of their financing, according to the interview results. For these companies, decreasing the bond financing prompts a significant shift in their source of debt. Investment grade companies rated below single A are influenced by whether they have backup facilities within the banking system or not. Interviews suggested that investment grade companies with a significant presence in the bond market generally have these backup facilities. If the market fails, they can transfer their debt to the banking system, resulting in a shift back to secured bank debt. The interview results imply that the availability of bank financing in today's market is highly dependent on the relationship to the bank. Banks are generally comfortable with rolling over debt and refinancing existing customers, while it is challenging for non-existing bank customers to obtain bank loans.

High-yield rated companies, as per the interview results, are decreasing in bond financing as Stibor-connected bonds reach maturity. These companies generally have less backup facilities in the banking system and must explore alternative refinancing solutions for their bond capital. However, high-yield rated companies typically have only 20-25% of their debt in the bond market, with the remainder sourced from banks. This pattern is also evident in the data results for midsized to small companies, both high-yield and investment grade, supporting Geltner and Weisbach's (2017) argument that the demand for bonds declines when real estate values decrease. Here however, except for single A-rated companies that continue to benefit from stable financing costs.

Interviews suggest an increasing demand for equity, through issuing shares or selling assets. Although companies are hesitant to issue new shares due to the significant discount at which their shares are traded. Brounen and Eichholtz (2001) also point out that an equity issue announcement affects the price negatively. Larger companies currently issue equity mainly driven by maintaining credit ratings or to capitalise on potential future business opportunities. This affirms Peng and Thobodeau's (2020) conclusion that real estate companies increasingly rely on equity financing when interest rates rise. The data results show a slight decrease in equity since mid-2022. This can be interpreted as equity being used for covering financing costs to a higher extent and strengthens the suggestion of an increasing need for equity in the near future.

Several interview respondents anticipate that alternative financing sources will become more relevant, given that the unsecured bond market may become less attractive. This situation mirrors the market conditions of the 2010s when the bond market experienced growth. Larger real estate companies, as indicated by Donner and Svensk (2012), considered the bond market as an opportunity to diversify their financing despite a 6-7% return. The desire for increased

diversification led these companies to accept a higher premium. Hence, other financing options besides bonds may become more appealing going forward, despite the higher yield. Examples include direct loans or alternative credit funds. Simultaneously, several interview respondents stress the growing importance of equity issuance, which makes hybrid alternatives with uncertain capital categorisation less attractive. In this context, according to the interviews, convertibles may be relevant as they can reduce the Interest coverage ratio, which is particularly significant for companies facing significant interest-related pressures.

Furthermore, Donner and Svensk (2012) argued that larger property companies would increasingly seek alternative financing as a supplementary source in addition to bank loans. This observation aligns with the interview results, suggesting that the future capital market will be smaller and more expensive. If the cost of capital in the bond market returns to the 6-7% range observed in 2012, it could consist primarily of larger real estate companies seeking diversification and supplementary financing alongside their primary reliance on banking. However, it is important to mention that Donner and Svensk's report was written when the Swedish bond market was in its infancy, and few companies had listed bonds.

6.2 Assessment of financial risks

The analysis in this section focuses on the assessment of financial risks in real estate companies, connected to the increased interest rates and the overall real estate market. The study aims to determine whether the rising interest rates affect risk evaluations in these domains.

The interviews imply that the credit margin has increased for all real estate companies, indicating a general rise in market risk. This is further shown in the data results, where the average interest rate paid has significantly increased since the beginning of 2022. The extent of the credit margin increase varies among companies and is influenced by various factors. Assessing the risk of real estate companies primarily revolves around analysing cash flows, and the higher interest rates have elevated the need for comprehensive cash flow analysis. This analysis is crucial for both banks to assess the creditworthiness of the companies and the companies themselves. Figure 15 in this study implies a variation in average interest rate depending on property segment, with industrial & logistics companies holding a higher interest rate than the rest and public property companies a lower. Moreover, Figure 19 states a lower average interest rate among large companies, compared to midsize and small companies.

The refinancing risk for real estate companies is influenced by credit rating and relations to the bank sector. Investment grade companies have reduced their refinancing risk by having backup facilities in banks. If the bond market fails, these companies can transfer their debt to the banking system, shifting back to secured bank debt. On the other hand, high-yield rated companies face significantly higher refinancing risks as they lack backup facilities in banks. The willingness of banks to refinance their loans, as well as the companies' ability to meet the credit terms, become crucial for these companies. Interviews indicate that banks are willing to refinance high-yield rated companies with sufficient cash flows to cover their interest costs. To mitigate refinancing and liquidity risks, it becomes the companies' responsibility to bring in additional equity. Cvijanović (2014) suggested that selling assets at a loss may be necessary if borrowing money becomes impossible. According to the interview results, tendencies of this are seen in today's market for preparatory purposes.

