UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

A Study of Investment Decisions of Rental Flat Companies in Gothenburg:

It is all about the inertia!

Authors: Carolina Bååt 890504-

Linus Månsson 910902-

Abstract

A study of rental flat companies in Gothenburg where undertaken in order to see if the current economic climate is taken into account when they make investment decisions. The present housing deficit along with an economic climate of uncertain nature creates an interesting setting. When analysing previous research the authors found a gap in knowledge in the area of Swedish rental flat companies. Through semi-structured interviews with CFOs of seven rental flat companies in the Gothenburg region knowledge about practice was obtained. The results presented show a large difference between theory and practice. It is obvious that rental flat companies do not fully take the current economic climate into account in their models. A need for inertia has been given as a reason for this. The findings will hopefully contribute to a better understanding on the current housing deficit. A possible new factor has been found, the use of too high rates in investment decision calculations.

Keywords: Corporate Finance, Decision Theory, Gothenburg, Hurdle Rates, Investment Decisions, Property Sector

Acknowledgments

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1. Introduction

1.1 Background

Sweden has a large housing deficit. The Swedish National Board of Housing, Building and Planning (Boverket) have recently presented new figures of the upcoming need of new homes. They estimate that there is a deficit of 705 000 homes in Sweden when looking at the demand for 2025 (Boverket, 2015). The Swedish Association of Public Housing Companies (SABO) is according to Chris Österlund (2015) head of their Business Administration and Finance division roughly estimating the cost of building one flat to SEK 1.5 million. If SABO and Boverket are correct in their estimations, Swedish companies need to invest approximately SEK 1057.5 billion in new housing in the coming 10 years.

According to the Swedish property valuation company NAI Svefa (2015) Swedish property is in a very exciting place at the moment. Low interest rates and high return on properties has created a large focus on property investments. The stock market is currently seen as very volatile which further helps to make the property sector a lucrative investment (NAI Svefa, 2015). This is portrayed by the transaction volume, which during 2014 amounted to SEK 156 billion. The largest part of the 156 billion, 27 per cent, came from housing property (Fastighetstidningen, 2015).

The property sector in Sweden is presently debated intensely. The Swedish Competition Authority's director-general Dan Sjöblom has criticised Swedish property companies of waiting for an optimal time when holding land, and thusly making the system to clog (Meiton, 2015b); on the other hand the property companies criticise the Swedish Riksbank's action programme aimed at the households' debt holdings. Lennart Weiss, Commercial manager at Veidekke, states that this approach comes with the risk of generating a dramatic decrease in prices and a decline in the building of properties. He further states that all investments are entered into with a required return and that property companies are meet with extensive requirements from the banks. Furthermore, Weiss says, the housing sector is a highly capital intensive business surrounded by rigorous credit policies. This assumes that the rental flat companies manage their risk (Meiton, 2015a).

According to Magni (2009) it has, in corporate finance literature, been recognized that decision makers use the Net Present Value (NPV) investment analysis but do not use the cost of capital. Instead of calculating the cost of capital they apply a hurdle rate of subjective nature; a hurdle rate heuristics. This instead of using existing normative methods when analysing the cost of capital, e.g. through CAPM. Hutchinson (2015) brings forward that inappropriately used discount rates could give rise to over or under pricing of property investments. If the discount rate is to low this could lead to entering into investments of assets that does not have the required level of return. On the other hand, if the discount rate is set to high this could lead to missing out on investments.

The generic approach in property investments, when dealing with required return and discount rate, is to look at the two elements risk free rate and risk premium. Government issued debt is, in economically balanced democracies, generally considered to be as close to a risk-free rate as possible. Thusly the gross redemption yield of conventional government bonds or index-linked government bonds is generally seen as the proxy for risk free rates. According to Hutchinson (2015) it might not be appropriate in the time being. This, because the financial crisis has brought the gilt yields to their lowest point in 30 years. Hutchinson further states that the negative bond yields poses a predicament for investors that consider the current market to be abnormal.

A draft of new legislation from the Swedish government aims at lowering the time from planned to finished building. The bill, if passed, will reduce the number of bodies for appeal available for individuals opposing a new property. To further increase the building of new property the government has also suggested to give an investment grant of SEK 11 Billion for the building of new rental flats (Rosén, 2015). A long process to build new rental flats and a lack of funding seems to be the government's view on what is creating the housing deficit. We believe that another explanation could be how rental flat companies make investment decisions.

1.2 Thesis statement

The current climate in Sweden presents a number of variables of uncertain and extreme nature on both a societal, financial and economic level for property investments. The repo rate being at a negative level, Riksbanken (2015) -0.35% as of 28th of October, is a new phenomenon in Sweden and thusly there is no historical information about any possible impacts or repercussion in a Swedish setting. Another factor that could be seen as an extreme situation is the large housing deficit in Sweden which create a large demand for new housing projects.

With the framework of the uncertain climate on a societal, financial and economical level the aim is to look into how the investment decision is currently analysed compared to how it has been undertaken in the last few years. There seems to be some difficulty with calculating correct discount rates with the current macro and housing deficit climate. How are property companies tackling these problems? How does their solutions compare to the classical models of financial theories?

1.3 Purpose

The purpose of this thesis is to gain insight into if managers use current information to make investment decisions. This insight will be obtained through interviews and comparison between the interview results and previous research. We believe that the purpose is highly relevant in the current climate of high economic uncertainty and with the high deficit on housing in Sweden. A more volatile economic climate puts larger strain on decision makers. The large investments which are needed in order to get rid of the high deficit on housing should, to be optimal, be made in accordance with financial theory. If they are not done in line with financial theory, it is important to understand why.

From an academic point of view it is important to understand how practitioners make investment decisions. With our research we hope to contribute to a better understanding of how managers of rental flat companies make investment decisions. As previously stated, a wrongful use of the financial tools could lead to under or over investments.

The theories and models of the corporate financial academic field try to explain and aid with certain processes. It is important to investigate if the sought after results are obtained through the use of these models. One way of doing this is by researching how managers make investment decisions and why they have chosen that methodology. If investment decisions are made in other ways than what is expected or suggested by theory, these differences need to be explained. Are these differences due to faulty models, lack of knowledge or managerial attitude? If it is because of faulty models the academic world have not fully fulfilled their raison d'être, which then needs to be corrected.

We believe that there is a gap in existing research and we hope that our research can create a new understanding of investment decision in rental flat companies. Earlier research has focused on either other countries (see e.g. Graham and Harvey, 2002) or not focused on the property sector (see Brunzell et al, 2013). Because the property sector in general and rental flat companies in particular is defined by the country were they reside it is possible that there exist differences between previous research and ours. When there exist possible differences it is important to investigate through new research. Another aspect that has not been previously investigated is the current economic climate's impact on investment decisions in the property sector.

1.4 Research question

Is the current economic climate taken into account when rental flat companies make investment decisions?

· Is investment decisions in rental flat companies conducted in accordance with existing investment decision theories?

· Does practitioners make changes to their models' variables over time?

· What can help explain potential differences between theory and practice?

1.5 Delimitations

The thesis will look into rental flat companies' investment decisions from a corporate finance perspective. The analysis is focused on how managers make investment decisions through the use of models and different techniques. To help explain differences between theory and practice the theoretical framework also includes theories on decision-making.

