

Mixed-Use Facilities

-A New Window of Opportunity in the Swedish Real Estate Market?

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Abstract

- Title:** Mixed- Use Facilities- A new opportunity in the Swedish Real Estate Market?
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- Issue of the Study:** Since 2004, two important legislative amendments have been introduced in Sweden; the strata property in 2004 and the condominiums in 2009. During the same time period, the demand for apartments is high in the same time as the accesses for attractive land to build new properties are scarce. As a commercial developer, Skanska Fastigheter Göteborg therefore wants to investigate the opportunities to combine office buildings with residential apartments, to a Mixed- Use Facility. The concept is well-known internationally, but is it also suitable in the Swedish real estate market?
- Purpose:** The purpose of the thesis is to analyze if mixed-use facilities is a value creating concept for commercial developers in the Swedish real estate market.

If the answer of the first question is yes; what kind of mix creates most value for commercial developers in Sweden?
- Method:** The research of the thesis has been conducted during an iterative process where theory and empirical data have been gathered in parallel. In order to conclude whether mixed-use facilities are value creating in Sweden, thorough market analyses of the single-use functions have been made; the office market and residential market divided in rental apartments, cooperative apartments and condominiums. From existing international theories about mixed-use facilities, important value drivers were identified and modified to suit the Swedish real estate market. By using the theoretical

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

framework SWOT-analyses, the concept was analyzed, leading to the answers of the purpose.

Conclusions:

Mixed-use facilities are a value creating concept for commercial developers in Sweden. The concept is in line with the municipal comprehensive plan, and many of the future city districts in Sweden will be with mixed real estate functions. The concept implies increased resource utilization, both regarding the land and other systems within the building such as elevators, climate, and energy systems. With mixed-use facilities, only the most profitable parts of a building may be produced. Residential apartments situated at the top levels tend to have 20-30% higher market value compared to the apartments situated at the bottom levels. Finally, mixed-use facilities are a familiar concept for foreign investors. Therefore, they can bring valuable knowledge into the Swedish real estate market regarding mixed-use facilities.

However there are some challenges with the concept as well. For example, it implies increased costs, due to for example longer construction planning periods, and larger transaction and administration costs. Mixed-use facilities have an unfamiliar owner structure for the investors who are unfamiliar with the thought of sharing parts of the premises with others. It may also be difficult to find suitable locations for mixed-use facility projects. Residential apartments have more restrictions regarding for example noise and pollution levels, compared to office space.

Taking the municipals comprehensive plans in consideration, it is concluded that it is rather a question of *when* the developer will have to start to construct mixed-use properties rather than *if* it is value creating.

The most optimal combination in the long run is office space together with condominiums. Condominiums were introduced in Sweden in May 2009, why the market still needs to develop before the concept could be fully introduced. In the short run, the market will therefore be more familiar with the mix of office space together with cooperative apartments.

Keywords:

Skanska Fastigheter Göteborg, Real Estate Market, Mixed-use Facilities, Office, Residential, Supply and Demand Drivers, Cap Rate, Vacancies, Rent Levels

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We would also like to thank our supervisors from Lund University, Göran Alsén and Ingemar Bengtsson, for your patience, valuable perspectives on mixed-use facilities and for you quick responses.

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Lund, 27th of May, 2010

Ida Granqvist and Isabel Carlebom

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Table of Contents

1. INTRODUCTION	9
1.1 BACKGROUND	9
1.1.1 <i>Strata Properties</i>	9
1.1.2 <i>Condominiums</i>	10
1.2 THE ISSUE OF THE THESIS.....	12
1.2.1 <i>Mixed-Use Facilities in the Swedish Real Estate Market</i>	12
1.3 PURPOSE.....	13
1.4 DELIMITATIONS	16
1.5 OUTLINE OF THE THESIS	17
2 METHODOLOGY	19
2.1 THE PROCESS OF THE THESIS.....	19
2.1.1 <i>The need of Information</i>	19
2.1.2 <i>Theoretical Foundation</i>	20
2.1.3 <i>Empirical information gathering</i>	21
2.2 RELIABILITY.....	24
2.3 VALIDITY	24
3 THEORETICAL FOUNDATION	25
3.1 CHARACTERISTICS AND DYNAMICS IN THE REAL ESTATE MARKET.....	25
3.1.1 <i>Space market</i>	26
3.2 SUPPLY AND DEMAND DRIVERS IN THE REAL ESTATE MARKET.....	27
3.2.1 <i>Demand drivers</i>	27
3.2.2 <i>Supply drivers</i>	28
3.2.3 <i>The link between real estate supply and demand drivers</i>	29
3.3 ASSET MARKET	30
3.4 THE FOUR QUADRANT SYSTEM; THE LINK BETWEEN SPACE MARKET AND ASSET MARKET.....	31
3.5 REAL ESTATE CYCLES	33
3.5.1 <i>The Physical Market Cycle</i>	33
3.5.2 <i>Rental Growth Theory</i>	34
3.6 THE FINANCIAL MARKET CYCLE.....	35
3.6.1 <i>Recovery and Extension</i>	36
3.6.2 <i>Oversupply and Recession</i>	36
3.7 THE LINKAGE BETWEEN THE PHYSICAL AND THE FINANCIAL MARKET CYCLES	36
3.8 URBAN MIXED-USE FACILITIES	38
3.8.1 <i>Mixed-Use in Theory</i>	38
3.8.2 <i>Conceptual Models of Mixed-Use Development</i>	40
3.9 VALUE-DRIVERS OF MIXED-USE FACILITIES	42
4 THE SWEDISH REAL ESTATE MARKET	44
4.1 OFFICE SPACE MARKET IN SWEDEN	45
4.1.1 <i>Gothenburg Office Space Market</i>	47
4.2 RESIDENTIAL REAL ESTATE MARKET.....	49
4.2.1 <i>Cooperative Apartments</i>	49

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

4.2.2	<i>Condominiums</i>	55
4.2.3	<i>Rental Apartments</i>	59
4.2.4	<i>Construction of New Housing in Sweden</i>	62
4.2.5	<i>The Development of Gothenburg City</i>	63
5	VALUE DRIVERS FOR MIXED-USE FACILITIES	65
5.1	ECONOMIC AND MARKET	66
5.1.1	<i>Demand</i>	66
5.1.2	<i>Demand drivers for Commercial Office Buildings</i>	70
5.2	SUPPLY	71
5.2.1	<i>Supply Drivers for Residential Development</i>	71
5.2.2	<i>Supply Drivers for Office Buildings</i>	73
5.2.3	<i>Residential and Commercial Supply and Demand</i>	75
5.3	FINANCIAL ANALYSIS.....	76
5.3.1	<i>Relevant Financial Measurements</i>	77
5.3.2	<i>Cash-Flow Generating Properties; Office and Rental Apartments</i>	77
5.3.3	<i>Properties generating an immediate transaction profit</i>	82
5.4	SUMMARIZING THE FINANCIAL COMPARISON	85
5.5	PHYSICAL AND PUBLIC ISSUES WITH MIXED-USE FACILITIES	86
5.5.1	<i>Increased Costs</i>	86
5.5.2	<i>Decreased cost</i>	88
6	SWOT-ANALYSES OF MIXED-USE FACILITIES	90
6.1	NUMBERS OF INVESTORS OF MIXED-USE FACILITY PROJECTS.....	90
6.2	MIXED-USE IN GENERAL	91
6.2.1	<i>Strengths</i>	92
6.2.2	<i>Weaknesses</i>	93
6.2.3	<i>Opportunities</i>	94
6.2.4	<i>Threats</i>	95
6.2.5	<i>SWOT- Analysis for Mixed-Use Facilities; a Short Summary</i>	96
6.3	OFFICE SPACE WITH RENTAL APARTMENTS.....	97
6.4	OFFICES SPACE WITH COOPERATIVE APARTMENTS	99
6.5	OFFICE SPACE WITH CONDOMINIUMS.....	101
6.6	MIXED-USE FACILITIES ANALYSES- A SHORT SUMMARY	103
7	CONCLUSIONS	104
8	RECOMMENDATIONS FOR SKANSKA FASTIGHETER GÖTEBORG AB	107
8.1	CREATE A MIXED-USE WORKING GROUP.....	108
8.2	TEST THE MARKET WITH MIXED-USE OF COOPERATIVE APARTMENTS AND OFFICES.....	108
8.3	PREPARE A CONCEPT OF MIXED-USE WITH CONDOMINIUMS AND OFFICES	108
8.4	CHALLENGES AND OPPORTUNITIES FOR SKANSKA FASTIGHETER GÖTEBORG.....	109
9	LIST OF REFERENCES	111
10	APPENDICES	117

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

1. Introduction

This chapter will introduce Mixed-Use Facilities and explain why the concept may be interesting to introduce to a further extent in the Swedish real estate market. Interesting perspectives of the topic will be discussed, leading to the purpose of the study and what questions the thesis aims to answer.

1.1 Background

Mixed-Use Facilities is a growing trend in the USA, Australia, and other large countries in the real estate markets around the world. The concept combines different functions of real estate within the same building or area such as office, retail, and housing, creating livelier and securer city areas. The concept does also usually be described as Work, Live, and Play¹, visualizing that the distance between different vital real estate functions will be small, which may facilitate the everyday life for the residents.²

Even though the concept of mixed-use facilities is a growing trend internationally, the concept has not fully reached the Swedish real estate market. However the municipalities are increasingly planning for more mixed uses in new city areas in the future, mainly due to the reasons mentioned above with livelier districts.

During the past decade, there have been two major legislative changes in the Swedish real estate market which will have significant impact on the development of the future market characteristics, and facilitate the development of mixed-use facilities. These amendments are the strata property and condominiums, a new type of tenure for apartments in Sweden.

1.1.1 Strata Properties³

Before 2004, Swedish properties were divided into boundaries in the land property, including the space above the land with no other limits than the practical possibilities to exploit the space. By other means, there were no possibilities to vertically delimit the property (see *Figure 1*). In January 2004, the Swedish Government decided to extend the usual two dimensional real estate divisions to a third dimension: from now on it would be possible to divide properties according to three dimensions; length, width, and depth. The new regulation opened up for new opportunities, to develop and condensate towns and cities in Sweden, as it now became possible to for example build apartments on top of the existing stock of properties.⁴

¹ Urban Land Institute (1987)

² Rabanski J S et al. (2009)

³ The Swedish translation of strata properties is 3D-Fastigheter

⁴ Westberg Persson E (2003) (www) (2010-02-18)



Figure 1: the picture shows a two-dimensional property, which is only divided horizontal with unlimited space above and below the land property.

1.1.2 Condominiums⁵

Before 2009, there were two types of housing access rights in Sweden; rental apartments⁶ and cooperative apartments⁷. In these two forms of tenure, the tenants do not own the apartment, and therefore the Swedish Government decided to introduce condominiums to the Swedish real estate market in May 2009. Condominiums can be described as terrace-houses built on height where each apartment is individually owned. A community association must be formed who will have the responsibility for the common areas of the property such as the maintenance of stairways and elevators. It is the Swedish Land Survey Authority which is responsible for the demarcation of the condominiums.

In contrast to cooperative apartments, the owner of the condominium is free to sell and sublease the apartment unlimited. Although, the rents in the Swedish housing market are controlled by the principal of utility- value, which limits the opportunities to invest in condominiums with the purpose to buy-to- let which is common abroad.

⁵ The Swedish translation of condominiums is Ägarlägenheter

⁶ The Swedish translation of rental apartments is Hyresrätter

⁷ The Swedish translation of cooperative apartments is Bostadsrätter

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Condominiums are in many other countries such as Norway and Denmark the main form of tenure.⁸

Since the legislation approval for building condominiums in Sweden in May 2009, the interest for building condominiums has been sluggish but is increasing. In 2009 29 apartments was registered and additional 361 applications have reached the Swedish Land Survey Authority, responsible for the cadastral process for condominiums.⁹ However, there are several practical issues left, which needs to be solved before the market actors fully can begin to buy, sell and lease condominiums. Examples of such remaining issues are regarding how the condominiums and the common space will be insured and financed.

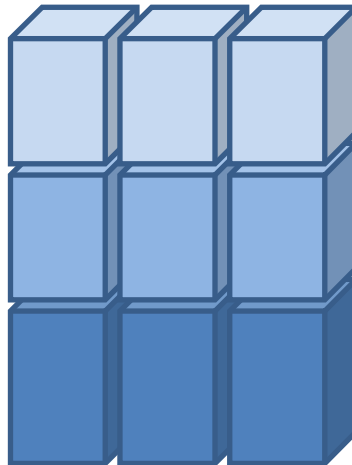


Figure 2; the picture illustrates a strata property, where each box in the building is a separate property, divided in width, length, and depth.

The legislative amendments create new interesting opportunities in the Swedish real estate market, facilitating the development of mixed-use facilities in some different ways. For example, residential apartments could be built on top of existing buildings, which would densify and enlarge cities on height rather than width. Furthermore different types of functions and properties could be mixed within the same building, not only the same district. Residential apartments could for example be built upon large retail buildings, with parking space underneath the complex, where the three functions are separated properties owned by three different investors.

⁸ Justitiedepartementet (2009) p. 2-3

⁹ Göteborgs-Posten (www) 2010-03-15

1.2 The Issue of the Thesis

1.2.1 Mixed-Use Facilities in the Swedish Real Estate Market

The initial idea to write about mixed-use facilities was created in cooperation with the commercial developer Skanska Fastigheter Göteborg AB (SFG), who develops for example office, retail, and industrial properties. (For more information about Skanska Group and Skanska Fastigheter Göteborg AB, see Appendix I) They were interested about investigating the opportunities of including residential apartments, especially condominiums and rental apartments, together with office buildings. Residential apartments have traditionally been political prioritized in Sweden and the demand for new apartments is large. Therefore, there could be a chance that the municipalities easier would sell attractive land to commercial developers who also plans to produce apartments and commercial properties in the same time. It is especially new construction of rental apartments which is the most prioritized issues for the municipalities, but the common apprehension is that it is difficult for private actors to build profitable rental apartments due to the principle of utility value rents.¹⁰The sister company of SFG, Skanska Nya Hem, does only construct cooperative apartments and neither rental apartments or condominiums, why there is a present lack of knowledge regarding condominiums and rental apartments within Skanska Group.

A pre-study of the office and residential market in Sweden was initiated, and the thesis' main focus of mixed-use facilities in Sweden was concluded. As it was SFG who initially requested the market survey regarding mixed-use facilities, it was concluded that the thesis would be written with the perspective of a commercial developer. It soon became clear that there was a theoretical and practical knowledge gap of the concept in Sweden. There are some internationally published theories, but none of them are written in the perspective of the Swedish real estate market. However, there are a lot of empirical information about the Swedish real estate market, for example the current situation after the global financial crises, as well as historical and future development of the market. Therefore a knowledge and theoretical gap about mixed-use facilities in the Swedish real estate market was identified.

¹⁰ The translation of Principle of utility value in Swedish is Bruksvärdeshyra

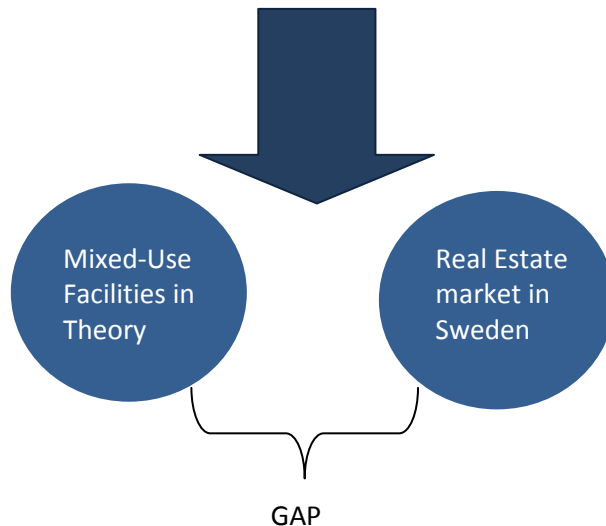


Figure 3; the figure illustrates the identified knowledge gap between theories of mixed-use facilities suitable for the Swedish real estate market

In order to decide if the concept of mixed-use facilities will be value creating for commercial developers in Sweden, a thorough survey of each property function will be needed. What characterizes growth in the market, and what is driving supply and demand? Are there any legal restrictions in the markets, and how do they affect the overall development? The residential market for apartments in Sweden is divided in three different types of tenures; rental apartments, cooperative apartments, and condominiums. How do they differentiate from each other, and is any of the types more suitable to be combined with office space? Which market conditions are similar for the office and residential market, and which ones are different? How will they change if the two functions will be integrated within the same building? In other words, which are the most important value drivers for office, residential, and mixed-use facilities?

1.3 Purpose

The purpose of the thesis is to analyze if mixed-use facilities is a value creating concept for commercial developers in the Swedish real estate market.

If the answer of the first question is yes; what kind of mix creates most value for commercial developers in Sweden?

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

In order to answer the purpose and the questions formulated in Chapter 1.2.1, a thorough market description for each real estate function must be concluded. This part of the thesis is visualized as the blue color in *Figure 4* below, and will be based on general theories of the real estate market and empirical information about the Swedish residential and office markets.

The market drivers of the different real estate functions will be identified based on existing theories of mixed-use but as there is a current gap regarding the Swedish market, the theories will be developed further to suit the Swedish market conditions. This part of the thesis is visualized with the light blue color in *Figure 4*.

Finally, the theories about mixed-use facilities and the gathered empirical information about the Swedish real estate market will lead to analyses and discussions, where the purpose of the thesis will be answered. By conducting four different SWOT- analyses, it will be concluded if the concept of mixed-use facilities is value creating in Sweden, and in that case which combination of functions is the most preferable.

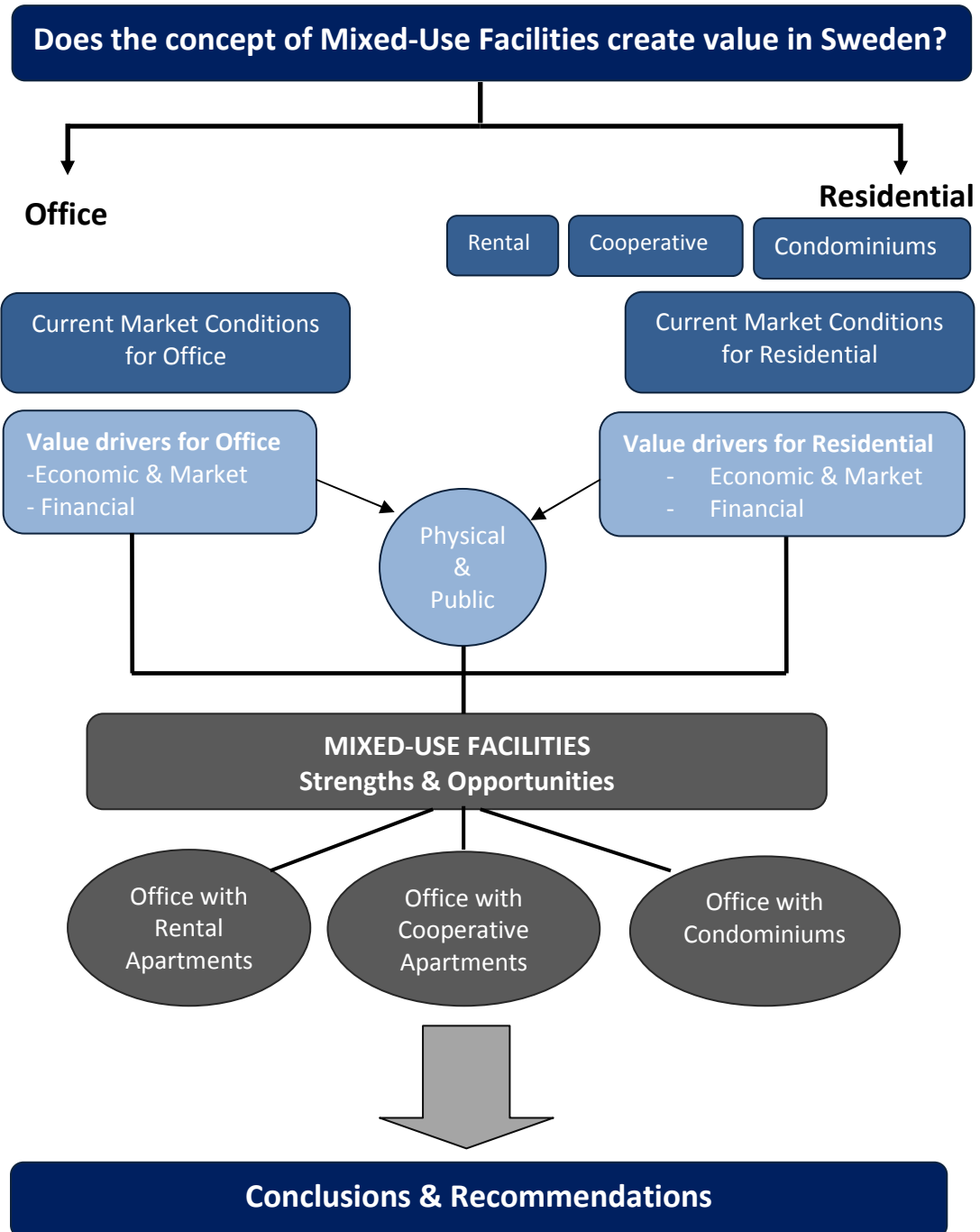


Figure 4 illustrates the layout of the thesis- starting with each single-use market and later combining these characteristics in order to analyze if mixed-use facilities creates value for commercial developers.

1.4 Delimitations

The definition of commercial properties does also include for example retail, logistic, and production/industrial properties. In our analysis of mixed-use facilities we will only focus of office space in combination with residential properties. The opportunity to mix more than two functional areas in the property is left to further studies.

Furthermore, a quantification of the most optimal mix of functions, (for example 10,000 sqm of office and 5,000 sqm of residential apartments, or 5 levels of office and 3 with residential) will not be conducted. This would require a real project, with an exact location where all necessary construction and market parameters are known. Therefore, no exact numbers of profitability will be presented, as every project is unique and has its own challenges and opportunities, and one project can never be compared to another. It is extremely hard, and maybe irrelevant, to predict or quantify the profitability for a fictive project. Average costs and prices will be used in the analysis, and where necessary our own estimations, so that indications of price- and profitability levels can be illustrated. As the market settings for condominiums are very new, the numbers used in the analysis will to a large extent be based on our own estimations and based on a comparison with cooperative apartments. The two residential concepts are very alike why it is reasonable to sometimes use the same numbers and figures.

One interesting opportunity with strata properties and condominiums is the possibility to reconstruct existing buildings. Attractive office buildings in the most central areas in cities could be enlarged with a few levels of apartments on the roof top. However, this opportunity will not be included in this study. We will only focus on the challenges and opportunities to build a new property that is planned and designed to include both office space and residential apartments from the beginning. The opportunities with reconstruction are left to further studies in the future.

There are different types of mixed-use facilities, which are more in detail described in chapter 3. For example, the different real estate functions can either be divided in different properties situated next to each other, or the different functions can be integrated in the same building. This thesis will only focus on the integrated type of mixed-use facilities as it is concluded that the knowledge gap of mixed-use facilities in Sweden mainly concerns integrated mixed-use. There is a lot of existing knowledge of how to build and construct separate buildings of apartments and office properties, and the conditions would not change substantially even though the properties would be placed next to each other.

1.5 Outline of the Thesis

In order to facilitate for the reader to follow the structure of the thesis, the contents of each chapter is briefly presented.

Chapter 1: Introduction

Chapter 1 introduces the concept of mixed-use facilities, the purpose of the thesis and briefly presents how the thesis will be structured in order to answer the purpose.

Chapter 2: Methodology

The working process of the thesis is presented, discussed, and critically reviewed, for example what actions had been taken in order to increase the reliability and validity.

Chapter 3: Theoretical Foundation

The chapter presents theoretical frameworks for explaining the characteristics of the real estate market in terms of supply, demand, and market dynamics. Furthermore, theories explaining the characteristics and perspectives of mixed-use facilities are presented in order to increase the basic knowledge about the concept.

Chapter 4: The Swedish Real Estate Market 2009

In this chapter the real estate market in Sweden is described, for example the current as well as future market situation for residential and office. The different form of tenures for apartments are explained further, as the information will be used later in the analyses of which combination is the best for mixed-use facilities in Sweden.

Chapter 5: Value-drivers for Mixed-Use Facilities

In this section the opportunities and challenges for introducing mixed-use facilities in Sweden will be presented. Information presented in chapter 3, and 4 will now be used and analyzed through three identified value-drivers for Mixed-use Facilities; Economic and Market, Financial Physical and Public Issues.

Chapter 6: SWOT-Analyses of Mixed-Use Facilities

In order to conclude whether mixed-use facilities are an interesting concept for the Swedish real estate market, 4 different SWOT-analyses have been conducted; for mixed-use facilities in general as well as each of the alternative combinations with office and residential.

Chapter 7: Conclusions

The most important findings of the thesis will be summarized and concluded, in order to answer the purpose of the thesis.

Chapter 8: Recommendations

The chapter presents the conclusions applied on Skanska Fastigheter Göteborg AB, and how they can take advantage of the information in the best way.

Chapter 9: List of References

Chapter 10: Appendices

2 Methodology

This chapter aims to describe the working process of the thesis. The need of information and how the information was gained will be discussed, as well what actions have been taken in order to increase the reliability and validity of the thesis.

2.1 The process of the thesis

Reality is a product of the human being.¹¹

So are the contents and findings of this thesis. Every person who has contributed to the study, especially the authors, has also influenced the findings by giving answers or recommendations based on their apprehension of the reality. During the working process of the thesis, we have continuously had this in mind, and have tried to minimize our own perspectives by involving people with different backgrounds, positions, and knowledge.

The assignment of the study was given from SFG, who wanted to analyze the market opportunities with condominiums and rental apartments. A pre-study was conducted in order to decide the main focus and delimitations of the thesis. It became clear that mixed-use facilities are a rather unfamiliar concept in Sweden, and therefore the concept was decided to be the main focus of the thesis.

2.1.1 The need of Information

In order to analyze mixed-use facilities, a good understanding of the office space market and residential market is needed. In order to estimate the effects of combining the two different functions, information such as demand and supply drivers, real estate cycles, prices, and future construction levels need to be gathered. The residential market is divided into three different types of tenures; rental apartments, cooperative apartments, and condominiums why descriptions of all the three markets must be included in the empirical information gathering. This empirical information about the Swedish real estate market must be based on theories explaining how real estate markets in generally works. This is important in order to understand how the Swedish market differs from other real estate market and to get a deeper understanding for the real estate industry as a whole.

In order to gain a deeper understanding for mixed-use facilities, internationally established theories about the concept must be found and presented in the thesis. This information combined with the market conditions in the Swedish real estate market, will lead to the answer of the purpose of the thesis.

¹¹ Eriksson et al. (2006)

The theoretical and empirical processes have been conducted in parallel in an iterative process and have been altered during the process when new information has given new perspectives. Kurt Lewin called this type of methodology for Action Research¹² when new information has been analyzed and then changes the previous findings. The way the authors have chosen to conduct the theories and information gathering have by other words had an important impact on the final results. Bjerke and Arbnor¹³ refer this to the Actors View, where the researchers' perspective of the reality is a social construction and therefore will affect how the study is conducted and what the final results will be. The opposite is called The Analytical View where the researcher claims that reality is objective. It is therefore of great importance that the authors clearly explain their choice of theories and information gathering.

