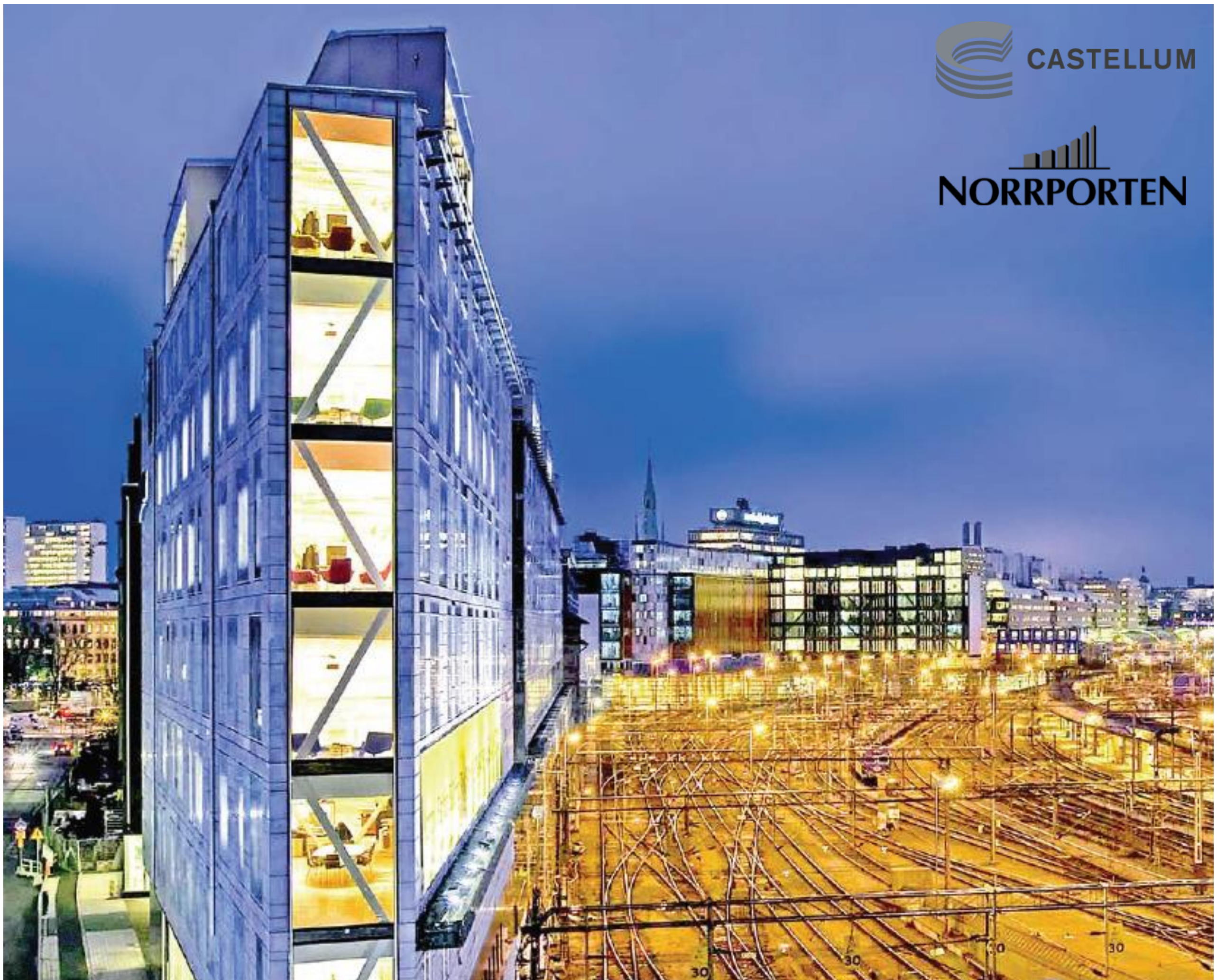

M&A in Real Estate: The Value and Effect of Synergies in Castellum's Acquisition of Norrporten

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Executive summary

This thesis investigates listed Castellum AB's acquisition of pension-fund owned Norrporten AB, announced 13th of April 2016, marking the largest real estate transaction completed in the Nordics since 2008. According to public announcements made by Castellum, the transaction price was equal to the inherent net asset value of SEKm 13,400, implying that Castellum only paid for the underlying property values without any form of control premium or sharing of the synergy value with the seller, targeted to be SEKm 150 p.a. in total.

To investigate how the consideration paid compared to the estimated value of Norrporten including synergies, it was necessary to cover theory and historic practice in M&A transactions, a thorough strategic analysis as well as a bottom up valuation. The valuation of both companies, based on the strategic analysis, is a net asset value (NAV) estimation including extensive calculation of cap rates based on 9,000 market observations. The estimated NAV was additionally adjusted by applying relative valuation methods. To cover the full value of the transaction, it was also necessary to estimate the realistic size of the synergies as well as its present value. Firstly, empirical research and comparable companies and transactions was used as references to benchmark the size of the synergies, and thereafter multiple methods were applied in valuation of the synergies.

When valuing the firms individually the fair market value of the equity of Castellum was estimated to SEKm 22,391, and Norrporten's fair market value of equity was estimated to SEKm 11,999 indicating that Castellum's consideration reflected an overprice of SEKm 1,400. However, taking into account the estimated value of synergies of SEKm 2,369 the acquisition is accretive for Castellum with SEKm 969, and 51% of the overall value of synergies was shared with the sellers. 51% is a high share compared to empirical research indicating an average of 35% across a range of transactions, with the highest scores observed for globally operating businesses, and not local real estate companies like Castellum or Norrporten.

The authors concluded that an acquisition of Norrporten is the right strategic move for Castellum, as the companies have a geographic and segment overlap, which allows consolidation of asset management functions and as the companies have complimentary capabilities. However, the consideration paid for such a combination was too high and the overprice paid could be related to hubris or sunk cost fallacy from the Castellum team that had already spent considerable time and money on considering an acquisition of Norrporten over the last 2.5 years. Based on aggregated empirical research, the expected long-term share performance of Castellum should be 10% below benchmark over the next five years, but the authors believe that this is not necessarily correct as long as the synergies are obtained within 12-18 months in which case the transaction would create value for the shareholders.

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1.1. Introduction

Castellum AB (hereafter "Castellum"), a listed Swedish real estate giant, was founded in conjunction with the financial and real-estate recession in the beginning of the 1990s with the primary objective to develop the company into a stable Swedish real-estate corporation (Castellum, n.d.) Following years of acquisitions, divestments, and proven economic growth, Castellum went through an initial public offering in 1997, and was prior to the transaction one of the largest listed real estate firms in the Nordics.

On April 13th, 2016, Castellum announced an acquisition of Norrporten AB (hereafter "Norrporten"), a pension-fund owned real estate company comprising an operating platform and real estate assets with an estimated fair value of approx. SEKbn 26 (Norrporten, 2016). The acquisition marked the largest single transaction worth of real estate in the Nordics since 2008 with closing in the second quarter of 2016 (Tolleson, 2016). Following the closing, all employees and real estate assets were to be integrated into Castellum.

Henrik Saxborn, CEO of Castellum made the following announcement in an investor relation press release regarding the transaction (Castellum, 2016d):

> *"Together we create an even stronger real estate company with larger presence in important growth markets in Sweden and Copenhagen. Norrporten and Castellum have many similarities, among them is the close collaboration with customers. We can use the best of each respective organization's knowledge and experience and thereby create shareholder value".*

On the day of the announcement, the share price closed at SEK 125.5 per share, -3.9% down from the day before. Ceteris paribus, this announcement performance indicates that shareholders did not believe that the merger would create value. Empirical research on mergers & acquisitions (M&A) are vast and with great degree of contradicting findings, but it has been found that acquirers often overpay due to hubris or overestimation of synergies, among other factors.

Synergies is often a fundamental argument that could make or break the success of an M&A transaction, and Castellum communicated that SEKm 150 p.a. in operational cost synergies was targeted to be realized within 12-18 months. With a bottom-up analysis of the transaction, the authors seek to investigate whether the share price drop was justified and if the transaction would create value for shareholders in the long-term, and if this was related to overpricing of Norrporten or overestimation of synergies.

1.2. Problem Statement

With the context and motivation introduced above this thesis seeks to assess whether Castellum's acquisition of Norrporten was made at fair price through the estimated fair value of Norrporten with Castellum as buyer. This comprehends a valuation of both Norrporten and Castellum as separate entities as well as an assessment and valuation of the synergies resulting from consolidating the two companies. The addressed problem statement is:

How does the price paid by Castellum in its acquisition of Norrporten compare with the estimated fair value of the equity prior to the announcement, and how does any potential synergies affect the fair value of the combined firms as of April 13th, 2016?

The thesis is built up with a range of non-exhaustive sub-questions required to answer the overall problem statement of the thesis. The structure as presented below is also the overarching structure of the thesis.

Overview of the transaction

It will be important to illustrate the fundamentals of the details in the specific transaction. This section aims to do this, both with regards to timeline and extent. These details will provide the platform for further analysis.

- How did the acquisition process evolve, and who was involved?
- How was the structure of the transaction presented?

Introduction to Real Estate

The dynamics and value drivers within the real estate market, more specifically for publicly listed companies, is important to understand, both for the authors to accurately identify and analyze value drivers, and for readers to understand the assumptions of the separate valuations and the combined firm value including synergies. This chapter will present how the real estate industry is structured, mainly focusing on listed companies.

- How is a real estate company structured?

Introduction to Castellum and Norrporten

By delving into the history of both companies, separate market exposures, as well as details related to the specific companies, the authors will be better suited to understand the starting point of the consolidated company.

- What is the pre-transaction organizational structure of Castellum and Norrporten?
- What was the respective market position as well as geographical and segment exposure for the companies?

Strategic Analysis

The strategic analysis will focus on the evident strengths and weaknesses of the companies, as well as opportunities and threats they face. These findings aim to identify the value drivers for both companies in their respective external and internal markets, which is an important backdrop when forecasting value drivers. Furthermore, this section will reveal whether the combination of the companies made sense from a strategic point of view.

- What is the exposure to the external environment?
- How does the current positioning of the companies compare to the competitive landscape?
- What strengths and weaknesses does the companies obtain, and do these complement each other?

Financial Analysis

By delving into financial accounts for both companies, as well as a group of similar companies (peer group), the authors seek to analyze trends and relative financial positioning. A prerequisite for this analysis is to understand the financial statement structure of real estate companies, why this is introduced and discussed.

- How are the financial statements of real estate companies structured?
- How are the companies positioned financially, and how have they performed relative to the peer group?

Valuation

After having assessed the respective company profiles and surrounding environment, the valuation section intends to answer an important outline of the thesis. The authors will present the estimated fair value of equity and enterprise value (EV) for both companies, regardless of the merger. This will provide useful information in regards to whether the price paid by Castellum holds up against the estimated fair market value of Norrporten.

- What techniques are best suited when valuing a listed real estate company?
- What return does investors expect from real estate?
- What is the estimated fair market value of equity and EV for Castellum and Norrporten?

Mergers & Acquisitions

Having presented the estimated fair value of both companies, this section will try to answer why companies engage in M&A, as well as historical performance and expectations to M&A. The section will present the findings from empirical research, both for general M&A, and specific findings for real estate. This will provide a platform for understanding why Castellum would engage in M&A and whether it is expected to create value for companies and investors.

- What are the rational for companies to merge in general and for real estate companies specifically?
- What are the expectations to M&A performance and M&A value creation based on empirical research?
- What value creation could investors in Castellum expect?

Synergies

The valuation of the combined firms is based on a set of synergies created through the merger. This section will introduce typical synergies, and triangulate Castellum's synergy estimate with multiple benchmarks based on empirical research, case studies and comparable companies.