A further focus of the thesis is rental flat properties because the current climate in Sweden makes the housing sector especially interesting. The empirical data gathered is collected from rental flat companies. The focus on rental flats, and not on other areas of the property sector, is due to the large Swedish housing deficit. There are rental flat companies traded on the stock market in Sweden but they were not able to participate in the study, due to shortage of time.

The companies that partook in the research are based in the Gothenburg area though some of them have properties in other areas of Sweden. One could imagine that the thesis question and its result is applicable to similar companies in the rest of Sweden.

1.6 Definitions

A country's property sector is defined by the laws and vocabulary of that country. It is therefore appropriate to give some definitions that the authors of this thesis have used. We are aware that these definitions are not accepted by all, but they are meant to be helpful in separating between certain aspects of the Swedish property sector and its vocabulary.

The property sector is all companies that own or maintain properties as part of creating earnings. The property sector can roughly be divided into properties that are used for housing and those that are used for something else. Because the purpose of this thesis is to create a better understanding of investment decisions that create new housing, only that part of the sector is defined further.

A rental flat is a flat that is owned by someone else than the people living in it. The most common form of this is as part of a rental flat property, where many rental flats are included in a larger property. Rental flat companies are companies that own and maintain one or more rental flat properties. In Sweden it is not uncommon that these companies are run in other forms than as a purely capitalistic company, examples of this are companies owned by municipalities or run as a trust. Certain companies own rental flats that are only rented out to a certain group of people, e.g. the elderly or students.

Sweden also has flats that belong to a housing cooperative. They are run in two ways, but their common denominator is that people living in the flats have paid for the right to do so. They either own their own flat, and share the cost of maintaining the property with their neighbours directly, or they have paid for the right to belong to an economic association that own the property. In the second alternative the membership include the right to live in a certain flat.

2. Methodology

We choose to enter into this research with a qualitative approach because this would be the most beneficial way to take on the research question. Through qualitative interviews, in a semi structured setting, we have conducted interviews with representatives from seven property companies. The representatives were mainly CFOs. The interviewed companies are the following: Chalmers Studentbostäder, Company X[1], Familjebostäder, HSB, Mölndalsbostäder, Partillebo and SGS. While undertaking the task of searching for relevant literature we came across the frequently occurring phenomena of managers subjective natures; e.g. in the determination of discount rates. Because previous research focus on managers and the fact that investment calculations are done by managers this has also been our focus. Another possibility could have been to interview the decision makers, as for example members of company boards.

2.1 Thesis methodology

A qualitative method is a more flexible approach compared to the more static quantitative methodology. According to Bryman and Bell (2011), qualitative research is frequently described as being attuned to interconnections between the actions of partakers of a social framework and furthermore of events happening over time. Investment decisions are often conducted in an environment where several individuals/managers cooperate and they are therefore in frequent dialogue with one another. The chosen method is therefore the best way to capture these events. Moreover, a qualitative method focuses on the participant's perspective, which is a potential key to explaining differences between theory and practice. The proposed downsides of qualitative research by Bryman & Bell (2011) could for example be the possible subjectivity, generalization problems and the lack of transparency.

With both positive and negative aspects of a qualitative research approach considered we decided to use a qualitative method. We adopted a flexible approach in order to get the respondents' opinions and thoughts about our research area in the most explorative way. Thusly

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[1] A company not willing to participate in the thesis with their name.

semi-structured interviews where undertaken in order to fully capture the partakers attitudes, and therefore generate a deeper understanding of the problem. A quantitative methodology would have lacked explanatory power due to the low dynamic approach. The chosen qualitative data gathering methodology has potential downsides but the positive aspects obtained, in this particular setting, outweighs them. Because we are aware of the possible problems of a qualitative study we have been cautious in our conclusions.

2.2 Interview methodology

We adopted a semi-structured qualitative interview method. A semi-structured interview focuses on having fairly specific topics that one wants to cover, but with an emphasis on interviewee flexibility (Bryman & Bell, 2011). The interviewer can with this methodology, for example, ask questions in an order that do not follow the outlined design, and ask follow-up questions to pursue the respondents' train of thought. See appendix 1, English, or appendix 2, Swedish, for the used template of interview questions.

Our primary focus was to target rental flat companies based in Gothenburg. The lack of willing respondents however caused us to also complement with two companies placed in neighbouring municipalities to Gothenburg called Mölndal and Partille. Mölndalsbostäder and Partillebo face, according to their representatives, similar housing demand and are from the same geographical area they can therefore be included in the group of respondents. All companies besides one, called Company X, was willing to be entered by company name and name of representative.

When undertaking a process of data gathering one always have to have in mind whom chose to participate and whom chose not to. It is possible that by including only respondents that are accommodating one get a result that is flawed by this. However when conducting interviews it is hard to imagine a technique that include respondents that are not accommodating. Out of the companies that were contacted, but never interviewed, most never responded. The companies that we were able to get hold of but never interviewed, all gave a shortage of time as their reason for not participating. One can never be certain that a given reason is true, but we did not have

anyone saying that they did not want to participate because they e.g. did not know anything about financial theory.

Before the interviews were conducted a short compilation of relevant information was sent out to the respondents via email. Information sent out was that the authors are students at Gothenburg University School of Business, Economics and Law and that the obtained information was going to be used for a bachelor thesis.

The seven interviews were conducted in Swedish and were later translated into English. Email and phone calls were used when searching for appropriate respondents. The interviews were conducted in person. When allowed the interview was recorded. When that was not possible, thorough notes was taken. After the interviews were conducted we summarized the gained information as a written text which was then sent out to the corresponding companies (two companies declined the offer to read through the summary). The interviewees could thereafter read through the text and comment on any possible misunderstandings which then led us to alter some of the summaries. When there was a need for further clarification this was obtained through correspondence via email.

As inexperienced interviewers we have, after we conducted the interviews, realized that it is hard to give the respondents all needed follow-up questions. This in turn has created a situation where it is not possible to present all information that would have been interesting in the result. With some answers in the result we fell that it would have been interesting to have more of the reasoning behind the answers, but that is not possible to give. Because some of the theoretical framework have been created after the interviews we have also realized that a series of questions about age and education could have been interesting to ask. We feel however that our result is still solid, but further research could hopefully be helped from this.

One of the authors of this thesis is, as part of a commitment for the student union, a member of SGS's, one of the interviewed companies, board. This commitment did perhaps help with

getting an interview with SGS but it has in no other way influenced the thesis. The thesis is not in any way financed or ordered by SGS.

2.3 Analysis methodology

The chosen analysis methodology for this thesis is a thematic analysis. We have, in line with what is described by Bryman and Bell (2015) as one possible procedure in a thematic analysis, adopted the Framework methodology. This procedure entails the construction of a matrix which is a method of generating order and synthesizing data. The matrix (spreadsheet) holds themes and subthemes along with variables and cases. The classification of themes is done through extensive reading and rereading.

After summarizing our results as a written text we started to search for themes in order to construct a matrix. The themes were based on the research question and its sub questions and they in turn where divided into subthemes, e.g. inflation and discount rate. The technique helps with analysing the interviewee-answers in order to pinpoint similarities and differences both among the companies as well as compared to the classical financial theories.

3. Theoretical framework

In the theoretical framework the reader is introduced to the financial theories on investment decision models. Further the theoretical framework includes short reviews of previous research, decision theory and cognitive biases within the capital investment area. The focus of the chapter is to get an understanding of the basis of managers' decision making.