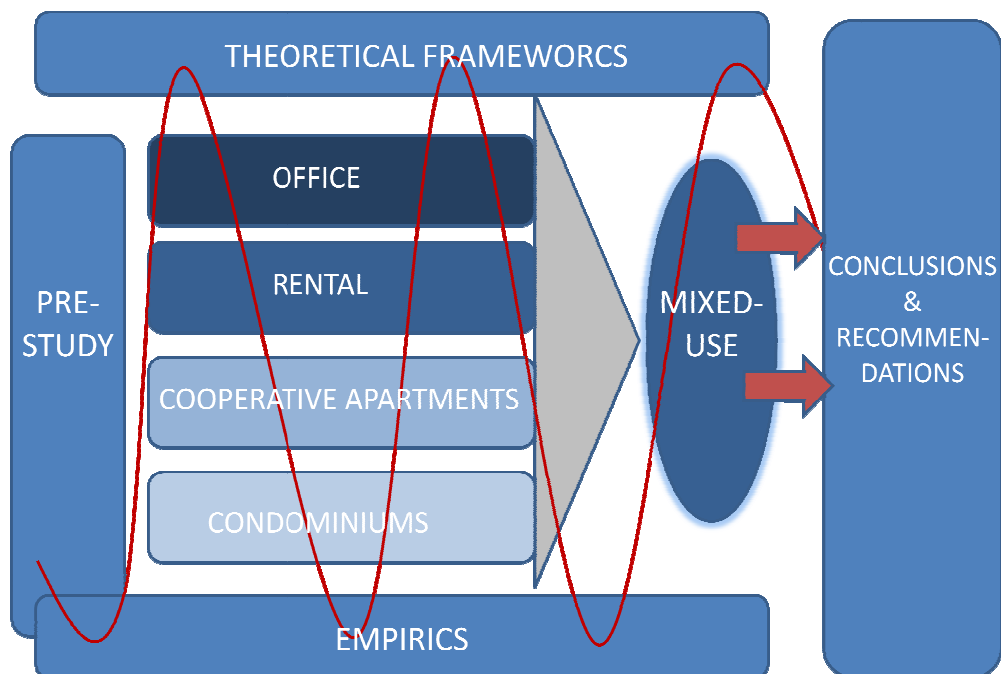


Figure 5; the working process has been an iterative process where theoretical and empirical studies have been conducted in parallel. The chosen theories in combination with the analyzed empirical information resulted in analyzes, conclusions, and recommendations.

2.1.2 Theoretical Foundation

Initially, an extensive theoretical research was conducted. During the pre-study no theories describing mixed-use facilities together with the market conditions for the Swedish real estate market was found. Therefore, it was decided that international

¹² Lewin, K. (1946) p. 34-46

¹³ Arbnor et. Al (2009)

theories of mixed-use facilities will be used and later be adjusted to Swedish market conditions.

In order to conclude whether combining office space with apartments in Sweden is value creating or not, theories that facilitate a relevant real estate market analysis have been chosen. The choices of the theories are based on discussions with supervisors at Lund University and SFG.

The first part of Chapter 3; Theoretical Foundation describes the basic characteristics and how real estate markets works in general. This includes for example theories regarding drivers for supply, demand, and vacancy- rates and how the cycles in the real estate looks like regarding growth and decline. The theories have an international perspective, which make them applicable in different real estate markets, including Sweden. Combined with the empirical information presented in Chapter 4, the reader should have a good understanding of how the real estate market works, both internationally and in Sweden. This knowledge will later be used in the analytical parts of the thesis.

The second part of Chapter 3 describes the concept of mixed-use facilities further, for example the different types of mixed-use, and explains and describes important value-drivers for the concept. These theories will increase the knowledge of the concept which is necessary in order to decide whether mixed-use facilities are value creating in the Swedish real estate market or not.

The theories have been found in published books and articles and the references have been critically examined. Furthermore, the original information sources have been used as long as possible.

2.1.3 Empirical information gathering

In order to fulfill the purpose, five different types of real estate properties have been investigated; office, condominiums, cooperative apartments, rental apartments and mixed- used facilities. To assure time effectiveness the studies have been conducted in parallel and both empirical and analytical data have been gathered simultaneously. The empirics originate from interviews, statistical data, internal information from Skanska AB, annual reports, web sites etc.

2.1.3.1 Primary information sources

In order to get the most relevant and up to date information for the thesis, a lot of direct contacts with knowledgeable persons of the Swedish real estate market have been taken.

Interviews

The interviewed persons have been chosen because of their expertise knowledge, employment position or because they possessed important information for the

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

findings of the thesis. Interviews from for example following market representatives have been held:

- Skanska Fastigheter Göteborg (Commercial Developer)
- Skanska Nya Hem Göteborg (Residential Developer)
- Municipal Housing Companies
- Industry Organizations
- Real Estate Analysts
- Investors in the real estate market
- Banks
- Municipalities
- Expert from Lund University

Before each interview, thorough preparations were made for example in terms of discussions with each other regarding what the purpose of the interview was. Only the main questions was prepared, and the interviewer was free to ask additional questions for clarification which sometimes led to other subjects than what the authors initially planned. Therefore, the majority of the interviews were semi-structured, as for example some questions were prepared in advanced but not the order of when the questions were asked.¹⁴ In this way, more qualitative and nuanced answers were gathered in the same time as the questions most suitable for the respondent could be asked. The interviewee's opinions, values, and attitudes were also important to capture, just not hard facts.¹⁵ Therefore, instead of strictly asking information seeking questions, dialogs were sometimes developed with the respondent so that he/ she could develop and formulate own questions and thoughts.¹⁶ Carefully notes were taken during all interviews and some interviews were also recorded. When clarifications were needed, the person was contacted once more, via e-mail, telephone or an extra meeting.

The telephone interviews were semi- structured as well, where questions were prepared in advanced, but not the order of when the questions were being asked. The majority of the telephone interviews were held with a speaker phone so that both authors could hear the respondent and participate in the interview. Similar to the personal interviews, carefully notes were taken during all telephone interviews.

Skanska Workshop

The 20th of April, the authors initiated and held a workshop with 4 representatives from Skanska Nya Hem, a residential developer, and 4 representatives from SFG. The purpose with the workshop was to gather expertise knowledge regarding both the

¹⁴ Eriksson et al. (2006)

¹⁵ Lundahl et al. (1999)

¹⁶ Lundahl et al. (1999)

office and residential market at the same time and during two hours discuss questions relevant for the conclusions of the thesis. The structure of the workshop was thoroughly prepared, and the discussed questions can be found in Appendix II. Initially, the representatives from the residential and commercial developers discussed with each other separately about their specific market prerequisites. Their answers were thereafter briefly presented and discussed among the whole group, before the participants were divided into mixed teams where the focus changed to a mixed-use facility perspective.

The participants were asked to write down their discussions and answers of the questions and the workshop was also recorded so that the authors could listen to the discussions to assure that the right information was captured. The workshop gave the authors many useful and important inputs and reflections regarding value drivers for the Swedish real estate markets and how investment decisions are taken from a developer's perspective, information mainly used in the chapters 5, 6, and 7.

A lot of the findings of the thesis are based upon information given from interviewed persons. Their opinions and answers as well as the authors' interpretations of the answers have therefore affected the findings of the thesis. The authors have tried to avoid this by interviewing different persons within the same knowledge- and information fields as well as talking to a large amount of persons. As mentioned before, carefully notes have been taken and sometimes the interviews have been recorded in order to avoid misunderstandings as far as possible.

2.1.3.2 Secondary information sources

A major part of the information gathering has been taken from secondary information sources. Examples of sources are statistical databases, market analysis from expertise organization within the industry, industry newspapers, other university thesis, annual reports and much more. For every new information source, the trustworthiness has been valued critically, and as far as possible the primary sources have been used. The most recently information have been used as long as possible. Some of our findings are based on different forecasts made of analysts and experts in the market. All forecasts are estimations and not confirmed facts, and therefore we have where possible tried to compare different forecasts estimating the same subjects with each other, and always tried to go to the primary source. As our capabilities of searching and finding relevant information reflects the final results, we have also asked others for recommendations and advice of where to find relevant information and some stakeholders have also contributed with useful information. In that way, we have decreased our own perspectives of the findings and increased the objectiveness.

2.2 Reliability

Reliability is a measure of how alike the results of a study would be if it was performed with the same methods but at different occasions.¹⁷ As a major part of the conclusions are based on different persons' answers during interviews, the reliability becomes harder to assure, if these issues have not been thought of and if actions had not been taken on beforehand. During the interviews, one purpose have been to find out about the respondent's opinions, which may have been affected by several different factors such as that the person recently has seen a TV- program or that the way the interviewer asked the question (consciously or unconsciously) affected the respondent's answers.¹⁸

Other actions that have been taken are to confirm information from several different sources, both secondary and primary. During interviews, similar questions have been asked to different persons and written information has been confirmed by more than one source. In this way, more general conclusions have been drawn from the information, which increases the probability that the findings are not the results of specific opinions.

2.3 Validity

Validity is a measure of what was intended to find out with the thesis initially, really was measured.¹⁹ In order to assure the validity, regular meetings with the supervisor at SFG have been held, which have been facilitated as we have been situated at SFG during the majority of time. Early versions of the preliminary report have been sent to supervisors at both SFG and Lund University to increase the validity and to confirm that the findings and results are correct. Furthermore, the authors have had several discussions with each other and the supervisors to critically evaluate the validity.

¹⁷ Bell J (2006) p. 117

¹⁸ Bell J (2006) p. 117

¹⁹ Bell J (2006) p. 117

3 Theoretical Foundation

The first part of the chapter will describe the real estate market characteristics in general for example by describing supply and demand drivers and the market cycles. In the second part of the chapter, theories regarding mixed-use facilities are presented, describing different types of the concept and some important value drivers.

3.1 Characteristics and dynamics in the real estate market system

The real estate market can roughly be divided in two different usage categories; housing and commercial. The housing category consists of residential single family houses and residential multifamily properties with apartments. The commercial category consists of retail, office, industrial and hotel and convention properties. The real estate market is a complex market which is affected and driven by several different parameters. Miller et al identifies following factors as important characteristics;²⁰

Table 1; following parameters are important characteristics of the real estate market.²¹

Durability

- Inelastic short-run supply

Large economic unit

- Infrequent purchase
- Debt usually required

Lumpy asset

- Large shifts in supply within localized markets

High transaction costs

- Reduced ability to speculate on known price trends

Unique location and heterogeneous nature

- Segmented and localized space markets

Regulated use by government

- Affects demand, supply and other market dynamics

The real estate market is durable in that sense that the supply curve is inelastic in the short run. It takes time to develop and produce new properties, and the

²⁰ Miller N G. & Geltner D M. (2005) p 19

²¹ Miller N G & Geltner D M. (2005) p 20

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

buildings last for a long time. Real estate is a large economic unit that is acquired infrequently and often involves large amounts of monetary transactions. Therefore it requires debts, why the credit market provides mortgages so that consumer and organizations can acquire large investments without 100% cash equity. This requirement slows down the transaction process, since the mortgage lien is a time consuming process, and transaction costs that cover for example fees for loan covers will emerge. The dependency of debt result in a direct influence from the credit market of the prices paid for the properties due to interest rates and credit availability.

Every real estate location and property is unique and has its own specific pre-requisites that much be analyzed prior to investment decisions. Therefore research costs tend to increase and information in the real estate is often costly. Finally, the government regulations play an important role in the market. At the local level, building codes and zoning laws influence the ability to add new supply or change uses.²²

Since the nature of real estate is location specific as well as time consuming and costly to adjust to instant shifts in demand, cyclical market behaviour between the demand and the supply of built space occurs. Since the fluctuations is influenced by different market characteristics and different investor expectations, the supply needs time to adjust to demand in the short-run to be able to keep the system in balance in the long-run.

The two markets of relevance for the commercial as well as residential properties are the asset- and the space market. The space market determines the generated cash flow and these capital flows underlie the value of the property while the asset market determines the value of the property which in turn determines the flow of capital from the capital market into the real estate market.²³

3.1.1 Space market

The space market is the market for the right to use land and build space, often referred to as the rental markets. The demand side of this market constitutes of individuals, households, and companies who want to use the space in purpose of consumption or production. The supply side of the space market consists of real estate owners who let space to tenants.

The rent ratio indicates current value of built space as well as the balance between supply and demand. Increasing demand in combination with constant supply tend to result in increasing rents. Since both real estate supply and demand is location and type specific, the space market are highly segmented. This segmentation result in

²² Miller N G & Geltner D M. (2005) p 21

²³ Geltner D M. et al. (2007) p 18

that supply, demand and rents varies on a local basis rather than a national basis which have to be taken into consideration in any real estate market analysis.

Real estate markets are divided into A, B and C location representing the physical and location quality of the property and thereby the level of rent as well as the type of tenants that are acting on the demand side of the market. Class A refers to the upper end of the interval and C to peripheral or less attractive areas. In addition to geographical segmentation the real estate market is segmented by usage type (i.e. prime locations for housing do not have to be the same for commercial real estate). The classifications into A, B and C locations differ among the forms of usage. The primary usage types for rental property are office, retail, industrial, and multi-family residential. It is possible for each of these segments to have different investors on the demand side and differing requirements on the supply side.²⁴

3.2 Supply and demand drivers in the real estate market

3.2.1 Demand drivers

Fundamentally, it is the need for space usage that drives the demand in the real estate market. The most important demand factors regarding to Miller et al, are presented in *Table 2* below.

²⁴ Geltner D M. et al. (2007) p 19

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Table 2; the table presents the most important demand drivers for housing (small houses and apartments), and office buildings.²⁵

Property type	Key demand variables
Residential Single family	Population, Household formation (child-rearing age), Interest rates, Employment growth (business & professional occupations)
Residential Multifamily (apartments renters)	Population Household formation (non-child-rearing age) Local housing affordability Employment growth (blue collar occupations)
Commercial Office	Employment in office occupation; Finance Real estate insurance (fire) Business & professional services Legal services.

The most important factors for the residential category for demand of real estate is the population development in combination with the general employment rate, which in turn can be translated as the size of the households' disposable income. The employment rate is also a key demand driver for office space, together with financing opportunities, and the overall business environment.

3.2.2 Supply drivers

The supply side of the market, which is as important as the demand side, is fundamentally driven by profitability opportunities. The most important variables are presented in *Table 3* below.

²⁵ Miller N G. & Geltner D M. (2005) p 16

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Table 3; the table presents the most important supply drivers for housing (small houses and apartments), and office buildings.²⁶

Property type	Key supply drivers
Residential Single family	Available highway accessible land supply Ease of gaining zoning and building permits Costs of capital and profitability
Residential Multifamily (apartments renters)	Available land supply, zoning constraints Projected returns/risks, cost of capital Government subsidies and incentives
Commercial Office	Available sites Parking availability zoning requirements Profitability and risks

3.2.3 The link between real estate supply and demand drivers

The supply function of the real estate space market is typically kinked. This means that the supply function starts almost as a vertical line at current level of supply of built space. The vertical function represents an almost complete inelasticity meaning that the supply of reap property, in contrast to other products, cannot be reduced instantly when demand falls. In the case of falling demand the market will maintain current level of supply. The usage of some buildings can be changed but such adjustments are time consuming and costly. The kink appears when current level of rent equals the long-run marginal cost (LRMC) of supplying additional space to the market (See Figure 6).²⁷

²⁶ Miller N G. & Geltner D M. (2005) p 32

²⁷ Geltner D M. et al. (2007) p 14

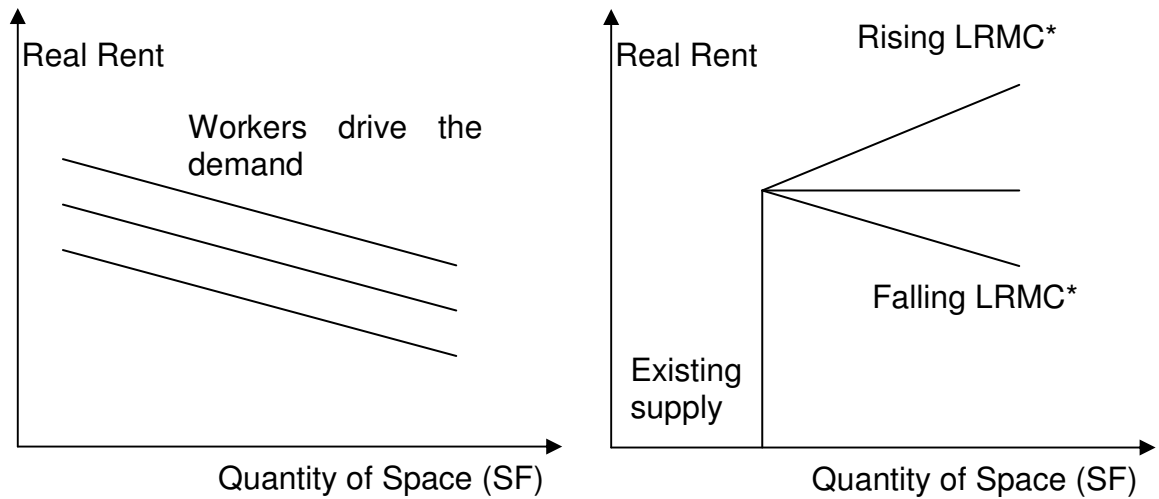


Figure 6; the figure illustrates the supply and demand functions showing a typical shape of the demand function and a kinked supply curve. * LRMC = Long Run Marginal Cost

3.3 Asset market

The value of real estate constitutes a large part of the overall capital. The asset market, the market for ownership of real estate, consists of land parcels and buildings. From an investors perspective it is the properties' ability to generate future streams of revenues that is attractive. Therefore, real property can be compared to any other form of assets in the capital market such as stocks, bonds etc.²⁸

The capitalization rent (cap rate or overall rate) is defined as the property operation earnings divided by property asset price or value. The cap rate is similar to income return which is the amount of current income the investors receive per dollar of current value of the investment. Since the cap rate is the investors' measure of the earnings, the property value can be represented as operational earnings divided by the cap rate. The cap rate is determined by capital investment, supply, and demand in the asset markets, and it is based upon three important factors; opportunity cost of capital, growth expectations, and risk.²⁹

1. Opportunity cost of capital

The opportunity cost of capital is determined by current interest rates and the opportunities of earnings from other forms of capital investments. The opportunity cost of capital defines how much the investor is willing to pay for the investment. Real estate investment is in competition with other forms of real estate as well as any other forms of assets. When interest rates

²⁸ Geltner D M. et al. (2007) p 15

²⁹ Geltner D M. et al. (2007) p 15

and yields are low on stock and bonds, investors are more willing to invest in real property and will not expect as high return from the property as they otherwise would have.

2. Growth expectations

The growth expectation consists of the forecasted growth or decline of the expected net rent which at a great extent is determined by the current state of the market cycle (i.e. are the rent below or above the long run equilibrium).

3. Risk

If investors evaluate real estate as less risky than other assets the cap rate will be reduced as they are willing to pay a higher price per current income of the property. An important factor is the investors' potential interest in real estate investments as a risk diversification strategy. The space market is relatively stable and easy to forecast as well as a history of continuously increasing land value.

In terms of market segmentation the asset market, in contrast to the space market, the investors do not have requirements of the assets physical characteristics. In contrast to the users who has requirements of the assets physical characteristics, a large part of the investors (the demand side of the asset market) are seeking future cash flows and not the physical asset itself. This is an important distinction since the asset market in terms of segmentations differs from the space market.³⁰

3.4 The Four Quadrant System; the Link between Space Market and Asset Market

The four quadrant model (4Q model) is a graphic illustration of the real estate system and the dynamic between its markets. The model consists of a four quadrants graph that depicts a binary relationship relating the asset market and the space market, the left side represent the asset market and the right side the space market. The model illustrate the long-run equilibrium which in the real estate market involves the process of allowing the market time for the supply of built space to adapt to the demand and include a natural lag between supply and demand. The equilibrium in the graph is represented by a dashed-rectangle whose sides is horizontal and vertical connections between four point (see Q*, R*, P* and C* in *Figure 7* lying on each of the four binary relationship lines in each of the four quadrants. The points where the sides of the rectangle cross the axes represents the long run equilibrium of built space, rents, asset price, and the rate of new

³⁰ Geltner D M. et al. (2007) p 14

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

construction in the market. The horizontal axis illustrates the stock of built space (SF) and the vertical axis represents rents (\$/SF).³¹

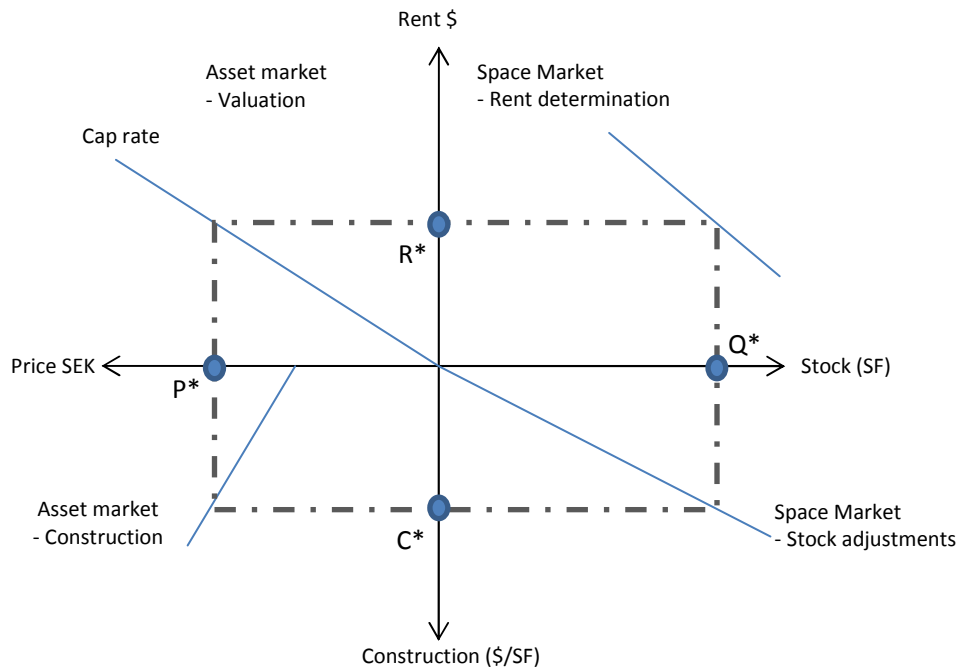


Figure 7; the figure illustrates the real estate market dynamics. Q^* , R^* , P^* and C^* depicts the long-run equilibrium prices and quantities in a well functioning real estate market³²

The top quadrants represent the short run or immediate price linkage between the asset- and the space market. The two southern quadrants depict the long run effect of real estate development by illustrating the impact of construction on the total stock of built space. The northwest quadrant illustrates the asset market valuation process relating the property price to the level of rent, represented by the northeast quadrant. The line in the northwest quadrant represents the cap rate; the steeper the slope is the higher the cap rate (Figure 7).³³

The southwest quadrant shows the activity of the development industry (e.g. the physical asset production process). The relationship in the southeast quadrant is between property price and the annual rate of construction activity and the line represents a given level property price at a given rate of construction. The construction activity includes rehabilitation, redevelopment, and new development. The vertical axis illustrates the physical amount of construction and the farther down the axis the greater is the level of construction. The kinked and outwards sloping

³¹ Geltner D M. et al. (2007) p 26

³² Geltner D M. et al. (2007) p 26

³³ Geltner D M. et al. (2007) p 26

construction function indicate that higher property prices stimulate the construction and therefore the outward sloping line represent a rising long-run marginal cost in the supply of built space. The kinked function line, which intersects the vertical axis at a positive value, indicates that when property price is below a certain threshold level, no construction will occur.

The southeast quadrant completes the long-run integration of the space and the asset market by linking the rate of new construction to the total stock of built space. The function in the quadrant illustrates the relationship between the average annual rate of space construction and the total stock of space that requires an indefinitely level of maintenance. In the long run the absence of new construction reduces the stock of supply since building will be removed from the market as it gets worn out or converted to other forms of usage. Therefore the supply requires a certain amount of new construction to maintain the stock of space available at the market. Thus, the line in the southeast quadrant link the construction activity to the level of total supply of built space.³⁴

Together the four quadrants is good illustration of the dynamics between the market characteristics and indicate why the real estate market has a cyclical behavior.

3.5 Real Estate Cycles

Historically the real estate market has experienced a number of severe boom and bust periods. It is argued that changes in the overall economy are the main drivers of the real estate markets cyclical appearance. Therefore it is of importance to address the underlying market characteristics of why the changes occur and which possibilities it may entail.

Mueller et al. (1995) suggests a theoretical approach to the real estate markets cyclical behavior dividing both the physical- and the financial market cycles into four phases; recovery, expansion, hyper-supply, and recession. By following the markets cyclical behavior (i.e. movements of its key characteristics) the theory allows the market actor to predict the long run market direction.³⁵

3.5.1 The Physical Market Cycle

The real estate market is cyclical due to a lagged relationship between supply and demand as well as the dynamics between the asset- and the space market.³⁶ The market is always in a state where either demands grows faster than supply or supply grows faster than demand.³⁷ The long-term occupancy average is a determinant

³⁴ Geltner D M. et al. (2007) p 27

³⁵ Mueller et al. (1995) p 43-47

³⁶ Real Estate Cycle Monitor, Dividend Capital 2010 p 8

³⁷ Mueller GR. (1999) p 131-150

when setting the rental growth a rate, which in turn is a key factor affecting the returns. The long-term occupancy average differs from each market and usage type and is specific points in the cycle which the market passes both during its up- and down cycle (see *Figure 8*).³⁸ Market cycles can be used to forecast vacancy- and rental development.³⁹ *Figure 8* depict the physical market cycle as an occupancy cycle where occupancy is the difference between total supply and effective demand as measured by absorption. The cycle constitutes of two up-cycle phases where demand grows faster than supply and two down cycle phases where demand growth rate excess the supply growth rate. The cycle reaches its peak and trough when supply equals demand.

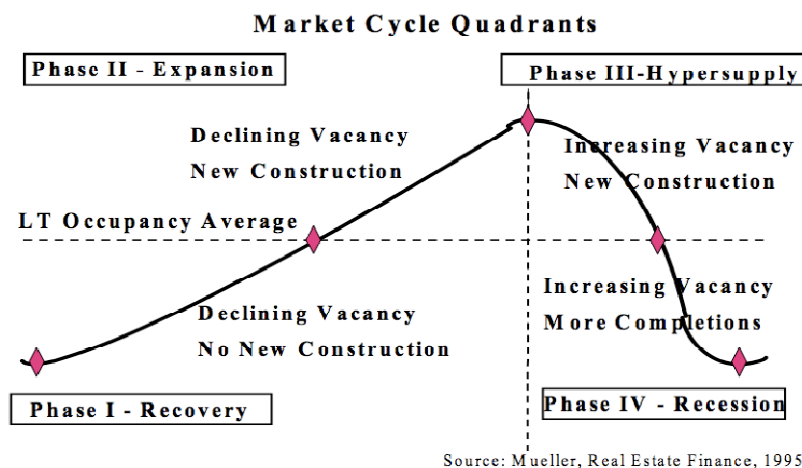


Figure 8; the figure illustrates the physical market cycle. Before the equilibrium demand grows faster than supply and after the equilibrium supply excess demand.⁴⁰

3.5.2 Rental Growth Theory

The theory of the real estate market cycle suggests that rental growth is a function of current position in the physical market cycle.⁴¹

3.5.2.1 Phase I - Recovery

During the recovery phase, the market is in a current state of oversupply from previous rate of new construction or as a consequence of declining demand. At this point the market is at its trough and the demand starts its process to absorb the oversupply. The supply growth is either absent or very slow, as the oversupply

³⁸ Mueller GR. (1999) p 131-150

³⁹ Reed R. & Wu H. (2010) p 34

⁴⁰ Mueller G R. et al. (1995) p 47-53

⁴¹ Mueller G R. (1999) p.131-150

slowly is beginning to get absorbed vacancy rates fall, allowing rates to get stabilized or even begin to increase. During the recovery phase positive market expectations allow landlords to increase the rent somewhat and eventually the local market reaches its long-term occupancy average where rental growth equals inflation.⁴²

3.5.2.2 Phase II - Expansion

During the second phase, the demand growth continues increasingly creating a need of additional space. Vacancy rates fall below the long-term occupancy average, indicating a tightening of the supply which results in rapidly increasing rents until it reaches a state of cost-feasibility allowing new construction. With tight supply and rapidly increasing rents some developers begin to produce on speculation. When reaching the cost-feasibility level demand growth is still ahead the supply of built space creating lag in providing new space due to the production- and development time. Historically the up-cycle is a long-term up-hill climbing, as long as demand growth rates excess supply growth rate, vacancy rates will continue to fall. This cycle reaches its peak at the point of equilibrium where supply-and demand growth rates equals.⁴³

3.5.2.3 Phase III – Hyper-supply

At this phase the supply growth excess demand growth creating a hyper-supply and causing vacancy rates to start rising towards the long-term occupancy average. In this point the oversupply is still not high enough to stop the production of additional space. The additional space is slowing the rental growth and when the market realizes the down turn new production slows down or stops.⁴⁴

3.5.2.4 Phase IV – Recession

This phase is initiated when the market is passing the long-term occupancy average with high supply and slow or negative demand growth. The extent of the down turn is determined by the difference between supply- and demand growth. Landlords lose their market shares if not using competitive rent ratios and the market liquidity is low or nonexistent. The cycle reaches its trout as new construction cease, or as demand growth starts to rise at a higher rate than the addition of new supply.⁴⁵

3.6 The Financial Market Cycle

The physical cycle does not occur without investment capital and thereby the physical cycle is affected by the capital market.