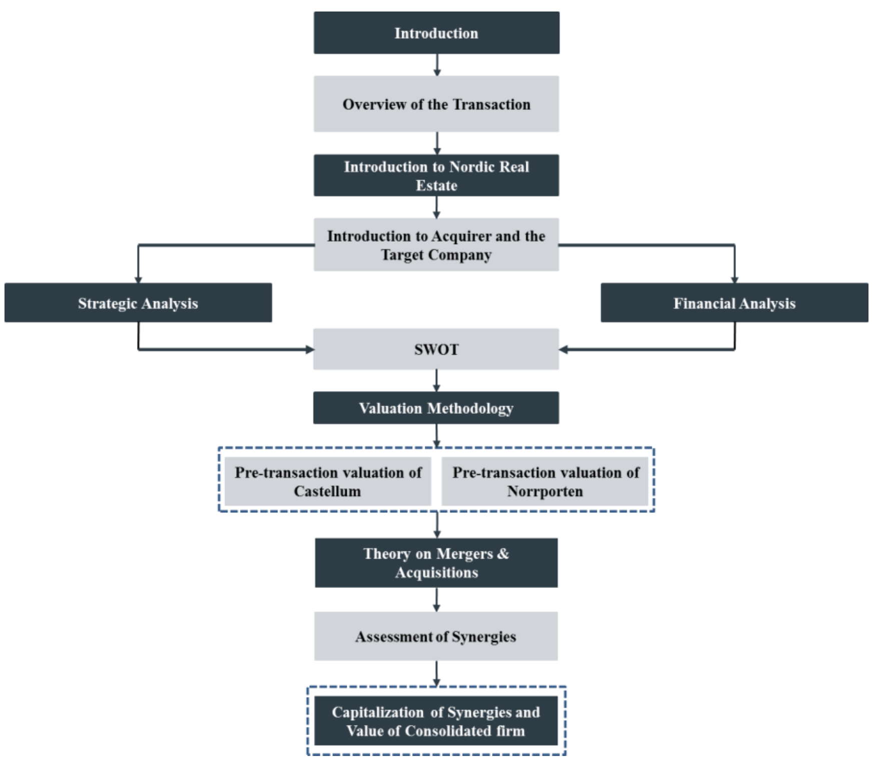
- What synergies can be expected and how does this align with the communication from management?
- What is the estimated market value of the synergies?

Value of Combined Firm

Through findings from preceding analysis, this closing section will provide an overall assessment of the consolidated company structure and present the estimate of fair market value of the combined entities.

- What is the expected value of the combination of Castellum and Norrporten?

Figure 1: Overview of thesis structure



Source: own contribution

1.3. Methodology

1.3.1. Choice of theory and models

Introduction to selected theoretical models and other theoretical discussions are integrated with the relevant chapters and sections of the thesis. As it is not a prerequisite for reading the thesis to have profound knowledge of real estate and M&A, this structure has been preferred to ensure that the authors motivations are as transparent as possible for the reader and to make the thesis more reader friendly. Throughout the thesis, it has been a focus to apply several models and theories for each topic as the analysis benefits from width in selected models (Andersen, 2003). On several occasions, theories have been conflicting and therefore supplemented and challenged each other. It has been important to reflect different standpoints in these situations, and use the differences to highlight potential weaknesses of the opposing theories (Andersen, 2003).

The strategic analysis is conducted for both the external environment and the internal environment with focus on applying traditional and proven strategic frameworks. The external analysis is based on the PESTEL model, which is a framework for analysis of the political, economic, social, technological, environmental and legal factors that affects the operations of the companies. Further, the competitive environment and intensity is examined with the 5 forces framework developed by Michael E. Porter (1979). Of any valuation exercise, the strategic analysis of the external environment plays a crucial part as the authors need to understand how the different strategies of the companies will perform, position and create value relative to each other going forward (Rappaport, 1986). To understand the internal capabilities of the companies the VRIO-model introduced by Barney (1991) is applied, the VRIO model investigates the company’s internal capabilities as the root of superior profitability or positioning. As this thesis includes an analysis of any additional value created from the combination of Castellum and Norrporten, the VRIO-model is useful for getting an overview of how the companies will fit and complement each other, and where other external capabilities or investments may be required post-merger.

The financial analysis and valuation covers both real estate specific and general metrics all based on literature available through the library at Copenhagen Business School as recommended by Andersen (2003), except for Poorvu (2003) published by Harvard Business School. The general metrics and concepts are based on Petersen & Plenborg (2012), Rosenbaum & Pearl (2009) with real estate specific metrics based on Brueggeman & Fisher (2005), Poorvu (2003), Geltner & Miller (2007). The three latter are American literature and have been adjusted for recommendations from European Public Real Estate Association (EPRA) to ensure consistency European practice and reporting.

The strategic analysis is together with the financial analysis is concluded in a SWOT analysis for both companies that summarizes the competitive positioning and lays out the key observations that impacts the valuation. For example, from Porter's five forces the ability to influence rental prices and the riskiness of operation in each market will affect the estimated rental income and capitalization rate (cap rate) and hence directly affect the valuation. As recommended in interview and further supported by literature, the valuation of the companies as separate entities is based on the NAV model. Alternative generic and real estate specific relative valuation methods is used to stress test the NAV and to cover potential nuances that the NAV is not able to capture. A comprehensive and more technical discussion on choice of the NAV model is covered by section 8.1.

1.3.2. Data collection and evaluation of information

This thesis is written from the investors point of view, and therefore all data applied in this thesis are publicly available data. However, some data and observations are based on material that are available only to a specific party e.g. equity research reports only available for capital markets clients in an investment bank. As the majority of shareholders in Castellum are institutional investors (Castellum, 2015), this information is assumed to ensure that the authors level of knowledge is on par with the investor's, and thus improve the quality of the research. A long list of relevant financial analysts was approached for an interview, but as most requests was declined the degree of certainty of findings in interviews are considered low due a low sample size. However, the two interviews completed are considered to be highly relevant but are sought supported and triangulated by other sources and findings. Both interviews were conducted in a semi-structured form (Andersen, 2003).

Most weight have been put on the quantitative content in the annual reports as this is considered harder to manipulate due to auditing and accounting standards. Furthermore, the information on specific properties quoted in the annual report of the peers, including size and location, are publicly available in governmental real estate registers and is assumed accurately quoted in the reports. Real estate in general is a well-researched area with large amount of data available, especially market data and market reports. As this thesis is written without any internal information from Castellum or Norrporten to validate findings, the authors have in general strived to use well known independent external sources where possible e.g. EPRA. For information related to the calculation of cap rates, including market data on the real estate market it has been crucial to access new and updated information which is typically only obtainable online (Andersen, 2003). For material published by commercial stakeholders as for example consultants, most weight has been put on reports that has demonstrated findings derived from a larger sample or research that has been performed in collaboration with an academic institution. The latter is especially relevant for the synergy analysis as little relevant real estate specific synergy research was found.

1.4. Delimitation and Assumptions

- The point of view of the thesis is that of the institutional investor, based only on public information complimented with information believed to be available to the institutional investor. This includes equity research reports from multiple Investment Banks as well as an introduction interview with Castellum's Chief Investment Officer, Erika Olsèn assumed similar to an analyst conference call.
- Knowledge within corporate finance and valuation is a prerequisite for reading the thesis, as all relevant theory related to general financial methods is not introduced. However, some concepts are considered less well-known and introduced briefly in the thesis, e.g. listed real estate as concept and NAV valuation for real estate companies.
- April 13th 2015 was the announcement date of the transaction to the public markets, and therefore this set as the cut-off date for new information and as the valuation date. This implies that the financing decisions including rights issue related to the transaction will not be covered as the details of the rights issue was not announced until May 25th 2016.
- Through a Q&A call between investors and management on the announcement day the authors were made aware of that Castellum was preparing a sale of real estate assets worth SEKbn 4.0 following the closing of the transaction. The authors have chosen to neglect this information due to lack of details and value the portfolio "as-is" on the announcement day. The synergies are dependent on geographical overlap, and due to insufficient details on the specific asset sales, the impact on synergies from divesture is not covered in the analysis.
- The classification of expenses between operating expenses and corporate overhead in the efficiency benchmark is assumed to be consistent across all companies.
- Historical data for 10 years have been used where possible to show a full economic cycle and examine the impact on the peer companies from shocks to the economy as the real estate market is tightly knit with interest rate market and housing prices. However, limited information available for the full peer group for the period and thus no material conclusions will be drawn based observations in years where there are limited data available. A longer period than presented has not been considered as Castellum initiated reporting under IFRS in 2005.
- Price to NAV or price to EPRA NAV is a relevant valuation metric for relative valuation and peer analysis which have been left out of the analysis as building a NAV model specifically for this analysis implies that the authors do not take reported NAV values for granted.

2. Overview of The Transaction

In November 2015, reports broke regarding an ongoing initial public offering (IPO) process of Norrporten, one of the large real estate owners in Sweden (Reuters, 2015a). The sellers, the Second- and Sixth Swedish National Pension Funds (AP2 and AP6, collectively as "the AP Funds") became majority owners in 2000, and delisted the company in December the same year. After 15 years of ownership, it seems that the plan was to reintroduce Norrporten to the public market.

Within days following the first rumors had spread, Reuters could confirm through sources familiar with the matter, that the investment banking divisions of Goldman Sachs and Nordea had been hired to lead a public listing of the company in 2016 (Reuters, 2015, Nov. 26th). The IPO market had for years following the financial crisis struggled with few listings and only moderate demand. In 2015, a new wave had erupted with 15 listings in Sweden, the highest level in 15 years (Reuters, 2015, Nov. 26th). Taking advantage of the IPO window and extract as much capital gain as possible for the benefit of Swedish pensioners would make strategic sense for the AP Funds.

Rumors had it, in March 2016 that in the background of an IPO process, a dual-track process i.e. a process for sale of the entire company, had erupted alongside the IPO with materials distributed to a list of prospective buyers. Castellum was understood to be a motivated buyer of the entire company (Reuters, 2016a). These rumors intensified, where after both parties announced the transaction on the same day as Castellum reported their results for the first quarter of 2016, on April 13th, 2016.

Castellum had as of their Q1 results a reported fair value of their properties at SEKbn 44.8, including development projects and undeveloped land (Castellum, 2016b). Similarly, as of year-end 2015 figures, Norrporten had a reported fair value of their properties at SEKbn 25.8 (Norrporten, 2016). The combined property portfolio would aggregate to SEKbn 70.6, becoming the largest non-state-owned real estate enterprise in Sweden. The combined property portfolio would overlap to some extent, but additionally, Norrporten would add new locations on Castellum's map. Altogether, they would hold properties in 19 areas in Sweden and Denmark.

The total consideration paid amounted to SEKbn 13.4, partly through payment of 78% of the transaction value in cash, while the remaining would be paid in the form of shares in Castellum (Castellum, 2016c). With the share consideration, the AP Funds would emerge as the two largest owners of Castellum with approx. 5% each (Thomson Reuters, 2016).

Castellum announced a fully committed financing of the consideration, divided between 1) secured bank debt of SEKbn 3.9 through new and unutilized credit facilities, 2) directed share issue to the AP Funds of SEKbn 3.0, and

3) a rights issue of SEKbn 6.5. As mentioned in section 1.4., the impact from the rights issue is not covered in the thesis as the related details was first announced after the cut-off date for this thesis.

Castellum argued following the announcement that the acquisition was fundamentally supportive for their strategy with lowered risk due to diversification of tenants and broadening of customer offering, as well as better positioning to reach the target of 10% annual growth in income from property management (Castellum, 2016c). With the acquisition, Castellum would see a significant step-up in size with investment properties on their balance sheet increasing with 59% and rental income increasing with 53% (Thomson Reuters, 2016). Castellum also reasoned the organizational good fit as an important driver. The new skills acquired from the organizational set-up of Norrporten was suggested to add value, while also generate cost savings through synergies with target of SEKm 150 annually, expected to be reached within 12-18 months (Castellum, 2016c). According to Chief Investment Officer of Castellum, Erika Olsén, they had been seeking this opportunity and held a strong interest in Norrporten for a long time:

> *"Overall, Norrporten made very good sense for Castellum to acquire. Through acquiring Norrporten, we were able to obtain high quality properties in many locations in which we were already present. First of all, the properties are considered to be in very good technical condition, the quality of tenants was attractive and would better diversify our own tenancy mix while additionally the customer relations were considered attractive. We had analyzed the company and its property portfolio many times. Even if we were offered the property portfolio in an asset transaction, it would make good sense for us, and we would have made the deal either way".*

- *Erika Olsèn, CIO Castellum, interview, March 30th 2017*

Furthermore, Castellum believed that there were benefits to be made from combining the companies:

> *"However, to be able to retain the employees was a big bonus where their experience with customers and property knowledge in itself would help improve our operations. In addition, our analysis of their operating expenses made us believe that there were several places to improve costs. They seemed to be expensive in their operations based on several metrics. Furthermore, double management, headquarters and board members was not needed. We would become a big player in many geographies and become a large part of the local development. This would further improve our relations with municipalities, which was also considered positive"*

- *Erika Olsèn, CIO Castellum, interview, March 30th 2017*

3. Introduction to Real Estate

Having introduced the specific transaction and the outline of the thesis, the proceeding will introduce how the real estate market is structured, and the dynamics of the industry. This will provide an underlying platform for understanding how both Castellum and Norrporten operates in their markets, as well as provide important input for the later value assessment of the companies.