3.1 Investment decision theories

Property investments, and investments in general, is the forfeiting of something in the present with the possibility of obtaining future profits. Investing in the property sector can be seen as a very certain investment. Even if the property market fluctuates due to local market cycles, the value of properties still displays an inclination of increasing in the long perspective. The sector does however have downsides, e.g. properties are harder to liquidise than other assets. Other downsides are the high amount of money needed for investing and the added transaction and market analysis costs when making a property investment (Manganelli, 2015).

Manganelli (2015) states that risk management is one of the focal points that investors have to deal with. This due to the various variables that identifies the risk of property investment. Investors need to identify property risk aspects, generally divided into business risks, financial risks and external risks. He further states that it may be beneficial to divide risk factors into specific risk factors that are linked to the particular asset and exogenous risks that constitutes the overall economic surroundings. Examples of exogenous risk factors are interest rates, inflation, employment figures, government policy and taxation.

When calculating the profitability of a property investment one has historically used what Manganelli (2015) calls the traditional techniques. Examples of the traditional techniques are Return on Investment, Return on Equity and Payback Period. However these techniques lack in giving a correct assessment of profitability because they do not take into account timing and size of cash flows or the investor's attitude towards risk and preferred degree of risk. When calculating profitability it is necessary to take time and risk into account. A commonly used

analysis is Discounted Cash-Flow (DCF). To actually calculate profitability DCF need to be compared through "supplement-techniques", but it is the foundation for profitability calculations. The two most common "supplement-techniques" are the Internal Rate of Return (IRR) and Net Present Value (NPV) (Manganelli, 2015).

To calculate cash flows one compare cash inflows and outflows. For the property sector inflows comprise of rent and recovery value of property. Outflows is operating, management and production costs (Manganelli, 2015).

To calculate a correct NPV it is essential to have correctly calculated cash flows and a correct discount rate, opportunity cost of capital. NPV is calculated as the sum of the investment needed and the discounted cash flows the project will create. The decision rule for NPV is to take on every project with a positive NPV (Berk & DeMarzo, 2014). The Net Present Value method is considered a theoretically solid decision model by most of the academic world. In many of the corporate finance textbooks the NPV investment tool is considered as a normative approach. According to Magni (2009) there is empirical evidence that, in practice, decisions makers turn the net present value into a rule of thumb. Instead of discounting with a rational cost of capital, e.g. CAPM, multifactor models and arbitrage theory, decision makers use a subjective rate. There are some possible shortcomings of the unboundedly rational NPV. Firstly there are a variety of different NPV methods of which all have different techniques with regards to mathematical methods, risk measures and equilibriums. A considerable source of concern is risk treatments. An abundance of risk techniques, e.g. risk-adjusted discount rates, standard deviation, beta, certainty equivalents, can be described but a method cannot be agreed upon (Magni, 2009).

When calculating profitability a miscalculated discount rate will have a large impact on the result. The reason one need to use a discount rate is that the investors demand a fee for committing their money. Weighted Average Cost of Capital (WACC) is a discount rate adjusted for the tax-effects and changing rate because of leverage. To calculate WACC it is necessary to know the weights and costs of Debt and Equity. The cost of Equity could be calculated through

Capital Assets Pricing Model (CAPM). CAPM comprise of a Risk Free Rate, which is meant to cover the time value of money, and a factor compensating for the taken risk. Because the cost of Debt is deductible in the tax statement the part of the WACC that comes from Debt should be reduced by the tax (Berk & DeMarzo, 2014).

3.2 Explanations of differences between theory and practice

3.2.1 Decision Theory

The decision-making theory of bounded rationality was brought forward by the economist Herbert Simon. According to Behrooz, 2010, Simon favoured calling it "satisficing", a combination of the two words satisfy and suffice. He believed that since decision makers cannot digest and assimilate the necessary information for a particular course of action, individuals are not seeking to maximise their benefit. Simon stated that the human mind was bounded by cognitive limits since the mind restricts itself. Not all the required information that individuals need in order to make decisions are possible to procure and furthermore the human mind is not able to properly process the information. The real-world decision making of "satisficing" portrays how individuals and organizations seek the satisfactory. The decision maker thereby takes decisions with relatively elementary rules of thumb and furthermore ignores the interrelatedness of different matters (Behrooz, 2010).

Research on decisions made by using either reasoning or intuition have been substantial for over 25 years. Agreement exist on what characteristics are typical for the two processes, or systems. System 1 operations, intuition, are generally fast, effortless, automatic, associative, implicit (introspection is not accessible) and often charged with emotion. Furthermore they are driven by habit and thusly are hard to alter or control. System 2 operations, reasoning, are slower, effortful, serial, and more prone to be consciously controlled and monitored. They are furthermore relatively adjustable and possibly driven by rules (Kahneman, 2003).

System 2 has a task of supervising the quality of both apparent behaviour and mental activity. The self-monitoring makes up for a difficult affair- individuals who are engaged in an exhausting mental process are more likely to react to another effort by exclaiming anything that

enters the mind. It has been suggested that the supervising is normally quite negligent and a plentiful of intuitive judgements are allowed to be declared, inaccurate judgements included. Thinking in an in depth manner is not something that individuals are acquainted with. Furthermore, people are generally comfortable to trust a credible judgement that enter the mind swiftly. Though, intuition is not only related to poor achievements- intuitive thinking can additionally generate thought processes of accurate and powerful nature. A skill level of high quality is acquired through continued practice and the execution of skills is effortless and fast (Kahneman, 2003). Kahneman (2003) brings up a number of research (among others Klein, 1998 and Gawande 2002) that brings forward that decision makers of experienced nature often perform better when they trust their own intuition than when undertaking a comprehensive analysis.

Magni (2009) states that it is probable that the two systems are interdependent and that they are working jointly in order to generate sensible answers. This is indicated in the NPV method. It is in the literature identified as a method for solving an optimization problem but on the other hand there is findings that say that NPV is a combination of logical and ecological rationality. If the payoff function, calculated with the hurdle rate, generates a positive value the decision maker invests in the project. The heuristic hurdle rate technique does not confine the evaluator to comparable-risk alternatives. Thusly no maximisation aim is undertaken, no comparisons are made and no alternative approach is analysed. Since the rate is not a rate of return of an actual alternative it does not reflect a forgone return- thusly not making it to reflect the opportunity cost of capital. The heuristic minded analysts have the aim of reaching a subjective level of aspiration rather than knowing about alternatives.

3.2.2 Cognitive biases in the area of capital investments

Behavioural finance takes on a descriptive approach by examining how individuals really behave in a financial framework. Within it the possibility exists that agents might behave irrationally at times. The worst case scenario is when investors make decisions that is jeopardizing their wealth by letting emotion and psychological bias affect decisions (Baker & Nofsinger. 2002). According to Serfas (2011) the area of capital investment has in comparison to financial investments, behavioural finance, not engaged the same level of meaningful

research. The lack of research within the capital investment sphere could be explained by shortage of data; capital investments are not performed as often as financial investments, the data is not collected and stored in a centralized manner, the transactions are individualized and not standardized. This makes hypothesis testing hard to perform (Serfas, 2011).