⁴² Mueller G R. (1999) p.131-150

⁴³ Mueller G R. (1995) p. 47-53

⁴⁴ Mueller G R. (1995) p. 47-53

⁴⁵ Real Estate Cycle Monitor, Dividend Capital 2010 p 8

Historically transactions within the real estate market are privately held which lowers the rate of information transparency and characterize the market as non perfect. Investors and lenders tend to follow each other, setting the same expectations and creating trends, often describes as a “herd mentality”. This herd mentality affects the risk ratio which in turn can result in arbitrage opportunities and liquidity risks. Additional factors influencing the capital flow to the real estate market are the cost of capital, interest rates movements, the opportunity cost of capital, and foreign exchange rates which plays a complex but substantial in the real estate finance cycle.⁴⁶

The financial real estate cycle can be divided into the same four phases as the physical cycle; recovery, expansion, hyper-supply, and recession.

3.6.1 Recovery and Extension

In the recovery phase, little capital is available for investment of both existing supply and new construction, and the market actors can observe the lowest rent ratios and cash flows. The investors operating in this market stage are high risk investors, such as venture capitalist. During the physical movement towards the expansion phase, increasing rent ratios drive positive expectations and equity capital investors are willing to invest below the replacement cost. The capital flow is continuous throughout the phase and the equilibrium is reached as rent equals the cost-feasibility to construct. The later part of the expansion phase is characterized by increasing flows of capital primarily through investments in existing buildings and new production.⁴⁷

3.6.2 Oversupply and Recession

In the state of oversupply investors continue to invest as long as the vacancy rate is below its equilibrium. The market liquidity is still high but the investors begin to notice the coming down turn. This decreased expectations result in lower bids creating illiquidity as the owners’ asking prices lags the investor expectations. At this stage investors are exposed to great risks which in some cases have caused major drops in demand at the real estate market. Simultaneously supply is at its highest level which further affects the recession.⁴⁸

3.7 The linkage between the physical and the financial market cycles

The linkage between the two cycles may vary dramatically. Fluctuations are primarily caused by the investors’ return expectations of the real estate investments in comparison to the opportunity cost of investment in other assets. This causes the expectation of real estate as an attractive market which can result in, either excess

⁴⁶ Mueller G R. (1995) p 47-53

⁴⁷ Mueller G R. (1995) p 47-53

⁴⁸ Mueller G R. (1995) p 47-53

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

of capital or a restraint access of capital. This occur regardless present physical cycle phase which creates contradictory results. Therefore the linkages between the markets vary over time.

Primarily because of a lack of capital for real estate investments (when alternative investments generate higher average return) the real estate market has experienced recession during the physical markets expansion phase. Lack of capital affected the prices negatively and during these cycle the peak do not reach the same level as usual. Another example is when the market has experienced major down turns. When the alternative cost for investments in other assets is substantially higher an extensive access of capital even after the physical real estate market had its peak generate a boost of prices and rate of new construction, gradually creating an oversupply of space.⁴⁹

The market cycles can be dampened by the ability of the asset market to react quickly to relevant new information. The 4Q model illustrates the emergence of cycles occurring at the real estate market which can and should be considered when forecasting the market development⁵⁰.

⁴⁹ Mueller G R. (1995) p 47-53

⁵⁰ Geltner D M. et al. (2007) p 29

3.8 Urban Mixed-Use Facilities

In the context of urban planning the society has for a long time created cities with the development perspective of zoning, segregating functional uses with a focus on clustering effects. This however has not always been the case, throughout most of the human history, the majority of settlements developed as mixed-use environments. The prevailing villages were smaller and all necessities' were produced within the homes or in the near surroundings. During the industrialization and the urbanization the mixed-use development declined and cities characterized by separation of single-function areas were the growing urban development trend.⁵¹

Today as land gets more expensive and less available, the urban planning is moving towards the concept again. Recently mixed-use was denoted by the Urban Land Institute (ULI) and PricewaterhouseCoopers (PWC) as one of the big emerging trends in the real estate market.⁵²

Mixed-use is argued as having several benefits and constraints. Primary benefit are for mixed-use are denoted as sustainability and creation of a lively and secure neighbourhoods. ULI promotes the concept with the words live, work, shop and play and they mention the big three usages as residential, office, and retail.⁵³ Furthermore ULI highlights the potential of smart growth, liveable communities, urban revitalization, sustainable development etc. During the recent years mixed-use has been intensively discussed both in theory and in practise. As a concept, mixed-use is applied in the approach of increase the intensity of land use, increase diversity and integrate segregating user⁵⁴ Even though mixed-use creates sustainability and positive synergies there are several constraints and challenges addressed with developing mixed-use facilities. For example not all forms of land uses are appropriate in a mixture and there are construction difficulties when integrating several usages into the same building complex.⁵⁵

3.8.1 Mixed-Use in Theory

As early as 1961 Jacobs argues that districts with a balanced mix of working services and living activities creates a lively, stimulating and secure neighbourhood.⁵⁶ Jacobs separate mixed primary uses and mixed secondary uses. Primary use is defined as residential and large employment or service functions (land uses creating a flow of people moving through an area). Primary uses produce a demand for the secondary uses such as restaurants, shops, bars etc. The activities of people moving from primary and secondary uses occur at different times creating an even distribution of

⁵¹ Buildings (www) 2010-05-08

⁵² The Urban Land Institute and PricewaterhouseCoopers LLP (2008) p 60

⁵³ Buildings² (www) 2010-05-08

⁵⁴ Grant J. (2002) p 71-84

⁵⁵ Rabianski et al.² (2009) p 19

⁵⁶ Jacobs (1961)

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

movements over the day. Mixed-use is usually described and discussed based on the perspectives of functionality, urban texture, spatial texture (geographical scale) and diversity.

Since Jacobs, there has been a wide range of discussions and definitions of mixed-use facilities and the potential benefits it entails.

The Urban Land Institute (1987) defined mixed-use as areas with a coherent plan with three or more functionally and physically integrated and revenue-producing land uses.⁵⁷

Mixed-use is however a broad definition commented by many, and a combination of two uses can be also defined as mixed-use. The definition of what denotes a city function or land use is also a subject of discussion. The Congrès International d'Architecture Moderne (CIAM) addresses four main functions of a city: housing, employment, recreation and transport. These functions were mainly addressed in the context of a functional segregated city (zoning) which is the opposite concept of mixed-use, but these fundamental functions can be considered in the case of mixed-use as well. However, there is no précis definition of the city functions and different researchers have somewhat different perspectives, for example Grant (2002) includes the residential mixture of social and private housing in the definition of mixed-use while many others do not.⁵⁸

In addition to the perspective of land usage, mixed-use is discussed in a spatial context. Jacobs 1961 discuss mixed use at the geographical scale of a neighbourhood, while Coupeland (1997) refers to that of a building-complex and Grant from the scale of a local. Furthermore, these functions can be mixed in time if applying a sequential usage (i.e. when two or more functions occupy the building at different times of the day). At the local level a resident can be used as both residence and as a working premise and within a building-complex mixed-use can be applied by mixing offices, shops and housing. At a district level a mixture of housing and employment can be mixed and further complemented with a bundle of other functions creating a liveable neighbourhood. Furthermore, mixed-use can be addressed at a city level consisting of districts with different mixtures.⁵⁹

Another aspect in the context of mixed-use is diversity. Grant (2002) argues that a compatible mix of uses creates synergies and preventing conflicts. The outputs of mixing different complementary functions are by several economists defined in terms of synergies and agglomeration effects.⁶⁰ The concept of mixed-use has

⁵⁷ Urban Land Institute (1987)

⁵⁸ Grant J. (2002) p 71-84

⁵⁹ Hoppenbrouwer E. & Louw E. (2005) p 968

⁶⁰ Nijkamp C. A. et al. (2003) p 3-15

potential to increase physical-, social- as well as visual interaction, and an adequate spatial mix of land uses can thereby increase the land value.⁶¹

3.8.2 Conceptual Models of Mixed-Use Development

In 1996 Rowley⁶² suggests a conceptual model of mixed land use development. The model is based upon the internal texture of a settlement and the perspective of urban scale. Rowley combines many of the above denoted aspects and incorporates the key texture of settlement which he defines as grain, density and permeability. Grain explains the spatial mix of the components of a settlement (people, activities, land uses, buildings and spaces) while density refers to the intensity or activities which are dependant of the number of users as well as the specific mix of uses. Permeability refers to how well the facility incorporates pedestrian movements through the property in terms of layout of roads, streets, and paths. Considering the spatial scale of mixed-use Rowley uses a distinction between street blocks, streets, and districts as well as suggests four locations where mixed use is found or can be encourage. The four locations are: Town centre, inner urban areas, suburban areas, and green fields. Furthermore, Rowley suggests three approaches of maintaining or promoting mixed use:

- (1) Conservation of established mixed-use.
- (2) Gradual revitalization and incremental restructuring of existing town areas.
- (3) Comprehensive development or redevelopment or larger cities and sites.

With origin in Rowley's model Hoppenbrouwer & Louw (2005) created a typology for mixed use for the usages housing and working. Their typology includes urban scale (building, block, district and city) and urban texture (grain, density and interweaving). The spatial typology consists of four dimensions (visualized in *Figure 9*):⁶³

- I. The shared premise dimension – A multifunctional usage within a household (working at home).
- II. Horizontal dimension – Several usages into the same building-complex.
- III. The vertical dimension - A vertically mix of several uses within a building.
- IV. The dimension of time – divided into sequential usage where the usage is changed over time.

⁶¹ Legendijk A. (2001) p 135-154

⁶² Rowley A. (1996) p 89

⁶³ Hoppenbrouwer E. & Louw E. (2005) p 973

Mixed-Use Facilities -A New Window of Opportunity in the Swedish Real Estate Market?

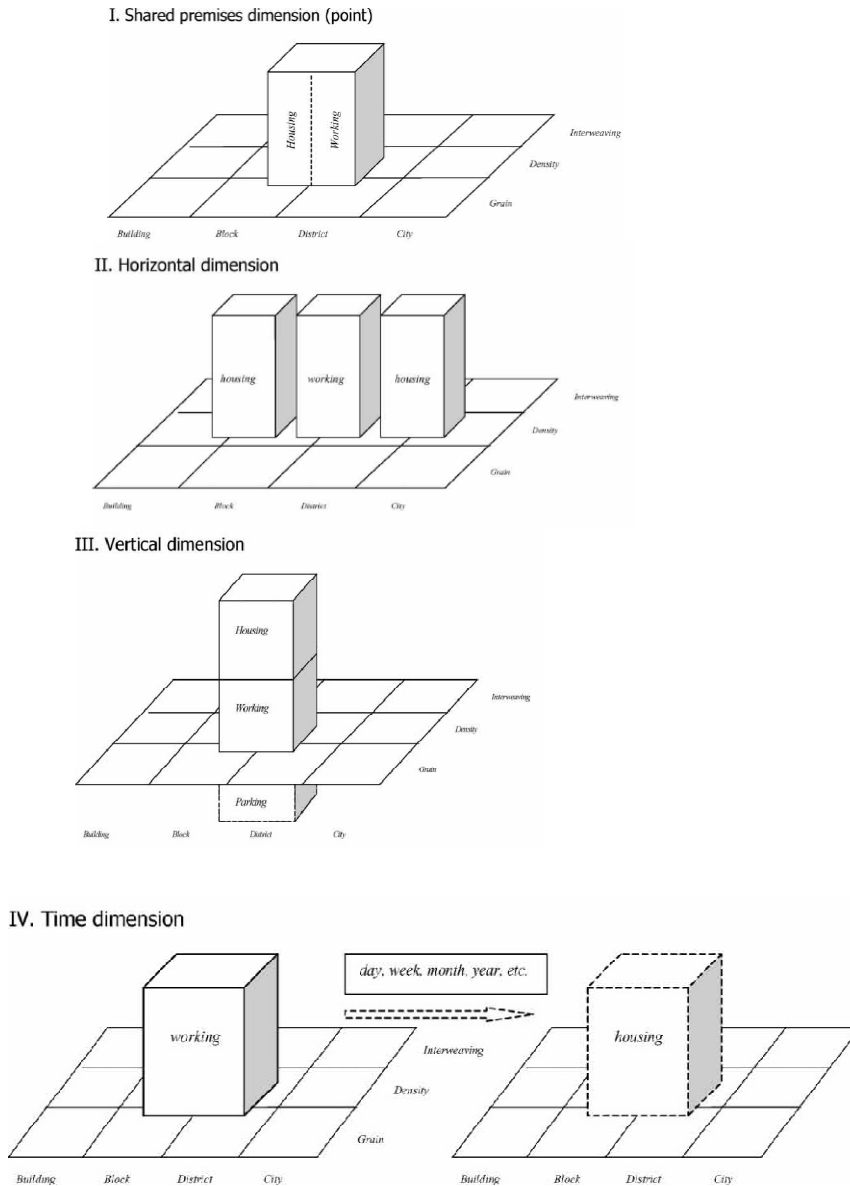


Figure 9; the figure visualize Hoppenbrouwer's & Louw's typological model

Hoppenbrouwer & Louw are using a similar approach as Rowley but with an extended subdivision of urban scale and with the additional dimension of time. By linking the urban scale and urban texture they present the most likely relation between the parameters and positions the dimensional models by denoting the

urban textures of importance. Using this model it is possible to classify all types of mixed use into the model.⁶⁴

3.9 Value-Drivers of Mixed-Use Facilities

In addition to Hoppenbrouwer and Louws typological models of mixed-use development, research regarding the financial aspects has also been conducted. One of few example of this is Rabianski et al. 2009 which investigated and identified important groups of categories which influence the financial success of mixed-use developments (value drivers). These are; Economic and Market Issues, Financial Factors and Issues, and Physical and Public Issues.⁶⁵

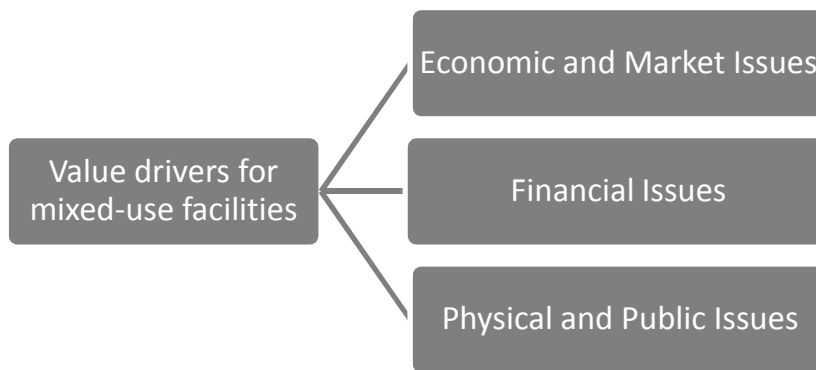


Figure 10; the figure illustrates the important factors influencing the financial success of a mixed-use development which can be grouped in the categories of economic and market, financial, physical and public issues.

Furthermore, Rabianski et al. denote mixed-use as an emerging trend and that the concepts have potential of creating additional value and outperform the traditional single-uses development. A qualitative mixture has potential to create positive synergies and the appeal of the mixed concept may increase absorption rates. Simultaneously, with highlighting opportunities, they emphasize the complexity of evaluating mixed-use in comparison to single-use development.

Economic and market is an important factor due to the overall economy and local market characteristics' large impact on whether it is successful or not to develop mixed-use facilities within a specific market or area.

The quantity of financial factors affecting the success or failure of a mixed use development complicates the market research of mixed-use facilities. Mixed-use implies a new integrated perspective of an integrated product that the developer must take into consideration during the whole process from planning, through construction to the lease-up and sale. Factors that increase the complexity of mixed

⁶⁴ Hoppenbrouwer E. & Louw E. (2005) p 971-973

⁶⁵ Rabanski J S et al. (2009) p. 11

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

use is for example issues related to multiple owners, different ownership structures, leases, loaned and possible increase of the cost related to planning process, development time and constructional factors.⁶⁶

Physical and public issues such as the physical phasing design and public policy factors have a major impact of a mixed-use development. The physical features of the site and the improvements the mix uses implies are denoted as key elements of achieving the financial feasibility. Physical features are for example features regarding the shape of the site and in which extent it is possible to exploit the parcel of land as well as which uses that are possible to mix a specific location. Additional physical factors of importance are an easy access to the area and a sufficient integration to the surroundings.

An essential factor of the success of a mixed-use process is the approval from the authorities. Most regulation are conducted for govern single-use project why it is of importance that the society supports the concept, otherwise the planning process can be impossible or very time consuming and costly.⁶⁷

Financial feasibility occurs when the return on investment exceeds the costs and complexity of integrating several uses. Scale of economies and the potential synergies that may increase the stream of revenues. The authors discuss several developer perspectives. Some developers believe that mixed-use implies a diversified risk across the multiple uses while others believe that the financial and physical complexity of a mixed-use, in addition to longer development time, heightens the uncertainty associated with mixed-use and thereby increases the level of risk.⁶⁸

The research is conducted in the U.S but the factors are generally held and applicable in other markets as well. Rabianski et al. highlights the importance of taking all those aspect into consideration when evaluating and developing mixed-use facilities. The report is a literature and parallel with identifying value drives for mixed-use the authors emphasizing the need of more empirical information in order to determine statistical significance of the presented factors of importance that is strongly related to the financial success of mixed-use development projects.

⁶⁶ Rabanski et al. (2009) p. 12

⁶⁷ Rabianski et al.2 (2009) p. 17

⁶⁸ Rabianski et al (2009) s. 11

4 The Swedish Real Estate Market

The chapter will present the current situation of the real estate in Sweden for both the office and residential market. Furthermore the different forms of tenure for apartments in Sweden will be presented which later will be analyzed in the discussion of which type of combination with office is the best alternative for mixed-use facilities in Sweden.

The Swedish Real Estate Market has during the latest years experienced a downturn with the financial crises. However, some signs of recovery have been observed during the second half of 2009, which indicates that the situation has reached the bottom. Experts of analyzing the market is now recommending new actors to enter the market as it is still in the beginning of the recovery from the global recession.⁶⁹ Factors such as improved balanced- sheets and interests of investing capital in less volatile assets indicates that increased amounts of capital will be invested in the real estate market.⁷⁰

During 2009, the transaction volumes in the market ended up at SEK 30,2 billion which is a fall of 77% compared to 2008.⁷¹ International investors have decreased their activity in Sweden and have instead increased their focus to their home markets or to markets where the estimated value growth is calculated to be higher.⁷² The activity of international investors in Sweden 2009 was only 11% compared to 25% in 2008, and 60% in 2007. The main investors were equity-financed property companies, low- leveraged funds, institutions, municipal housing companies and family- owned property companies.⁷³ The reason for a fall in investments in the commercial real estate markets are more difficulties to get financial support from the banks, as they have become more restrictive. Those investments that were made were therefore to a larger extent made by actors with a large share of private equity⁷⁴.

Even though there are indications that the global financial crisis has reached its bottom, the banks are still restrictive regarding financing for real estate projects. The buyer's solidity and a good relation with the bank have become crucial factors. However, the low rent level has created a temporary breathing- space for property owners with high debt levels. Further interesting development in the Swedish real estate market is the government's infrastructural investments and land exploiting

⁶⁹ Bucht M (2010) p. 4

⁷⁰ Weiss L (2010) p. 5

⁷¹ Bucht M (2010) p. 14

⁷² Weiss L (2010) p. 5

⁷³ Bucht M (2010) p. 14

⁷⁴ Sveriges Riksbank (2009) p. 55

that has been conducted throughout the country. The new infrastructure will lead to new attractive areas which in turn will lead to new business opportunities.⁷⁵

Residential properties are the real estate segment which was least affected of the economic downturn during 2009. The segment increased the share of the total transaction volumes from 15 % in 2008 to 30 % during 2009. This may be due to the fact that the business risk for residential properties is generally very low in many of the Swedish' cities and an investment with low risks are attractive when the future development of the market is hard to predict. Furthermore, the finance institutions are to a larger extent more willing to admit a higher debt levels for these types of investments.⁷⁶

4.1 Office Space Market in Sweden

Office properties do normally account for the largest share of transaction volumes, but during 2009 the segment ended up with around 30% which is half of the volume compared to 2007 and 2008. As mentioned above, the transaction volumes have been low, both in Sweden and international, especially due to difficulties to get financing from the banks. The vacancy rate increased during 2009, which affected the rent levels negatively. Company bankruptcy will immediately affect vacancy levels, and even if the financial crises have bottomed, bankruptcies tend to lag behind. The amount of company bankruptcy during 2009 increased by 28% and is estimated to increase further during 2010 by 5%. As mentioned before, this will lead to increased vacancy levels and decreased rent levels.⁷⁷

⁷⁵ Weiss L (2010) p. 1

⁷⁶ Weiss L (2010) p. 5

⁷⁷ Weiss L (2010) p. 5

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

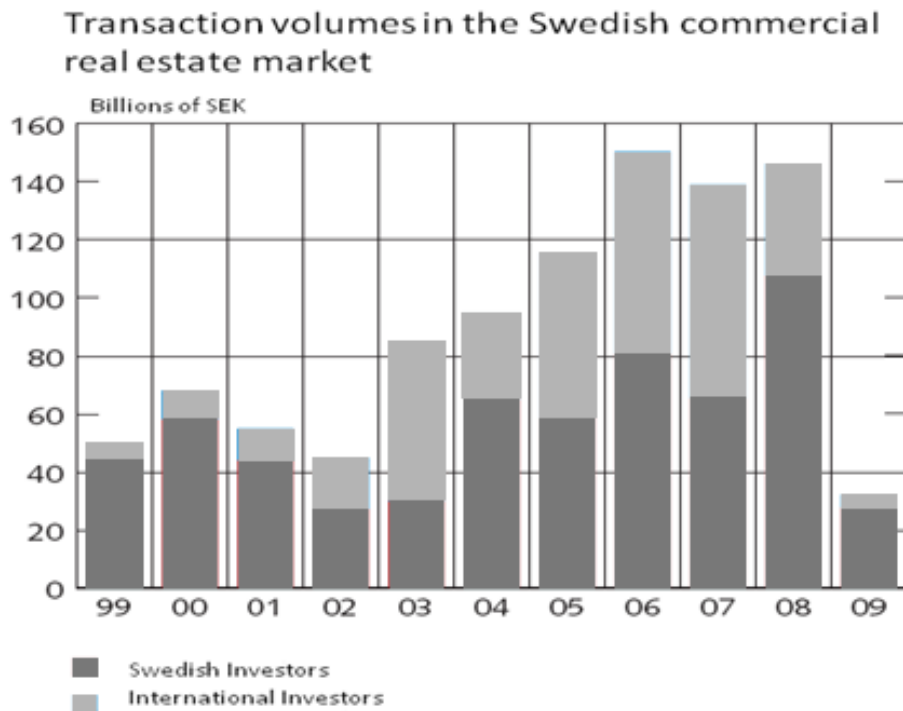


Figure 11; the figure illustrates the transaction volumes in the Swedish Commercial real estate market 1999-2009. The numbers for 2009 is during the period January – September 2009, multiplied with $1 + 1/3$.⁷⁸

Market analysts have tried to predict the future trends of the Swedish real estate market. The choice of locations has long been the golden rule of what drives market value, but Newsec, a large actor in the Swedish real estate market predicts other important trends which will influence the future development. Examples are that the tenants to a larger extent focus more of quality and space- efficiency rather than the total costs and the rents per square meter. Furthermore, tenants do more frequently profile themselves through their premises, and there is a greater environmental consciousness of the properties- the more energy- efficient the premises are, the more the attractiveness increases.⁷⁹

As visualized in the *Figure 12* below, many European cities, including Stockholm are beginning to recover from the global economic crisis. The real estate market analyst Jones Lang LaSalle do regularly plot in which stages of the real estate market, see chapter 3.5.1. They have visualized the current market situation for the major cities in Europe for Q1 2010 within the “European Office Property Clock”. Currently,

⁷⁸ Sveriges Riksbank (2009) p. 55

⁷⁹ Bucht M (2010) p. 5

London City has taken the lead in Europe with a level of prime rents of EUR 573 per m² compared to Stockholm with prime rent levels of EUR 380 per m².⁸⁰

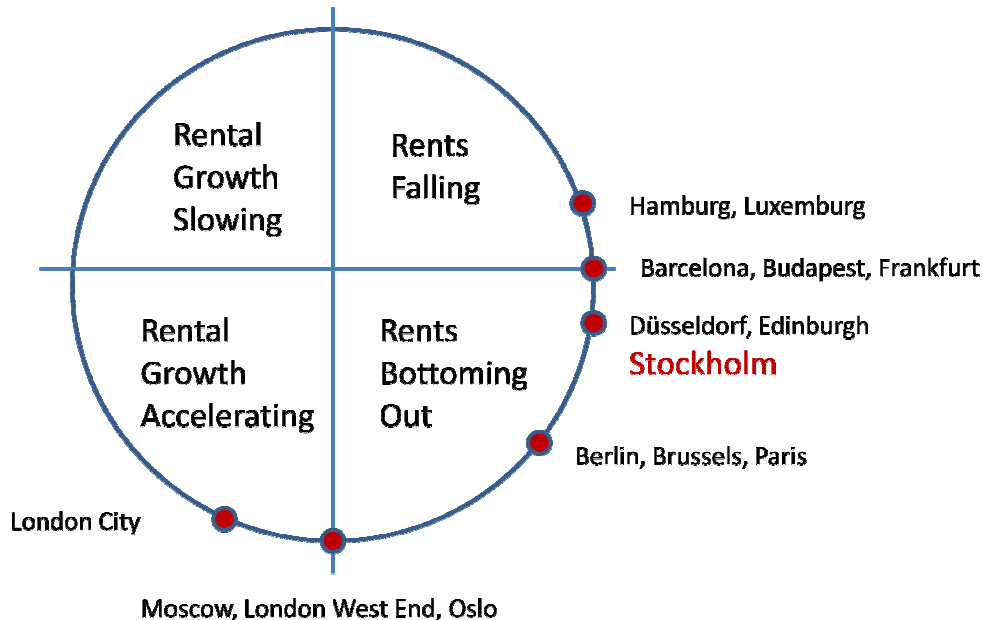


Figure 12; The European Office Property Clock is plotting in which stage some European cities currently are in the real estate market cycle.