3.1. Investing in real estate

3.1.1. Buyers of real estate

At its core, real estate is tangible, real property consisting of land and the buildings on it (Oaktree, 2016). Investors buying real estate can be separated in two principal segments: commercial and residential. Residential real estate refers to single-family homes and multi-family rental apartments (Oaktree, 2016). The residential market is not discussed in the thesis as Castellum and Norrporten do not invest in residential properties. The commercial real estate market refers to income-producing properties including office, retail, industrial/warehouse and hotels in addition to sub-segments like self-storage, manufactured housing and healthcare (Oaktree, 2016). This market engages investors in buying single properties, or large portfolios, with the main purpose of generating returns from leasing activities.

Investors seeking return from real estate faces the choice of how to allocate capital. The two primary channels are through public or private real estate markets, meaning buying shares in listed securities, or buying the real estate directly. Risks and benefits between these channels differs as will be outlined below (Oaktree, 2016).

Direct real estate investments involve the outright purchase of real estate, i.e. purchase of buildings. This form of capital allocation is costly, and requires an established infrastructure throughout the supply chain, with intensive resource constraints on sourcing, analyzing and managing properties (Oaktree, 2016). Additionally, the direct investments tend to be concentrated in a few large assets, therefore creating high asset specific risk (Briddell & Supple, 2011). However, direct investors can target specific property types and markets with cash flow transparency aligned with targeted investments. Additionally, these investors will control business plans and govern management of properties, thereby reducing governance risk (Briddell & Supple, 2011). Main investors in this channel are institutional investors and high net-worth individuals (Oaktree, 2016).

An alternative that has grown in size within direct real estate investments are private equity real estate funds (Preqin, 2013). This strategy leaves capital allocation from investors to investment management companies, thereby outsourcing the property management activities and the intensive infrastructure needed in the acquisition process. Additionally, investment managers raise money from several shareholders with similar risk profile, reducing asset specific risk by the opportunity to acquire more properties (Briddell & Supple, 2011). Investment managers usually follow specific guidelines as outlined by the investor group, thereby limiting potential governance risk (Oaktree, 2016). Private funds are either open-ended or closed-ended, where closed-ended requires investors to commit capital over a designated period without the ability to withdraw capital, leaving high liquidity risk (Oaktree, 2016). Open-ended funds do not have a commitment period and investment managers allocate capital received by investors in real estate perpetually, whereby investors in these private funds can buy or sell shares of the fund at designated points in time (Briddell & Supple, 2011). Even though the funds claim to offer higher liquidity, they still operate in a market where underlying real estate assets can be relatively illiquid, as for outright purchase of real estate as outlined above (Briddell & Supple, 2011). The fund manager's compensation is through management fee on committed capital as well as transaction fees. Additionally, investment managers are incentivized by a fee that are received if returns exceed a specified minimum hurdle rate. The transaction costs for investors are therefore higher through this allocation strategy (Oaktree, 2016). Investors in funds have similar profiles as the investors making direct investments (Oaktree, 2016).

In contrast to the direct investment channel, investors can buy shares in listed entities, being corporations or trusts (Briddell & Supple, 2011). The two channels in the publicly listed universe are real estate investment trusts ("REITs") and real estate operating companies ("REOCs"). The distinct difference between these two are that REITs are obliged to distribute at least 90% of their taxable income to investors in the form of dividends, while REOCs can retain earnings and reinvest (Briddell & Supple, 2011). REOCs are more flexible than REITs as it is outlined specific terms for REITs on shareholder structure and property types they can buy (Oaktree, 2016). On the other hand, REITs are more tax efficient vehicles for investors with focus on frequent dividend yield, while REOC investors seek capital gains (NAREIT, n.d.). REITs originates from the US where it is a popular structure for real estate investors. Over the recent decades, the US legislation for REITs has been tried in European and Asian countries, but the REOC structure is dominant in most of the European publicly listed real estate market (Evans & Crawford, n.d.). As the companies covered in this thesis are REOCs, this will be the basis for the analysis, while REITs are also an important reference due to a lot of empirical research on REITs relative to REOCs. Investors in publicly traded securities outsource management duties, increasing possible governance risk. The low share of total ownership also limits investor's potential to influence business plans (Briddell & Supple, 2011). Due to the structure of REOCs, the return profile is not only driven by the specific assets, but also the management team (Oaktree, 2016). Additionally, investors face beta risk as the real estate shares react to market movements. This means that listed real estate securities are dependent on both the asset market and the broader equity market in general. Nevertheless, the daily liquidity and transparent pricing together with the opportunity to deploy capital rapidly is attractive for investors (Briddell & Supple, 2011). Typically, capital deployed in the listed real estate market stems from a wide range of individuals and institutional investors (Oaktree, 2016).

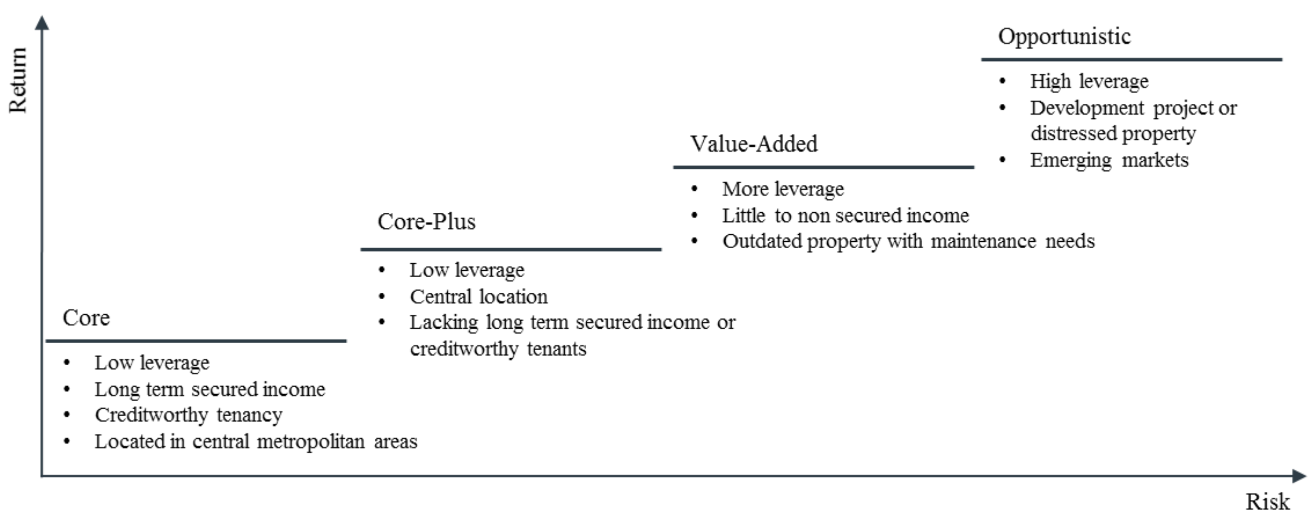
3.1.2. Customers of Real Estate Owners

Income of real estate owners is generated by letting out space in owned properties. The characteristics of tenants, who are the real estate owner's customers, varies depending on the type of the property. While offices can be let to e.g. businesses or public authorities in need of space for regular operations, retail space can be let to e.g. retailers offering goods or services from a store. Industrial and warehouse properties are let to production companies e.g. pharmaceuticals, or distribution companies e.g. postal services. Similar for all real estate owners is that they intend to increase security in the income-producing elements of their business, meaning obtaining the most viable tenants. This indicates that real estate owners seek to diversify tenants in a property portfolio and attract creditworthy tenants. Due to the low default risk, public authorities are considered to be highly attractive tenants, e.g. schools, hospital or tax authorities and are often called secured income tenants (CBRE, 2015a; 2011). Tenants and owners tend to have long relationships due to binding legal contracts.

3.1.3. Primary Investment Strategies

Property owners within the commercial real estate universe differs in specialization within one specific type of property, or diversification with holdings of several types. Additionally, four primary investment strategies give the opportunity to characterize a company, trust or funds risk/return profile, showed in figure 2. This is mainly representative for private real estate investments, but in general applicable for the entire universe.

Figure 2 – Primary investment strategies



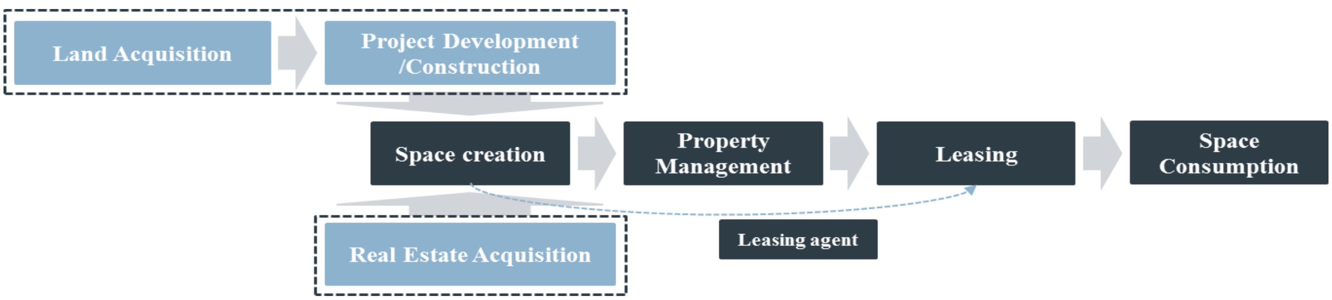
Source: own contribution, based on Oaktree (2016)

3.2. Supply- and value chain

Supply chain

The core business of both Castellum and Norrporten derive from serving as proprietors for tenants in properties they own. The different set of opportunities for property owners to deploy capital and create real estate space with the purpose of contracting it to tenants can come from buying existing properties or through development of new space on land sites. Both Castellum and Norrporten are engaged in project development, including investments in existing properties and construction of new space. As will be presented, the majority of their operations are related to existing properties, why this will be the focus in the thesis. The timing of cash flows and returns for pure constructors/developers and real estate investors differs widely and results in pricing dynamics not considered comparable (Damodaran, 2012).

Figure 3: Supply chain



Source: own contribution, based on Geltner & Miller (2007)

The supply chain originates in creation of property space. Real estate investors can be involved in the planning processes of space creation, but usually acquire services from construction groups for inception of new space. Real estate investors mainly engage in managing property portfolios and optimize through leasing activities, often in collaboration with professional leasing agents. The leased space is hereafter consumed by the tenant (Marketline, 2016).

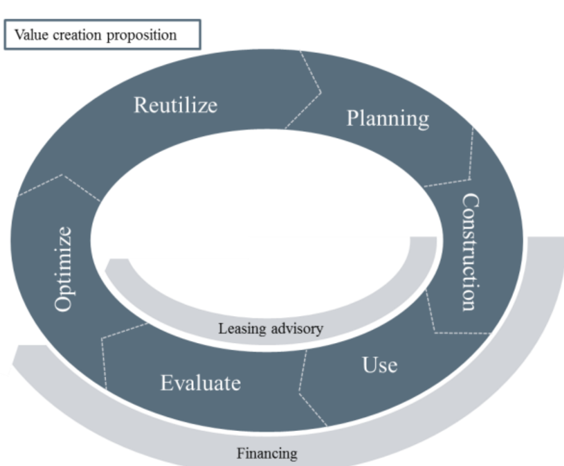
Value chain

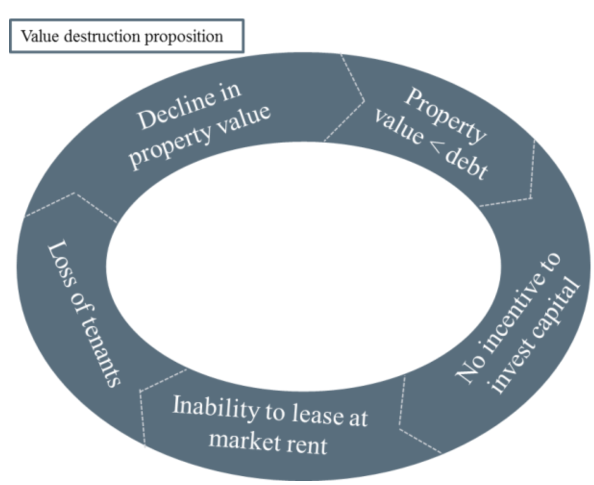
At its core, real estate is tangible, real property consisting of land and the buildings on it (Oaktree, 2016). As most other tangible assets, properties are a depreciating asset, depending on the age of the property. Land however, both within accounting regulations and by nature does not depreciate with age (Kempen & Co. 2016). Land is dependent on the surrounding external environment and its importance for society, while properties are planned and built to serve a demand by society within a given future. However, properties grow older and suffer from wear and tear and the society that once demanded the property develops. Thus, over time properties deteriorate and suffer from obsolescence (Baum and McElhinney, 1997).