Serfas (2011) states that cognitive biases seem to be variously strong for different stages in the investment phases. The stages concerning decision-making and its preparation are most notable with regards to biases. A possible disinvestment stage could also give rise to extensive biases, however this stage will not be discussed in this thesis. The planning phase consists of a stimulation phase and a decision phase. During the stimulation phase Serfas (2011) proposes that there could exists anchoring, status quo bias and omission bias. All these biases could lead to the decision of initiating the investment process or not. The status quo bias could give rise to a tendency to not act in order to preserve the status quo. This could lead to disruption of starting the investment process (Serfas, 2011). Behavioural finance explains the status quo bias as the behavioural tendency of the investor to do nothing if confronted with choices. If an investment were to be changed it might imply that the preceding decision to purchase was less good. When faced with a collection of choices it can result in an overwhelming feeling with regards to making a decision. Some investors thusly chooses to evade changes altogether (Baker & Nofsinger, 2002). Anchoring is a phenomenon that e.g. makes an individual adhere to a special business target or strategy. If there is need to alter a target or strategy for a special capital investment this might not generate an acceptable weight which hinders the process. Omission bias occurs when individuals exhibit a habit of judging harmful action worse than equal harm generated by omission (Serfas, 2011).

During the decision phase it could give rise to biases like: retrievability of instances, effectiveness of a search set and confirmation trap bias. This may impact which alternatives that are firstly singled out. The biases of retrievability of instances and effectiveness of a search potentially favour alternatives that are more accessible due to e.g. recency, promenancy and distinctness. On the other hand it disadvantages those options that are less accessible, which actually could hold some importance. The confirmation trap bias could affect the evaluation of

alternatives: this by mainly searching for information which backs attractive alternatives and at the same time neglects information that are negative (Serfas, 2011).

3.3 A critical review of the theoretical framework

It is possible that the theoretical framework does not hold all potential explanations on differences between theory and practice. Because of the gap in research, on this area, it has not been possible to compare our list of reasons with accepted research.

A large part of the theoretical framework is not specific to the property sector or rental flat companies, however we believe that it still holds explanatory power. An example of this is the research on cognitive psychology (see Kahneman and Behrooz) which is not property sector specific, however Magni (2009) provides insight into its potential implications on the property sector.

There exist extensive research within the behavioural finance area however the possible cognitive biases in the area of capital investments is still in its early stages research wise.

4. Previous capital budgeting research

In most business classes one learns that CAPM is the correct way of calculating a project's or company's cost of equity. CAPM, although commonly used, has been criticized, famously by Fama and French (1992). They meant that there was a very low or non-existing relation between average return and risk (Beta). Further they stated that a better explanation of average return was the book-to-market equity ratio and size of the company.

Jagannathan and Meier (2001) tried to find out why no one was complaining about CAPM's shortcomings and concluded that an incorrectly calculated cost of capital is not a big problem for managers. Critique from Fama and French together with research showing that a more correct risk premium could have been half of what is commonly used, did not match an ever rising amount of managers using CAPM. They further knew that there is a value to being able to do something in the future instead of in the present. The traditional way of calculating this value is through real options. In their research they found that managers, who are not able to take on every project with a positive NPV, through use of a hurdle rate will utilize the option to wait. They, however, meant that their findings only hold for companies that have real options to utilize, this explain why small companies do not use CAPM.

Da et. al. (2011;2012;) showed that CAPM is a sufficiently good estimate of cost of capital. But they stretched the need for calculating any real options separately. When that is done CAPM will give correct estimates for projects even if it does not do it for the stock.

According to Chen & Ward (2000) there is extensive evidence that companies in the UK and the US, when evaluating capital projects, have a tendency to use a hurdle rate that is higher than the WACC related to each of the companies. When using a higher hurdle rate than WACC the implication is that fewer projects will be undertaken. The high hurdle rate could be due to a number of reasons. One presented reason is that it works as a restriction device with the result of only taking on profitable projects. One further possible argument could be that companies may set high hurdle rates due to the mistrust of the estimations put forward by the managers

who submits the project. Furthermore it is proposed that companies might intuitively incorporate the "real options" which are interlinked in many projects. Few companies use real options in a formal way (Chen & Ward, 2000).

In a large survey Graham and Harvey (2002) found that small firms use financial theory to a much smaller extent. In the group that they classified as small companies a large part use the payback method. It is less common that NPV and CAPM are used. They concluded that the reason for this could be that payback is simpler and that managers are not familiar with more sophisticated models. Further findings from the survey was that hurdle rates where sometimes even outspokenly acknowledged as the required level stated by the investors. Nearly 60 % of the respondents declared that they used a single discount rate for the entire company when undertaking evaluations of investments. This even if different investments carries project distinct risk characteristics.

Brunzell et al (2013) conducted a survey study in the five Nordic countries with the aim of exploring determinants of selection of methods in capital budgeting as well as the level of hurdle rates (WACCs). They found that the DCF approaches, above all the NPV, is much less prevailing in the Nordic countries compared to the US. It is stated as the main method in 41.29% of the companies, while 25.16% uses the payback method.

Brunzell et al (2013) provide possible explanations as to why the use of hurdle rates is higher than the cost of capital and why less sophisticated models are used. One explanatory variable could be *real options*; the real option value gets imbedded in high hurdle rates. Furthermore the article brings up *agency problems* as a factor to explain high hurdle rates. In order to correct for too optimistic cash flows managers set higher hurdle rates which is at a level over the required returns. The use of a single discount rate oppositely to the use of project-specific rates might stem from the fact that correct discount rates are harder to control ex-post than incorrect cash flows. The single discount rate therefore limits the managerial incentive to manipulate investment calculation in order to obtain personal gain. Higher *political/country risk* is another factor that could contribute to less sophisticated methods and higher hurdle rates. *CEO/CFO*

characteristics are also brought forward as a possible determinant in explaining different levels of sophistication regarding financial methods. Managers that are less educated and older is possibly less prone to use sophisticated methods. The last proposed factor is *short-term pressure.* When pressured to perform well in the short-run there might be a bigger tendency towards higher hurdle rates, this since higher hurdle rates in relative terms punishes projects with long term horizons.

The study by Brunzell et al (2013) finds support for the idea that the Net Present Value determinants include behavioural characteristics, the technique is significantly less used in companies where there is a CFO older than 50 years. The survey also found support that real options variables where part of the determinants. Furthermore, the study showed that there seems to be an increasing relationship between the sophistication of capital budgeting techniques and if the CFO has an education in business/economics. When analysing the hurdle rate, Brunzell et al (2013), concludes that they are contributing to the existing literature in terms of the hurdle rate puzzle, higher WACCs than proposed by the aid of economic theory. Calculations from the study shows that the difference between what ought to be used compared to what is in reality used, the WACC premium, has a mean of 4 %. The pressure felt by the CFO shows a weak explanatory power as a, positive, variable with regards to the hurdle rate premium. Furthermore there exists a significant relationship between the hurdle rate premium and the sophistication of the capital budgeting methods. Brunzell et al (2013) state that companies that are rated lower in the sophistication index have higher hurdle rates.

Cyert et. al. (1961) found that people asked to do an estimate will modify their estimate to a level they believe will give them the highest personal reward. The conclusions were drawn from running two tests on how people reacted in accordance with what they call biases in organizational estimation. Their starting point in the test is that if a person lose an equal amount when going above and under the actual result there should be no bias. They however found that people will bias themselves in the most beneficial way for them in a test with a clearly stated higher reward in one direction.