The risk assessment for real estate companies is partially self-regulated through their LTV ratios. Companies cannot take on more financing costs than their cash flows can support, thus regulating their risk exposure. Banks and stakeholders can demand that real estate companies bring in equity to eliminate default risk. Peng and Thibodeau (2020), on the contrary, claim

that a decrease in property value means that the Loan-to-value ratio is automatically adjusted upwards. The reason for this contradiction may be that Peng and Thibodeau solely focused on the mathematical relationship and the interviews in this study on the cash flows. Further, a lag in the adjustments of property values may affect.

One issue being highlighted in the interviews is the high exposure of Swedish banks to the real estate industry. If banks take on additional loans, their exposure to the real estate sector increases, simultaneously as a significant portion of the bond debt is transferred to the banks. However, banks being profit-oriented institutions, make it challenging to back away from this systematic risk. The interviews support Mueller and Pauley's (1995) observation that if a property serves as collateral for a bank loan and its value decreases, the credit risk associated with the investment increases.

6.3 Interest rate exposure and management of the risk

The low-interest rate environment had significant implications for newly established and growth-oriented real estate companies that relied heavily on borrowed capital to fuel their expansion. This prevailing trend resulted in a high degree of risk-taking and a lack of interest hedging, as the need for such risk management strategies had not been perceived as necessary, especially among developing and growth companies. The findings from the interviews conducted in this study imply that many real estate companies were ill-prepared for the subsequent rise in interest rates, transforming what was initially considered a minimal risk into a significant concern.

The level of preparedness among companies with respect to short-term interest rate exposure can, to some extent, be attributed to their size and market position. This, in turn, often goes in line with the credit rating. The data analysed in this research demonstrate that companies with a market value exceeding SEK 50 billion, on average, tend to have longer fixed interest periods and capital commitments. Consequently, they are relatively less directly impacted by increased interest rates. Conversely, companies with a market value below SEK 50 billion typically operate on shorter time horizons. This is explained in the interview results by larger companies not having to take on excessive risks for growth at the same time as they have paid for interest rate hedging during the past decade, even when it was not needed.

Moreover, the interest rate exposure depends on the companies' property segment. Above all, residential companies have become vulnerable as the cash flows in these properties yield less and hence cannot hold the increasing financing costs. This is supported by the data results, showing that residential companies have lower Interest coverage ratios. On the contrary, companies with CPI-protected contracts in their assets have been able to cope with the inflation better.

Regarding capital tie-up, interview results suggest that companies strive for prolonged capital commitment periods, due to cost advantage and as it positively influences their credit rating. At the same time, interview results imply that banks generally prefer shorter loan terms due to the fluctuating market conditions. The data results however do not show any significant changes in the capital tie-up over time, except for large companies having on average a tie-up of five years while midsize and small companies have a tie-up of three years.

The Interest coverage ratio measures the capability of the companies to pay their financing costs. In this study, the data shows a notable decrease in the ICR since the beginning of 2022. To make a profound analysis of this metric, a stress test was conducted. The results suggest that the companies generally could manage an increase in the average interest rate of 50 basis

points from Q3 2023 levels. With an increase of 200 basis points, the majority of the companies still have an ICR above 1.0 while smaller companies are in trouble. At an increase of 300 basis points, the average ICR of all companies is 1.0. Here, 9 out of 31 companies have an ICR below 1.0, and additionally, 9 companies have an ICR between 1.0 and 1.1, just above the breaking point.

7. Final discussion and conclusion

This chapter serves as the final discussion of the thesis and aims to answer the research questions of the study, accomplishing the objective and purpose presented in the introduction chapter.

The focus of this study is to analyse the changes in the capital structure of Swedish real estate companies over the past five years, with a particular focus on the period 2022-2023, characterised by rising interest rates. The findings suggest that the cost of capital has been a significant factor influencing the capital structure, which in turn is affected by credit rating. Furthermore, the study investigates the impact of rising interest rates on the risk evaluation of real estate companies. The results imply an increase in industry-wide risk awareness, being implemented through stricter credit terms. Risk management within real estate companies is found to be varying and is affected by factors such as company size, credit rating, and property segment. These factors also play a significant role in the challenges faced by real estate companies going forward regarding the management of their capital structure and mitigating interest rate risks.