Depreciation in itself represents a loss in value of the property, and this becomes especially evident as aging non-maintained properties become less valuable compared to equivalent new buildings (Baum and McElhinney, 1997). Taking into account that the authors are focusing on REOCs with a long-term perspective and therefore a long holding period, the value chain is based on a property life cycle. The property life cycle in figure 4 to the left represents the value chain for real estate owners. Due to the flexibility of REOCs, Castellum and Norrporten are able to in-source most parts of the value-chain. The value chain is based on Swiss Property (n.d.), and similarly holds strength when compared to the definition of a value destruction proposition in figure 4 to the right, also called "Zombie Real Estate" (Oaktree, 2016).

Figure 4 to the left exhibits a cycle starting in unused land that is developed. As have been noted, property owners also acquire existing properties, indicating that they can enter the value chain at a later stage. The value chain follows the property life cycle in that the income-producing part of the cycle (between use and optimize) is being threatened as the property becomes older. When a property grows closer to obsolescence, the property owner will have to reinvest in the property to meet future needs. Financing is included in the cycle, as return in the short-term can derive from financial structuring. Property owners can take advantage of the debt financing environment to create higher return on equity, but this depends on timing, as proven by the financial crisis that erupted in 2008 (Oaktree, 2016). The paramount part of real estate profits in the long-term is rental income, why capital recycling is key for increasing rent generation potential (Kempen & Co, 2016). Figure 4 to the right present what can potentially occur if real estate owners do not participate in, and take certain actions during the property life cycle.

Figure 4: Value chain





Source: own contribution, based on Oaktree (2016) and Swiss Property (2017)

3.3. Real Estate in Sweden

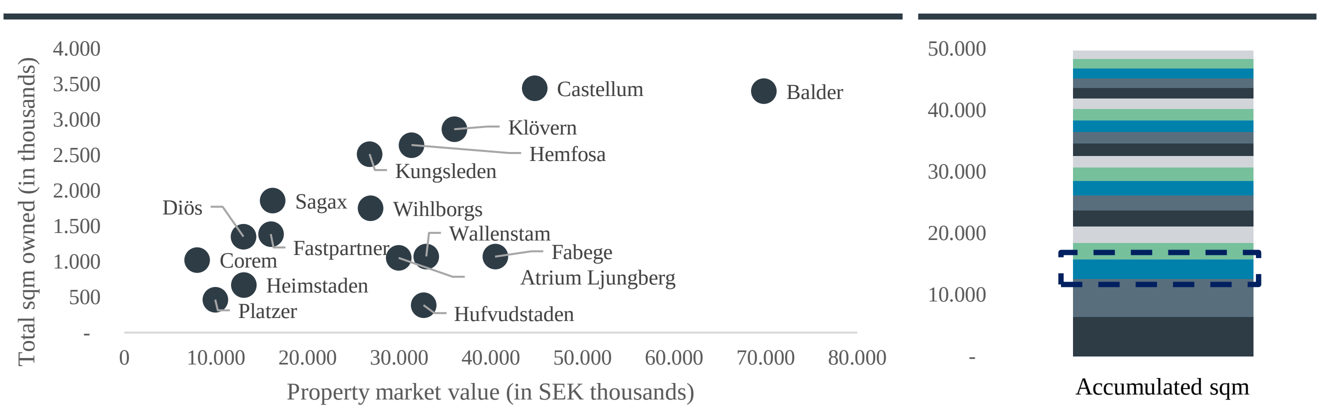
3.3.1. Swedish real estate ownership

In Sweden, the industry is nationally absent of any dominant players as the industry is highly fragmented. Norrporten solely focus on office and retail properties (Norrporten, 2016), while Castellum additionally has a large industrial/warehouse portfolio (Castellum, 2016b).

The 200 largest owners of commercial real estate in Sweden accounts for 91 million square meter (sqm) of the lettable area within office, retail, industrial, and warehouse properties (Datscha, 2017). Castellum is one of the largest players with 3.5% of the area market share based on the 200 largest players (Castellum, 2016a). Due to the asset intensity and extensive capital requirements in real estate ownership, it could be argued that there are clear prospects to drive returns from scale economies and drive consolidation (Bers & Springer, 1997). However, the dispersed ownership within the 200 largest owners in Sweden is an obstacle for consolidation.

The two largest real estate owners in Sweden is the Municipalities of Gothenburg and Stockholm (Datscha, 2017), indicating that the market is not a fully competitive private market. Properties owned by Municipalities are mainly located within a range of the inner city center ("CBD") in the respective municipalities. These properties are mainly offered for public tenancy with public purpose. Other owners of real estate are institutional investors, housing associations, users of properties and private investors. Aggregated, these different owners comprise what seems to be a very competitive market. The publicly listed real estate sector similarly present a very competitive market with 16 pure real estate owners with aggregate real estate values of SEKbn 447.5 and 27 million sqm of lettable area (Nordea, 2016). These companies differ to some extent on strategy and exposure, which will be elaborated on later in the thesis.

Figure 5: Left: Listed Swedish real estate companies. Right: 20 largest owners in Sweden by area



Source: own contribution based on annual reports (2016), Datscha (2017)

4. Introduction to Castellum and Norrporten

4.1. Castellum

4.1.1. History

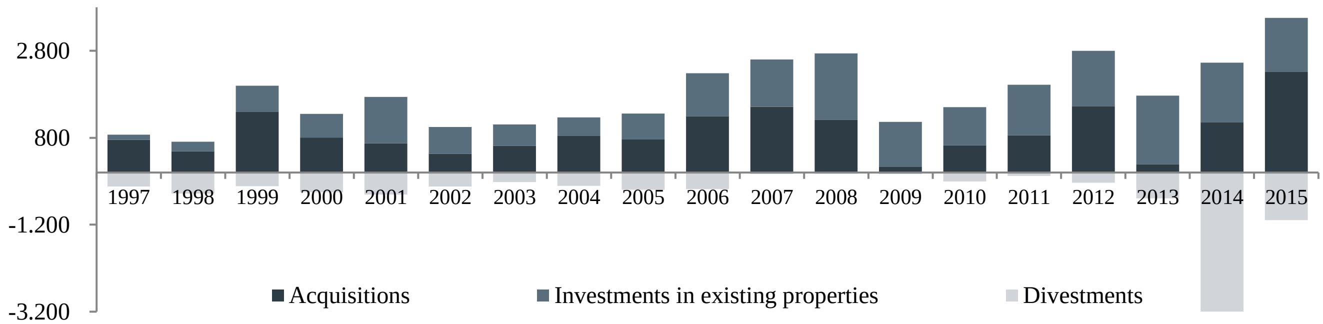
The Swedish economy experienced a boom in the late 1980s and early 1990s with massive speculation and rising debt levels. A specific target sector within this economic cycle was real estate that resulted in creation of inflated real estate values (Bergström & Englung & Thorell, 2003). The bubble deflated in 1992, resulting in a severe credit crunch and widespread insolvency within banks and larger Swedish companies. In relation to the increasing default risk of the major companies in Sweden, the government founded Securum, a state-owned company with the purpose of taking on “bad debt” and stabilize the crisis (Bergström et al, 2003).

Securum was founded with a great degree of independence under laws not applying for general financial institutions and banking regulations (Bergström et al, 2003). Securum took control over a large share of real estate assets nationwide, and became a large equity owner within the sector. Through repackaging and strategic considerations, Securum were able to unwind a large amount of bad credits through flotations of three real estate companies, Castellum, Norrporten and Pandox.

Castellum was formed as a legal entity through packaging of a sizeable real estate portfolio in 1993. The strategic focus was to create a sizeable and stable real estate company with exposure to a few selected key areas in Sweden (Castellum, n.d.). To manage the later disposal from public owners, Agilia Holding was established, who controlled the company from inception to the IPO in 1997. Agilia Holding offloaded their remaining shares successively throughout 1997 and 1998 following the IPO (Bergström et al, 2003). The market capitalization of Castellum as of the IPO was SEKbn 3.0 with underlying property values of SEKbn 10.0 (Carnegie, n.d.). Following Agilia’s divesture of Castellum, the two Swedish pension funds AP2 and AP6 became the largest owners with a combined ownership of 24.1% (Castellum, 1998).

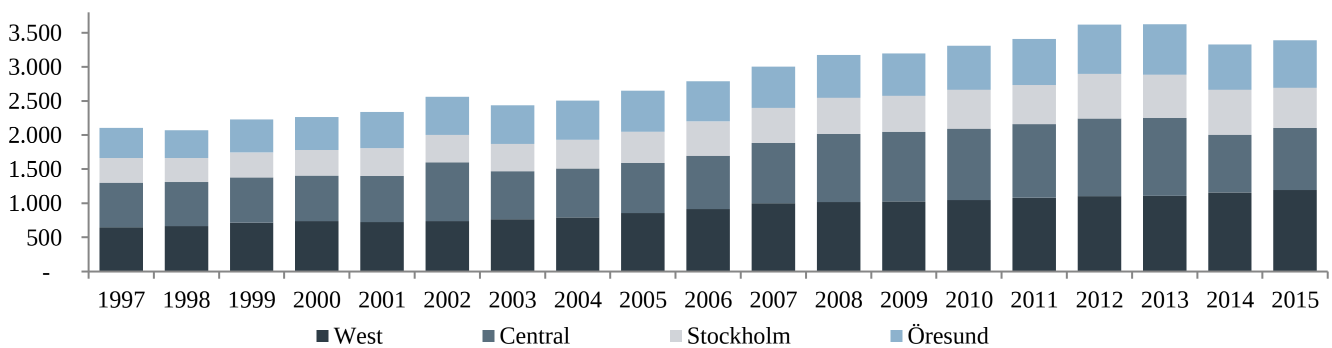
From the IPO until the announced merger with Norrporten, Castellum emerged as the second largest publicly listed real estate entity in Sweden. The financial position improved with a long-term objective of 35% as minimum equity/asset ratio to be able to cope with liquidity, and not only in times of prosperity (Castellum, 1998). There have been no major shifts in strategy since the IPO, except for expanding to Copenhagen, Denmark in 2011 (Castellum, 2012). Additionally, Castellum have engaged in project development over the years with investments in existing properties as well as new developments. The size of the portfolio grew from 2.1 million sqm of lettable area at the IPO to 3.4 million sqm as of April 13th, 2016 (Castellum, 2016b).

Figure 6: Transaction and investment activity, total in SEKm



Source: own contribution, based on Castellum annual reports (1998-2016)

Figure 7: Total sqm in portfolio, thousand sqm



Source: own contribution, based on Castellum annual reports (1998-2016)

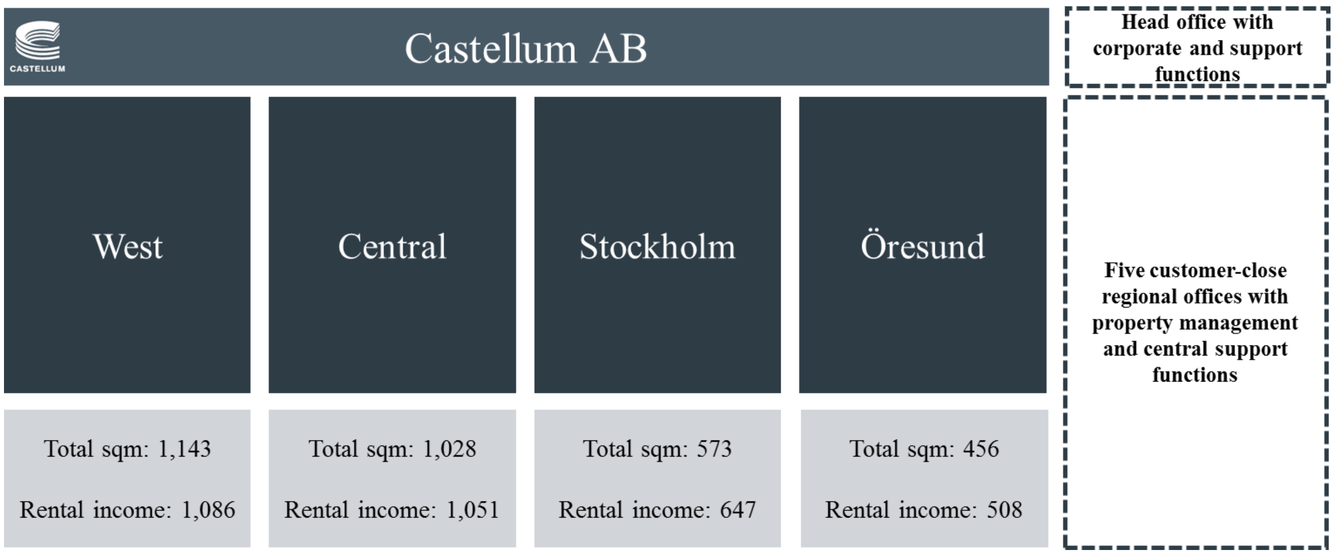
4.1.2. Castellum prior to the transaction

Since the IPO, Castellum have acquired properties worth SEKbn 17.5, invested SEKbn 16.8 in project development, and divested properties worth SEKbn 9.2 (Castellum, 1998-2016). Castellum at one point had multi-family rental apartments included as part of their strategy, but divested and abandoned this segment in 2005 (Castellum, 2006). The sole focus has since then been on commercial properties, including office, retail, industrial and warehouse properties. The public reporting provided by Castellum does not provide sufficient information on the split between office and retail, and similarly industrial and warehouse properties, why these will be analyzed as two core segments.