5. Results

Through summaries of the conducted interviews the reader gets introduced to the general findings. The text about every company is introduced by some information about the company and their representative.

5.1 Chalmers Studentbostäder

Chalmers Studentbostäder is a trust run as a rental flat company with only student housing in its portfolio. Kristina Kyllerstam, the CFO, pointed out that since they are a trust there is not a primary focus on profit. Chalmers Studentbostäder have 2121 flats and a few facilities close to their flats that they rent out to companies. They aim at having 3000 flats in their portfolio by 2020.

Chalmers Studentbostäder have no required return on equity when undertaking projects. Kyllerstam states that since they are a trust they do not have a need for a required return but the level is more a symptom of the risk of a possible need for devaluation.

First off when analysing an investment decision the cash flow is calculated. Kyllerstam states that the need of bringing in enough earnings is probably even more in focus for them than other property companies. If the investment's earnings can cover the costs, the project is considered to have an acceptable level of return. Furthermore, if the project uses debt, a financial cost is added. The rental levels can be analysed in terms of what is needed, in order to cover the costs. According to Kyllerstam the large student housing make them prone to use a zero per cent vacancy degree in their model, there is no need to alter for possible future vacancies.

The model consists of a 10 year cash flow analysis that is discounted with a rate decided by Kyllerstam and the CEO. The level of the discount rate is decided in terms of what is thought to be the long run market state in a 10 year perspective. The belief is that the long term rate is two per cent and adjusted for inflation the discount rate is set to four per cent. According to Kyllerstam the rate formulas from the textbooks does not hold up in reality. Chalmers Studentbostäder does not use weighted average cost of capital when setting the discount rate.

The rate base used by Chalmers Studentbostäder is STIBOR which normally can be calculated as the repo rate plus 25 points. In today's climate this rule does not hold up. Kyllerstam states that it is an extraordinary market state at the moment. Chalmers Studentbostäder borrows at a variable rate and uses derivatives as a safeguard. In today's market the derivatives are expensive but could be seen as an insurance.

If projects are analysed during the same period in time Chalmers Studentbostäder uses the same discount rate. Besides that, the discount rate is special for every moment in time, with a current analyses of the long run market. If a project drags on, the rate might need to be revised. Kyllerstam and the CEO analyse the rate levels through discussions, historical data and by analysing information from the Swedish Riksbank and The Swedish Financial Advisory Authority. Kyllerstam is satisfied with the model and believe that it is very hands on. The model is described as a living thing which is constantly undergoing changes. The biggest change, when making investment analyses, from a few years back is the level of the currently very low rate used in the calculations. Kyllerstam expresses concern that property companies who have adjusted themselves for the low rate climate in the long term might encounter problems if it were to return to the levels of five to ten years ago.

5.2 Company X

Company X, a subsidiary to Group Y, handles all new property-housing investments in the group. Group Y's subsidiaries, sister companies to Company X, hold properties in larger towns of Sweden. Their goal is to be long-term owners of rental flats. In the 10 years to come the group plans to build at least 500 flats per year.

When making an investment analysis Company X first enter into an idea phase. They are in contact with the municipality and authorities, analysing possibilities and restrictions. Almost from the start they perform investment analysis calculations, which are changed along the process. Every property have a business plan with possible opportunities. Company X looks into the area's expected return and demand.

The investment analysis calculation is conducted in a 10-year perspective. The investment cost along with the net operating income for 10 years generate a return. One can set the rental level in order to ensure an adequate net operating income and thereby the required return.

When estimating the cash flows Company X uses a number of reference projects which gives an average value. The cash flows are adjusted for inflation: for the coming 3 years an inflation level of 1 % is adopted because of the current low inflations levels in Sweden. From 2019 Company X is calculating an inflation of 2%. There is assumed to be some vacancy degree when estimating the cash flows.

When analysing new constructions there is no discount rate used in the process. This is only done in the rebuilding sectors investment analyses. During the production phase Company X calculates an internal rate of return, which the CFO state is driven by the cost of debt. This is done by looking at the liquidity.

The required rate of return is decided by the board of directors of Company X. The rate is stated in the budget and is used for all projects. The rate is looked over twice a year but the respondent states that if the financial market is in a shaky place one might need to look at it more frequently. The required rate of return at Company X has been quite the same for some time. Company X does not generally use different risk for different projects but the board of directors may approve a project with a lower required rate of return if it is seen as a good investment, for other reasons.

5.3 Familjebostäder

Familjebostäder is one of Gothenburg Municipality's rental flat companies. They are a part of the Framtiden group, which holds all of the property companies controlled by the city of Gothenburg. Two persons from the company were interviewed, Ulf Berglund, CFO, and Camilla Wictorsson, Property Analyst. The whole of Framtiden group is planning on building 1400 flats a year until 2025 and Familjebostäder will build approximately a third of these.

Investment decisions within the group is made in the same way. Managers within Framtiden have decided on a model that should be used in the whole of the group. Familjebostäder faces a set profitability level on its projects, which is five per cent. Five per cent is also the rate used for discounting in the model. The model uses discount expected cash flows for the coming 50 years. All projects that contain investments over SEK five million uses the same rates and model.

Every year the Board of Directors of Framtiden decides what discount rate to use. The current discount rate is made up of inflation two per cent, risk premium one point six per cent and long-term change in GDP one point four per cent. Two years ago the group started using the same discount rate for all projects, before that they used a higher risk premium for projects in the outer parts of Gothenburg. This could, according to the respondents, be problematic because the market's valuation of the properties will be lower outside the city centre. But because the company sees itself as a long-term owner they do not believe that it should affect them.

They see a big need for more flats in Gothenburg. The deficit means that Familjebostäder does not have any vacancies, but the high rental levels in new properties could create problems.

5.4 HSB

Marie Ideström has worked for HSB Göteborg as CFO for 2 years. HSB manages 38 000 flats of which 2000 are their own that they rent out. HSB's main focus is to build flats to create housing cooperatives, but they also holds some rental properties. The plan is to complement their property holdings with some 400 rental flats. According to Ideström HSB is a somewhat unusual company, since HSB is a member driven economic association where the profit gets reinvested.

Investments are looked into through calculations of yield appraisals for the different projects. This is done with focus on net operating income with a five year time frame. Ideström states that the approach of simplicity is beneficial when analysing investment decisions. Therefore no

discounting or trend analysis is performed. The cost of debt is also part of the calculations which are done through looking into an average of different interest rates. The cost of debt is analysed and revised for every investment analysis.

The required return on equity is decided by the board every autumn. Ideström states that the rate is set to reflect what a shareholder would want to obtain. The required return on equity is used in all investment analysis. Though it might be revised if a very risky project would be undertaken, Ideström says. No clear inflation adjustments are made in the calculations. Instead HSB sets a general increase in the operating cost. The vacancy degree is set to zero for the ten years analysed.

Marie Ideström has been part of developing the investment analysis model and has used it for a long time. She finds it comprehensible and satisfactory to work with. Since it is done in Excel Ideström underlines that a positive aspect is that one can calibrate and experiment with the calculations given that the rental and cost appraisals are properly set. Marie Ideström states, that over time, when asked about five years ago, the methodology is the same but the rates have gone down.