The study addresses three research questions, and the findings related to each question are discussed below:

(1) How has the capital structure among Swedish real estate companies changed over the last five years?

Regarding the first research question on changes in the capital structure among Swedish real estate companies, the findings highlight the influence of the cost of capital. During periods of low-interest rates, borrowing unsecured debt was more cost-effective than secured bank debt for companies with high credit ratings. As a result, bond financing emerged as the primary source of debt for larger companies with favourable credit ratings.

However, as interest rates increased, larger companies with a property market value exceeding SEK 50 billion have shown a tendency to reduce their reliance on bond financing while increasing their bank financing as bonds are partly being rolled over to the bank sector. Nevertheless, bond financing still constitutes the largest portion of the capital structure for larger companies. For highly rated companies (single A), the credit rating has played a crucial role, enabling them to continue issuing bonds due to favourable terms and the ability to cope with increased interest rates. Apart from that, companies with an investment grade rating heavily depend on backup facilities in banks to roll over their debt.

High-yield rated companies, lacking banking system backup, must seek alternative solutions within the bank, alternative financing or consider equity issuance to cover the expiring bond debt. Regardless of credit rating, companies with a market value of less than SEK 50 billion generally rely on bank financing as their primary source of debt. Consequently, the increased interest rate has had a relatively low impact on their debt structure. As the bank sector currently receives a heightened demand, existing customers are prioritised, highlighting the importance of a good relationship. Moreover, this opens up for alternative financing sources to be more attractive.

As the cost of debt has been rising, there is a need of balancing this out by increasing equity simultaneously. This, through methods such as new issuances or asset sales. Notably, as long

as companies have cash flows that cover the financing costs, capital restructurings are expected to occur rather than company defaults.

(2) Based on the Interest coverage ratio, what is the break-even interest rate for real estate companies and the industry average break-even level?

The second research question focuses on analysing the interest rate sensitivity of real estate companies and the real estate sector. The findings clearly demonstrate increased interest rate risk among real estate companies, evidenced by a significant decrease in Interest coverage ratios.

The interest rate exposure varies depending on the company's size, credit rating and property segment. Generally, larger companies are better hedged against interest rate increases through longer fixed interest terms and capital tie-up while younger companies, focused on growth, have typically not engaged in interest rate hedging as they aimed to seize opportunities during the low-interest rate environment. Low-yielding assets such as the residential segment, face the most notable increase in interest rate risk with the lowest Interest coverage ratios. This, as the properties are not CPI-protected and therefore highly affected by increasing financing costs.

By analysing different theoretical scenarios with a step-by-step increase in average interest rate, the results suggest that the companies' Interest coverage ratios still can manage an increase of 50 basis points. In a scenario with an increase of 200 basis points, most companies still have an ICR above 1.0. However, smaller companies, mainly residential, would suffer. Lastly, an increase of 300 basis points would imply industry-wide problems with approximately a third of the companies having Interest coverage ratios below 1.0, regardless of size or segment.

The interview study confirms that real estate companies, in general, were unprepared for such a substantial interest rate increase and are facing challenges related to Loan-to-value ratios and interest risk management. To address this exposure, companies are employing diverse strategies, varying greatly across firms. Overall, an increase in bank financing and transaction market activity is expected going forward as some companies choose to, or have to, sell properties to increase equity.

(3) Does the increased policy interest rate affect the risk evaluation of real estate companies and the industry-wide refinancing risk?

The third research question explores the impact of increased policy interest rates on primarily the refinancing and liquidity risk evaluation of real estate companies and the industry as a whole. Financiers have responded to increased risk within the real estate sector by increasing credit margins and implementing stricter credit terms, indicating an overall higher risk assessment. The risk evaluation of real estate companies primarily relies on assessing how their cash flows can withstand a higher credit margin. Large companies with high credit ratings are generally less leveraged and liquid enough to handle the rising financing costs. Regarding companies with insufficient cash flows, stakeholders can demand precautionary measures, such as equity issuance, to mitigate the liquidity risk.

As for the industry-wide risk, concerns are raised by international investors and stakeholders as well as the Swedish Financial Supervisory Authority due to the large real estate exposure in the Nordic banks. As banks are profit-oriented institutions and can capitalise from the increasing credit margins, it is challenging to avoid a systematic risk. Hence, additional regulations are supported.

7.1 Limitations and suggestions for further research

While conducting this study, several limitations and potential areas emerged. It is essential to consider these limitations when interpreting the findings. Moreover, they present opportunities for future research.