At the end of 2015, Castellum had 299 employees divided between the parent company, Castellum AB, and six subsidiaries. The organizational structure was then based on geographically segmented subsidiaries with independent names and commercial identity. The structure was based on achieving a significant local presence for current and prospective new tenants (Castellum, 2016a). Duties of employees in subsidiaries was to gain extensive local knowledge and provide a valuable network to prospective tenants, public authorities, regulators and the transaction market (Castellum, 2016a). The parent company served as the management entity handling all corporate matters as well as support functions. The authors understand that decisions were made top-down from the parent company, based on inputs from respective subsidiaries (Castellum, 2016a).

On April 4th, 2016, Castellum announced they would create a new group structure with stronger local focus and consolidation of all group subsidiaries under one brand and name, "Castellum". The previous six subsidiaries across five geographic regions now became four: West, Stockholm, Central and Oresund (Castellum, 2016b).

Figure 8: Company structure



Source: own contribution, based on Castellum (2016b)

4.1.3. Geographical Exposure

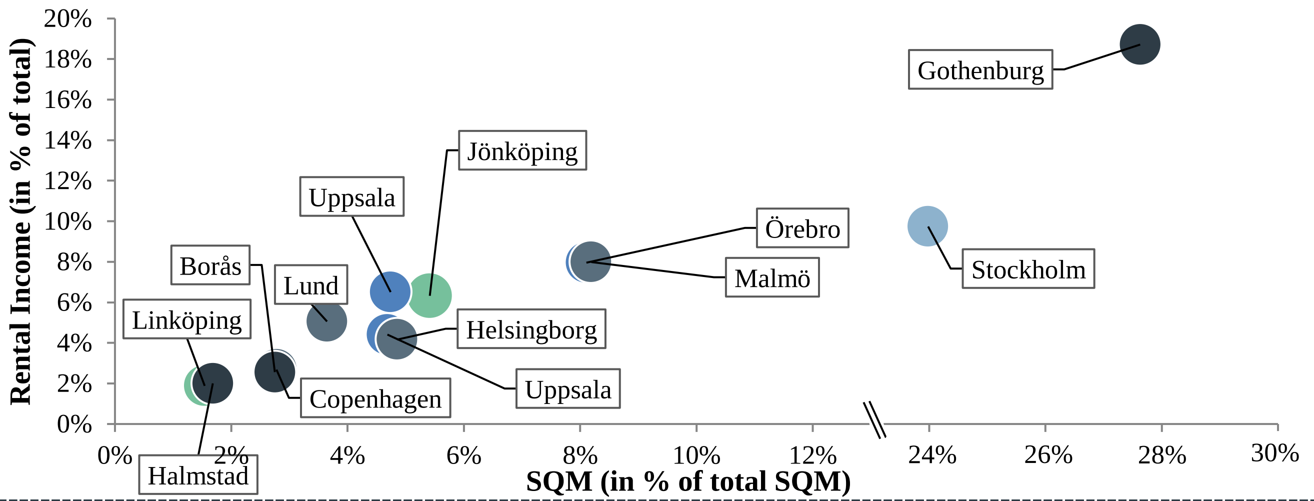
The largest share of rental income is generated from region West. The exposure in this area is predominantly towards Gothenburg, the second largest city in Sweden, and its suburbs serving as logistics hubs and office clusters. Castellum's offices servicing properties in the area had as of year-end 2015 88 employees, and additionally, Castellum headquarters is located in Gothenburg. The rental income was as of year-end 2015 split with 57% from office/retail properties with the residual 43% from warehouse/industrial space (Castellum, 2016a).

The largest region in terms of property value is the recent consolidated two regions, covering the area south, west and north of Stockholm. The cities Castellum cover west and north of Stockholm are considered regular commuter cities to Stockholm, while the cities south is strategically well located in-between Stockholm, Gothenburg, and Malmö, the three largest cities in Sweden (Castellum, 2016a). 76% of the rental income from the area stems from office and retail space while the remaining stems from warehouse and industrial activities. Before the organization restructuring, the two regions had 82 employees combined (Castellum, 2016a).

Castellum also holds significant exposure towards Stockholm, the capital city of Sweden, mainly exposed to the greater Stockholm area, surrounding the CBD, hereunder office clusters and major transit routes. The rental income is divided evenly between office/retail and warehouse/industrial space. Castellum's Stockholm office had as of year-end 2015 47 employees (Castellum, 2016a).

The Oresund region covers the southernmost part of Sweden and Copenhagen. The portfolio is concentrated in the larger cities of Malmö, Lund, Helsingborg and Copenhagen, and located in the fringes of cities in proximity to infrastructure. 70% of the rental income is derived from office and retail space, while the remaining comes from warehouse/industrial properties. Castellum's local offices employed 58 employees as of year-end 2015 (Castellum, 2016a).

Figure 9: Relative city exposure



Source: own contribution, based on Castellum (2016b)

Additionally, Castellum engage in capital recycling through regularly acquiring and divesting properties, as well as redevelopment and development of new properties. As of March 31, 2016, Castellum had a project portfolio of SEKbn 2.5 with 12 projects classified as substantial development projects (Castellum, 2016b). The majority of the development pipeline is located in the metropolitan cities of Stockholm, Gothenburg and Malmö, representing the three largest cities in Sweden. The total rental value of the development pipeline was estimated to SEKm 87, with SEKm 57 pre-let (Castellum, 2016b).

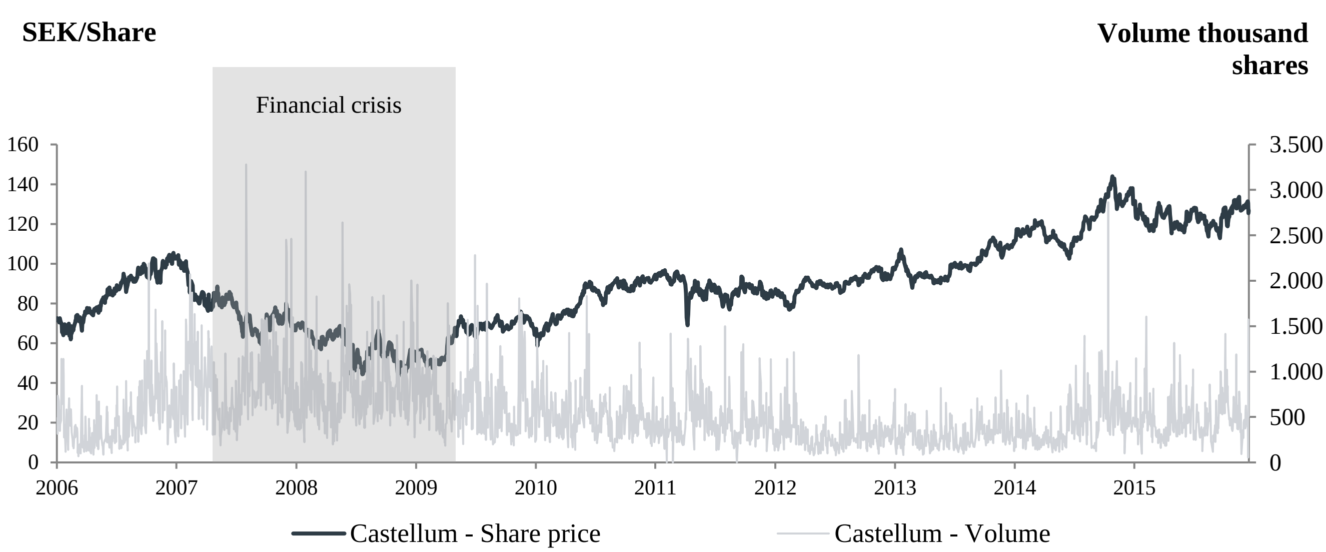
4.1.4. Share information

The shares of Castellum is listed on Nasdaq Stockholm Large Cap. As of March 31, 2016, the company had 21,100 registered shareholders and a market capitalization of SEKbn 21.2. The largest shareholder prior to the transaction was the Dutch pension fund, Stichting Pensioenfonds ABP, with 6.36% of the shares. The ten largest shareholders accounted for 35.8% of the shares, most being institutional investors. The company does not have any outstanding warrants, convertibles or other share related instruments, which could result in a dilution effect for the company's shareholders (Castellum, 2016b).

Castellum aims to distribute at least 50 percent of the income from property management operations, after taking into account investments, consolidation needs, liquidity and financial position in general. This dividend policy has been an important factor for the company's return for the last ten years (Castellum, 2016a). Including distribution during the period, the company has returned 8.4% p.a. on average over the last ten years, compared to 7.6% p.a. for the OMX Nordic Large Cap (Castellum, 2016b).

The primary financing tool for the acquisition of Norrporten was informed to be a rights issue to existing shareholders of SEKm 6.3, resulting in an increase in outstanding shares. Other than the rights issue, they would use SEKbn 4.0 of interest bearing credit facilities as well as an issue and transfer of 27.2 million shares to the sellers, AP2 and AP6, which after the transaction would hold 10% of the outstanding shares (Castellum, 2016c).

Figure 10: Share price development and volume



Source: own contribution, based on Factset (2017a)

4.2. Norrporten

4.2.1. History

Similar to Castellum, Norrporten was established following the flotations from government control post the financial crisis in the early 1990's. While Castellum was fully divested from public ownership in 1998, Norrporten was IPOed in 1994. This has later been criticized as a too early divesture by the government, as markets had not fully recovered, resulting in pressure from the public as it was said to not serve the best interest for the taxpayers (Bergström et. al., 2003).

As with its name (translate to "the gate to the North"), Norrporten focused on the larger cities in Northern Sweden, which was the strategy Securum had set out for it (Bergström et. al., 2003). The portfolio kept growing at a steady pace during the 1990s, with a milestone acquisition from Skanska in 1996, increasing Norrporten's portfolio with 40% and making Skanska the majority owner as part of the funding (Skanska, 1997).