4.1.1 Gothenburg Office Space Market

During recent years, the Gothenburg region has experienced a good economic development, with a peak in 2006. As the private industry is strongly represented by car-manufacturing, car-related research, petrochemical industry and biotechnology the recession is expected to have a more negative impact on Gothenburg during 2010-2011 compared with the Swedish average.⁸¹

The industrial life in Gothenburg has during the last 20 years gone from being dominated by industry to be more knowledge intensive, why office based companies have increased substantially. Therefore, the demand for attractive located office space has increased during recent years.⁸² The aim is to create a strong, sustainable growth with a high employment rate, and diversified industrial life by developing new infrastructure to attractive central office areas.⁸³

⁸⁰ Jones Lang LaSalle (www) 2010-05-08

⁸¹ Bucht M (2010) p. 19

⁸² Göteborgs Stad (2010) (www) (2010-05-08) p. 70

⁸³ Göteborgs Stad (2010) (www) (2010-05-08) p. 73

Mixed-Use Facilities

-A New Window of Opportunity in the Swedish Real Estate Market?

The Central Business District in Gothenburg includes Nordstaden, Avenyn, Lilla Bommen, and small parts of Gullbergsvass. Other attractive business areas are Gårda, and the most recent and modern locations are found in Norra Älvstranen on the island of Hisingen. An upcoming area is Heden/ Ullevi, which is located in the city centre and will be further developed until 2013. The total office stock in the region is around 4, 6 million sqm and the retail stock is around 1, 0 million sqm. Almost 100,000 sqm of new office area is expected to be built in the Gothenburg market until 2013. The vacancy rate for January 2010 was around 9%, and is estimated to increase to 10% in 2011 which in turn will lead to companies in a greater extent is moving to more central areas due to decreased rent levels. However, the demand for modern and efficient office space is still high as companies increasingly focus on office premises with high quality and large flexibility. The rents for office areas in the CBD is in the range of SEK 1,650-1,950 per sqm, and the top rent for these areas is SEK 2300/sqm. In other central areas the market rent is in the range of SEK 1,300-1,600/ sqm, with top rents of around SEK 1,950 /sqm. Even the Gothenburg office market has begun to stabilize from the global financial crisis. The levels are expected to fall during the whole 2010, with stabilization during 2011.⁸⁴ Generally, Gothenburg tend to lag behind other larger cities such as Stockholm, where the rent levels have bottomed out as visualized in *Figure 12*⁸⁵

⁸⁴ Bucht M (2010) p. 19

⁸⁵ Pettersson M (2010-05-07)

4.2 Residential Real Estate Market

4.2.1 Cooperative Apartments

The foundation of the Swedish type of tenure Cooperative apartments became reality in 1895 by the legislation concerning cooperative societies. By then, it became possible for cooperative societies to let the members have access and utility rights to apartments by issuing agreements of the apartments. Since 1930, the type of tenure has been regulated in the Swedish law for cooperative apartments.⁸⁶ The occupant has the right to access and use the apartment during an unlimited time period, but do not own the apartment. Rather does the occupant own a part of the cooperative society and the unlimited access right for a certain apartment within the building.⁸⁷

4.2.1.1 Foundation of New Cooperative Apartments

Cooperative apartments can be created either by new production or by converting rental apartments. When building new apartments, the cooperative society is created by the developer and as soon as the property is finished the members of the society are approved by the access rights. In the case of converting rental apartments, the building is acquired from the previous property owner by the current tenants.⁸⁸ At least two-thirds of the owners of the apartments in the building need to written express their interest for converting the rental apartments to cooperative apartments.⁸⁹

Before the apartments will be founded, the cooperative society will need to establish a financial plan, where all information regarding the evaluation of the society's financial situation can be found. For example, details about the first day of entry and how the society aims to cover the future expenses must be specified. The plan must be revised by an auditor, and whoever wishes has in the future the right to take part of the financial plan.⁹⁰

4.2.1.2 The Cooperative Societies

A housing cooperative union can be registered when there are at least three members. Furthermore, the union must have enacted by-laws, elected a board and has at least one accountant.⁹¹ As the housing union is a cooperative society, the union should be managed by the absorption principle and the ambition should always be to put the financial interests of the members first. If the union would

⁸⁶ The Swedish National Encyclopaedia, (www) 2010-04-06

⁸⁷ Brattström M (1999) p. 83

⁸⁸ Brattström M (1999) p. 85

⁸⁹ Ombildningslagen; Lag (1982:352) 1 kap. 3§ 2:a stycket

⁹⁰ Brattström M (1999) p. 85

⁹¹ Bostadsrättslag (1991:614) 1 kap. 2§

make a profit, this must accrue to the members as it is stated in the by-laws. The operation of the cooperative society is depended of the commitment of the members, who all have the right to participate with their opinions in important decisions by voting during the cooperative society meetings.⁹² It is the board which decides to approve new members to the cooperative society, and in order to succeed the apartment through purchase, heritage, estate provision or in other ways, the new occupant needs to be approved member by the cooperative society board. However, a new member must be approved membership if the person corresponds to the rules decided by the by-laws or if the person is appropriate reasonable as an occupant for the apartment. Therefore, a current occupant to a cooperative apartment is free to sell the utility-rights to anyone who fulfils the conditions stated in the by-laws.⁹³ Furthermore, the board has to grant an occupant the permission to sub lease the apartment. The board has the right to refuse the sub-lease, if there are not any obvious reasons for the occupant to let someone else rent the apartment during a time limited period.⁹⁴

4.2.1.3 The Holder of the Cooperate Apartment

The conditions regulating the holder's right to occupy and use the apartments are primarily stated in the original contract, created at the first time of access right of the cooperative apartment.⁹⁵ The contract should contain information about the name of the parties, what apartment the contract concerns, the size of the initial monetary input and the annual fee. The initial monetary input corresponds to the member's contribution to the society's total equity. Usually, the society has taken a bank loan to acquire the apartments from the developer corresponding to around 20% of the initial market value. Therefore, the monetary input which the buyer pays for the apartment is approximately 80% of the real value. The tenant will pay a monthly fee to the society which will cover the interests and amortization as well as regular operations and maintenance.⁹⁶ The holder is responsible for the maintenance inside the apartment, which is an important difference compared to rental apartments.⁹⁷

A cooperative apartment could be mortgaged as a security for a bank loan. This is done by a mortgage letter and becomes legislative when the cooperative society is informed. If the holder of the apartments gets insolvent the mortgaged apartment becomes distraint and the financial institute will get cover of the mortgaged part of the loan.

⁹² Brattström M (1999) p. 84

⁹³ The Swedish National Encyclopaedia (www) 2010-04-06

⁹⁴ Bostadsrättslag (1991:614) 7 kap. 10-11§

⁹⁵ The Swedish National Encyclopedia (www) 2010-04-06

⁹⁶ Henriksson L 2010-04-20

⁹⁷ The Swedish National Encyclopaedia (www) 2010-04-06

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

If the holder is neglecting the apartment and other conditions stated by the cooperative society, the right of usage can be forfeit. The apartment will then be sold during executive sales and the negligent holder has the right to assimilate the value of the apartment minus the amount that the person possibly may owe to the cooperative society and the mortgage holder.⁹⁸

If the holder would like to sub- lease the apartment and has been granted by the board, the conditions are stated in the Swedish law for rental⁹⁹. For example do the level of the rent has to follow the principle of utility- value which limits the level of the rent the holder of the cooperative apartment can charge from the tenant.

4.2.1.4 The Future Market for Cooperative Apartments

The prices to buy housing in Sweden, which includes both small houses and cooperative apartments, have increased during the last couple of years. The current prices for cooperative apartments in Stockholm is the highest in the country, with prices up to 58,438 SEK/sqm (December 2009- February 2010) in the most attractive parts of Stockholm (Vasastan/ Norrmalm).¹⁰⁰ The total price for an apartment in that area with the size of 35 square meters is therefore over 2 million SEK, which is to consider as very high compared to historical prices. Market reports of the future residential market indicate that there currently may be a housing bubble in Sweden, which soon threatens to burst.¹⁰¹ BKN, the National Housing Credit Guarantee Board, defines a housing bubble when the prices largely exceed the fundamentals of the price, such as costs for operations and maintenance, rents and economic growth. Examples of triggering factors which may make the bubble burst are increasing rent levels or decreasing export levels in Sweden. BKN is convinced that the prices for housing in Sweden will decrease; the question is when and with how much.¹⁰²

⁹⁸ The Swedish National Encyclopaedia (www) 2010 -04-06

⁹⁹ Jordabalk (1970:994) 12 kap. 1§

¹⁰⁰ www.maklarstatistik.se prices for November 2009- February 2010 (2010-04-10)

¹⁰¹ Statens Bostadskreditnämnd (BKN) (2010), p.3

¹⁰² Statens Bostadskreditnämnd (BKN) (2010), p. 3

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

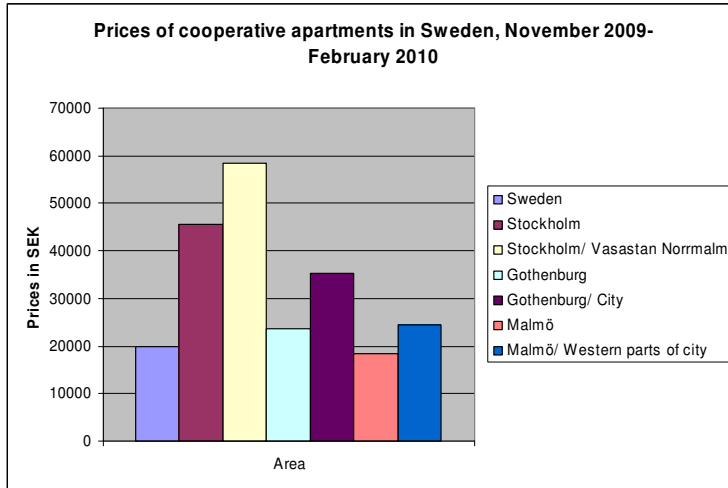


Figure 13; the market prices for cooperative apartments in different areas in Sweden for November 2009- February 2010.¹⁰³

The definition of the housing prices is the estimation of the future value of housing, i.e. the price of the future housing consumption discounted to present value. There may be two different reasons to why housing prices are high; either the future costs for operation and maintenance and depreciations are estimated to be high or it is estimated that the future risk and interests rates will be high.¹⁰⁴ Considering a market analysis made by BKN in October 2009, the high housing prices are explained by the latter explanation; the future expectations are that the risk and interest rates will be low i.e. the expectations of the future returns of the apartments are low.¹⁰⁵ The market analysis concludes further that the current prices depend on the Swedish rent level which has been and still is low. Therefore, the prices will be extremely sensitive for changed rent levels which will affect the costs substantially. BKN states that the normal rent for housing in Sweden is approximately 5, 5%¹⁰⁶, and the current level when the report was published was 4, 4%.¹⁰⁷ Seen in a longer perspective, the nominal levels of the Swedish government- and housing rents are currently around three percent units lower compared to 10 years ago. Regarding the calculations in the analysis made of BKN, a raise of the rent level by 1% to the normal level would lead to that the housing market would be over- valued by 20%. The average level of the real interest 1986-2009 was 2, 4%, and if the current rent level is raised by the historical average that would lead to a total housing rent level

¹⁰³ Mäklarstatistik (www), 2010-04-10

¹⁰⁴ Statens Bostadskreditnämnd (BKN), (2009) p. 5

¹⁰⁵ Statens Bostadskreditnämnd (BKN), (2009) p. 7

¹⁰⁶ Based on following calculations: Real rate of interest; 2% + inflation; 2% + supplement charge; 1.5% (The sum of the historical difference between the rent levels for housing- and government bonds and the banks' lending rate to households) = 5,5 %

¹⁰⁷ Statens Bostadskreditnämnd (BKN), (2009) p. 9

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

of approximately 6,5 %, which in turn would make the housing market to be overvalued by 28 %.¹⁰⁸ It is very hard to estimate how long the adaption of the prices in the housing market will take. Historically is the international development that the adaption from top prices to bottom prices takes for more than two thirds of the countries between two to six years.¹⁰⁹

BKN states further that the price fall in the housing market has been delayed due to the Swedish central bank Riksbanken's decision to keep the rate levels at stable low levels.¹¹⁰ Furthermore there has been a low rate of new construction of housing in Sweden during the latest years, have kept the demand at a high level and also the price levels.¹¹¹

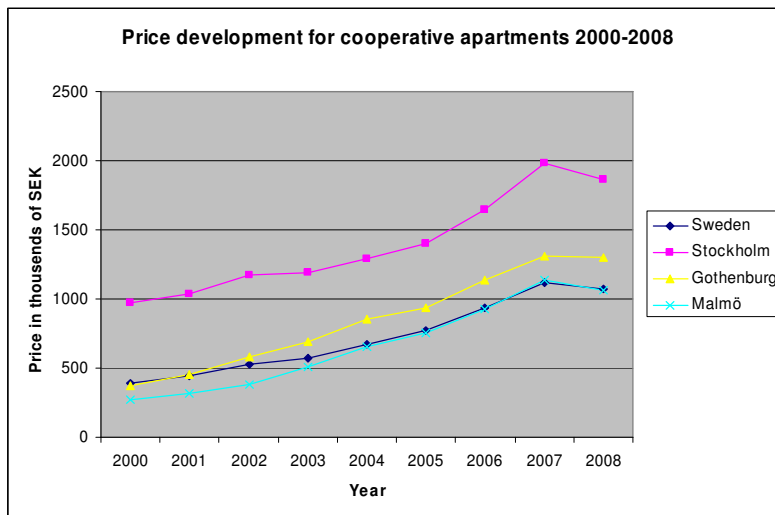


Figure 14 illustrates the price development for cooperative apartments in Sweden between 2000- 2008.¹¹²

The most critical factors for the price development of cooperative apartments in short terms are the development of the interest rates and the level of unemployment.¹¹³ During 2009, the unemployment level was 8, 4% and it is estimated that it will increase to 9% during 2010 and 2011¹¹⁴. How much or soon the rent levels will be increased depends on the development of the inflation rate, how Riksbanken, the Swedish central bank, decides to act and also how the real rate of

¹⁰⁸ Statens Bostadskreditnämnd (BKN), (2009) p. 9-10

¹⁰⁹ Statens Bostadskreditnämnd (BKN), (2009) p. 10

¹¹⁰ Statens Bostadskreditnämnd (BKN) (2010) p. 4

¹¹¹ Statens Bostadskreditnämnd (BKN) (2010), p. 5

¹¹² Statistics Sweden (SCB) (www) 2010-04-10

¹¹³ Statens Bostadskreditnämnd (BKN), (2009) p. 10

¹¹⁴ Swedish National Institute of Economic Research (2010) p. 7

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

the interest will develop. Regarding Riksbanken's latest prognosis, the repo rate is expected to increase slowly, and be approximately 4 % in two years.¹¹⁵

At the same time as the rent levels in Sweden are low; the households' debt levels are record high. Between 2008 and 2009, the debt level for the Swedish households increased from 43% to 47 %.¹¹⁶ If the housing prices will fall as BKN's market analysis indicates, several households have the risk to get a negative housing fortune; the value of the housing is less than the debt taking to finance it. How many that will be affected by this situation depends on how much the rent level is increased with and how much the prices falls. Swedish Financial Supervisory Authority reported that 13% of the owners of small houses and 22% of the owners of cooperative apartments had a debt rate over 80% in the end of 2008.¹¹⁷ As a response to this development, Finansinspektionen propose to introduce general guidelines that the total loan for mortgaged apartments should not exceed 85% of the market value when the loan is issued. This limitation would stem the negative debt rate development, in the same time as Finansinspektionen estimates that the regulation not will have any substantial price effect in the residential market.¹¹⁸

¹¹⁵ Statens Bostadskreditnämnd (BKN) (2010), p. 7

¹¹⁶ Statens Bostadskreditnämnd (BKN), (2009) p. 10

¹¹⁷ Statens Bostadskreditnämnd (BKN), (2009) p. 11

¹¹⁸ Finansinspektionen (www) 2010-05-07

4.2.2 Condominiums

The 1st of May 2009 the Swedish Government and the Swedish Land Survey Authority introduced a new form of housing in the real estate market, the condominiums. The concept is based on the possibility to create strata properties, which was legally introduced in Sweden in 2004. Strata properties are divided both horizontally and vertically which made it possible for the Government to introduce condominiums in Sweden. The legally definition of the concept is that the apartment must be an individual dwelling unit with the only purpose of housing. Furthermore the common facilities which are needed in order to use the apartments will have shared ownership between the owners of the apartments. Condominiums in Sweden can be formed in three different ways:

1. By producing new condominiums.
2. By building condominiums on top on existing properties.
3. By converting commercial properties to condominiums.

There must be at least three connected apartments in order to form condominiums. In case of converting existing properties into condominiums, the converted space must not have been used for accommodation during the latest 8 years. Therefore, rental apartments and co-operative apartments cannot be converted to condominiums.¹¹⁹

4.2.2.1 Prerequisites for Condominiums

The Swedish Land Survey Authority is responsible for the establishment of the condominiums. The apartments will therefore be registered in the Swedish cadastre, and each apartment will be one individual property. The apartments do not necessarily need to be created with the exact coordinates, which makes it possible to create properties with coordinates in the free space, without restarting the cadastral process if the apartments do not end up with the planned coordinates.

Following prerequisites must be met in order to form condominiums:

1. Condominiums are only allowed to include an apartment with purpose to conduct accommodation for one household, and nothing else.
2. The condominium has to be assured with proper prerequisites for a sustainable usage.
3. Condominiums are solely created through production of new buildings or reconstruction of commercial facilities. When reconstructing commercial facilities into a condominium the facility must have been used in commercial purpose for the last eight years.

¹¹⁹ Justitiedepartementet (2009) p. 6

4. The cadastral process of creating a condominium must constitute a unit of three or more coherent dwelling units through each land parcelling.

4.2.2.2 Community Association

The condominium apartment must be provided with the necessary devices so that the apartment can be used as an individual dwelling. This includes access to roof, façade, staircases, electricity, water and drain. These facilities are often included in the common space areas which a community association will be responsible for. The common facilities in the condominium property will be owned by every owner of the condominiums in the property. Every condominium owner is a member of the community association, and the board is responsible for the administration of the union.¹²⁰ It is the association itself who decides the degree of the flexibility and influence of the decisions regarding the common facilities. The less strict the regulations are, the more freedom the association will have to make decisions which will affect all members with a majority decision, and without involving a third party such as the Land Survey Authority. Normally, every member has one voting right, but when the voting is regarding financial issues (which are very common) the voting rights are depending on shares. However, no one can vote for more than 20% of the assets. This may lead to obstacles regarding community associations in office buildings where the majority of the property belongs to the other property (the office part of the property). The condominiums can therefore win every voting session, if they together have more than 20% of the assets. Joint facilities which will be commonly used for both condominiums and cooperative apartments will also become distorted when voting as the condominiums will have one vote each whereas the cooperative union only has one vote. Therefore, condominiums will have unproportionate large influence when voting for common issues.

When larger renovations or other larger financial transactions need to be done for the common facilities, the association may need to take a bank loan. If an owner later would become insolvent, the association will have a higher priority than the bank, which increases the banks' risks not to get cover of the initial bank loan. In this way, it has been discussed whether there are risks that the community association takes large debts which would create hidden mortgage liens in the condominiums, which in turn would negatively affect the condominiums' values as mortgages of the owners' bank loans. However, this is not an unfamiliar issue for the banks, as there are similar regulations for the cooperative societies. Another risk with the community associations worth mentioning is the risk that no investments for maintenance and improvements are made except for the most necessary expenses. In this way, hidden investment shortages will arise as the investments are postponed for the future, which may be difficult for third party to control.¹²¹

¹²⁰ Justitiedepartementet (2009) p. 7

¹²¹ Jenssen U (2010)

4.2.2.3 Sales and Sub-leasing of Condominiums

Condominiums can be acquired and sold on the same premises as small houses. The buyer must apply for title deed at the Land Survey Authority and the owner of the condominium has the fully right to sell the apartments whenever he or she likes. Furthermore, the condominium can be mortgaged by application of the owner, as the same prerequisites as small houses. The owner of the condominium is free to sublease the apartment in the same way as for small houses. Therefore, the time limit is unrestricted but the rent must follow the Swedish principle of utility- value of the apartments. If the tenant of the condominium is severally disturbing the neighbours, the owner cannot be forced to sell the apartment and move, but can be forced to pay fines. It is the community association who decides the common regulations regarding for example the usage of the washhouse.¹²²

4.2.2.4 Condominiums VS Cooperative apartments

The Swedish Cooperative apartment does only give the tenant the access right to the apartment, whereas for condominiums there is complete ownership. The access right for cooperative apartments is deed by the cooperative association, which owns the apartments in the property. Every owner of the access right of the cooperative apartment is a member of the association, and has to obey the regulations of the cooperative association. For example do the acquisitions need to be approved of the association, the tenants need specific permissions for subleasing, and can in worst case loose the access right to the apartment if the tenant repeatedly do not follow the regulations. In contradiction, the owner of a condominium is free to sell, mortgage and sublease the apartment, which increases the flexibility of the ownership. The owners do not need to follow any regulations, more than to respect the neighbours.

Compared to the cooperative apartment, the condominium has a disadvantage concerning the taxation regulations. When a condominium apartment is sold, excise duty and mortgage taxes have to be paid. The cost of transfer for cooperative apartments is a transfer charge of around 1000 SEK and a pawn broking fee of around 400 SEK. The property taxation for cooperative apartments is 100 SEK per month whereas the condominium will be charged at the same level as small houses, around 500 SEK per month.¹²³

4.2.2.5 Financing

Currently, the banks and other financial institutions have an awaiting approach against condominiums. As there are few real examples of condominiums in the market, the general apprehension is that no one wants to take the lead. As

¹²² Justitiedepartementet (2009) p. 10

¹²³ Jenssen U (2010)

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

condominiums are properties subdivided by coordinates in the air space, there are no physical objects which can be taken for mortgage for the loan. For new production of cooperative apartments, the land can initially be taken as mortgage, before the apartment is completed. One solution to the problem may be to finance the condominiums in different sequences, as if the condominiums were constructed as different modules on height. As soon as one apartment is finished, the bank will grant the loan, and as soon as the apartment over is finished, the bank will grant another loan and so on. However, this requires that one actor initially have enough of capital to finance the construction without any loans from the bank, which may make it difficult for smaller actors who would like to build condominiums.¹²⁴

Another problem with the banks' willingness to finance condominiums is that the banks generally are unwilling to finance unfamiliar concepts. This is due to the simple fact that it is not profitable for the banks to educate the employees for more odd forms of tenure. This may also involve condominiums as long as it is not an established concept in the market.¹²⁵

¹²⁴ Blomgren M, 2010-04-06

¹²⁵ Jensen U (2010)

4.2.3 Rental Apartments

The tenant of a rental apartment does not own the apartment but does have the right to utilize the apartment during a longer time period. The tenant rents the apartment from a property owner who manages and administrates the whole property. The property owner is either a non-profit organization owned by the municipality or a private, profitability seeking organisation. The legislations and conditions for rental apartments can be found in the Swedish law Code of Land Laws, chapter 12 and is in general called "the Rental Law". The conditions stated in the rental law put the tenant in an advantage position; if the tenant has made agreements with another party that constrains the legislations in the rental law, these agreements will be meaningless.¹²⁶

4.2.3.1 The utility-Value Principle

The market for rental apartments is strongly regulated by the Swedish Government. This is to assure that as many of the inhabitants as possible can afford to live with high standards. The levels of the rents are set in line with the principle of the utility-value rent. In order to decide whether the rent levels are reasonable, the rent levels are compared to other, equivalent apartments in the same geographical area, and mainly with other apartments owned by semi-public bodies, i.e. non-profit housing organizations supervised by local authorities. The rent level of apartments owned by non-profit housing organizations will by this principle form an upper level of the rents for apartments owned by private organizations. The consideration of the costs of the privately owned apartments is not taken. The utility-value rents were first introduced in Sweden 1968 and have since then been modified 1974 and 1984.¹²⁷

Different factors within the utility-value rent principles are important when deciding the rent levels. These factors are for example the characters of the apartments such as the quality level, size and general standards. Other important factors are which benefits such as elevators, laundry rooms and other facilities the property is equipped with. The geographical location does also have an important impact of the rent level, such as the surrounding environment and communication possibilities. The levels are decided during yearly negotiation processes between the non-profit housing organization who owns the property and the local representative of the Swedish Union of Tenants. During some occasions each tenant and the property owner negotiate directly with each other, but in most cases the negotiations for all apartments within the same property are made collectively.¹²⁸

The utility-value principle does also control the rent levels in the second-hand market. If a tenant wants to sub-lease the apartment, the person needs permission

¹²⁶ Jordabalk (1970:994) 12 kap. 1 §

¹²⁷ Wetterling J (2008) (www) 2010-04-20

¹²⁸ Wetterling J (2008) (www) 2010-04-20

from the property owner, which is often during a limited time period around approximately half to one year.¹²⁹

4.2.3.2 Rent levels in Sweden

As explained above, the rent levels in Sweden are strictly controlled by the Swedish government and it is the non-profit housing organizations which creates the upper level of the rent levels in Sweden. The average rent in Sweden 2009 was 4 968 SEK with the average size of 68 square meters. The rent levels have since 1969 until 2008, increased by 83 %, measured by fixed prices. The largest increase in real terms was during 1990-1992 when the rents increased by almost 30 %. This was mainly due to changes of taxes and subsidies.¹³⁰

During 2008, the rent levels in Sweden increased by average with 3,3 %, with a variation of 2,9 – 3,3 % between different regions. Gothenburg region had the smallest increase by 2,9 % and the category “ Other larger municipalities” had the largest increase with 3,4 %.¹³¹

Rent level development

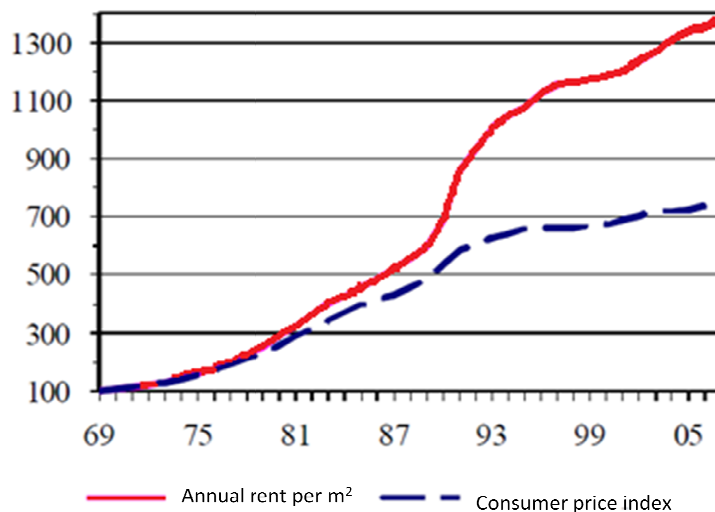


Figure 15: The development of the rent levels compared to the general development of prices in Sweden 1969 – 2008. Index 1969 = 100¹³²

¹²⁹ Hyresnämnden (www) (2010-04-08)

¹³⁰ SCB (2009) (www) (2010-04-08)

¹³¹ SCB (2009) (www) (2010-04-08)

¹³² SCB (2009) (www) (2010-04-08)

4.2.3.3 New production of rental apartments

The highly controlled rental market has made it difficult for private actors to build profitable rental apartments. In 2001, The Swedish Government introduced investment subsidies in order to stimulate the production of new apartments. The subsidies lasted until June 2007 and have since then forced private organizations to act differently in order to succeed building profitable rental apartments.¹³³

The first of July 2006, the government decided to reform the rental law in order to improve the conditions for building new rental apartments. The legislative amendment allows the determination of the rent levels for new production of rental apartment to be excluded from the utility- value principle.¹³⁴ Instead of the usual negotiation process as described above, the rent levels are allowed to be higher compared with the same properties within the same area as the utility- value principle usually would have regulated. The new reformation makes it easier for the residential developers to cover the construction costs. In order to decide the new rent levels, there must still be negotiations with local representatives from the Swedish Union of Tenants and the levels must include all apartments in the building. Furthermore, the negotiations must have been taking place and the rent levels decided before any contracts for the apartments have been signed. The higher rent levels for new rental apartments will be durable for 10 years; after that the rent levels will be decided by the utility- value principle within the area.¹³⁵

4.2.3.4 Alternatives to the utility- value principle

By controlling the rent levels by using the utility- value principle has made the demand exceed the supply. In many places in the market, the rent level for an apartment in the most attractive areas in a city equals the levels for apartments in the suburbs. In order to balance the market more, Stockholm, Gothenburg and Malmö have or are currently developing alternative principles for deciding the rent levels. The alternative pricing models will have a broader focus and consider more factors such as the size and quality of the apartment, the standard of the kitchen and bathroom, and the geographical location with distance to the nearest communications and services.¹³⁶ Malmö has used an alternative pricing model since 2002 and today an apartment in the most attractive locations can cost approximately 40 % more compared to less attractive areas.¹³⁷

¹³³ Andersson K (2010) (www) (2010-04-06)

¹³⁴ Sveriges Riksdag (2006) (www) (2010-04-06)

¹³⁵ SABO (www) (2010-04-07)

¹³⁶ Svenska Bostäder (2009) (www) (2010-03-18)

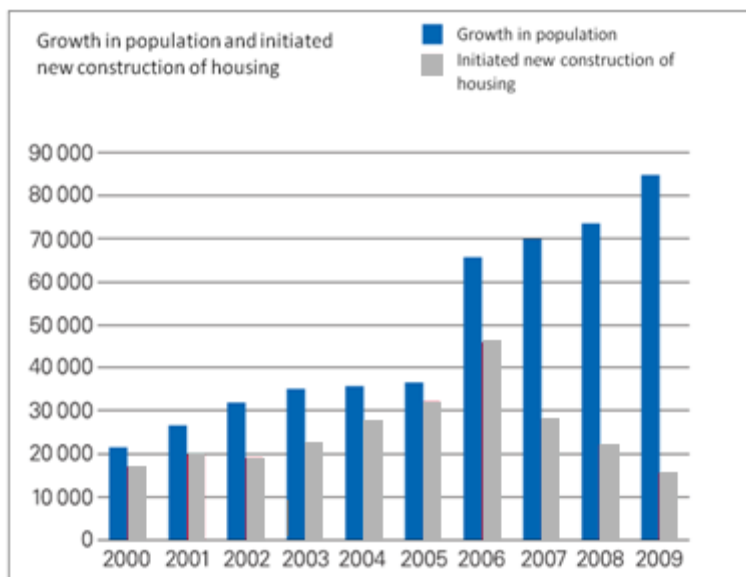
¹³⁷ Andersson C, 2010-03-23

4.2.3.5 The future development of the rent levels

The Swedish government has during 2010 suggested a new proposition regarding the future rent levels. The proposition suggests that the housing organisations owned by the municipality should be managed with commercial principles and that they should compete with the other actors in the market. Furthermore, it is suggested that the privately owned property owners should participate in the yearly negotiations of the rent levels. In this way, the municipally owned property owners will not be the upper level for the rents. To prevent too large increases of some rent levels, the new level can be partly increased during a reasonable time. The Swedish government suggest that the new law should be legalized January 1 2011, and the parliament will make the decision before the summer 2010.¹³⁸

4.2.4 Construction of New Housing in Sweden

During 2009, the amount of initiated projects of new produced apartments was the lowest in 11 years. However, an increased demand for small houses and cooperative apartments has stimulated the market and the housing construction has now turned upwards. During the next coming two year, The National Board of Housing, Building and Planning estimates that the amount of new production will increase by 50%, which are considered as more normal levels for housing construction.