Firstly, the calculations in the data analysis in this study are not weighted towards the size of the companies. As larger companies have a greater impact on the market as a whole, weighted calculations would give a more accurate insight into the market risk. Hence, a suggestion for future research would be a quantitative study focusing on more precise data. Secondly, during the time this research was conducted, the real estate industry has been subject to constant changes such as adjusted credit ratings and rising policy rates. Due to this, it has been challenging to capture everything in the thesis and interviews conducted in the beginning might differ slightly from interviews held later on.

Additionally, uncertainties exist regarding the accuracy and calculation of reported Interest Coverage Ratios (ICRs) by the companies. Future research could focus on enhancing the reliability of reported ICRs by implementing standardised methodologies or verifying the accuracy of the data through external sources. Improving the accuracy and consistency of such financial measures would contribute to more robust analyses of real estate companies' risk profiles.

Addressing these limitations and conducting further research in these areas would provide a more comprehensive understanding of the capital structure and risk evaluation within the real estate sector. The insights gained from such research would be valuable for both practitioners and policymakers, enabling them to make more informed decisions and develop effective strategies to navigate the evolving landscape of real estate financing.

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9. Appendix

Interview questions

The purpose of the interviews is to get answers to whether and how real estate companies' demand for capital has changed since interest rates started to rise, and also whether and how banks and other institutions view financing real estate companies today.

Interview template banks and financiers

Please provide a brief overview of your department and your role within the organisation.

Demand for financing from real estate companies

1. How have real estate companies responded or taken action concerning financing since the increase in interest rates?
2. Have you noticed any changes in the demand for bank loans compared to other sources of capital in recent years? For instance, share issues or bond issues, in recent years.
3. Are you currently meeting the demand for bank loans from real estate companies? If not, what are the reasons behind it, such as challenging conditions or full exposure? Do you observe any differences in meeting the demands of existing customers versus new customers?
4. Have you witnessed any challenges for real estate companies in refinancing their existing loans over the past year?
5. How do you anticipate the future development of refinancing for property companies? For instance, in cases of large loan maturities occurring simultaneously in the future?

Conditions for giving credit to real estate companies

6. How do you assess the risk associated with issuing bank loans to property companies at present? Has your risk assessment changed in the past year(s)? Have rising interest rates affected the risk assessment?
7. Have you made any adjustments to your guidelines concerning total lending or exposure to real estate companies since the increase in interest rates? Have you modified your guidelines regarding specific property companies?

8. Have there been any modifications to your guidelines concerning Loan-to-value ratios for property companies? If yes, what are the reasons behind these adjustments?

Interest rate fixation and capital commitment

9. How do real estate companies currently approach fixed interest periods? Have you observed any changes in their preferences over the past year?

10. How does the demand for short-term loans compare to long-term loans? Have you noticed any changes in this demand recently? If so, how are you addressing this demand?

11. In your opinion, how well-prepared are real estate companies in terms of their sensitivity to interest rates in the current situation?

Interview template real estate advisors

Please provide a brief overview of your department and your role within the organization.

Changes in the property companies' capital structure

1. How has the capital structure of property companies evolved in recent years? Specifically, how have the demands for different sources of capital, such as bank loans, share issues, or bond issues, changed?

2. What factors do you believe are driving these changes in capital structure?

3. Do you think real estate companies assess financing risks differently today compared to before the rise in interest rates? If so, how do they adapt to these risks?

4. Have you observed any challenges for real estate companies in refinancing their existing loans over the past year?

5. How do you anticipate the development of refinancing for property companies, particularly in the case of significant loan maturities occurring simultaneously in the future?

Conditions regarding lending from banks and alternatives to bank credit

6. How do you perceive banks and financiers currently assessing the risk of extending credit to property companies compared to the past? How have these institutions modified their lending conditions?

7. How has the attitude towards lending to property companies changed? What factors do you believe are influencing this shift, such as leverage ratios or risk assessments?

8. Do you think any changes in the banks' positions are justified?

9. What alternative forms of financing or sources of capital do you observe in demand from real estate companies today? What advantages and disadvantages do you associate with these various options?

Interest rate fixation and capital commitment

10. How do real estate companies currently approach fixed interest periods? Have you noticed any changes in their preferences over the past year(s)?

11. How does the demand for short-term loans compare to long-term loans? Have you observed any changes in this demand during the recent year(s)?

12. In your opinion, how well-prepared are real estate companies in terms of their sensitivity to interest rates in the current situation?

Market impact

13. How do you believe the transaction market for commercial properties is affected by the increase in interest rates? E.g. factors such as current pricing and demand.