5.5 Mölndalsbostäder

Mölndalsbostäder is a fully municipally owned firm that holds 2700 regular flats and 800 flats customized for the elderly and people with special needs. Their aim is to produce 100-120 flats per year and to double the value on their balance sheet during a period of six years. Henrik Lyréus has worked as CFO at Mölndalsbostäder since 1997 and Pontus Leonardsson has worked for the company for three years and holds the position of business controller.

The investment decisions at Mölndalsbostäder begins with the municipality putting forward requests with regard to what is needed. This is preceded by looking into available plots of land. An architect is then involved with producing drawings. After that the CFO creates a NPV for

the planned investment. When the calculations have been done the board of directors have final say on if the property will be built.

Furthermore a net present value analysis calculation of the net operating income is performed. After the operating costs are entered one can play around a bit with the rental levels, Lyréus says. The NPV is calculated as the original investment, discounted net operating income for the first 10 years and a perpetuity from year 11 discounted back to year zero. When calculating the net present value the vacancy level is considered to be zero per cent in perpetuity.

The net operating income is discounted with an imputed rate of interest while the salvage value, the perpetuity, is discounted with the required yield. The discount rate is analysed at least once a year in relation with conducting the property valuation. The discount rate is the real interest rate plus inflation and risk premium. Lyréus says that the levels of the required yield is set with the aid of valuation firms to what the market demands. The difference between the two rates is set to around two percent. In recent large projects Lyréus state that Mölndalsbostäder have started by finding the market required yield and then adding two percent. According to Lyréus, Mölndalsbostäder analyses the inflation level with a long perspective and have therefore not changed it to the current low level. The risk premium at Mölndalsbostäder is not considered to be high and is not altered when analysing investment projects in different areas. Lyréus states that there need to be a certain inertia in the discount rate, because of the long run perspective of the macro climate. But, he continues, in the case that the current climate holds, Mölndalsbostäder will adjust the discount rate.

The net present value investment analysis tool at Mölndalsbostäder has been in use since at least 2010. Because Mölndalsbostäder have a long perspective the discount rate level has been relatively alike since at least 2008.

5.6 Partillebo

Partillebo is a company that is fully owned by the municipality of Partille. A neighbouring municipality to Gothenburg that have a high degree of commuters going to Gothenburg every day. Their portfolio is evenly divided between housing and non-housing property. Partillebo's aim is to build 50-100 flats per year. Pär Linder is the CEO of Partillebo and he has held that position since 1990 and have during that time, among other things, created their investment calculation model.

Partillebo's investment strategy is to look at the long term perspective. Partillebo have continuously invested in housing projects over the years, but is at the moment in an especially intensive phase. 2014 they invested 700 million into new properties. They have a plan for what they are going to build in the 10 years to come. They look into investment projects for the 20-40 years to come. Partille is quite small and has special conditions, supply of buildable land is limited, which makes for an adaption towards a densification of properties.

When starting an investment analysis the project division conducts a pre-study with the aim of looking into pre-conditions. The division thereafter communicates with the operating and rental department for further information. Once the project is more outlined Pär Linder takes the decision whether to go forward or not. The second phase entails generating a complete plan and a new check-up of the finances. This is presented to the board for approval.

Linder states that much more money is needed nowadays when investigating projects. This has made Linder alter the process. He now checks up on projects regularly to see if they need to be shut down.

According to Linder the investment calculation is quite straight forward: it consist of the investment, the devaluation and the expected rent and cost of managing the property for year one. The horizon is one year and they strive to at least break even. When a project breaks even it is considered a profitable project. He says that what is a correct model could be different for

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every company, but the key is to be consistent. Since the model has been used for at least 10 years Pär concludes that the effects of the model are fully known to the company. According to Linder the housing deficit is almost at the same extent in Partille as in Gothenburg and the vacancy degree is therefore set to zero.

The rate used in the investment analysis model is what is likely to be the 20 year rate for the company. The last 10 years this has been at a level of four per cent. When Linder started at Partillebo they tried to find the correct 20 year rate for the company and reached the conclusion that the best indicator was the list price for a five year mortgage. Since then Partillebo have not changed their rate for calculating capital costs. According to Linder the model has proven a good tool as an indicator during his years as CEO. The same four per cent rate is used for all projects and areas.

Linder states that with the financial instruments that Partillebo uses, the rate should be lower, around two point seven per cent. With the four per cent rate the investment calculations are guaranteed to generate a level of break even and furthermore they are less likely to be overwhelmed with rising rate levels. Since Partillebo makes substantial investments, they see this level as a safety measure. Partillebo's view is that "the times will never be better" and "the times will always be worse", and one might as well adjust to this.

Partillebo have considered decreasing their rate and should according to the model have done it one or two years ago. But the financial markets uncertain nature makes them prone to let it stay at the four per cent level.

Linder states that the debate is focused on consumer mortgages but there are also problems accumulating because some companies have adapted too low rates. The inflation level at zero per cent together with an increasing cost of property development currently at four to five per cent is a worrisome development. If they would use the current rate levels within the company they would generate profitable projects today but, with the increasing property development costs, that would not work within a year or two.

Partillebo is constantly following the bank market. Up to the point where the Swedish Riksbank set a negative rate the bank sector worked out fine, but after that it has not been a fully working financial market according to Linder. Partillebo now looks into how to get around working with banks.

5.7 SGS

Göran Brihs is the CFO of SGS Studentbostäder (SGS), a position he has held since February 2013. He runs the financial and business administrative division inside the company. He is also a member of the executive committee. SGS builds, rents out and administer student housing in Gothenburg. They are not a regular profit maximizing company since they are run as a trust. This means that they do not have owners that demand a certain financial result but they still need a positive result to survive in the long run. Today SGS owns 5000 flats and rooms and rents another 2500, so they administer 7500 in total. They are planning on expanding that number with 800 in the coming five years.

When SGS is looking at a new project they start by making investment calculations. To make those the CFO combines expected rental incomes with the expected and known costs, discount rates and the cost of the project's loans. These calculations are then presented, together with information about the area, to the board of directors who will make the decision on going through with the project or not.

Brihs uses what he calls discounted cash-flow based calculation in SGS profitability calculations. The calculations are made on the planned projects first 10 years. Only the first 10 years are calculated because calculations further into the future is seen as too arbitrary. A project with negative result the first few years could be a good one because of non-financial factors. When looking at the full ten years, all project should have positive results.

The used model always looks at the first 10 years but the discount rate changes depending on the current micro and macro situation. With the current low interest rates the discount rate is also lower. SGS makes, at least, annual corrections to the discount rate. Göran Brihs is happy with the model and feels that it renders correct results that are easy to explain to people with other professional backgrounds, inside the organisation.

SGS does not risk adjust their calculations due to vacancies. There is a high deficit of student housing in Gothenburg. Brihs believes that it will take a long time to get rid of the deficit of housing. There is a high need not only for new buildings but also renovation of existing property.

SGS's discount rate is comprised of a risk free rate and a risk premium. To calculate the risk free rate SGS uses Swedish government bonds and the rate on these have gone down since Brihs started as CFO. Factors included in the risk premium are e.g. the location of the property and the expected movement of the cost of debt. Because the model uses 10 years, the low current bond yields are not fully shown in the discount rate. The discount rate has gone down but the higher risk premium, because of the company's expectations of how the bond yield will move in the future, is keeping the discount rate from going down to what would be expected.