Source: SCB

Figure 16 is illustrating the initiated construction of new housing in relation to the growth in population.¹³⁹

¹³⁸ Fastighetsägarna (2010) (www) (2010-04-06)

¹³⁹ Boverket (2010) p. 3

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

During 2009, construction of 16,700 new apartments was initiated, and it is estimated that this number will increase to 21,000 in 2010 and 25,000 in 2011. However, these numbers are well under the amount that will be needed to construct in order to correspond to the future population increase.¹⁴⁰ During 2009, the population increased with 85,000 persons, where the net in-migration was the highest levels measured ever for Statistics Sweden.¹⁴¹ The demand for housing has been historically high in Sweden, and especially in Stockholm, Gothenburg, and Malmö. The demand for new housing is in the future estimated to outpace new construction, and the gap between supply and demand is estimated to widen in future years.¹⁴²

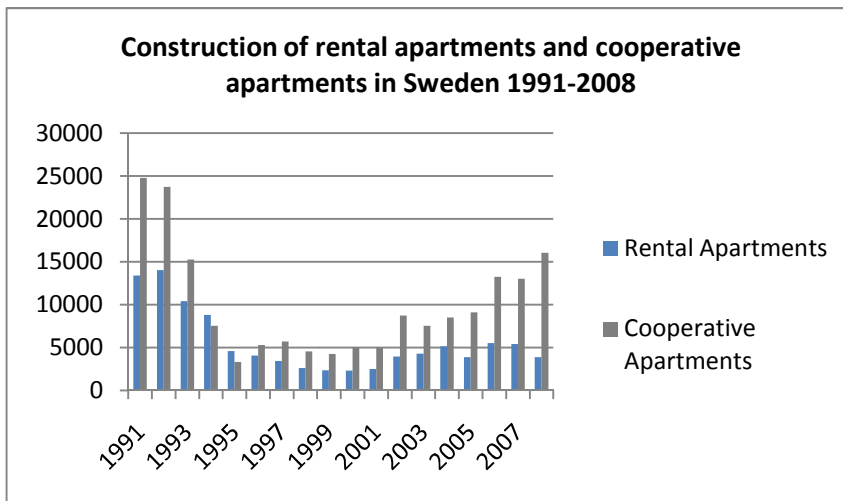


Figure 17 visualizes new construction of cooperative apartments and rental apartments 1991- 2008.¹⁴³

4.2.5 The Development of Gothenburg City

The population in Gothenburg, the second largest city of Sweden, is 500,085 (Gothenburg Region 900,322) and has grown more than 10% over the last decade. The population is expected to grow 1-1,5% per year, and is estimated to reach 550,000 in 2018. The municipality has formulated a future plan of the development of Gothenburg City. The aim is to create an attractive city which is sustainable both regarding the environment and future growth. The aim is to densify the city centre with areas with many functions and large diversity.¹⁴⁴ To build new residential apartments is a prioritized issue as there is a high demand for new housing in

¹⁴⁰ Boverket (2010) p. 1

¹⁴¹ Boverket (2010) p. 3

¹⁴² Bucht M (2010) p. 25

¹⁴³ www.scb.se

¹⁴⁴ Göteborgs Stad (2010) (www) (2010-05-08) p. 59

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Gothenburg. In contrary to falling levels of the rents of commercial properties, the prices in the residential market have increased by approximately 20% during 2009.¹⁴⁵ The high level of demand depends on a stabile population growth, which has been 8% the last 10 years in combination with improved economies. The ambition during the latest four years has been to produce 2000 new apartments every year. The majority of the population is individuals aged between 25-35 years, whereas people with the age 30-40 tend to move out from Gothenburg.¹⁴⁶

The ambition in Gothenburg is to develop areas and locations to mix forms of tenures, apartment sizes, and functions by a flexible usage of the land.¹⁴⁷ The vision of the mixed city is defined as the desire to create a livelier, secure city, which is exciting, attractive, sustainable and flexible; a city where everyone belongs. Mixed locations should be concentrated around public transport junctions and the different functions will create activity in the area during the majority of the day.¹⁴⁸ The development of the mixed city must be monitored in order to assure that a mixed development really takes place. The ambitions are therefore also included in the municipal's strategy for the land assignation plan which will prioritise diversity, accessibility, and sustainability.¹⁴⁹

¹⁴⁵ Weiss L (2010) p. 22

¹⁴⁶ Göteborgs Stad (2010) (www) (2010-05-08) p. 62

¹⁴⁷ Göteborgs Stad (2010) (www) (2010-05-08) p. 83

¹⁴⁸ Göteborgs Stad (2010) (www) (2010-05-08) p. 108

¹⁴⁹ Göteborgs Stad (2010) (www) (2010-05-08) p. 64, 109

5 Value Drivers for Mixed-Use Facilities

This chapter will analyze the three identified value drivers for mixed-use facilities; Economic and Market Issues, Financial Issues, and Physical and Public Issues. The analyses are conducted with an approach of separate single-use analyses constituting the informational base when analyzing the three different potential combinations of mixed-use facilities.

In the process of deciding whether or not mixed-use facilities is an interesting concept in the Swedish real estate market, the key value drivers for mixed-use facilities need to be identified and analyzed. As stated in the theoretical foundation Rabiński et al (2009) have identified three important groups of categories which will influence the financial success of mixed-use developments; Economic and Market Issues, Financial Issues, and Physical and Public Issues.¹⁵⁰ The discussion of the market potential of mixed-use facilities in the Swedish real estate market will be based upon these categories as illustrated in *Figure 18*. In addition to this, the categories in the framework will be extended with subcategories which represent the determining factors for each value driver. The factors in the subcategories aims to fill the theoretical gap identified in the pre-study and constitute the authors theoretical contribution. The subcategories are for Economic and Market Issues; Supply and Demand, for Financial Issues; Costs and Revenues and for Physical and Public Issues; Opportunities and Challenges.

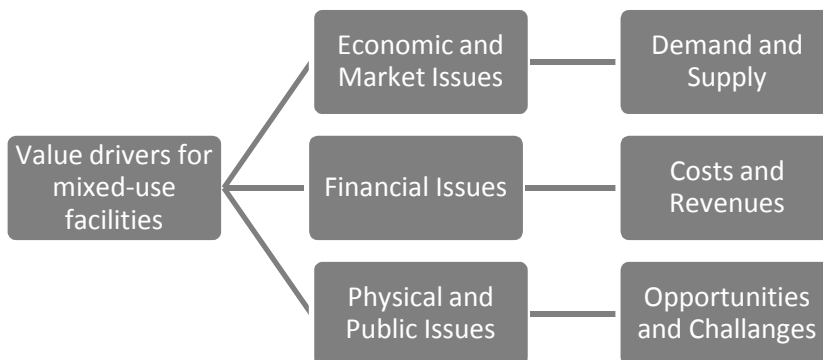


Figure 18; the discussion of the value drivers of mixed-use facilities will be presented based on the categories visualized in the figure. The factors identified by Rabiński et al. is further divided into subcategories in order to analyze the potential of mixed-use in Sweden.

In order to identify the most important factors that impact the value drivers in the residential- and commercial office market, a workshop between Skanska Nya Hem and SFG was conducted. The aim with the workshop was to identify the most important factors which affect the investment decisions from the developer's perspective. A further aim with the workshop was to complement and confirm the factors of importance found in the empirics

¹⁵⁰ Rabiński J S et al. (2009) p. 11

and the theoretical foundation as well as get a picture of a developer's attitude towards mixed-use.

The identified factors and parameters which are used when analyzing the advantages and disadvantages with mixed-use facilities in this chapter are therefore based on the conclusions from the workshop, the theories presented in chapter 3 and information gathered from secondary information sources, and personal interviews. These findings are used to create an extension of the three main value drivers presented by Rabianski et al. and visualized in *Figure 18* above.

5.1 Economic and Market

A general success factor for a mixed-use development project is according to theory a strong and growing local economy, where employment, population, and individuals' disposable income should be increasing. A mixed-use project developed in a declining local economy may get problems with attracting quality tenants, a sufficient number of consumers and rent levels high enough to ensure the project profitability requirements. Examples of crucial success factors are the design, the location, and the mix of uses. The factors must be tailored to fit the specific conditions of the local market.¹⁵¹

When conducting a market analysis for mixed-use facilities it is, as illustrated by the four quadrant market dynamics in chapter 3, important to determine the specific demand and supply of each use. As the concept is not established in the Swedish real estate market the supply factors are analyzed in the same way as for analyzing a single-use project.¹⁵² Both the empirics and the theoretical foundation have earlier states that supply and demand are primary factors which affect the market situation and is affected by the market situation. Therefore the Market and Economic Issues is mainly addressed to the factors that influence supply and demand in the real estate market. The first step in the analysis is therefore to conduct a thorough analysis of the demand and supply drives for both the residential and the commercial real estate market, beginning with demand. Based on the theoretical foundation, the empirics, and the workshop, the following discussion of office and residential supply and demand is a more general discussion for important drivers in the Swedish market at a national level.

5.1.1 Demand

One of the most important parameters for estimating the profitability for mixed-use is to evaluate which factors that drive the demand for both residential space and offices space, this in order to identify similarities and differences that can affect the mixture. Outermost, it is what the consumers of the apartments and office space demands that will affect how, where, and when the developers and investors

¹⁵¹ Rabianski J S et al. (2009) p. 11-13

¹⁵² Rabanski J S et al. (2009) p. 11

decides to add new space to the market.¹⁵³ Therefore, the demand factors are discussed through the consumers' perspective, with the assumption that investors and developers will and must take these factors in consideration in order to maximize profitability. In order to compare the factors that drive demand for housing and offices, each type of property will be presented separately, beginning with residential followed by a discussion of the demand drivers for office properties.

5.1.1.1 Demand drivers for Residential Apartments

The demand for residential properties, i.e. rental apartments, cooperative apartments and condominiums, is driven by private consumers' need for housing. The most important demand drivers identified for residential apartments in Sweden are Location, Disposable income, and Business Cycle, illustrated in *Figure 19*.

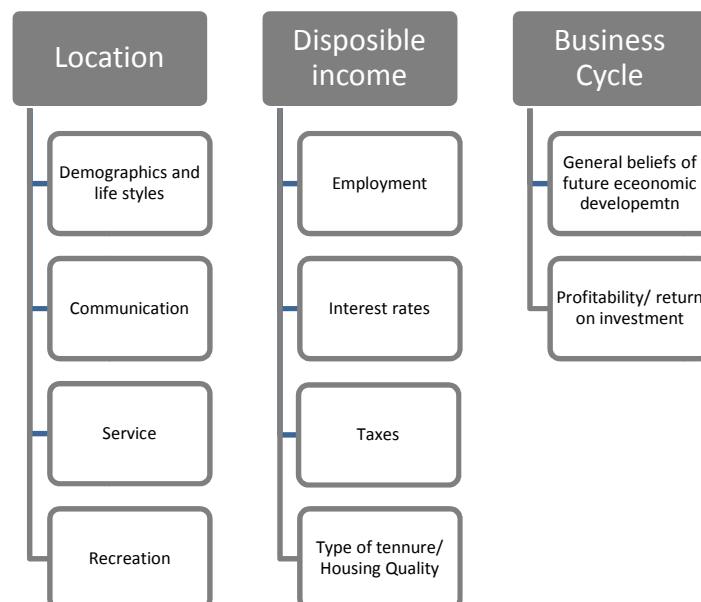


Figure 19; the figure illustrates important demand drivers which affect the development of demand for housing apartments.

Location

Most real estate analysts would agree that location is one of the most important demand drivers for housing. However, what is considered as attractive location is depended on several factors visualized in *Figure 19* above. Demographics and life-styles are factors that will affect where people want to live. Age, and the formation of the household will affect how the location is valued, for example younger people want to live in the city center whereas parents to small children to a higher extend

¹⁵³ Workshop 2010-04-20

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

want to live in the neighboring suburbs.¹⁵⁴ Furthermore attractive locations for housing are affected by limits regarding noise and pollution from the surroundings. Even though there are attractive areas which are not yet exploited, they may not be suitable to build residential apartments on those locations.¹⁵⁵ The Swedish population is estimated to increase every year during the period 2010-2060, reaching 10 million people within 11 years. It is especially the elderly category that is estimated to grow the most and increase by 362 000 people within a decade. Simultaneously, the population capable of working with ages between 20-64 years will increase by 151 000 people and children and youths by 96 000.¹⁵⁶

Communication facilities, such as infrastructures and public transport opportunities are important for commuters and the accessibility for the apartments. The distance to commercial services is also an important factor, especially an easy access to grocery stores. Other services such as nursery schools and restaurants are depending of the area's population regarding to different life-style situations. The demand for specific service is also depending on the life style patterns as well as the importance of recreation, and the feeling of security in the surroundings.¹⁵⁷

Disposable Income

How much people can afford to pay for the housing does also drive the demand for residential apartments. The employment level is therefore a crucial factor directly affecting the households' disposable income. The unemployment in Sweden was in the end of 2009 9,1 % and is estimated to have stabilized due to the latest financial crises, to be in average 9 % during 2010 and 2011. The national Institute of Economic Research in Sweden estimates that the recovery from the global recession will be achieved in 2014.¹⁵⁸ High levels of unemployment will increase the moving patterns, as people must work in other geographical areas. Another important factor for peoples' disposable income is the level of the taxes and interest rates, which also directly affect the decisions of when, and if, people will move to new apartments.¹⁵⁹ The current low interest rates levels have, according to many analysts, postponed the effects of the financial crises in the residential sector in Sweden, but when the Swedish Riksbank decides to increase the interest rates, a potential price bubble threatens to burst.¹⁶⁰ If the bubble burst a large part of the residential consumers could be insolvent, and the transaction volume and the property values will decrease. Furthermore, the level of the disposable income will affect which type of

¹⁵⁴ Boverket (2009) p. 12

¹⁵⁵ Kjell P A (2010-05-03)

¹⁵⁶ SCB, (www) *The future population in Sweden*, 2010-04-25

¹⁵⁷ Workshop 2010-04-20

¹⁵⁸ Konjunkturinstitutet (2010) p.10-11

¹⁵⁹ Miller G, & Geltner D, (2005) p. 79

¹⁶⁰ BKN (2009) p. 3-4

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

tenure that is demanded, as well as the level of quality.¹⁶¹ Recent forecast of the development of disposable income for Swedish households indicates increased incomes during the coming years, see *Figure 20* below.¹⁶²

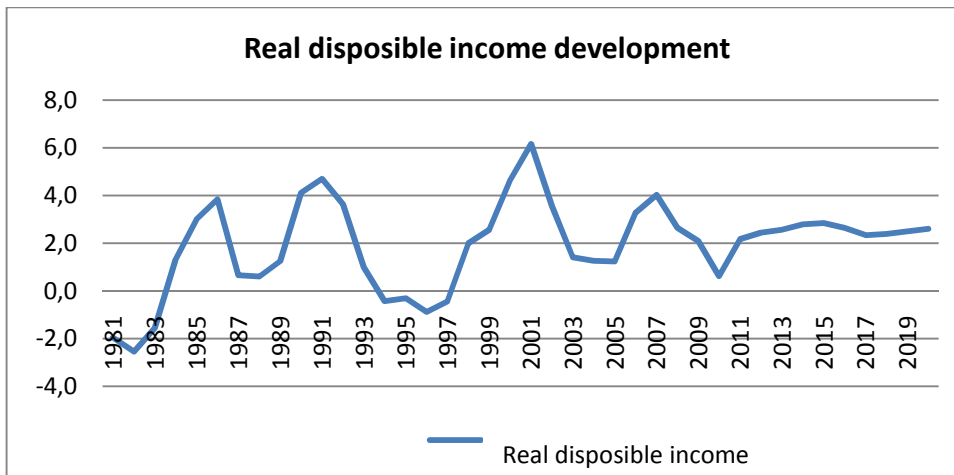


Figure 20; the historical development and a future prognosis of the Swedish households' disposable income in real terms.¹⁶³

Business Cycle

The overall economic situation in the society affects both the individual disposable income and the future belief of the economic development. The estimation of the future development will affect the demand for ownership housing; cooperative apartments, condominiums and small houses. The opportunity to gain profitability of the investment is important, both in short and long run, and if the general belief of the market development is negative, people tend to wait with housing investment until the market conditions are changed.¹⁶⁴

¹⁶¹ Workshop 2010-04-20

¹⁶² National Institute of Economic Research in Sweden (2010)

¹⁶³ National Institute of Economic Research in Sweden (2010)

¹⁶⁴ Workshop 2010-04-20

5.1.2 Demand drivers for Commercial Office Buildings

The demand for office is driven by organizations' need for space in order to conduct business as efficient as possible. The demand drivers identified as most important are location, market trends, and the business cycle, visualized in *Figure 21* below.

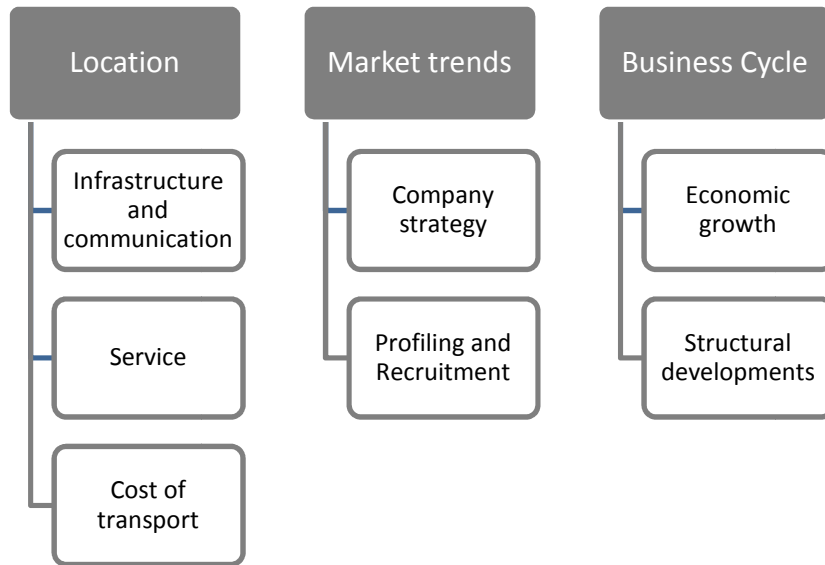


Figure 21; the figure illustrates the most important demand drivers for commercial office space.

Location

The location of the office premises is one of the main demand and value drivers for offices. The location is often divided in different categories, such as A, B, and C locations, where A is the premium category.¹⁶⁵ The attractiveness of the location is depending of the level of infrastructure and communication opportunities within the area, which facilitates for the commuters going from and to the workplace. The level of service in the area is also an important factor for the attractiveness of the location, for example areas with company clusters containing a lot of different types of services.¹⁶⁶ What service that is demanded is depending of the type of business the companies are conducting, and therefore the type of valued service and communications varies, for example short distances to the city center, highways, railways or harbors. Locations with short distances to relevant service decrease the transportation costs for the tenants, and the attractiveness of the area increase.

¹⁶⁵ Weiss L (2010) p. 57

¹⁶⁶ Workshop 2010-04-20

Market trends

Different market trends for companies and organizations tend to affect the demand for office space. Office premises have for example increasingly become more important for company profiling and in the recruitment process to attract new employees to the company.¹⁶⁷ Furthermore, the office space is in a greater extent included in the overall company strategy regarding for example costs, environmental profiling, and increased credibility for company customers.¹⁶⁸

Business cycle

The overall economic growth and the business climate in the society directly affect the demand for office space. When the unemployment rate increases, the vacancy rates follow and the rent levels will consequently fall and vice versa. In economic downturns, the level of the investors income return will increase which raises the profitability requirements.¹⁶⁹ During business cycles, structural developments will also occur, where routines and market conditions will be changed and thereby also the demand for office space.¹⁷⁰

5.2 Supply

As visualized in the four quadrant system the supply of real estate property consists of both the existing stock and new production of buildings. The supply is driven by demand and the profitability opportunities for developers and investors. The actors in the supply side of the real estate market are developers and investors where the developers build new residential and commercial properties and sell them to investors as soon as they are finished. The investors conduct the property management, and gain an annual cash-flow with the aim to keep the property during a longer time, around 10-20 years. In line with the demand drivers for residential and office buildings described above, the most important supply drivers for developers and investors are described in the following part 5.2.1. and 5.2.2.

5.2.1 Supply Drivers for Residential Development

Primary factors when developers and investors are considering building and investing in new residential apartments (condominiums, rental, and cooperative apartments) is location, return on investment, legislation, and business cycles illustrated in *Figure 22* below.

¹⁶⁷ Newsec (2010) p. 25

¹⁶⁸ Workshop 2010-04-20

¹⁶⁹ Newsec (2010) p. 25

¹⁷⁰ Workshop 2010-04-20

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

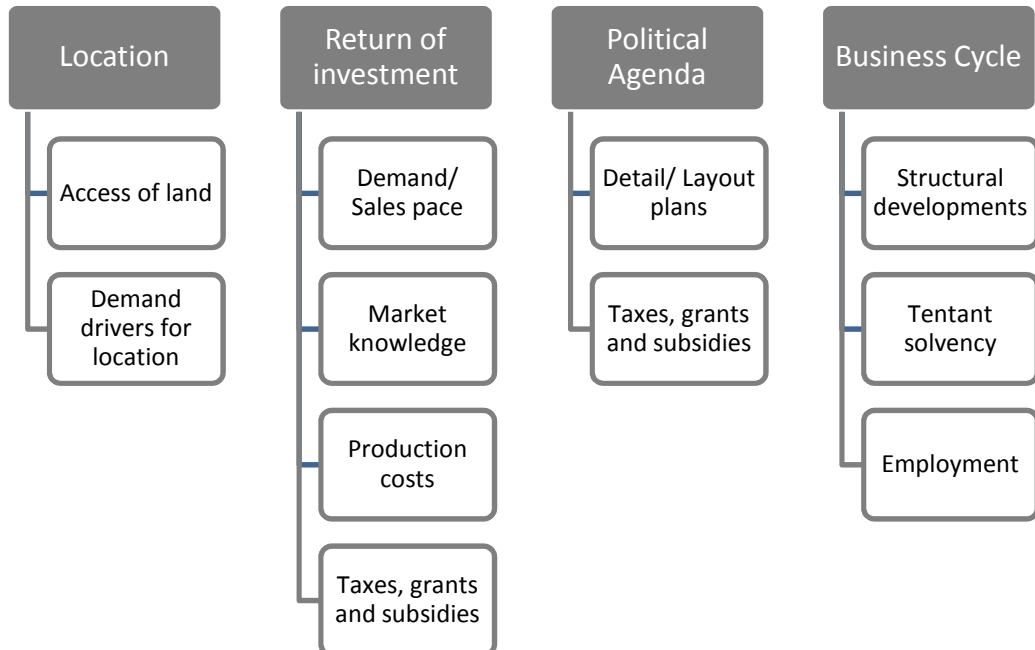


Figure 22; the figure illustrates the most important supply drivers for developers and investors of residential apartments.

Location

As location may be the most important demand driver for residential apartments, it is crucial for the actors in the supply side to produce apartments in the most attractive areas. The access of attractive land in the city centers is generally a scarce commodity and therefore, one of the most important supply drivers is the developer's access to attractive land and building permits to start the developing process. What is considered as attractive locations is to a large extent driven by the demand factors explained in chapter 5.1.2. for example well developed infrastructures and communications and short distances to services and recreations.