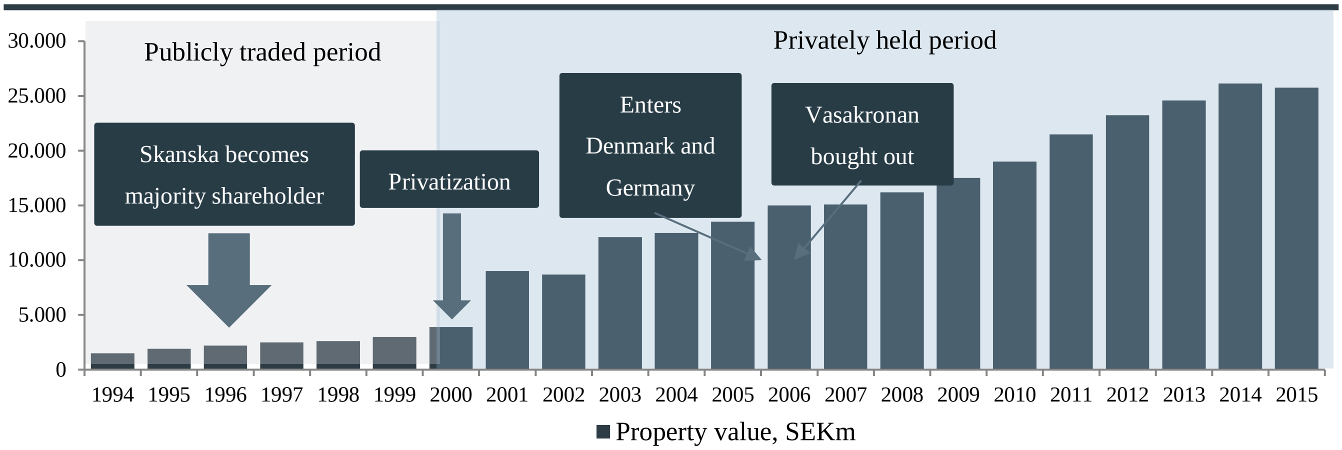
NS Holding AB, a holding company controlled by the two Swedish pension funds, AP2 and AP6, together with the government controlled real estate company, Vasakronan, announced a public offer for the outstanding shares of Norrporten (Norrporten, n.d.). The offer was approved by the majority of shareholders leading to a compulsory acquisition of Norrporten and a following delisting in December 2000 (Norrporten, n.d.). The new owners injected a sizeable portion of equity and the increased portfolio value and geographical reach. From being a Northern Sweden focused company, they had expanded to include one of the southernmost cities in Sweden, Kristianstad, by 2001 (Norrporten, n.d.).

Similar to Castellum, Norrporten made the first foreign investment in Copenhagen, Denmark, completed in 2005. Later, the company expanded further south to Hamburg, Germany, as part of a strategy with focus on urban investments with a local asset management teams present. The properties in Hamburg was later divested (Norrporten, n.d.).

Through a transaction in 2006, Norrporten sold a sizeable portfolio to Vasakronan. The deal was funded by Vasakronan transferring their ownership share to the AP Funds, making the AP Funds the sole owner of Norrporten (Norrporten, n.d.). During its short lifetime, Norrporten has seen many different owners, been engaged in extensive M&A activity and been managed by many management teams, most recently with a change of the full management team in 2013 (Norrporten, n.d.).

Since the IPO in in 1994, Norrporten's property portfolio has grown from SEKbn 2.0 to SEKbn 25.8 as of year-end 2015 (Norrporten, 2016). Even though not comparable one-to-one, the market capitalization at the IPO was SEKm 287, while the book value of equity was SEKbn 11.8 as of year-end 2015 (Norrporten, 2016).

Figure 11: Historical milestones and value (thousand SEK)



Source: own contribution, based on Norrporten (n.d.)

4.2.2. Norrporten prior to the transaction

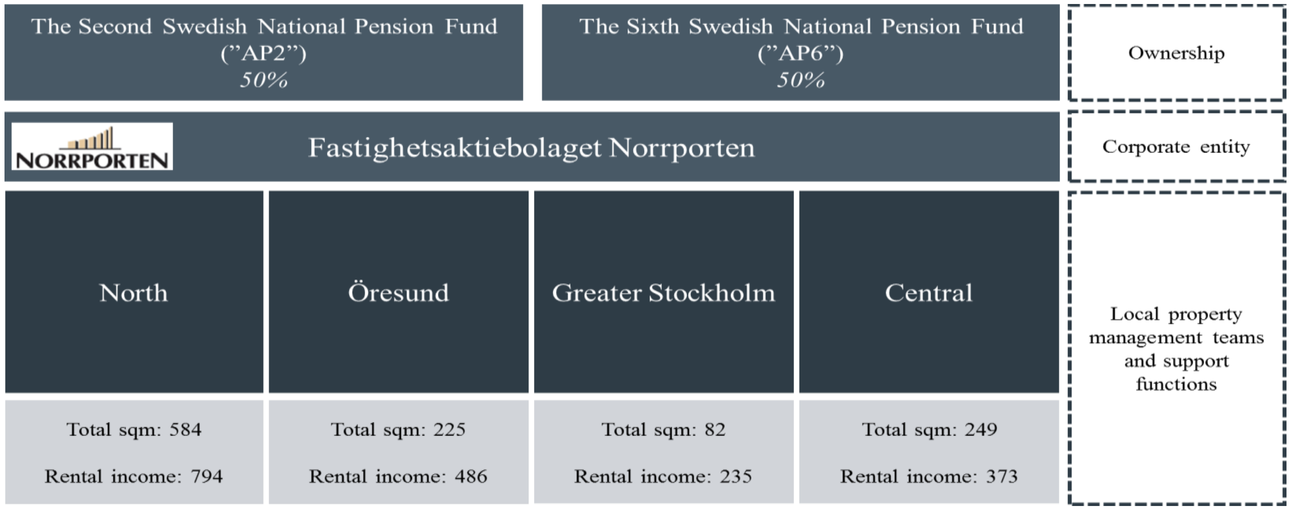
The portfolio held by Norrporten consisted of 119 properties, located in 11 different cities as of March 31, 2016 (Castellum, 2016c). The main strategy has been to own, manage and develop modern, high-quality office properties in areas with developed infrastructure, access to skilled labor and proven regional economic growth (Norrporten, 2016).

The organization is structured under one legal entity headquartered in Sundsvall, Northern Sweden, and with local office presence in respective areas. Even though they have been focusing on mid-sized regions in Sweden, they also have metropolitan presence through property exposure in Copenhagen and Stockholm where they acquired and established offices in 2005 and 2010 respectively.

Additional to the existing property portfolio, Norrporten, similarly to Castellum engages in development of properties. The public reporting by Norrporten on the subject is limited, but the estimated book value of projects under development is SEKm 908 as of year-end 2015 (section 8.4.2.)

The geographical markets Norrporten has presence in can be divided into four sub geographies similar to those of Castellum to align the segmentation of their portfolios. As of March 31, 2016, Norrporten employed 123 people divided between the headquarters and the local property management offices servicing the 119 properties under ownership. The total lettable area amount to 1.1 million sqm (Norrporten, 2016)

Figure 12: Company structure



Source: own contribution, based on Norrporten (2016)

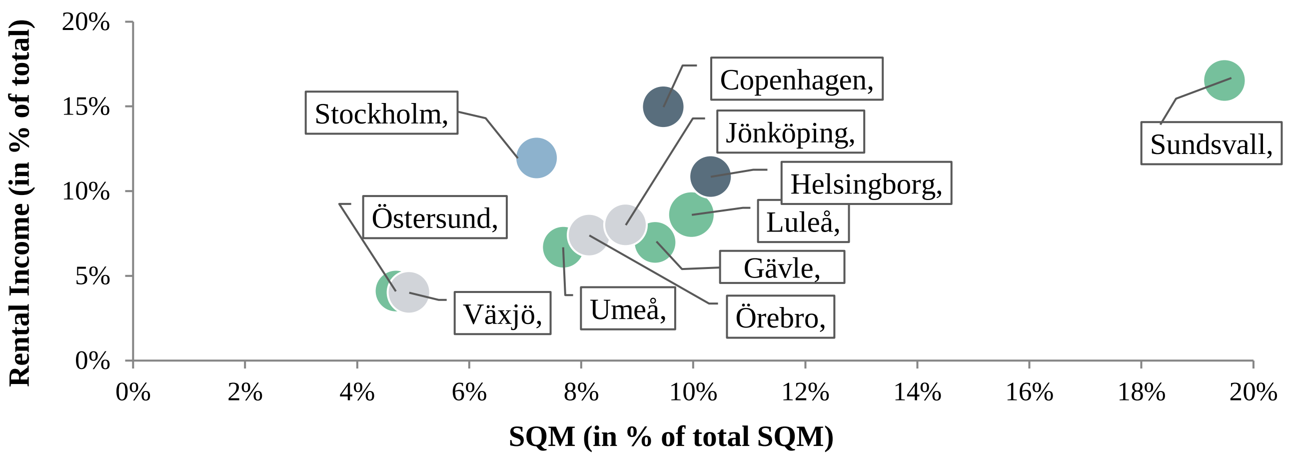
4.2.3. Geographical exposure

The largest exposure in Norrporten's portfolio is to Northern Sweden. Norrporten has since its founding held a strong foothold in this region with exposure to the cities Luleå, Umeå, Östersund, Sundsvall and Gävle. The overall largest market exposure is to Sundsvall (Norrporten, 2016). These properties are mainly located in the local CBD in respective cities with the majority let to authorities and county councils. The rental income in the regions is split with 85% from office space and 15% from retail (Norrporten, 2015). Castellum does not have any exposure to Northern Sweden.

Norrporten also hold significant rental income in Copenhagen and Stockholm. In Stockholm, Norrporten owns three properties, two with prime locations in the CBD. Additionally, they own a new office property in the northern fringe of the CBD, constructed in 2009. These three properties generate approx. 12% of the total rental income in Norrporten. As of the year-end report form 2014, it was reported that 37% of the rental income in Stockholm was from banks and insurance groups, while 16% was from authorities. In Copenhagen, they hold seven office properties primarily located in the CBD and all constructed or refurbished within the last 15 years. As of the year-end 2014 report, 17.7% of the leases was to bank and insurance groups, while the remaining was to a wide range of private companies (Norrporten, 2015).

Castellum and Norrporten overlap in multiple cities in central Sweden and the Öresund region. Castellum is present in Örebro in central Sweden as well as Helsingborg in Öresund. In these areas, Norrporten hold centrally located office properties, with predominantly public authority tenants. In addition, Norrporten holds exposure to Växjö and Jönköping in central Sweden, both extensions for Castellum with a majority of public authorities and county councils as tenants. These properties are mainly office properties located in the CBD (Norrporten, 2015).

Figure 13: Relative city exposure



Source: own contribution, based on Norrporten (2014, 2015, 2016)

4.2.4. Rationale for Exit

After the realization that the generic national pension scheme led to huge losses for those who retired in Sweden, the system was reinvented in 1960 with an earnings-related supplementary pension (ATP-system) (AP2, n.d.). A set of general pension funds was introduced successively, resulting in the AP Funds from one to six being established between 1974 and 1996. Altogether, these funds manage capital allocations exceeding SEKbn 1,000, acting as buffer in order to cover future pension disbursements (AP2, n.d.).

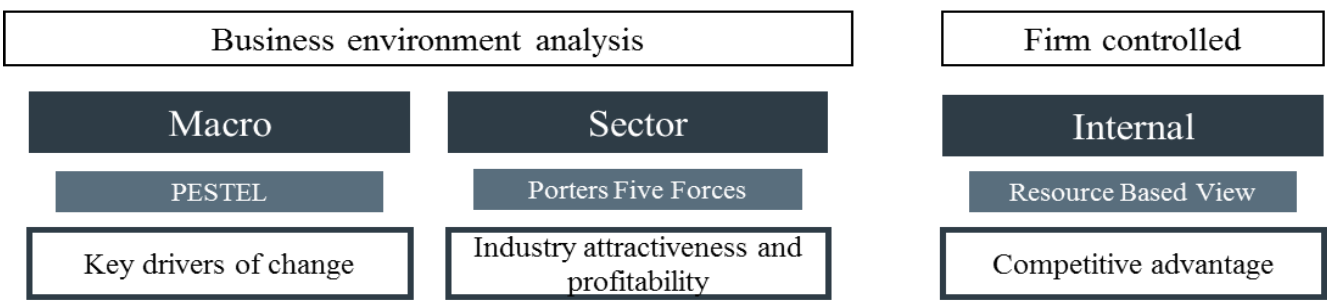
Since 2009, the net inflows have been negative for these pension funds, with greater payments to pensioners' than contribution to the pension system. Public forecasts predict this development will continue for the next 25 years, thus, the AP Funds will have to realize investments to distribute pension payments (AP2, n.d.). AP2 and AP6 had been owners of Norrporten for 15 years with significant unrealized capital gains why an exit would be beneficial for pensioners. Additionally, the consideration package to the AP Funds consisted of shares in Castellum, meaning that they could stay exposed to real estate without reinvestment risk in addition to bringing funds for pension disbursement at a faster pace due to higher liquidity of listed companies. Additionally, an IPO process has a higher risk/return profile based on how potential investors would perceive the offered prospect, in addition to how big the residual stake the AP Funds would have to keep following the IPO (AP2, 2016 Apr. 13th)

5. Strategic Analysis

The rationale behind the strategic analysis is to identify the platform for future earnings and profitability drivers. The external part of the analysis aims at finding the key drivers of change through a PESTEL framework as well as industry profile through the Porters Five Forces model. The target is to find what opportunities and threats lies ahead in the market. Additionally, the internal analysis seeks to find strengths and weaknesses within Castellum and Norrporten, which could help to highlight potential synergies from one company to the other. The internal analysis is based on resource-based view (RBV) with a VRIO model.