6. Analysis

The adopted analysis approach is framed with the research questions as the primary structure. Each question has its own passage and holds, to the question relevant, parts of the results which are then analysed with the aid of the corresponding chapters in the theoretical framework. The sub questions have the purpose of supporting the answer to the main research question in the conclusion. The first research question is analysed with the aid of the first chapter of the theoretical framework, while the second and third questions are analysed with the aid of chapter two. All of the questions are compared to the previous research within the area.

6.1 Investment decisions in accordance with financial theory?

In summary the interviewed rental flat companies do not seem to have a common approach when conducting investment decisions. The information gained presents an overall picture where the companies do not seem to use normative financial methods, as for example presented in 3.1 Investment decision theories. Although, consulting the literature, e.g. Brunzell et al (2013) and Graham & Harvey (2002), this might not be unusual among companies. However less of the companies interviewed for this thesis use the NPV model.

Four of the companies concerned uses an investment analysis approach based on discounted cash flows, Chalmers Studentbostäder, Familjebostäder, Mölndalsbostäder and SGS Studentbostäder, only Mölndalsbostäder analyse it through NPV. Company X calculates the return of the investment and contrasts this with the required return. HSB looks at the net operating income and Partillebo uses a self-constructed calculation method. Brunzell et al (2013) states that the discounted cash flow approach is less prevailing in the Nordic countries, in comparison to the US. The use of alternative methods in our findings is perhaps a symptom of this.

The companies interviewed can be viewed as relatively small, e.g. no listed firms were interviewed, which could hold some explanatory power as to why there is a lack of financial normative models used in the investment analyses. According to Graham & Harvey (2002) smaller companies are less likely to use financial theory. None of the interviewees stated that they used CAPM when estimating the cost of capital. However SGS is referring to the risk free rate, stemming from Swedish government bonds, along with a risk premium. This could imply

that CAPM is used as some kind of basis. When asked about if they use the weighted average cost of capital none of the companies stated that they do so.

Even if the interviewed companies in their explanations state that they use a risk premium regarding the rates, it does not seem to be done in a context of CAPM. What we have found seems to be more in line with the research by for example Brunzell et al (2013) and Chen & Ward(2000), who have found that companies uses hurdle rates that are higher than the correct cost of capital. Brunzell et al (2013) describes this as the hurdle rate premium. Many of the companies have clearly stated that the rates used are higher than they should be, which makes us prone to draw the conclusion that what we observe is more of a hurdle rate premium than a classical risk premium.

The majority of the companies interviewed use the Swedish Riksbank's inflation goal, two per cent, in their calculations. Only one of the seven companies used another inflation because of the current low inflation in Sweden, this means that they have at least used too high a inflation level since January of 2012. Company X have set the level to one per cent for the coming three years and will then use two per cent after that. Two companies do not include inflation in their calculations at all, one because they do not make calculations over more than one year and the other because they enumerate with another index. The majority of the companies do not make their own estimations on inflation which fits well with earlier research on capital budgeting (see Graham and Harvey 2002). They concluded that managers in small companies use less sophisticated techniques in capital budgeting because it is simpler. This fits well with the fact that the largest company has made changes on inflation in the short term.

6.2 Changes over time

The common denominator in the respondents' answers with regards to the level of the discount rates and required returns is that the companies adopt a long run view. The current levels of low rate climate and low inflation are not seen as a normal state by the companies. Instead of changing the rates to the current economic climate, as one might think would be the corresponding response, the general approach is to maintain high rate levels. With an increasingly turbulent economic climate one can imagine that it generates more information to process along with different options of uncertain nature. According to Serfas (2011) and Baker

& Nofsinger (2002) this could possibly be explained by the status quo bias. The overwhelming feeling when dealing with an environment of multiple choices could generate a response of increasing inactivity.

Of the companies that use a discount rate or calculate a debt cost all say that they analyse their rates but only two said that they have lowered it in the last years. According to financial theory discount rate, calculated as WACC through CAPM, should with lower risk-free rate, ceteris paribus, decrease. With the current low yield on government bonds it is contradictory that companies say that they annually analyse the discount rate but that it is at the same level as before. Only one company uses a risk-free rate to calculate their discount rate, this could be an explanation. It would seem that analysing the rate is not the same as lowering it in accordance with financial theory. The expected result from the interviews was that the companies use CAPM to create discount rates for project calculations. That would have fitted with Da et. al. (2012) that concluded that for projects' CAPM will calculate a correct discount rate. The result was something altogether different.

6.3 Explanations of the differences

One line of reasoning put forward by the respondents as to why they do not use classic financial techniques came from Partillebo and Chalmers Studentbostäder, who said that they were concerned about companies that had changed their levels to much because of the current climate. Chalmers Studentbostäder have changed their rate in the last few years but not to the low levels that classic theory would recommend, Kyllerstam also expressed the opinion that the models of text books does not work. Linder said that it is safe to stay the same. They put forward a high rate as an insurance policy, this in relation to the view that companies that adjust themselves for the low rate climate might run the risk of not financially coping if the rates rises. They further argued that the classic theories do not work but their models have in the past and will do so in the future. This belief, that what has worked in the past will work in the future, when that future is changed, fits well with Kahneman's (2003) ideas about the two cognitive processes and it would seem that managers are prone to use the first system. It is easier to use intuition and past experiences instead of taking rational decisions. This could mean that managers in the property companies do not make optimal decisions. However, in previous

research (see Kahneman, 2003) it has been argued that experienced managers can make better intuitive decisions than if they use comprehensive analysis.

As to why there seems to be a tendency of using higher rates, than what is suggested by the classical financial theories, there exists a number of proposed reasons among the literature. Brunzell et al (2013) lists a number of possible reasons in relation to conducting a survey in the Nordic countries. It is hard to draw any strong conclusions with regards to possible reasons behind the high rates. It is possible that real options, agency problems, political/country risk and short-term pressure hold some explanatory power but it is somewhat speculative with the information obtained from the interviews. We lack information about relevant variables in order to adequately try to explain the phenomena of high rates. Another explanation could be what was shown by Cyert et. al. (1961) that managers will make estimates that they believe will bring them the highest personal gain. If there is a higher punishment for a manager estimating the rate to low that could explain why so few managers are willing to lower the rate in today's climate.

Serfas (2011) states that biases are more prominent in the prepetory phases of the capital investment analysis. Since our focus has been primarily on the investment calculations there might exist some explanatory power in the different biases. As previously stated the status quo bias, prominent during the planning phase, makes individuals prone to not make changes when presented with alternatives. Status quo bias might therefore be a factor to consider. The CFOs expresses concern about the uncertain nature of the financial climate, but proceeds to do no alterations. As to anchoring and omission bias, there is no clear connection with regards to the respondents' answers.

Serfas (2011) also gives examples of biases that occur during the decision phase: retrievability of instances, effectiveness of a search set and confirmation trap bias. Of course there is a possibility that these biases are present, both consciously and unconsciously, but it is hard to depict events of this nature. The biases of retrievability of instances and effectiveness of a search could explain the use of simpler, and therefore more accessible, techniques. Though out of the information gained from the interviews it is not possible to draw any conclusions.

Companies in the survey have chosen simple models that can be easily explained. HSB does not discount in their model because simplicity is beneficial. Brihs at SGS likes the model because it is easy to explain to people without finance background. If it is easy to explain to people without finance background one could assume that it is simpler. One would assume that they think that the existing theories are either harder to use or to explain to people without financial background. This reasoning is in line with the result from Graham and Harvey (2002) that smaller companies uses simpler techniques and not the models recommended by financial theory and research.