Return on Investment

It is the profitability opportunities that primarily drive the developers and investors to produce new residential apartments. Therefore, it is crucial to have good market knowledge and to know the consumers demand in order to maximize rents, and sales pace. As the developers invest large sums of money in the projects, unsold apartments will burden the balance- sheet heavily and the costs of capital will increase.¹⁷¹ Taxes, grants, and subsidies will also affect the profitability of a project, and lower the production costs. In 2007, the government decided to stop the

¹⁷¹ Henriksson L. 2010-04-28

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

subsidies, why there currently is no governmental support for building new apartments in Sweden.¹⁷²

Political Agenda

Political decisions and prioritizing will affect where, when and which type of tenure the developer decides to build.¹⁷³ Rental apartments are for example currently a political priority, as rental apartments are considered as secure and price efficient housing for many demographic groups with difficulties to pay the initial input for cooperative apartments and condominiums. It is the Housing and Urban Development Authority in each municipality that decides the comprehension plan for the future development of different areas in the towns and cities, and permits building rights for the developers.¹⁷⁴ Therefore, it is crucial to understand what the responsible authorities are striving for, so this can be incorporated in the developer's strategy.¹⁷⁵ Governmental decisions of taxes, grants, and subsidies will also affect the developers' investment decisions of producing new apartments, as mentioned in "Return on investment".

Business Cycle

The current financial situation in the stage in the real estate cycle is an important factor affecting the addition of new supply of residential apartments. The employment rate will directly affect the demand for new apartments as it affects the disposable income, and thereby the sales- and leasing pace of additional space. The fewer apartments that is pre-sold before a project is started, the higher the risk will be, which consequently increases the profitability requirements, and make the decisions for new investments harder to make.¹⁷⁶

5.2.2 Supply Drivers for Office Buildings

The supply drivers for office space are similar to the supply drivers for residential apartments. It is primarily the demand for office space and the profitability opportunity that drives the developer to invest in new production of office properties. The supply drivers are illustrated in *Figure 23* below.

¹⁷² SCB (www) 2010-04-28

¹⁷³ Workshop 2010-04-20

¹⁷⁴ Göteborgs Stad- Stadsbyggnadskontoret (www) 2010-05-02

¹⁷⁵ Workshop 2010-04-20

¹⁷⁶ Workshop 2010-04-20

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

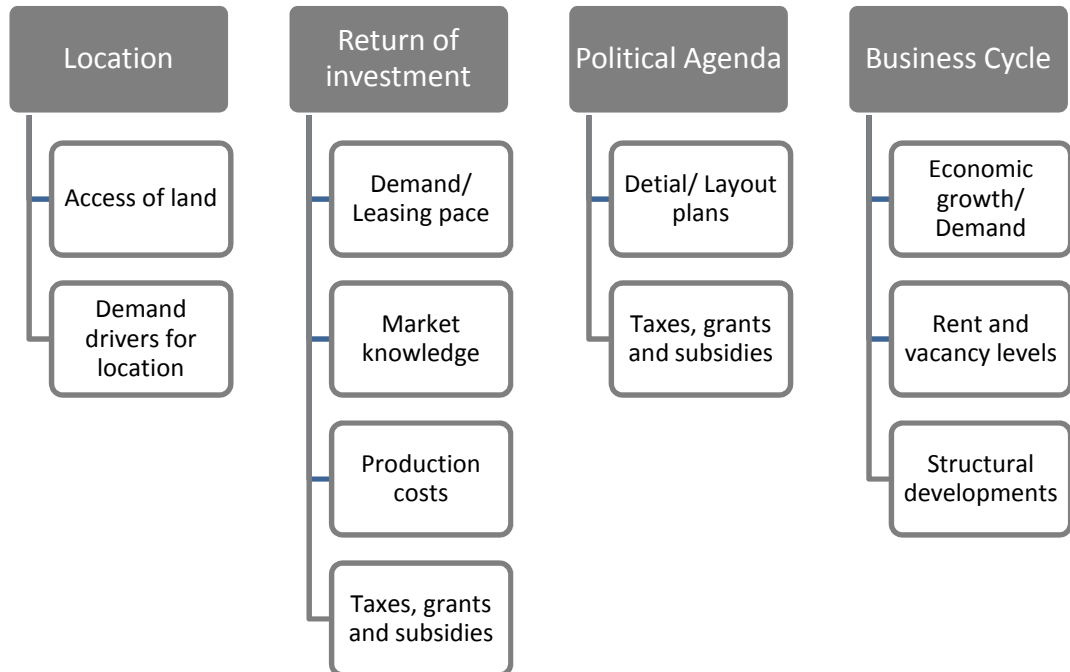


Figure 23; the figure illustrates the main supply drivers for new production of commercial office properties.

Location

Even for the developers of offices, the access of attractive land is crucial for the investment decisions of new office buildings. What is considered as attractive locations is the same as the demand factors for office location and the better the demand factors are fulfilled, the easier it will be to find tenants at an early stage in the project. Therefore, it is important to have good market knowledge and a proactive strategy in the process of purchasing attractive land for future development is crucial in order to succeed in the market.

Return on Investment

In order to maximize the profitability of the projects, good market knowledge is crucial in order to estimate the market value of the building and the right levels of the rents and to minimize production costs. The levels of taxes, grants, and subsidies will also affect the overall project profitability and are therefore important supply drivers for new office buildings.

Political Agenda

Governmental and municipally decisions and prioritizing affect where and when developers decide to add new supply of office space. It is the Housing and Urban Development Authority that creates the lay out plans for Swedish cities and approves building permits for new projects. It is therefore important that the

developers have a good understanding of the municipally future ambitions. The governmental and municipally prioritizing is also reflected in the taxes, grants, and subsidies which will encourage the developers to initiate projects within the supported areas.

Business Cycle

The overall financial situation affects the stage of the real estate cycle and therefore for example the levels of the rent, the vacancy rates, and the level income return. In economic downturns, there may be harder for both investors and developers to get financial support from the banks, and thereby it gets harder to find buyers which in turn increase the risks of building new office buildings.

5.2.3 Residential and Commercial Supply and Demand

Summarizing the supply and demand factors of importance it is notable that there are several similarities but in the same time it is in many cases different underlying needs that determine the drivers of importance. The location is one important factor, which may have similar demand drivers for both residential and office, for example regarding infrastructure and distance to service. However other restrictions such as noise and pollution may make it impossible to produce residential apartments in certain areas.

One common area that can be identified as similar, is that both office and residential are highly affected by the current overall economy. The economic situation in the society will affect individuals' disposable income and the companies' overall strategies where the office space often is included in the overall company strategy.

5.3 Financial Analysis

In order to discuss the profitability opportunities of mixed-use facilities, it is necessary to get an indication of the profitability for new constructed office buildings and residential apartments (condominiums, rental, and cooperative apartments). When comparing the different property functions, it is important to understand when the property is sold and to whom. *Figure 24* below illustrates the different actors, the Developer, the Individual Consumer, and the Investor and their different purpose of the acquisition.

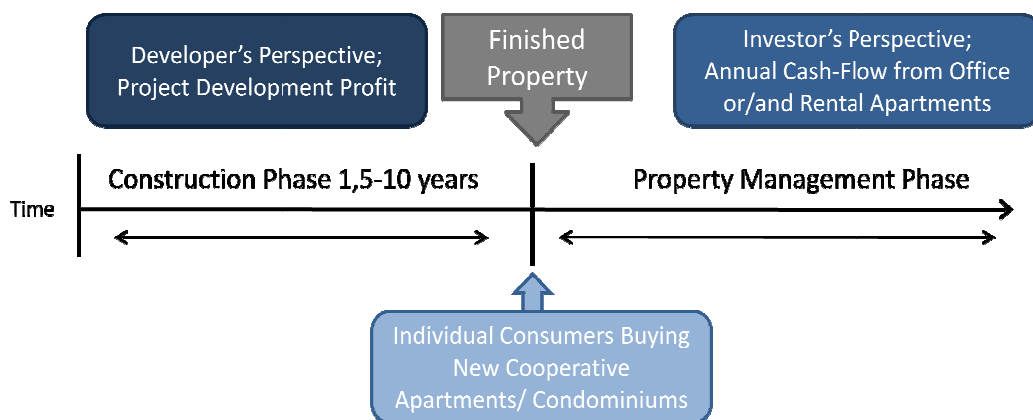


Figure 24; the figure illustrates the actors of mixed-use facilities with the functions office and residential apartments; the Developer, the Individual Consumer, and the Investor, who all seeks different types of profits with the acquisition.

The *Developer* plan and produce new office and residential apartments. The construction phase normally takes between 1,5-10 years, and during this time period, the Developer wants to divest the property and gain a Project Development Profit. The sooner the property is sold during the construction phase, the more will the risks decrease, and thereby the profitability requirements.

The *Individual Consumer* buy residential apartments; either cooperative apartments or condominiums, as soon as they are finished. Except for buying a comfortable housing, they are also striving for future value increase of the apartment, due to increased market prices.

The *Investor* buys either office properties or rental apartment properties in order to seek future annual cash-flow. The purpose is to keep the properties in a longer time-perspective (often 25 years and more for residential apartments and 10 years or more for office properties) and gain profits of both the regular cash-flow and a future value increase, as the market prices of the properties may increase. Important key ratios to consider are Income Return and Total Return which will be explained later in the chapter.

5.3.1 Relevant Financial Measurements

This chapter aims to estimate, or in any case illustrate, the profitability figures for the different types of properties as in single-use projects. The analyses will be conducted in the Developer's perspective, in order to analyze if there are any interesting opportunities with mixed-use facilities in Sweden. However, if the profits of the Developers will be maximized, it is important to make a careful estimation of the market value of the produced property. In order to find the right market price, it is crucial to find out what the Investor or Individual consumers are prepared to pay for the properties. To make the cash-flow generating properties comparable with the non cash-flow generating, a common key ratio must be identified, which is relevant in the Developer's perspective. In this case the Project Development Profit will be used, calculated as

$$\text{Project Development Profit} = \frac{\text{MV} - \text{TI}}{\text{TI}}^{177}$$

Market Value (MV) = the observed asset value of asset price

Total Investment (TI) = total contract cost + total cost of land

The development profit is also a relevant measure when comparing the cash-flow generating and non-cash-flow generating properties. Therefore, the development profit of the different forms of tenure will be used as a general measurement and the analysis is performed with the assumption that the Developer, in every case, puts the produced property directly to sale (i.e. not kept in purpose of property management). The project developers' return is measured by the project development profit, which has to cover costs of the company's expenditures, such as over head costs.

The following section will analyze the returns and the development profit for the different single-uses in order to compare the possible profitability for different mixtures of office and housing apartments. Due to differences in the generated profits the analysis is divided in two parts, separating the cash-flow generating properties (office and rental apartments) and the properties generating an immediate transaction profit (cooperative apartments and condominiums).

5.3.2 Cash-Flow Generating Properties; Office and Rental Apartments

In the context of financial success of mixed-use the investors' expectations of the return is an important parameter to discuss. The return is discussed in terms of *Cap Rate* and *Income Return*. The cap rate is, as denoted in the theoretical foundation, the investors' required return consisting of the opportunity cost of capital, growth expectation, and risk, whereas the income return is based on the actual figures realized in the market. By definition both measurements generates the same figure

¹⁷⁷ Pettersson M. 2010-04-01

but is based either on the market expectations (cap rate) or actual realization (income return).

5.3.2.1 Cap rate

The investor's purchase decisions are based upon the cap rate, which in turn is determined by three important factors; opportunity cost of capital, growth expectations, and risk (See chapter 3.3).¹⁷⁸

Opportunity Cost of Capital; in the context of opportunity cost of capital the risk free return is used as comparison to the least risky investments with the lowest possible return on the market. The risk free return for both commercial and residential equals the long term housing bond (5 yrs)¹⁷⁹. Housing bonds are bonds that are secured by mortgage re-payments on homes or rental properties. Currently the long term housing bond (5 yrs) is at the level of 4% (nominal values). The last ten years the long term average of the housing bond is 4,7%¹⁸⁰. Furthermore, the capital cost and the individual debts condition between the bank and the investors has a great impact on the required return. At different stages in the economical cycle it is more or less profitable to invest in real estate. Low returns on financial derivatives in comparison to real estate increase the transaction volume in real estate, attracting different and a higher number of investors from all markets.

Growth; the investors enter the investment with an expectation on a certain value increase, or an increase of the operation earnings. The level of the increase has impact of the sales price, as the investors are willing to pay a higher price when expecting a growth ratio that excesses that price. High growth expectation means lower cap rate and a higher property value. In the current state of the market cycle, when the rents have bottomed out and begun to increase, it is likely to expect declining vacancy rates, increased demand, and growth of the operating income.

Risk; if property is considered to be less risky than other asset investments investors are willing to pay a higher price, which lowers the cap rate. The purchasing decision also contains a specific price premium for the project. The greater risk, the higher cap rate, resulting in that the investor is willing to pay less for the property. The developers risk premium for office projects is 0-15 %. The level of the risk premium is determined of the initial level of signed tenants. If a large part of the building has signed contracts when initiating the project the risk of vacancies substantially decreased generating a lower risk premium.¹⁸¹

The opportunity cost, the growth expectations and the risk are weighted when the investor are setting required cap rate for a specific investment. The size of the

¹⁷⁸ Geltner D M. et al. (2007) p 15

¹⁷⁹ Passburg M. 2010-04-04

¹⁸⁰ Riksbanken (www) 2010-03-20

¹⁸¹ Workshop 2010-04-20

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

different components is determined from case to case why only averaged numbers taken from Statistics Sweden, and gained from interviews with market actors have been used in the analysis. According to the real estate analyst Newsec, the cap rate is beginning to get stabilized, and is expected to recover in early 2011.

Office Properties

The observed office income return 2009 of 6,0% is in line with the long term average income return of 6,5%. Historically, the income return variation has been in the size of 4 - 10%.¹⁸²

Table 4; important key ratios for office properties.

Office	2009	Long Term Average ¹⁸³
Income return	6,0 %	6,5 %
Total Return	3,3 %	10,2 %
Development Profit ¹⁸⁴	15-25 %	15-25 %

The calculation of the development profit for office properties is based on two intervals, one interval of the estimated market value, and one interval of the total investment cost. The figures in the interval are based on statistics from Statistics Sweden (SCB) as well as observation of sold and newly produced office projects in Gothenburg.

- Cap rate 6,0 - 6,5 %
- Rent income 2 000 – 2 300 SEK/sqm
- Total investment cost 22 000 – 28 000 SEK/sqm

The intervals generate ranges of possible values of the development profit according to the table below. Average project development profits are between 15 and 20 %¹⁸⁵. Extraordinary projects can generate as high profits as 40 % while poorly performed project can result in a profit of 10 %.

¹⁸² Svensktfastighetsindex

¹⁸³ Average based on figures from SFI, with the time horizon between 10-30 years

¹⁸⁴ Workshop 2010-04-20

¹⁸⁵ Workshop 2010-04-20

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Table 5; the table illustrate the influence of the cap rate; with a 0,5% lower cap rate, the projects development profitability will increase by 9,2 %.

Offices	Maximum value	Minimum value
Rent income	2 000	2 000
Operation & management costs ¹⁸⁶	200	200
Property operations earnings	2 100	1 750
Cap rate	6,0 %	6,5 %
Estimated market value	30 000	27 629
Total investment cost	25 000	25 000
Project development profit	20,0 %	10,8 %

Table 5 illustrates the cap rate's influence of the project development profit, where all other factors are alike except for the cap rate. With a 0,5 % lower cap rate, the project development profit will be decreased by 9,2%. Therefore, it can be concluded that it is crucial for the developer to have good market knowledge and the ability to estimate the cap rate correctly.

Rental Apartments

The returns of rental apartments are considered as less risky investments, depending on the high demand and low vacancy levels for rental apartments, with a lower but more stabilized income. The income return has historically varied between 2 - 8 %.

Table 6; the table illustrates important key ratios for rental apartment properties.

Rental Apartments	2009	Long Term Average
Income return	3,3 %	5,4 %
Development Profit	3 %	NA

In order to estimate the project development profit for rental apartments, production costs and rent levels in Gothenburg have been collected from Statistics Sweden. It is worth emphasizing that every property project is unique, but the figures can give important indications what factors affect the profitability outcome the most.

¹⁸⁶ Dynevik, M 2010-03-12

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Table 7; the table illustrates the project development profit with two different levels of the cap rate in SEK per sqm.

	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5	Scen 6
Rent income	1 400	1 400	1 400	1 400	1 400	1 400
Operation & maintenance costs ¹⁸⁷	-350	-350	-350	-350	-350	-350
Property operations earnings	1 050	1 050	1 050	1 050	1 050	1 050
Cap rate	2,5%	3%	3,5%	4%	4,5%	5%
Estimated market value	42 000	35 000	30 000	26 250	23 333	21 000
Total investment cost	30 000	30 000	30 000	30 000	30 000	30 000
Project Dvpmnt profit	40,0%	16,7%	0,0%	-12,5%	-22,2%	-30,0%

In *Table 7* all factors except for the cap rate are the same, yet the project development profits differentiate a lot. This difference is due to the fact that the level of the cap rate has a substantial effect on the overall success of the project. Currently (2010) the income rate, (which is the realized cap rate) for rental apartments is 3,3%, which is a project development profit of 6 %, given the same numbers as used in *Table 7*.

The major challenge for a private developer to build profitable rental apartments is the low rent levels due to the utility-value principle. The rent levels' influence of the project profits are illustrated in *Table 8*. The average rent level for an apartment in Gothenburg 2008 was SEK 1421, which would make the project development profit negative. In order to construct profitable rental apartments, the rent levels must increase, or the production costs decrease.

Table 8 illustrates how the project development profit will be affected by changed rent levels

	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5	Scen 6
Rent income	1 300	1 400	1 500	1 550	1 600	1 700
Operation & maintenance costs	-350	-350	-350	-350	-350	-350
Property operation earnings	950	1 050	1 150	1 200	1 250	1 350
Cap rate	0,04	0,04	0,04	0,04	0,04	0,04
Estimated market value	23 750	26 250	28 750	30 000	31 250	33 750
Total investment cost	30 000	30 000	30 000	30 000	30 000	30 000
Project Dvpmnt Profit	-20,83%	-12,50%	-4,17%	0,00%	4,17%	12,50%

¹⁸⁷ Leimdörfer (2008) (www) (2010-03-26)

5.3.2.2 Return Correlation

In the context of risk diversification, an analysis of whether it is possible or not to achieve risk equalization when mixing residential and commercial facilities are conducted. The risk equalizing effect is investigated in terms of the correlation of both cash-flow generating properties according to statistics from the Swedish Property Index (SFI) see *Figure 25*.

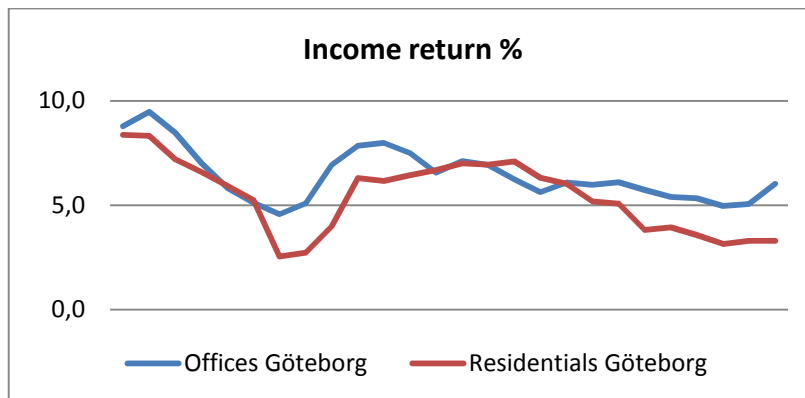


Figure 25; historical income returns in of offices in comparison to residential property.¹⁸⁸

The analysis resulted in an income return correlation of 0, 81 which (as the supply and demand indicates as well) indicates that the returns for offices and residential apartment are aligned. In the perspective of income returns for single-use project, a mixed-use will not generate any visible risk diversification. However, it is notable that the mixture may result in a dampening effect of the return amplitudes (see *Figure 25*). The dampening effect is a result of residential apartments generating a more stable income return while the income return for offices has a greater variance. Even though the single-use return analysis does not indicate any substantial risk diversifying effect in this case, it is not proven that a risk reduction is unachievable. A risk reduction might be found if realized mixed-use projects are investigated or if other parameters are used for the investigation.

5.3.3 Properties generating an immediate transaction profit

Individual Consumers will buy cooperative apartments and/or condominiums as soon as the construction process is finished. The developer will make a project developing profit equalizing the difference between the sales price and production costs as explained before. The sales price is estimated by the Developer and is based on market analyses investigating different parameters such as the target group for

¹⁸⁸ Svenskt Fastighetsindex, (due to secrecy agreement specification of the time series received from SFI is excluded).

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

the apartments, the location, and the costs and quality of the apartments.¹⁸⁹ Estimated project developing profits for cooperative apartments are between 15-20 %¹⁹⁰.

The calculation of the development profit is based on two intervals, one interval of the estimated market value, and one interval of the total investment cost. The figures in the interval are based on statistic from Statistics Sweden (SCB) as well as market observations of sold and newly produced cooperative apartment in Gothenburg.

- Estimated market value/ sales price; 40000 – 45000 SEK/sqm
- Total investment cost; 32000 – 38000 SEK/sqm

The intervals generate range of possible values of the development profit according to the table below. Since the market value is closely related to the quality of the apartment and the price therefore will correspond to the production costs, the two extreme values 5,3 % and 40,6 % should rarely occur at the market place.

Table 9; the table illustrates how small changes in market prices and production costs will affect the project development profit.

Cooperative apartments	Scen 1	Scen 2	Scen 3	Scen 4	Scen 5	Scen 6
Estimated market value	40 000	40 000	42 500	42 500	45 000	45 000
Total investment cost	32000	38000	32000	38888	32000	38000
Project Dvlpmnt Profit	25,0 %	5,3 %	32,8 %	9,3 %	40,6 %	18,4 %

As earlier denoted, the two concepts of cooperative apartments and condominiums are similar. Since the market for condominiums is new, and there are few objects in the market, condominiums are compared to the attributes of cooperative apartments. The production costs and project development profits from the cooperative apartments are therefore assumed to be the same, except for some specific costs of condominiums (see Appendix IX). The main differences between condominiums and cooperative apartments are the ownership structure and the financing structure. The sales price of condominiums does not imply hidden costs as in the case of cooperative apartments. The cooperative society charges a fee consisting of both the cost of property management and the capital cost of the associations' mortgage of the property. Since the mortgage in its entirety is carried out by the owner of the condominium the interest rates and the rent ratios is in a greater extent determined by the individuals' financial strength. Furthermore the

¹⁸⁹ Workshop 2010-04-20

¹⁹⁰ Workshop 2010-04-20

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

individual consumer can make deductions for the interest rate which is impossible for the cooperative society.

Further differences which will affect the total price for condominiums are presented in Appendix IX. However, these differences may not affect the project developing profit as the market price for condominiums may carry up the increased costs. The project development profit for condominiums used in this analysis, will therefore be in line with the profit for cooperative apartments; 15-20%.

An important argument that benefits mixed-use development is the interesting observation regarding cooperative apartments, and most probably cooperative apartments as well, that the market prices of the apartments on the top floors tend to be higher than ground floor apartments. A small study was made by visiting major Swedish developers of cooperative apartments and compares the prices. As illustrated in *Table 10* below, the market prices can be between 10-66% higher for apartments located on the top floors. In comparison, the rent levels for office space do not vary substantially to the same extent as for residential, rather would the price difference depend on different customer adaption costs of the office space, such as the quality of the equipment.¹⁹¹

Table 10; the market prices for apartments situated on the top floors of the building tend to have a higher market price, compared to the apartments on the ground levels.

Developer	Project	Level	sqm	Fee	Initial input	Price/m2	Price diff
Skanska	Cityhusen, Frölunda	1/1	54	3100	1525000	28241	
Skanska	Cityhusen, Frölunda	6/6	54	3100	1830000	33889	20%
HSB	Vitsippan, Göteborg	0/8	84,5	4867	1975000	23373	
HSB	Vitsippan, Göteborg	8/8	84,5	4867	2535000	30000	28%
PEAB	Brf Fjärilssippan	1/4	85	4561	1970000	23176	
PEAB	Brf Fjärilssippan	4/4	100	5369	2700000	27000	16,50%
JM	Mariebo Jönköping	1/4	66	3200	1150000	17424	
JM	Mariebo Jönköping	4/4	66	3200	1700000	25758	48%
Veidekke	Äppelgården Bromma	1/5	63	3902	1530000	24286	
Veidekke	Äppelgården Bromma	5/5	68,5	4227	1840000	26861	10,60%
Veidekke	Humlan Södertälje	1/5	84	4772	1440000	17143	
Veidekke	Humlan Södertälje	5/5	72,5	4314	2070000	28552	66,50%

¹⁹¹ Pettersson M 2010-05-07

5.4 Summarizing the financial comparison

In order to compare the different property functions, the project development profits for office, cooperative, and rental apartments and condominiums have been identified as is summarized in *Table 11* below;

Table 11; the table summarizes the average project development profit for office, rental- and cooperative apartments, and condominiums.

Property type	Average project development profit
Office	15-25 %
Rental	6 %
Cooperative	15-20 %
Condominiums	15-20 %

It may once again be worth highlighting that the figures are based on average numbers, which will differ from project to project. However, these numbers gives an indication of usual profitability numbers. Rental apartments have a low profitability due to the low rent levels, and it is therefore difficult for private developers to build profitability rental apartments, especially in comparison to cooperative apartments. On the other hand, rental apartments have low vacancy rates due to the high demand, which lowers the risks and generates regular and secure cash-flow incomes.

5.5 Physical and Public Issues with Mixed-Use Facilities

Regarding to Rabianski et al, there is a growing popularity of mixed-use development, driven by both the developers and regulators. In addition to market and financial factors, physical and public factors are also interesting to consider regarding the value drivers of mixed-use facilities.¹⁹² The financial success of a mixed-use project is among many factors highly dependent of the local prerequisites and how well it is possible to integrate the mixed-use facility in the surrounding urban environment.

5.5.1 Increased Costs

International experiences of mixed-use projects have shown that the total production costs will be higher for mixed-use projects compared to single-use projects. (see *Figure 26*) The reason for this is for example that a more complex planning process is needed which will generate higher initial costs and an overall longer construction time plan.

¹⁹² Rabianski J S. et al. (2009)

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?



Figure 26; the figure illustrates the factors which will increase the production costs for mixed-use facility development.

In comparison to single-use projects the mixed-use facility has to be adjusted for both residential and commercial purposes regarding for example fire safety, handicap accessibility, and mechanical requirements etc. Parking lots is for example another issue that has to be considered. The total amount of parking lots may be increased, due to different times of usage for the different functions within the property but often do residential users want to have dedicated spaces separated from the office parking areas. Furthermore it is likely that the entrance for the different functions should be separated and that there must be good sound isolations so that the functions do not disturb each other. As a consequence of higher costs and longer planning horizons, the project risk increases which in turn makes the bank and credit institution require increased cost of capital from the investor.¹⁹³

¹⁹³ Rabianski J S et al. (2009)

5.5.2 Decreased cost

Some of the increased costs for mixed-use can be balanced with increased profitability opportunities. One benefit with mixed-use facilities is that certain facilities and services could be shared due to different peak times for the different functions, which would increase the hours that the facilities are generating incomes. Furthermore, mixed-use facilities may increase the profitability of the surrounding properties, such as restaurants where the employees in general would visit during lunch time, whereas the resident would visit during evenings and weekends.¹⁹⁴ This fact together with mixed-use less usage of land space increases the concept's opportunity of being prioritized politically with incentives and subsidies, which would have a positive effect on the overall increased production costs.