It has been key for the authors to find generic models which can be applied directly to the case and bring forward important and relevant answers. The amount of theoretical models and frameworks within this field is vast, but the authors are certain that chosen models will provide relevant answers. The structure is built from a top-down perspective with the outer macro environmental layer at first (PESTEL), before delving into the industry attractiveness (Porters Five Forces) and concluding with the internal review of the companies (VRIO).

Figure 14: Layers in strategic analysis



Source: own contribution

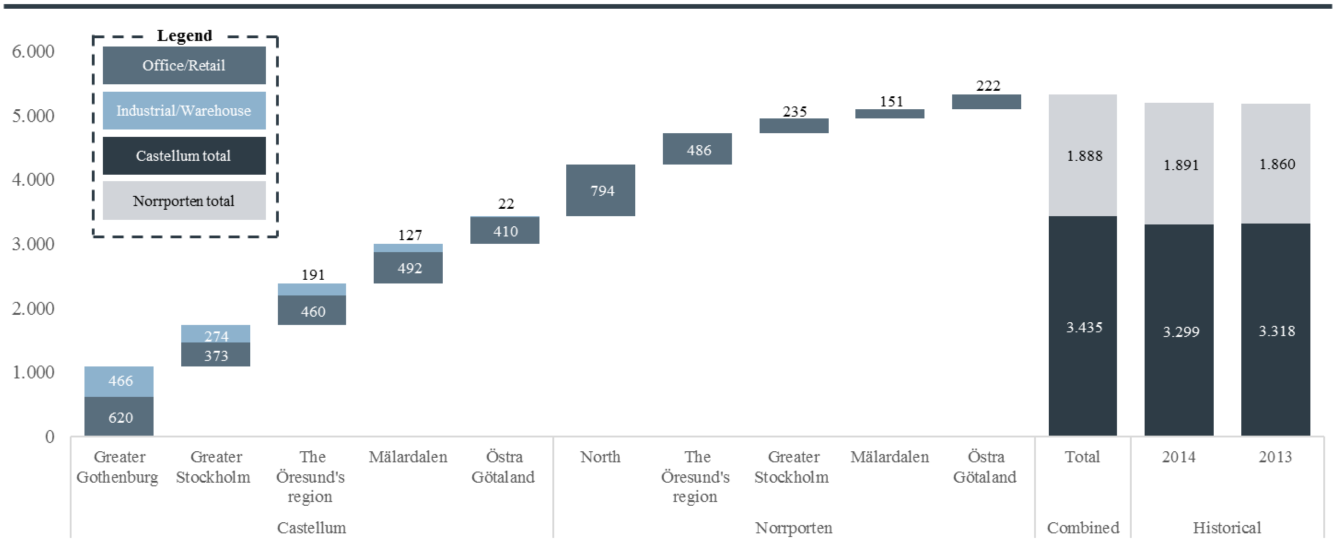
5.1. PESTEL

The global population is expected to increase to between 9 and 11 billion before 2050, compared to 7.4 billion in 2015. Simultaneously, the global environment in which we trade, finance and interact are becoming more similar, while the social links between different regions are increasing. Furthermore, the discrepancy in wealth between regions are diminishing. These are all macroeconomic developments due to increasing global prosperity (NBIM, 2015). Together with structural changes in the form of technological progress, sustainability trends, demographic development and urbanization, they form the surrounding environment. Real estate, being present across the globe, is exposed to all of the above-mentioned trends. As people will always need places to live and work, real estate can be explained by the core of supply and demand theory, and understanding global megatrends will provide insights to the demand for different type of real estate and in what locations.

The PESTEL analysis categorizes environmental influence through six main factors: political, economic, socio-cultural, technological, environmental and legal factors. Political and legal factors are found to overlap and is therefore treated as one factor. The trends are in the following formulated separately, but most are not fully independent, as they tend to converge in the high-level global developments (NBIM, 2015).

The majority of rental income for both Castellum and Norrporten originates from Sweden. The only foreign exposure for both companies are to Copenhagen, Denmark. Copenhagen, with its close ties to Sweden through the Öresund connection, will not be focused on in this section, but mentioned where differences from Sweden needs to be highlighted. As rent generation from commercial properties are highly sensitive to national economies and the total effect on employment and spending, the Swedish national economy will be in focus. But, local economies will be analyzed to some extent due to the aggregation of larger portfolios in smaller regional cities.

Figure 15: Rental income split (SEK thousands)



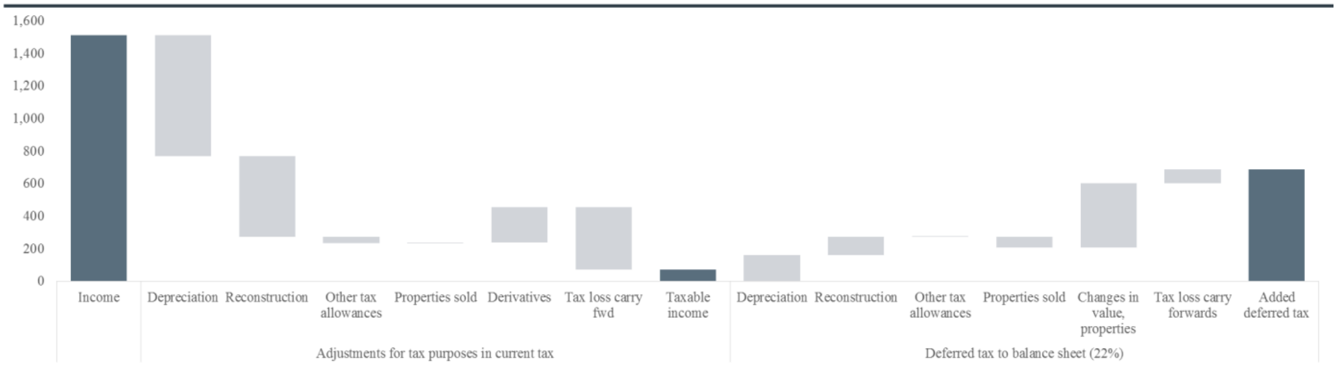
Source: own contribution, based on Norrporten (2016, 2015 and 2014) and Castellum (2016a, 2015, 2014)

5.1.1. Political and Legal factors

Swedish taxation

Taxation of real estate activities in Sweden are not highly transparent, but in general, based on reported financial statements from listed real estate companies, below the overall corporate tax level (Nordea, 2017). This occurs as real estate owners deduct depreciation and reconstruction costs in the tax accounts and utilize tax loss carry forwards (DLA Piper, 2015). Gradually, a property company will build up a substantial deferred tax liability, as the depreciated tax value of the property decreases in addition to any potential increase in market value. Figure 16 illustrate the bridge between the reported current taxes paid and added deferred tax for Castellum in 2015.

Figure 16: Castellum bridge between current taxes paid and added deferred tax (2015)



Source: own contribution, based on Castellum (2016a)

Furthermore, capital gains taxes are often postponed due to the option of sale of special purpose vehicles ("SPV" or "corporate wrappers" according to IAS 12 terminology), instead of selling properties directly (PWC, 2015; DLA Piper, 2015). When a property is traded between two parties through a SPV the capital gains taxes from value appreciation of the underlying property are in reality postponed indefinitely, as it is only the SPV changing owner and not the underlying property. This means that the government will not receive any capital gains tax income, and the seller will not pay any capital gains tax following the transaction.

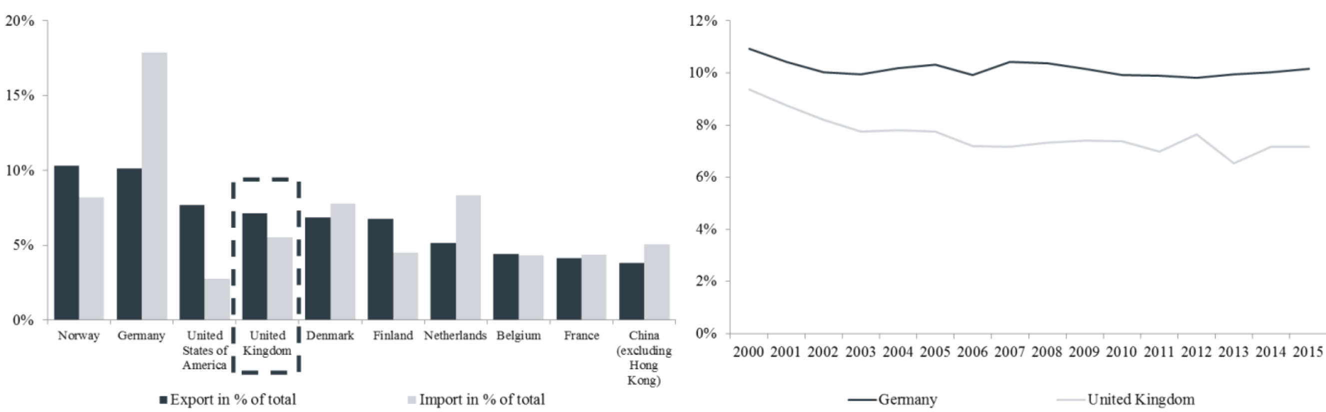
The Swedish government launched an investigation specifically targeted at the real estate sector with particular interest in the use of SPVs as a tool for tax planning (Nordea, 2017). As the real estate sector has been known for paying relatively moderate tax in Sweden, the investigation was expected at some point in time (Nordea, 2017). The committee investigating the matter is set to present its recommendation in 2017. Even though there is no clarity in the outcome of the investigation, there is clear risk for property owners. Most researchers on the subject expect that there will be introduced some new set of regulations for real estate companies which will increase paid taxes (Vinge, 2016). All else equal, this would reduce property values. Nevertheless, the conclusion from the investigation will not become a law before it has been through a consultation period and eventually in a hearing with the government, which increases uncertainty where it becomes difficult to interpret the actual impact and the timeline.

United Kingdom and the European Union

On June 23, 2016, the British public went going to the polls to vote for whether the United Kingdom (UK) was going to stay within, or leave, the European Union (EU). Sweden and Denmark are both part of the EU, with UK as an important trading partner. The UK was in 2015 the fourth largest trading partner of Sweden with 7% of all exports. Without any clear consensus on effects from Brexit, uncertainty has taken its toll on the business environment. The British Pound underperformed other major currencies in the first quarter of 2016 prior Castellum's acquisition of Norrporten, and business investment spending within the UK fell remarkably in the last quarter of 2015 (CBRE GI, 2016).

The overall economic impact from Brexit is uncertain, but as UK's have EU as their largest trading partner, significant impact is expected for both parties (CBRE GI, 2016). If the UK were to leave, they would have to renegotiate trade arrangements with the EU as a stand-alone country. Additionally, London serves as a financial hub within the EU, and hiring in the financial sector could freeze, and possibly create a large outflow with international banks relocating to other cities (CBRE, 2016a). The same tendencies are expected within the technology sector, where demand for highly qualified employees leads to sourcing of talent from several countries which will likely be harder post Brexit (CBRE GI, 2016). The low language barriers for foreigners in the UK, and the good international infrastructure has served as an important platform for London to be a center for business activity (CBRE, 2016a)

Figure 17: Left: Swedish international trade. Right: Export to Germany and UK (2000-2014)



Source: own contribution, SCB (2017b)

The exports from Sweden to the UK has increased 12% in absolute terms from 2000 to 2015, but relatively as a percentage of total exports decreased with 25%. The dependence on the UK is still relatively large, but Sweden has over the last 15 years been more relying on neighboring countries, such as Norway, Denmark and Finland. Emerging economies has also become a growing trading partner for Sweden with exports to China and Poland having increased with 160% and 180%, respectively, since 2000 (SCB, 2017b). They are though relatively small in total numbers (SCB, 2017b).

Direct impact on the real estate market can be positive if the UK were to leave. It is expected that most foreign investors would be reluctant to invest in a country with the level of uncertainty and associated risk following a withdrawal from the EU, which would, all else equal, result in reallocation of capital to other geographical markets. The Nordics has in recent years been targeted by international capital, with a purpose of serving as a safe haven with stable politics, economy and to a large degree currency as well (Union, 2016). This new flow of capital to real estate would increase competition for objects and lead to potential increasing prices.