6.4 Summarizing the analysis

Summarizing the result the companies say that they analyse the discount rate, but they do not seem to change it over time. Given reasons have been that they are long-term owners in an industry with a built in inertia. Some companies use some parts of financial theory but no company use fully rational theoretical models when calculating projects. Magni's (2009) theory about the rule based and heuristic based systems working side by side seems to hold some truth.

7. Conclusion

After conducting the interviews with representatives from rental flat companies in the Gothenburg area we conclude that they do not use investment decision theories. There are some exceptions to this: Mölndalsbostäder use NPV but they do not do it to its full extent. They do not seem to use a rational technique to determine their discount rate. Instead they use a heuristic rule of two percent above the market's required yield. SGS Studentbostäder is another exception, they use a risk-free rate when creating discount rates, but they do not use a proper risk premium. Further they call their model DCF based which give a hint that it is not in full accordance with theory.

We found no definite answer to if companies make changes in their models over time, but there seems to be a certain amount of inertia. When the respondents were asked about making changes to their models they had very different answers. It is not strange that different companies have tackled the current economic climate differently, but it does make it harder to find out if practitioners make changes to their models' variables over time. Some representatives express a fear about lowering their rates because it could be harmful. A high level is seen as an insurance against rising interest rates. Others have left their rates at the same level through the very shifting climate of the last years. Some have lowered their rates but not to the full extent of what financial theory recommend.

The inflation is held at two percent in all but one company. Inflation, as one of the other variables, is treated with much larger consistency in the industry than the rate. All but one of the companies using inflation have kept it at the Swedish inflation goal of two percent. This has certainly not been changed to the current low inflation level.

Managers might use the models as a way of explaining the project to others rather than as a way of deciding between projects. Previous research (see Kahneman, 2002) shows that experienced managers can make better intuitive decisions than what rational analysis will create. A prominent line of reasoning in the study have been that the managers that were interviewed

wanted to use models that were simple to use and explain to others. One reason for the found discrepancy between theory and practice could be that the decision on whether doing a project or not is based on intuition rather than on rationality. Because of the experienced managers ability to make good intuitive decisions this does not have to be bad, but it would explain the difference between theory and practice. Another explanation regarding the discrepancy could be that managers use both rule based and heuristic based decision-making side by side. This would be in line with Magni (2009) that through decision theory concludes that managers base decisions on rules, rationality, and heuristics, intuition.

There are some differences between this study and the one made by Brunzell et. al. (2013) who found that a larger part used NPV and CAPM. This difference could be a sign of a fault in the methodology. It could also be a sign that the result of this thesis does not fully hold for all rental flat companies. The interviewed companies are small and previous research (see Graham and Harvey, 2002) has found that smaller companies use capital budgeting to a lesser extent. Another explanation could of course be that it is done less in the Swedish property sector or in Swedish rental flat companies, something that has not been fully researched before. Because only one of the participants came from a private company the discrepancies with previous research could possibly also be explained by a difference between companies run for profit and those run as more of a public service.

There could be some potential shortcomings within the conducted study. One of the possible negative aspects could be that the number of interviewees were quite small, this makes any statistical inference impossible.

We feel confident in the result that rental flat companies do not take the current economic climate into account when they make investment decisions. The previous mentioned possible faults of the study makes it harder to give a definite answer but the result from the interviews are very clear. Of the interviewed companies, no company take the full effect of the current economic climate into account in their decision-making.

7.1 Implications and further research

We are confident in our conclusion that rental flat companies do not fully capture the current economic climate in their investment decisions. This means that a previously not discussed reason for the housing deficit has been found. A too high rate, hurdle rate, means that fewer properties than optimal, according to financial theory, is being built. To test our conclusion further research is needed. If the conclusion is found to hold and rental flat companies sincerely want to help with the deficit, they should make changes to their models.

To ensure that our conclusions, about reasons for differences between theory and practice, holds, further research is needed. It is possible that we have not found all reasons for the differences. We are aware that our chosen methodology have problem with e.g. generalisation. To ensure our conclusions reliability a large quantitative study should be undertaken.

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Appendix 1: Template of interview questions in English

Company and Manager Descriptions

What company are you working for? *What is your company doing?*

What is your position within the company? *How long have you held that position?*

How much are you company planning to build the coming 10 years?

What are your thoughts on the housing situation in Gothenburg? *Now and in the future? Five to ten years horizon.*

Do your company have an investment strategy? *Explain. What does it entail?*

Investment decision

Describe how you make investment decisions, preferably through an example.

What is the first step? *What is the process?*

Who decides on the implementation of a full-scale construction or renovation?

How is the proposal presented to the (*decision makers*)?

How do you ensure, in the model, that a project is profitable?

Can you explain the decision model? *Which parts are included in the model?*

Which investment horizon do you use in your calculations?

Do you use the same requirement/interest/investment period for all your projects? *Who have chosen those levels? How often do you check that the levels are still correct?*

How satisfied/comfortable do you feel with your company's model?

Have you chosen the model?

Interest rates

How is it constructed? *What elements does it include?*

Do you use the same for all/some projects?

How is it determined between projects?

How often do you check that the interest rate is correct?

What risk-free rate do you use? *Do you always use the same risk.free rate?*

How do you construct a risk premium? *Do you use the same for the various projects?*

FCF/EBIT/CF

How do you decide on what to use?

Do you use templates for the calculations?

What level of inflation do you use?

Do you include some sort of risk in these calculations?

Appendix 2: Template of interview questions in Swedish

Företagsbeskrivning/Personbeskrivning

Vilket företag jobbar du på? Vad arbetar ni med?

Vilken är din roll inom företaget? *Hur länge har du haft den rollen?*

Hur mycket planerar ni att bygga kommande 10 åren?

Hur ser ni på bostadssituationen i Göteborg? *Nu och i framtiden? Fem- till tioårig horisont.*

Anser du att ni har någon investeringsstrategi? *Förklara. Vad går den ut på?*

Investeringsbeslut

Beskriv hur ni tar investeringsbeslut (gärna genom ett exempel)

Vad är första steget? Hur ser processen ut?

Vem tar beslut om genomförande av nybyggnation eller fullskalig renovering?

Hur presenteras förslaget till (beslutsfattare)?

Hur säkerställer ni att ett projekt är lönsamt?

Kan du förklara beslutsmodellen? *Vilka delar ingår i den modellen?*

Vilken investeringshorisont använder ni i era beräkningar?

Använder ni samma krav/ränta/investeringsperiod för alla era projekt? *Vem har bestämt nivåerna? Hur ofta ser ni över nivåerna?*

Hur nöjd/bekväm känner du dig med er modell?

Har du tagit fram modellen själv?

Ränta

Hur är räntan framtagen? *Vilka delar ingår i den?*

Använder ni samma för alla/vissa projekt?

Hur bestämms det mellan projekt?

Hur ofta ser ni över räntan?

Vilken Rf använder ni? *Använder ni alltid samma?*

Hur tar ni fram riskpremium? *Använder ni samma risk premium för olika projekt?*

FCF/EBIT/CF

Hur tar ni fram?

Använder ni schabloner för beräkningarna?

Vad använder ni för inflation?

Beräknar ni in risk här?