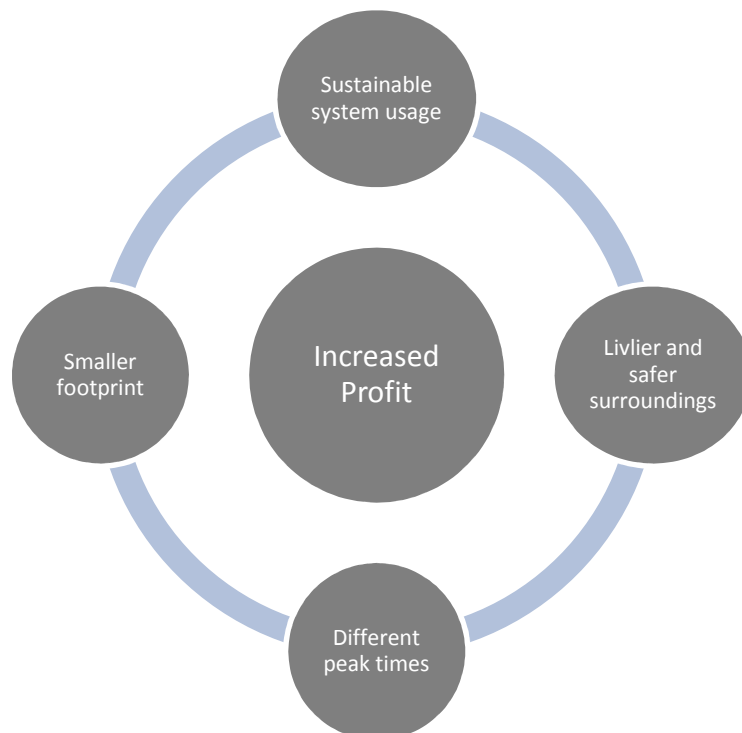


Figure 27; the figure illustrates what factors that will increase the profitability and synergy opportunities for mixed-use facility development.

In line with the discussion about increased complexity of constructing mixed-use facilities, it is also argued that the different property functions should be separated in the building. This would lead to that some of the positive synergies with mixed-use would be diminished, but on the other hand, complex issues regarding ownership, utilization rights, and responsibility will facilitate the administration of the properties. Therefore it may be argued that separate property systems will be

¹⁹⁴ Rabianski J S et al. (2009)

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

more profitable in the end, even though costs savings due to synergy effects will be lost. In that case, it is even more important that the developer which constructs the mixed-use property has a genuine knowledge of the different types of functions that will be constructed. Therefore, joint ventures between different market actors may be necessary in order to succeed to build profitable mixed-use facilities.¹⁹⁵

The aim of this chapter was to extend the theoretical foundation identified by Rabiński et al. according to the current state of the Swedish real estate market. The demand and supply drivers identified in this chapter in combination with financial aspects of importance and opportunities and challenges with public and physical issues will constitute the foundation for a further analysis of the potential with mixed-use facilities. Except from physical and public issues the analysis has so far investigated mixed-use from the perspective of a single-usage. In order to evaluate the different concept mixtures the following chapter will investigate positive and negative attributes with mixed-use and more specifically for each mixture. The findings from this analysis constitute the foundation for the concept evaluations and the evaluations are performed through four SWOT-analyses.

¹⁹⁵ Chantreau Y, 2010-05-07

6 SWOT-Analyses of Mixed-Use Facilities

In the following chapter the strengths, opportunities, weaknesses, and threats for mixed-use facilities and the different alternative combinations will be analyzed; office with rental apartments, office with cooperative apartments, and office with condominiums. The findings in the chapter will be the base for the conclusions of the thesis.

In order to identify the challenges and opportunities with mixed-use facilities and the different types of possible combinations, four SWOT analyses will be conducted. Initially, a general SWOT-analysis for the concept of mixed-use facilities will be performed in order to estimate the opportunities with the concept in its entirety. Thereafter, separate SWOT-analyses for each possible combination will be conducted; office with rental apartments, office with cooperative apartments, and finally office with condominiums. The SWOT analyses are conducted from the perspective of the investor or the consumer (presented in *Figure 24*) since the mixed-use developers' product must fulfill their demands in order to maximize the project profit. The investors and/or customer that are considered for the different mixtures are stated in the each analysis. However, the involved numbers of investors and consumers may vary depending on which combination of mixed-use that is in consideration, further explained in chapter 6.1 below.

6.1 Numbers of Investors of Mixed-Use Facility Projects

As denoted earlier, there is a distinction in which purpose the different investors' acquire real estate of any kind. This distinction is whether the property is purchased in purpose of long term property management generating an annual cash-flow through leasing the premises to a third party consumer, in purpose of generating a future value increase or in purpose of gaining a transaction profit by selling it in a short term perspective.

A mixed-use complex can either be sold to one investor, several investors, or one investor and several consumers visualized in the *Figure 28* below. The mixed-use building with office, rental apartments, or cooperative apartments is divided into two strata properties for its different usage types. In the case of condominiums the building is divided into one office strata property and one strata property for each condominium.

The office property and the rental apartment property will always be sold to one investor for each strata property or one investor can acquire both properties. The strata property with cooperative apartments is always sold to a community association which in turn sells access rights to consumers. Concerning the condominium each property can be sold to consumers or the entirety of all condominiums can be sold to one investor.

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

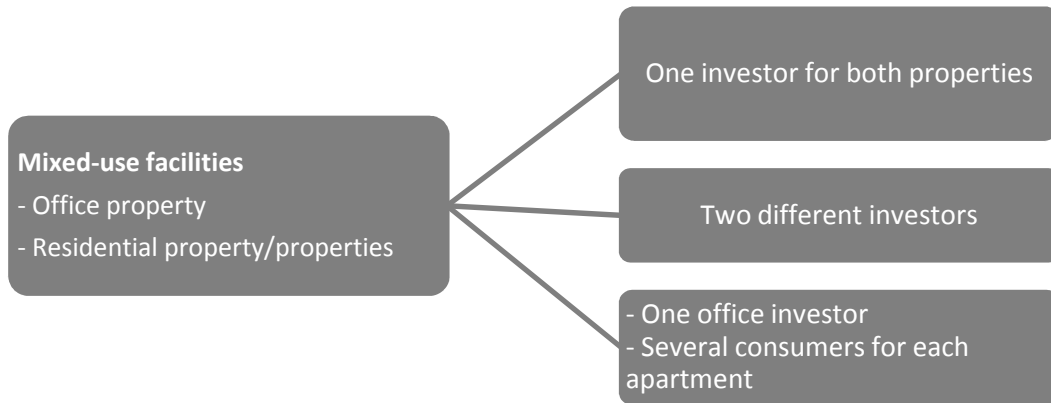


Figure 28; the figure illustrates the potential number of investors or consumers for a mixed-use facility.

6.2 Mixed-use in general

The challenges and opportunities of mixed-use facilities can be viewed from different perspectives, for example the profitability gains of the developers, and investors, the overall comprehension plan of the municipality, as well as political and economical incentives/regulations. The challenges and opportunities of mixed-use have been identified through market analysis made by experts and interviews with knowledgeable persons within the different fields, a workshop with Skanska RDN and SFG and different secondary sources. The most important strengths, weaknesses, opportunities, and threats for the concept of mixed-use facilities are summarized in *Figure 29* below.

Mixed-Use Facilities
 -A New Window of Opportunity in the Swedish Real Estate Market?

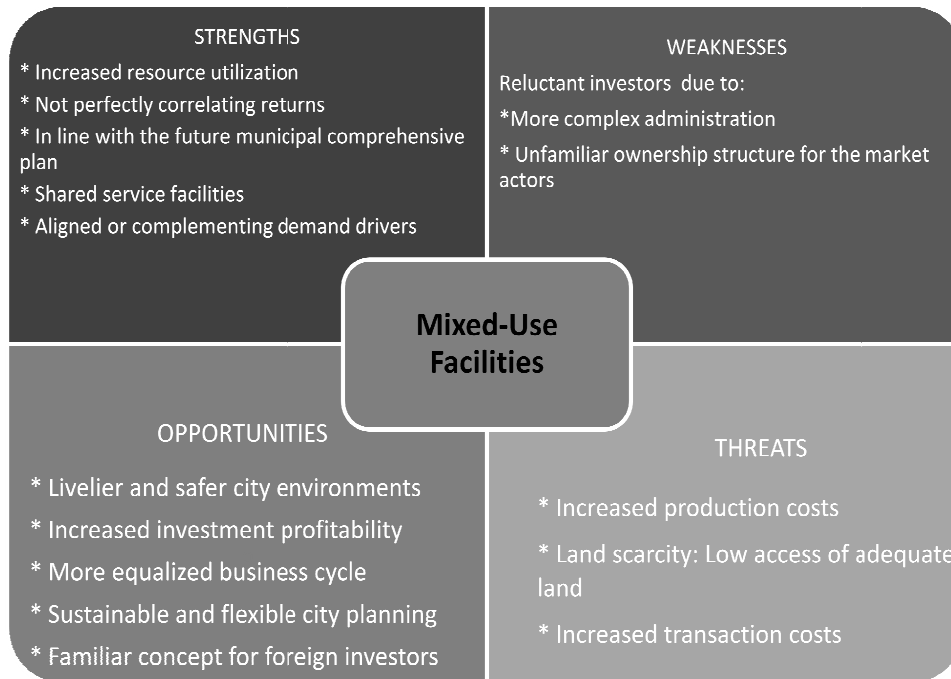


Figure 29; The figure presents the identified strength, weaknesses, opportunities, and threats for mixed-use facilities in general, consisting of office and residential apartments, without stating which type of tenure the apartments consist of.

6.2.1 Strengths

By mixing office space and residential apartments in the same building, increased resource utilization can be gained as it can result in a facility usage at all hours. The buildings system usages can be optimized and the different tenures can benefit from each other.¹⁹⁶ The majority of all system installations can be used and managed commonly resulting in a sustainable environment and reduced costs.¹⁹⁷ For example the energy generated from the offices computer usage can be reused to heat both the commercial and residential facilities resulting in large savings. From the perspective of safety all users of the building can use the same reception personnel and service functions. From a planning point of view mixed-use can increase the development ratio of urban land, a scarcity in the Swedish cities. For example, parking space is a bottle neck in urban development. With mixed-use facilities it may be possible to share parking space between the users of the building in different hours.

¹⁹⁶ Workshop Skanska 2010-04-20

¹⁹⁷ Skoglund P. 2010-02-18

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

To find attractive areas to build residential apartments implies challenges due to legal restrictions regarding noise and pollution levels in the surroundings. These limitations are much more restricted for residential apartments than for office properties. Therefore, some locations may be very suitable for mixed-use facilities, i.e. locations where it is necessary to build apartments higher up in the building in order to avoid noise and pollution from the streets below.

The mixed-use concept is supporting the green agenda, and has a potential to decrease the CO₂ pollutions. In the long run mixed-use with optimized planning of residence and offices, can reduce the need of transportation (i.e. decrease the transportations costs). In contrast to the concept of zoning (i.e. clustering businesses or other functions) mixed-use creates closeness between work, service, and living. Furthermore, the systems within the building can be used more efficient as mentioned above, which would also support the environmental consciousness.

As highlighted in chapter 6.2.1-6.2.2 some of the demand drivers for office and residential are similar. A central location of the building is highly prioritized with good communication and short distances to service. Furthermore the demand driver of high quality has during the recent year becoming increasingly important for both office- and residential tenants, which indicates that a premium location with high standards is a shared demand for the users of mixed-use facilities.

From the potential investors' point of view the return ratio of commercial and residential real estate is not perfectly correlating which creates a potential of a more stable investment income and a dampened effects from fluctuations in the business cycle. The dampening effect may be of importance for both the short- and long run investors as the real estate market historically has been struck hard in times of recession.

A further strength with the concept is the possibility to construct the most profitable apartments of the upper floors of a building. As discussed in Chapter 5.3.3 the market value of apartments on the top levels tend to be around 20-30% higher compared to the apartments at the bottom floors. The rent levels for office space have a less difference for office space situated at the bottom levels and top levels. This indicates that the most profitable parts of the properties will be constructed in a mixed-use facility property.

6.2.2 Weaknesses

In comparison to the way most buildings are managed today a mixed-use, in managing both residential and commercial space, will result in an unfamiliar form of administration. Usually companies specialize in property management of either residential or commercial purpose why one of the customers in the mixed-use will be unknown for the investor¹⁹⁸. In order to manage the daily operations and

¹⁹⁸ Pettersson M. 2010-04-29

maintenance, a community association, an easement, or similar solutions, needs to be established. The community association will have responsibility for the common facilities in the building such as walls, stairways, elevators etcetera. This is the case regardless the type of combination for the mixed use, even with the alternative with cooperative apartments with the requirements of a cooperative society, a Community Association must still be established. Therefore, there is a risk that the mixed-use investors may even require an increased risk premium or increased returns due to the difficulties in administrating two different forms of tenures with different users/customers.

In the case of several different owners of strata properties within the same building, the weakness of the concept is somewhat different. Several owners of the same building are an unfamiliar concept for the actors in a market that today is highly segmented and characterized by a low rate of change. As a result of these market conditions, investors may initially have difficulties to run a mixed-use facility in an efficient way.

In conformity with previous reasoning, that it is unfamiliar to own a property consisting with coordinates in the atmosphere, it is for example unfamiliar that someone else's pipes runs through the property. The influence of other market actors creates an uncertainty towards the concepts¹⁹⁹. However this is working in many foreign markets why it in long term should be possible in the Swedish market. Information transparency and praxis will determine the development of the mixed-use market segment.

6.2.3 Opportunities

One of the primary benefits with mixed-use is the social context of a livelier and securer urban environment. Many CBD areas are characterized by busy environments at the working hours and left almost like ghost areas during night time. Many residential areas are suffering from the opposite characteristic, with a low rate of movements during day time and vice versa during night time. Therefore a mixed-use is not only decreasing the need on transportation, it is also contributing to the urban society by creating an even flow of movement through downtown areas resulting in livelier and more secure surroundings.

A possible opportunity in the long run is the potential of a future abolishment of the utility value rent principle. The utility value rent creates a distorted market hindering free competition. Recently several acquisitions of residential rental property below the rent of housing bonds have been realized (primarily pension funds). This may indicate that the long term investors have strong believes of an increased rent level development or due to increased inflation expectations.²⁰⁰ Increased rent levels for

¹⁹⁹ Passburg M. 2010-04-28

²⁰⁰ Passburg M. 2010-04-28

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

rental apartments would make it even more beneficial to invest in mixed-use since the incomes from residential apartments are the most stable income sources of the two types of tenures, and therefore there is a potential of increased returns. In addition to this, there are indications in the market that the rent levels may have increased for office space with closeness to residence. This is empirically proven in the case of Hammarby Sjöstad in Stockholm, Sweden.²⁰¹ As stated above, the concept may result in a more stable return since housing and commercial offices do not entirely follow the same cyclical movement and therefore there is a possibility of equalizing business cycle effects.

From the society's point of view the urban planning is striving towards sustainability and flexibility. Due to current shortage of housing, primarily of rental apartments, housing apartments are prioritized by the municipalities. Furthermore the shortage of urban land requires a condensation of most Swedish cities.²⁰² With several forms of tenure it may be possible that the municipalities will increase the development ratio (i.e. get larger building permits) in central districts. Furthermore if the legislation allows increased flexibility to convert usage of office space to housing usage, the concept will be attractive in a long run perspective with business cycle fluctuations. Currently it is only possible to convert office space to condominiums. Therefore, the attributes of mix-used facilities is beneficial to all perspectives of the overall city planning with sustainability and flexibility, regardless of which type of mix that is chosen.

As mentioned before, the concept of mixed-use facilities is a slow growing trend but is at the same time unfamiliar for the Swedish investors.²⁰³ As the concept is more usual abroad, international investors should therefore be more familiar with the investment type. In the overall real estate transaction volume in the Swedish market, international investors have stood for the majority of the activities even though their presences have decreased during 2008 and 2009. This may indicate that it initially may be easier to attract foreign capital for the investments of mixed-use.

6.2.4 Threats

The overall planning for Swedish cities has traditionally been characterized with zoning, where residential and office buildings are located in different areas. Even though the concept of mixed-use is in line with the municipals' view of future mixed functional areas it is still a new concept for the investors in Sweden, which initially can result in low demand.

²⁰¹ Ericsson J (2010) p. 67

²⁰² Kjell P A. 2010-05-03

²⁰³ Buildings (www) 2010-05-08

Another threat to mixed-use facilities is the access of adequate land suitable for the location demands for both office and residential apartments. Furthermore the building permits for residential apartments have more restrictions than office buildings, regarding for example noise and pollution levels. Therefore it is crucial that the developer have a good land management strategy and good relations with the municipally who often owns and sell land in attractive areas.

When mixing different property types in the same building, there is a risk for increased transaction costs. As the number of involved actors increase, the developer must create new sales processes and routines which may raise the total sales costs. This may also be true for the investors who will buy the property and needs to gain expertise knowledge for both office and residential buildings.

6.2.5 SWOT- Analysis for Mixed-Use Facilities; a Short Summary

To summarize, there are several challenges to be solved with mixed-use facilities where the two of the most important are;

- Mixed-use facilities are a new concept in the Swedish real estate market, which makes it hard to estimate the initial demand and market value from investors.
- It may be difficult to find available land which is suitable for both office space and residential apartments.

However, if these obstacles can be overcome, there are interesting opportunities with a mixed usage of real estate;

- The concept is in line with the municipals' future developing plans with sustainable and flexible new areas in the city center.
- More effective usage of the resources; both land and different systems within the building such as climate and heating systems and the use of elevators etc. The concept may decrease the travelling for commuters and therefore mixed-use facilities supports the current green thinking.

The remaining question is therefore; what kind of mix is the most preferable in Sweden? In order to answer the question, SWOT- analyses for the three different alternatives are presented below.

6.3 Office space with rental apartments

For the mixed-use facility alternative with office space in combination with rental apartments, the number of investors may be one or two as illustrated in *Figure 30*.

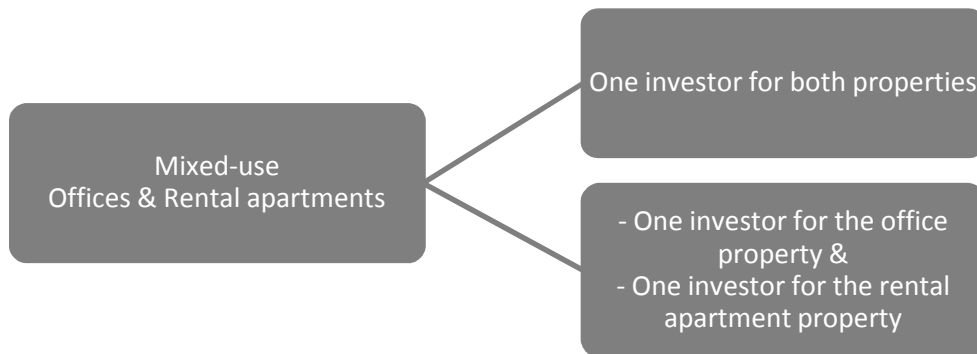


Figure 30; the figure illustrate the two possible constellations of investors' for the mix of office space and rental apartments

For the mixed-use facility alternative with office space in combination with rental apartments, the number of investors may be one or two. A mixed-use project of this kind can preferably be divided into two properties sold to one or two investors. Either the object is sold to different investors specialized in one of the two tenures or one investor that se potential of gaining two different sources of income. Anyhow, the investors want to acquire an annual cash-flow generated by the investment in real property. The most important factors identified in the SWOT-analysis are presented in *Figure 31* below.

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

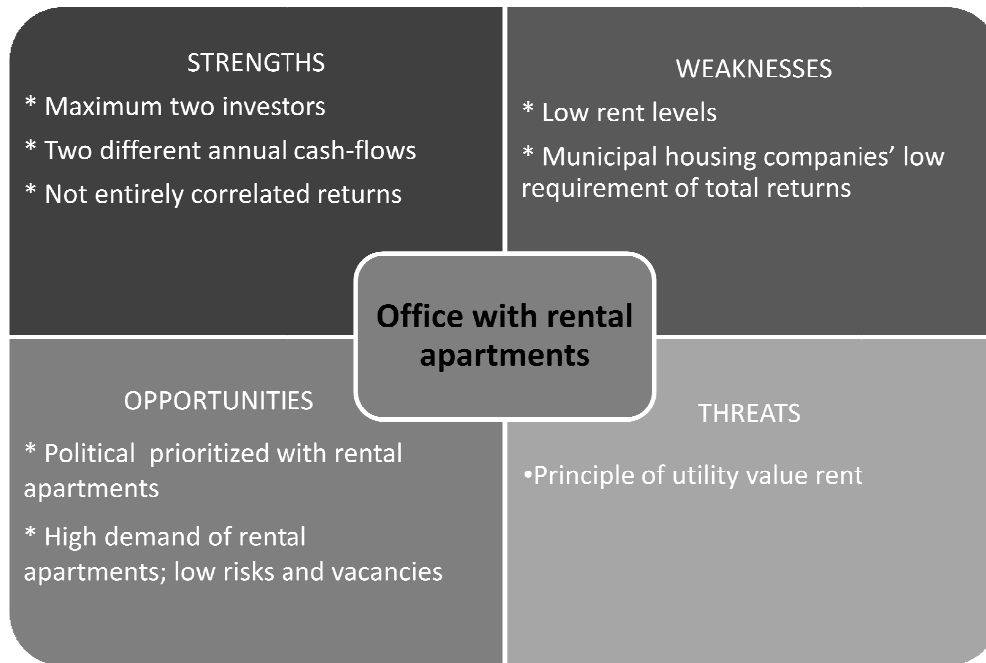


Figure 31; the figure presents the identified strengths, opportunities, weaknesses, and threats for a mixed-use facility with a combination of office space and rental apartments.

To develop new rental apartments is politically supported and there is a large demand for rental apartments in the residential market. However, the current market conditions make it difficult for private actors to build profitable rental apartments due to the low rent levels. As long as the rent levels are decided by the utility-value principle it will be difficult for private actors to compete with non-profit organizations owned by the municipals when building new rental apartments.

As cash-flow is the main driver for investing in both office space and rental apartments, the sales process for the developer may be less difficult compared to the other alternatives. Furthermore, rental apartments has historically characterized by low risk and stable cash-flow which may flattening the more volatile development curve for office buildings.

6.4 Offices space with Cooperative Apartments

The mixed-use facility with the combination of office space with cooperative apartments would be a strata property with two different properties within the same physical body.

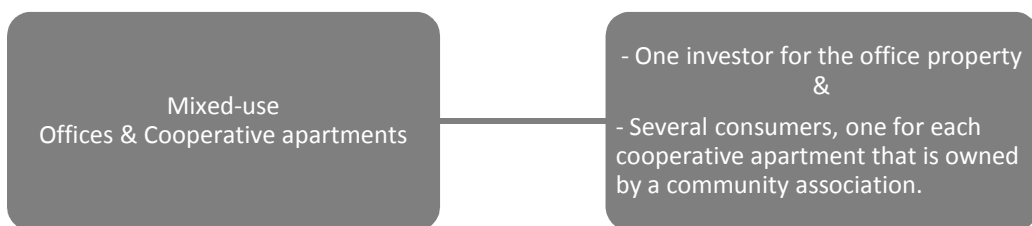


Figure 32; the figure illustrates the only possible constellation of investor and consumers.

Figure 32 visualize the one possible constellation of investor and consumers in the case of office space and cooperative apartments. The investors of the building will be the owner of the office space, who is mainly interested in the annual cash-flow and private investors according to the number of cooperative apartments who buys the access right with the purpose to live in the apartments. Following advantages and disadvantages (see Figure 33) have been identified;

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

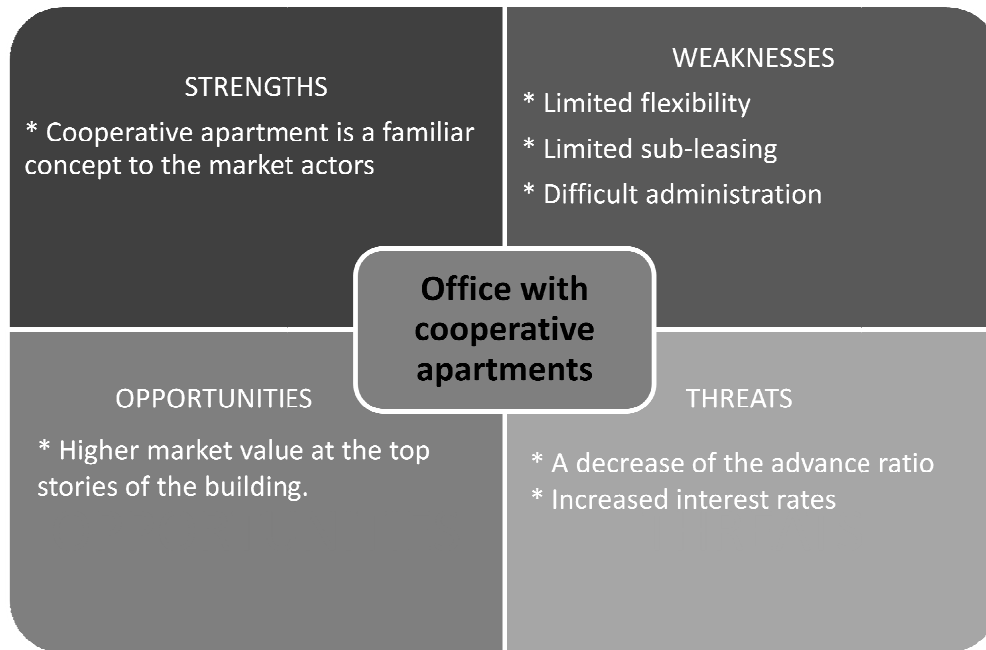


Figure 33: the figure presents the identified strengths, opportunities, weaknesses, and threats for a mixed-use facility with a combination of office space and cooperative apartments.

The most important strength with this type of combination is that the residential type is well-known in the market for the target group of private consumers of apartments. Furthermore, the developer can sell the properties with two different types of income; an annual cash-flow focusing of total return for the office space and a direct sales profit for the apartments. Regarding the cooperative apartments, the developer can take advantage of the current market prices which for example tend to increase the higher the apartment is situated in the building.

There is a risk that the administration and management of the combination with cooperative apartments and office space will be complicated as it is the cooperative society that owns the apartments and must cooperate with the property owner of the office space. Furthermore, cooperative apartments can never be changed into a different type of tenure and the possibilities to sub-lease the apartments are limited in both time and rent levels due to the utility-value principle. Usually the buyers of cooperative apartments are depended of financial mortgages from the banks and are therefore depended on how much money the banks allow them to borrow. Furthermore, the interest rates will also affect the cost of capital for the buyers, and increased rates will therefore make the investment for cooperative apartments larger, which may make it harder to sell the apartments.

6.5 Office space with condominiums

The number of possible investors and consumers are presented in *Figure 34*. For the mixed-use alternative of office space with condominiums on the top stories the investor and/or customers may vary from one to several depending on how many apartments there are. As there are no limitations of sub-leasing the apartments the investor can choose to sub-lease the apartments and gain a monthly cash-flow or to sell them and earn a direct income return.

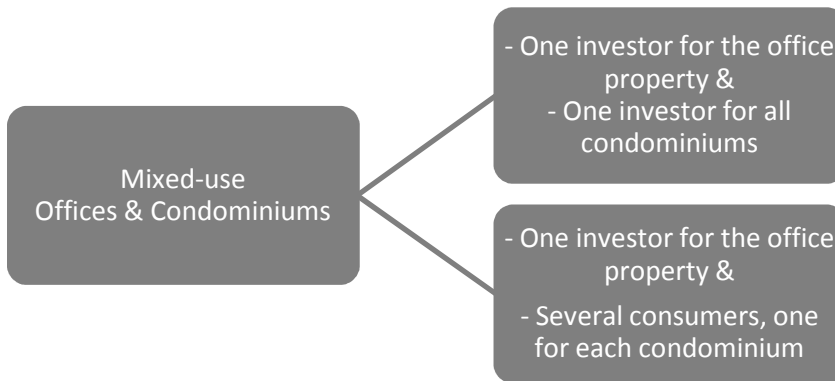


Figure 34; the figure illustrates the number of possible investors and consumers for the mixture of offices and condominium.

The most important factors which were identified in the SWOT-analysis are presented in *Figure 35* below.

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

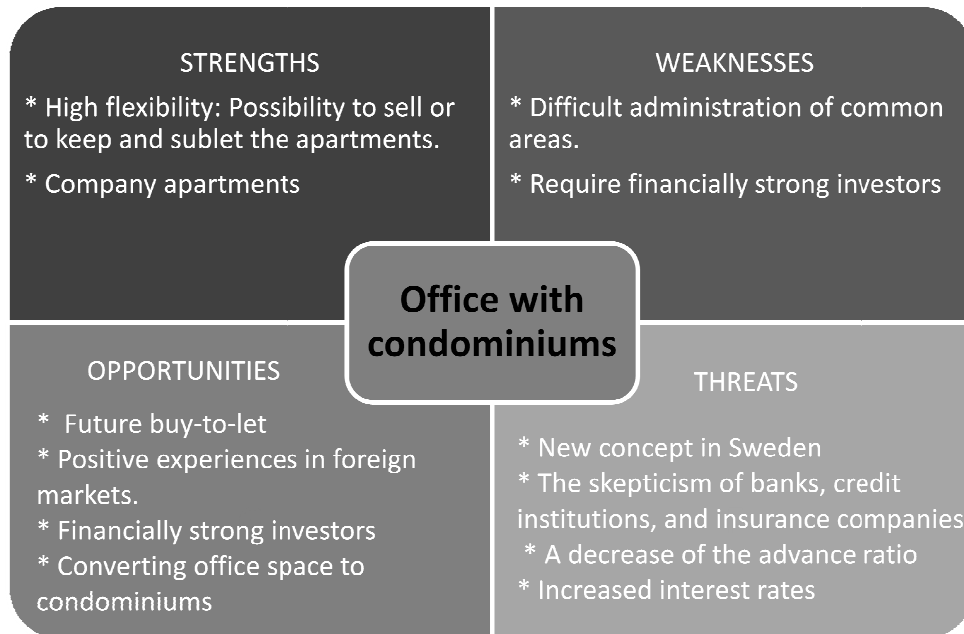


Figure 35; the figure presents the identified strengths, opportunities, weaknesses, and threats for a mixed-use facility with a combination of office space and condominiums.

In opposite to cooperative apartments, one investor can buy and own several apartments why the combination may be suitable for company apartments. In that case the company which uses the office space can own apartments in the same building and offer its employees accommodation both in short and long term. Furthermore, the office space in the building can be converted into condominiums if it would turn out that the advantages with apartments exceed office space. If the rent levels will be allowed to be increased in the future, condominium apartments could be bought with the only purpose to sublease the apartment and gain a monthly cash-flow. In that case, several of the strengths and opportunities for rental apartments could also be applicable for condominiums, which would raise the attractiveness for mixing office and condominiums substantially. Furthermore the administration of the building may be facilitated as the required community association for condominiums also could be used for all the common facilities in the mixed-use building.

Although the concept of condominiums is unfamiliar in the Swedish market and in the form of mixed-use together with office space it gets even more unfamiliar for the market. There are still some challenges to solve for condominiums regarding for example the management and maintenance of common facilities. Condominiums will also require more financial strong investors compared to cooperative apartments, as the investor will pay the total price itself. Therefore, it is required that the banks and other credit institutions permits mortgages for condominiums

which is currently not the case, as stated in chapter 4.2.2.4 Financing. Even condominiums are therefore depended on the level of the advanced ratio and interest rates as discussed above for cooperative apartments. The concept of condominiums may have great potential in the Swedish market if the prerequisites are adapted to market demand and adjusted due to the current obstacles. The benefits must be communicated and the concept has to be significantly different from cooperative apartments in order to succeed in the market.

6.6 Mixed-Use Facilities Analyses- a Short Summary

Based on the SWOT- analyses above, it can be concluded that all alternative combinations of mixed-use have both advantages and disadvantages. The reasoning can be summarized as follows;

- Considering the fact that mixed-use initially implies increased production costs make the alternative with office and rental apartments difficult due to the current low rent levels regarding the utility-value principle. Furthermore, the form of tenure implies a lot of direct contacts with the tenants which are unfamiliar and costly for many investors. However there is a high demand for rental apartments and the vacancy level is 1%, which lowers the risk.
- Cooperative apartments are a well-known concept in the market. On the other hand the access right limits the occupant regarding for example sales and sub-leasing as it is the cooperative society that owns the apartment, which may be an important factor to consider in combination with office space in the same building.
- Condominium is a new concept in Sweden, and has currently some important market obstacles left to be solved, which initially increases the risks with producing new condominiums. In this case however, the owners have more flexibility regarding for example, sales, sub-leasing as well as operations and maintenance.

7 Conclusions

This chapter will present the conclusions and answer the purpose of the thesis.

Mixed-use facilities are a value creating concept for commercial developers in Sweden due to:

- **The concept is in line with the municipal comprehensive plan.**

In the municipalities' comprehensive plans, more and more new district areas in Swedish towns and cities are planned as mixed-use areas. In this way, livelier and safer city areas will be created, which are visited both during days and evenings. By planning to construct a mixed-use facility property would therefore facilitate the opportunity to acquire attractive land, as the municipalities will prioritize those projects that are in line with the comprehensive plan. Location is the most important value driver for both supply and demand, and the attractiveness of the location will highly affect the profitability level for a mixed-use project. The demand drivers for what is considered as an attractive location are similar for both office and residential, as closeness to good communications and services are highly valued for both types of consumers.
- **The concept implies increased resource utilization.**

Attractive land is a scarce resource in most of the Swedish towns and cities. The concept uses the land in a more effective way, with multiple functions used during more hours compared to single-use properties. Furthermore the systems within the property could also be used more effectively and during a larger part of the day, such as elevators, and climate, and energy systems.
- **With mixed-use facilities, only the most profitable parts of a building will be produced.**

Apartments situated on the top floors in a building tend to have around 20-30% higher market value compared to the apartments situated in the bottom floors. On the other hand, the rents for office space do not change to the same extent mainly due to large customization changes for every new tenant of the office space. Residential apartments on top of office space would therefore increase the value of the property as a whole.

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

- **Residential apartments are political prioritized**
To build new residential apartments, especially rental apartments, has for long been an important ambition for the Swedish municipals. For a commercial developer, this is important to have in mind, as it may facilitate the acquisition process of attractive land to combine commercial properties with residential apartments.
- **Mixed-use facilities are a familiar concept for foreign investors.**
Mixed-use facilities are a more well-known concept internationally. The Swedish real estate market has for long been dominated by foreign investors, why there is an opportunity that they would not feel as unfamiliar with the concept as Swedish investors will do initially. In this case, they can bring valuable knowledge about mixed-use facilities in to the Swedish real estate market.

However, there are some challenges with the concept of mixed-use facilities;

- **Mixed-use facilities will lead to increased costs.**
As the concept implies knowledge of both the office and real estate market, it may require more resources in terms of money and knowledge in order to develop successful mixed-use facility projects. The investors will probably therefore want to have increased compensation for higher risks. For example, the initial planning process may take longer time, which will increase the construction costs. The administration costs may increase due to different routines and processes for office and residential administration and management. The transaction costs may also increase due to for example that expertise knowledge in both the office and residential market is needed.
- **Mixed-use facilities have an unfamiliar owner structure.**
The investors are unfamiliar with the thought of sharing parts of the premises with others, or having other functions above or underneath their own property. Therefore, the market needs time and information to get used to the concept.
- **Difficulties to find attractive land suitable for mixed-use facility projects.**
Especially the residential apartments have various restrictions regarding for example noise and pollution levels. Therefore, the most attractive land for

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

the concept is a location where it is impossible to build apartments at ground level, and have to start building the apartments certain meters up in the air. Office space has fewer restrictions and would therefore be a very good compliment.

In spite of these challenges, it is concluded that mixed-use facilities is value creating in the Swedish real estate market. Regarding the fact that the municipalities want to develop more mixed-use areas in the future, the real estate market may have to get used to the concept and overcome the challenges. Therefore, the question would rather be *when* the actors will *have to* accept the concept and *who* will take the initiative and the opportunities to gain first mover advantage.

So far, it has been concluded that mixed-use facilities is a value creating concept in Sweden. Let us therefore move to the second question of the purpose; what kind of mix creates most value for commercial developers in Sweden?

- **In the Long Run; Office with Condominiums**

Due to the level of flexibility condominiums and office space is considered as the mixture with the most potential. The high level of flexibility due to the direct ownership, with for example the possibility of free sub-leasing, may imply a future value increase. Furthermore the possibility to convert office space to condominiums is another benefit of this mixture. This combination also enables companies to easily and with few restrictions acquire residential properties in favour for their employees. The clients' of the commercial developer are used to the process of company acquisitions which can benefit the sales process if selling apartments to the companies operating within the building. However, it is of great importance to simplify the property operation management and separate the usages as much as possible.

- **In the Short Run; Office with Cooperative Apartments**

In a short run it is offices and cooperative apartments that are the most competitive mixture today. In contrast to condominiums there are clear routines for executing projects and the concept is well known for the residential customer. Initially it can therefore be easier for the developer to add one new parameter (the concept of mixed-use facilities) instead of two (both the concept of mixed-use facilities and condominiums).

8 Recommendations for Skanska Fastigheter Göteborg AB

As stated in the conclusion integrating the concept of mixed-use facilities in the product portfolio is most likely a question of when rather than a question of if. The recommendation is therefore to enter the market within a short run in order to test the market reactions. The market for the most promising concept Condominium and Offices is not ready to be rolled out at the market immediately why the recommendation is to start with Cooperative apartments and simultaneously prepare a concept with condominiums. The summarized recommendations for SFG are;

- To create a mixed-use working group
- To test the mixed-use market with Cooperative apartments and Offices
- To prepare a concept of mixed-use with Condominiums and Offices

Figure 36 below show a possible time schedule in accordance with the current market conditions, and are divided into four phases Information, preparation, implementation, and follow up.

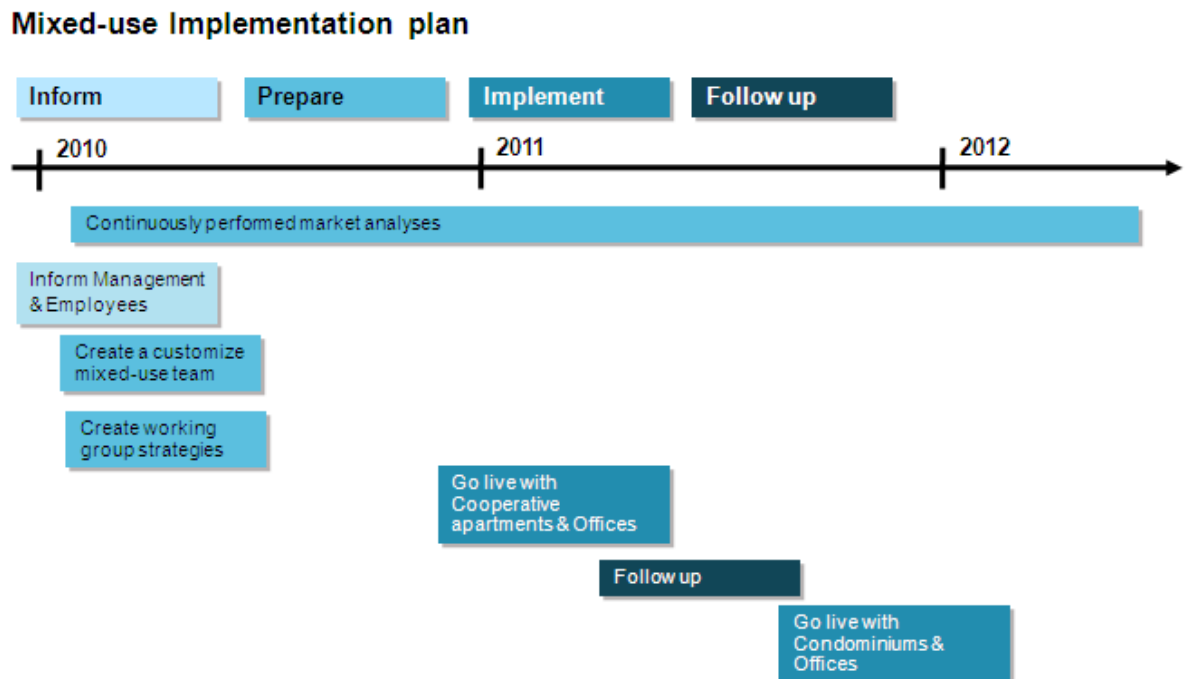


Figure 36; The figure shows a time plan for how SFG should implement the mixed-use facility concept.

8.1 Create a mixed-use working group

The recommendation for SFG is to further investigate the opportunities with mixed-use facilities. The continued work should be in close collaboration with RDN, and it is important that an extensive knowledge exchange takes place. As a first step an independent working group which only focuses on mixed-use facilities should be established, consisting of members representing both CDN and RDN. In order to neutralize possible interest conflicts between the two sisters companies it is worth emphasizing that the working group may achieve the best results if it is held independent. In the context of a new working group it is also necessary to set up an adequate working strategy that suits both companies. In the meantime while the group is being established, different gathering events should be organized, in line with the workshop which was made the 20th of April 2010. It is crucial that a dialog is initiated as soon as possible so that information reaches all parties involved.

8.2 Test the Market with Mixed-Use of Cooperative Apartments and Offices

In the short run it is recommended that SFG, in collaboration with CDN, focuses on the mixed-use of office and cooperative apartments. The required knowledge and capabilities for the single-use projects already exist within the companies; the largest challenge will be to utilize the knowledge as optimized as possible. Furthermore, the combination with cooperative apartments is more familiar in the Swedish market, which will lower the project risks to some extent.

8.3 Prepare a Concept of Mixed-Use with Condominiums and Offices

In parallel with testing the market for mixed-use with cooperative apartments it is important to continue to learn more about the market and the prerequisites for condominiums. As stated in the thesis, the market for condominiums is not ready yet, but as soon as the remaining issues have been solved or altered to be more suitable for the market, it is important to act fast. Furthermore it is of importance to establish good relations with the municipals and authorities in order to create the right mixture and finding the right locations. An interesting opportunity which more easily can be realized with condominiums is the opportunity with company apartments, and a further investigation in this opportunity should be initiated.

Furthermore, the combination of retail and residential apartments is a combination of mixed-use which should be investigated. This combination is already more established in the market, why it may be natural to begin with this type of mixed-use project. Horizontal mixed-use is another interesting example worth investigating in as well.

8.4 Challenges and Opportunities for Skanska Fastigheter Göteborg



Figure 37: SFG's strengths, weaknesses, opportunities, and threats regarding the opportunities with mixed-use facilities in Sweden.

Considering the fact that Skanska Group, including SFG and RDN, is a financially strong actor with good market knowledge there is a unique opportunity of first-mover-advantage. As the banks are reluctant to finance condominiums, Skanska Group has the financial opportunities to initiate new projects without support from the banks. This is a major competitive advantage compared to especially smaller developers, who often is dependent of support from the banks.

With mixed-use facilities, SFG may offer its customers new types of products in line with the overall layout plan of the Gothenburg municipally. However, the sales processes, customers, and market pre-requisites will be new, why a close cooperation with RDN needs to be established so that existing knowledge can be transferred, and new knowledge for mixed-use facilities can be gained.

The in-house expertise knowledge about both residential and commercial properties is a unique benefit for the Skanska Group, and will constitute a major advantage compared to competitor market actors. Instead of cooperating and establishing joint-ventures with external market actors, Skanska Group can keep the genuine market knowledge inside the company. In other words, there may be opportunities to increase market shares and the brand value by introducing mixed-use facilities in the product portfolio.

Mixed-Use Facilities

-A New Window of Opportunity in the Swedish Real Estate Market?

If SFG together with RDN and Skanska Sweden acts fast, it is possible to take the leading edge in an upcoming market. There are several opportunities to gain first-mover advantages and become the leading actor of developing mixed-use facilities in the Swedish real estate market.

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10 Appendices

Appendix I; Skanska Group

The Skanska Group is one of the world’s largest construction companies operating within construction development, commercial development, residential development, and public private partnership. With leading positions the company is acting at selected home markets in Europe, the U.S, and Latin America.

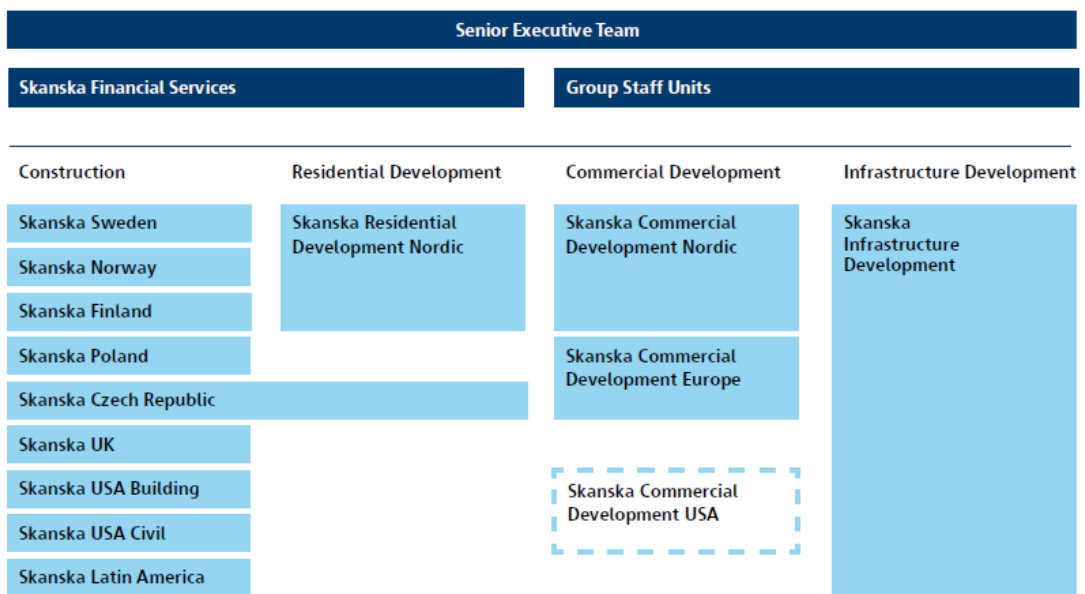


Figure 38; the organizational chart of the Skanska Group.²⁰⁴

Skanska is operating in local markets with varying conditions between countries and regions. The group’s four business streams create financial and operational synergies to fulfill the mission to develop, build, and maintain the physical environment for living, travelling and working. By combining international expertise with local presence, Skanska strives to be a local company with global strengths. In 2009, 53,000 employees worked within the Group and the revenues reached SEK 137 billion.²⁰⁵

²⁰⁴ Skanska Group Annual Report 2009

²⁰⁵ Skanska Group Annual Report 2009

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

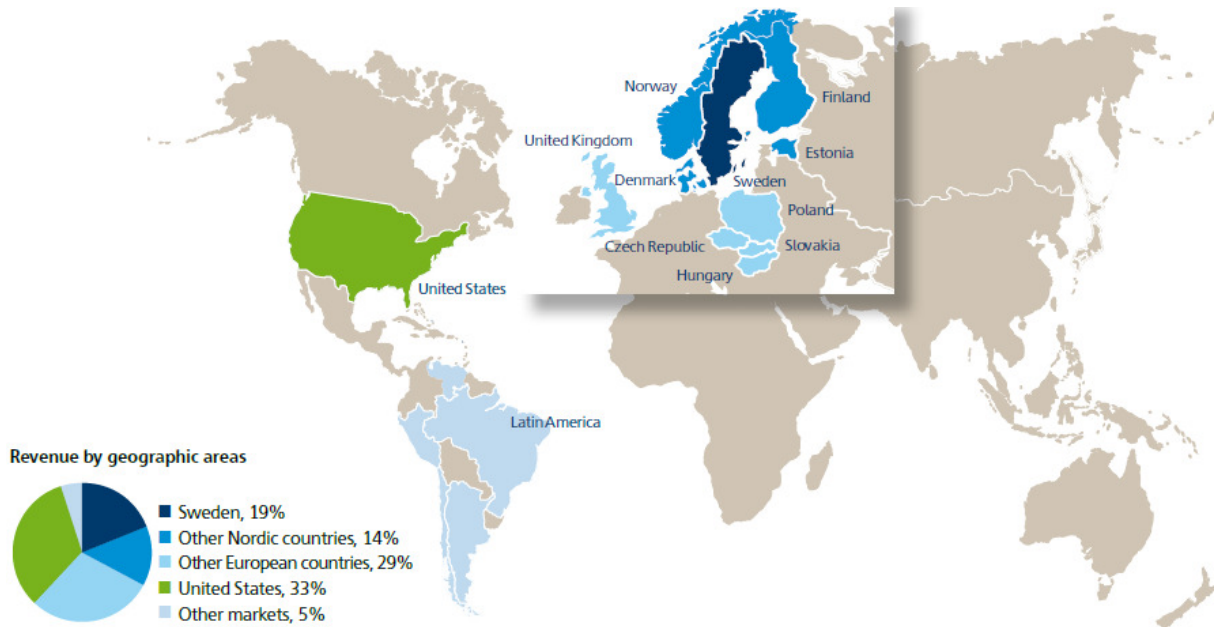


Figure 39; Skanska Group home markets, where The United States and Europe are the largest markets in regards to revenues.

Skanska Fastigheter Göteborg AB (SFG)

The business idea of Skanska Fastigheter Göteborg AB is to create value for its customers by developing land, building high- quality commercial properties and selling the properties fully leased.²⁰⁶ SFG is the Group’s investment operations, where both new properties are built and existing ones are upgraded and improved. In turn, this generates building assignments for the sister company Skanska Construction. The investment gains are reinvested in new projects²⁰⁷ and during the recent years, extensive groundwork has been made for future projects with the efforts of purchasing land in attractive locations well suited for development of modern, energy- efficient properties²⁰⁸. During 2009, the focus was to complete ongoing projects and to ensure a high occupancy level of the properties. About 80 percent of the capital employed is involved in projects in the Nordic Region and 20 percent in central Europe.²⁰⁹

²⁰⁶ Skanska Annual Report 2009

²⁰⁷ Pettersson M, 2010-02-05

²⁰⁸ Skanska Annual Report 2009

²⁰⁹ Skanska Annual Report 2009

Appendix II: Workshop Questions- Team RDN

Bostadslägenheter; Bostadsrätter, Hyresrätter och Ägarlägenheter



1. Vilka är de viktigaste faktorerna som driver efterfrågan på bostadslägenheter, idag och i framtiden? Skiljer sig efterfrågan beroende på vilken typ av upplåtelseform som gäller?
2. Vilka parametrar är avgörande vid beslut att bygga nya byggnader med bostadslägenheter?
3. Vilka är de viktigaste parametrarna som påverkar exploateringsvinsten/ försäljningsvinsten för nybyggnationsprojekt av bostadslägenheter? Hur stor är vinsten? (Grovt skattat, i intervall)
4. Vilka är de största riskerna med bostadsprojekt? Hur stort är riskpålägget?
5. Drabbades/ Kommer drabbas/ Drabbas RDN av den finansiella krisen? I så fall, på vilket sätt och när?

Appendix II; Workshop Questions - Team CDN

Kommersiella lokaler; Kontor



1. Vilka är de viktigaste faktorerna som driver efterfrågan på kontor, idag och i framtiden?
2. Vilka parametrar är avgörande när beslut ska fattas om att bygga nya kontorsbyggnader.
3. Vilka är de viktigaste parametrarna som påverkar exploateringsvinsten/ försäljningsvinsten för nybyggnationsprojekt av kontorsfastigheter? Hur stor är vinsten? (Grovt skattat, i intervall)
4. Vilka är de största riskerna med kontorsprojekt? Hur stort är riskpålägget?
5. Drabbades/ Kommer drabbas/ Drabbas CDN av den finansiella krisen? I så fall, på vilket sätt och när?

Appendix II: Workshop Questions- Mixed-Use facilities

Kontor och Bostäder i samma byggnad



1. **Efterfrågan:** Vilka möjligheter och utmaningar skapas för hyresgästerna, de boende och investeraren i byggnaden?
2. **Utbud:** Vilka möjligheter och utmaningar skapas vid utvecklingen och byggandet av Mixed- use byggnader?
3. **Lönsamhet:** Hur ser exploateringsvinsten ut (grovt skattat i intervall) för boende respektive kontor? (Hur) förändras den vid en mixed- use?
4. **Risk:** Innebär en mixad användning en ökad eller minskad risk ur Skanskas och investerarens synvinkel?
5. **Marknadscyklar:** Utifrån erfarenheterna från den finansiella krisen, skiljer sig utvecklingen av bostadsmarknaden och kontorsmarknaden åt alternativt följer varandra? Vilka skulle för- och nackdelarna med detta vara om boende och kontor mixas i samma byggnad?

Appendix III: Rental Apartments

Table 12; *different sizes and rent levels for apartments in Sweden and Gothenburg.*²¹⁰

Rental Apartments 2008	1 room	2 rooms	3 rooms	4 rooms	5 rooms	total
Average size Sweden	42	60	78	98	126	68
Average size Gothenburg	41	59	76	96	121	66
Rent levels m ² Sweden	978	906	854	837	820	898
Rent levels m ² Gothenburg	1060	958	896	876	860	942
Rent levels/ apartment Sweden	3370	4542	5532	6823	8579	4968
Rent levels apartment Gothenburg	3562	4681	5656	7004	8682	5118

²¹⁰ www.scb.se

Appendix IV; Costs specific for condominiums²¹¹

Property tax

The municipality property tax is SEK 6000 per property, although maximum 0,75% of the tax assessment value. The limit for paying less than SEK 6000 will therefore be a tax assessment value of 800 000 ($6000/0,0075 = 800,000$), corresponding to a market value of 1,066,666 ($800,000/0,0075$). It is concluded that the condominiums relevant for this thesis will have a higher market value, why the level of the property tax is estimated to 6000.

Stamp Duty

The stamp duty is corresponding to 1,5% of the purchase price.

Cost for mortgage certificate

Corresponding to 2% of the total amount of the bank loan.

Cadastral Process

The process where the property is delimited, made by the National Land Survey of Sweden. Considering the fact that condominiums are new in Sweden, it is hard to find realized figures to compare with. Currently (may 2010) the cost for the cadastral process is estimated by the National Land Survey of Sweden will be SEK 30,000 per apartment.

Table 13; different costs which will affect condominiums

Type of Cost	Year 0-5	Year 5-10	Year 10-
Property tax	0	3000	6000
Stamp duty (0,15% of sales price)	52500,00	52500,00	52500
Cost for mortgage certificate (2% of the bank loan)	56000		
Cadastral Process (per apartment)	30000		

²¹¹ Melin O (2008) p. 29-34

Mixed-Use Facilities
-A New Window of Opportunity in the Swedish Real Estate Market?

Table 14; capital costs for condominiums

Capital Cost for Condominiums	
Purchasing price	3500000 ²¹²
Size (sqm)	80
Bank loan (80% of sales price)	2800000
Private capital (20% of sales price)	700000
Total Cost of capital (5,75%)	161000

Table 15; capital costs for cooperative apartments

Capital Cost for Cooperative apartments	
Purchasing price	3500000
Size (sqm)	80
Initial input (80% of sales price)	2800000
Private capital (20% of initial input)	560000
Bank loan (80% of initial input)	2240000
Cost of capital, private loan (5,75%)	128800
Bank loan Cooperative Society (20% of sales price)	700000
Cost of capital, Cooperative society (5,40%)	37800
Total cost of capital	166600

²¹² Gerle & Rodin AB (www) 2010-05-11