If London were to lose its position as a financial hub within the EU, the most prominent replacements would be Frankfurt, Paris or Amsterdam. Stockholm, in competition with Berlin, has been considered an alternative hub to replace the growing technology sector in London (CBRE GI, 2016). By moving these jobs to Stockholm, it could create upward pressure in demand and potentially impact rent levels positively.

Political intervention in population movements

As discussed in section 5.1.3 on socio-cultural impacts, urbanization is a clear secular trend. The population living in the fringes and countryside has become more prone to move closer to more accessible infrastructure, and attractive employment markets. The current government in Denmark chose in 2015 to initiate a process of moving a range of government institutions out of the larger university cities (Kusnitzoff, 2015) to mitigate decreasing population in smaller cities outside urban areas, which affects growth of the local economies. Decreasing population growth creates a difficult environment for smaller regional cities with lowered budgets and tax revenue to create new opportunities in the local environment (Kusnitzoff, 2015). The government initiative comprehends 4,000 jobs in the public sector. Moving 4,000 employees out of Copenhagen will shift supply upwards and demand downwards which could potentially affect the rental price level.

Conclusion of political influence

The most evident impact from the political environment relates to the potential new tax burden. With both uncertainties on how the proposal will look and whether the government choose to align this into the regulatory tax framework, it is difficult to forecast any impact on the issue. If the UK were to leave the EU, it would have immediate impact for important trading partners, especially within the EU. Denmark and Sweden would see initial impact on the economy, but this is suggested to stabilize in the medium term as the different parties adjust to the new normal with the UK outside of the EU. Even though there could be an uplift in real estate values due to reallocation of capital to safer European markets, the increased demand is assumed to be related to a period of transition rather than a new normal.

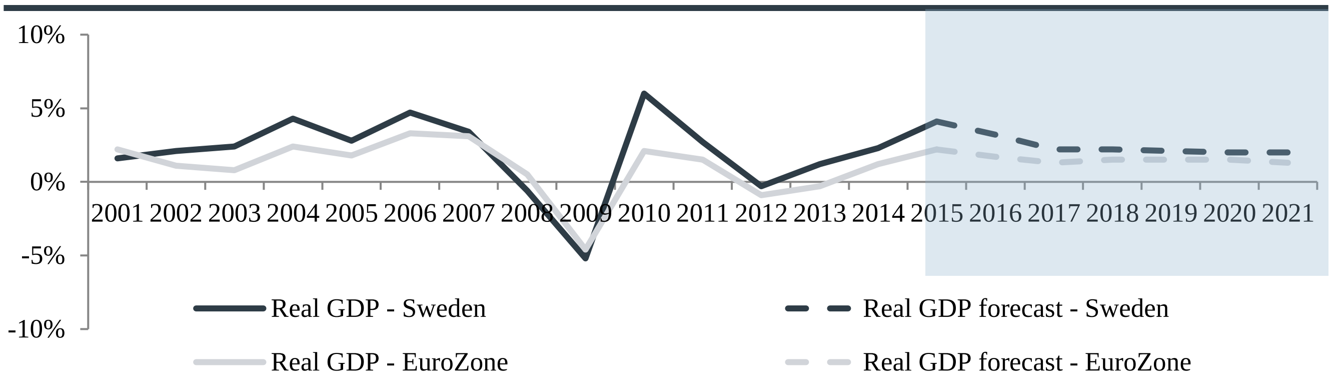
5.1.2. Economic factors

Swedish national economy

Real estate is tightly knit with important economic drives like population growth, employment and household consumption and the supply and demand triggers of real estate is therefore expected to be explained by general economic indicators. A good overall indicator is the real GDP, measuring all the goods and services produced within a year in a country or specified region (Blanchard, 2017).

Sweden got out of the financial crisis, which erupted in 2008/2009 with a solid growth of close to 6% in 2010, followed by strong growth in 2011, before a minor setback in 2012 due to the European credit crisis hitting especially hard on Greece, Spain, Portugal and Italy (BBC, 2012). The growth seen after 2012 has been solid and above the overall growth level in the Eurozone. Sweden still offers growth prospects above comparable countries in the Nordics and above Eurozone average (Nordea, 2017). The macroeconomic strength seen in Sweden bodes well for rental growth gradually improving in areas where population is growing, i.e. regional growth cities and big cities.

Figure 18: Real GDP growth for Sweden and the EuroZone (2001-2021E)



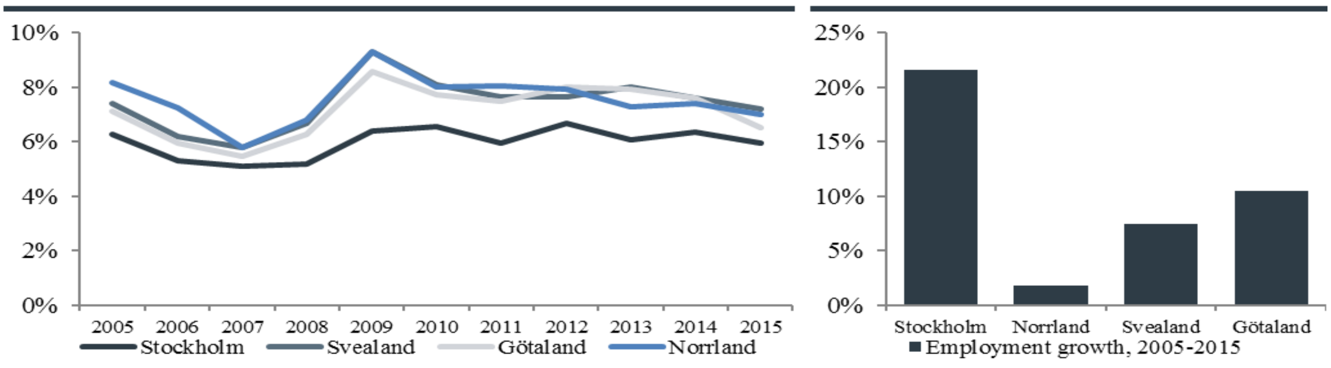
Source: own contribution, based on Passport (2017)

Employment market

From a high in 2009 when investments and general confidence was at a low, the labor market has continued to develop strongly and employment vacancy rates has been falling in all of the four larger Swedish regions. Public and private consumption has been steadily increasing, partly due to the improved general economic environment, but also because of increased refugee immigration (Sveriges Riksbank, 2016). It is expected that the positive development will continue with reported high demand for labor and increasing employment (Sveriges Riksbank, 2016). Expected hiring rates are still positive and the measure of number of job vacancies has been reported on a high level, while redundancies fell to very low levels at the end of 2015 (Sveriges Riksbank, 2016).

The employment growth has been stronger in the larger Stockholm region, as well as in Götaland. These two regions represent the two largest cities in Sweden, Stockholm and Gothenburg. The employment growth has been very low in Norrland, while at the same time, employment vacancy rates has been reduced from 9.3% in 2009 to 7.0% in the end of 2015. Figures 19 (left and right) then suggest that there are other factors resulting in improved employment markets in Norrland.

Figure 19, left: Employment vacancy (%). Right: Annual regional employment growth (2005-2015)



Source, own contribution, based SCB (2017c)

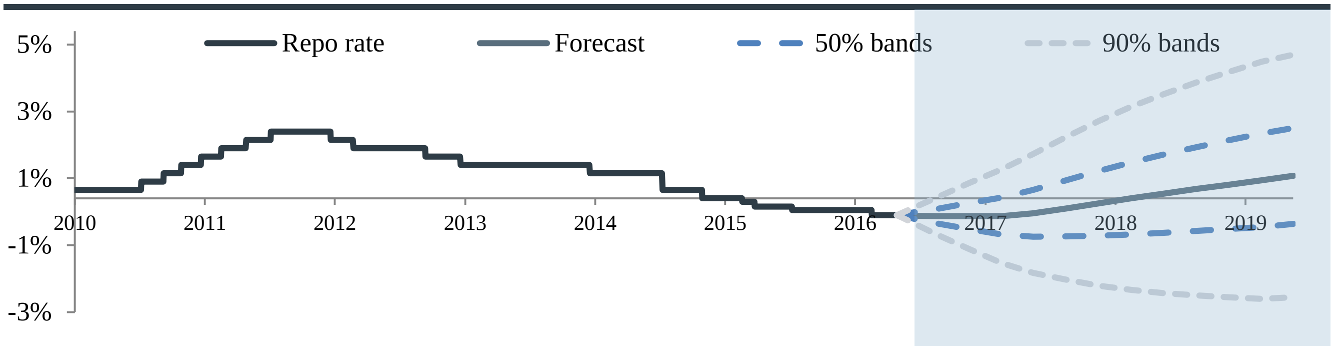
Inflation

Riksbanken was one of the first national banks in Europe who initiated negative interest rate ("repo rate" in Sweden) policy in 2015. The explanation of negative rates was due to a low inflation rate, below the targeted 2% (Sveriges Riksbank, 2016). With SEK being a floating currency against major trading partners' currencies, and the economy performing overall better than the Eurozone, the low interest rate level also works as a tool for managing how Swedish exporting companies' position against global competition (Sveriges Riksbank, 2015). All of the Nordic countries are viewed as stable economies with transparent politics, which has made foreign investors attracted to invest in Nordic currencies (Union, 2016). This has in turn made these currencies appreciate against important trading partners' currencies, such as the British Pound and Euro, which has affected the competitive position of Nordic companies to the worse as it becomes more relatively more expensive to buy Nordic goods. Riksbanken is additionally buying bonds in the market in line with the quantitative easing of the ECB within the Eurozone (Sveriges Riksbank, 2016). These public interventions in the monetary policy and in the financial markets has led to lowered yield levels on fixed income products (Nordea, 2016).

The impact of an appreciating currency is negative, as it becomes more expensive in relative value for international investors to buy Swedish properties, leading to lower demand. The government bond purchase program though has a positive impact, as fixed income investors are seeking alternatives to the low returns derived from bonds

(Nordea, 2016). The low interest market also increases the gap between annual returns created from rental income as percent of property value and paid interest on the debt.

Figure 20: Repo rate and Riksbanken forecasts



Source: own contribution, based on Sveriges Riksbank (2016)

Conclusion of economic impacts

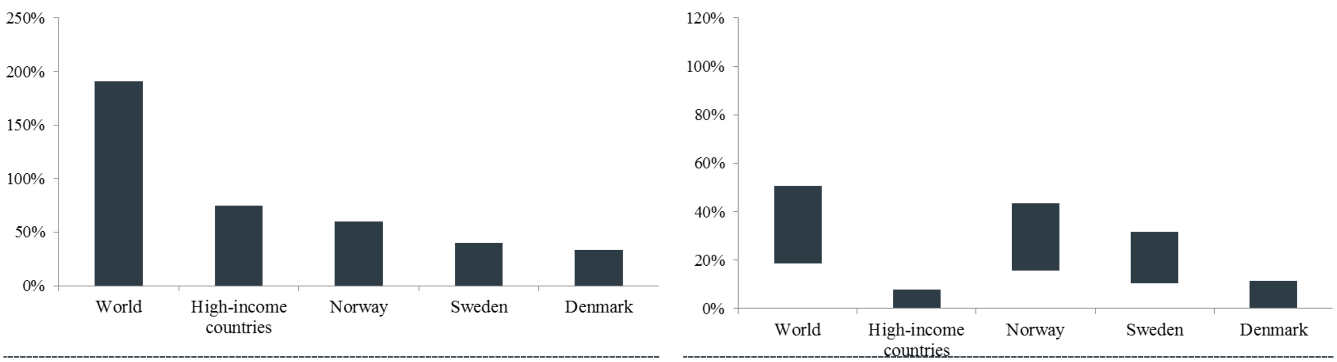
Historically, low interest rates would imply poor growth outlook and possibly deflation and in periods with declining growth outlook, asset prices have been lowered. However, in the environment real estate investors are facing today, the lack of good alternatives to fixed income products, and the profile of the Swedish economy compared to similar European countries makes a good case for real estate investing. However, the current environment should not be seen as a new normal as bond purchase buyback programs and aggressive monetary policy will not be continued forever implying that interest rates will increase at some point also suggested by Riksbanken's forecasts. Riksbanken, the first-mover on negative interest rates in Europe, could also potentially be the first national bank to increase interest rates. If so, this is expected to be associated with higher inflation rates, leading to higher indexation of rental income from current tenants, as described in later sections.

5.1.3. Socio-cultural factors

Demographic trends

The global population grew with close to 200% from 1950 to 2015, as exhibited in figure 21 to the left. The growth was steady in most countries, but driven by strong growth in emerging countries such as India. The trend of population growth is expected to continue, however, with even more dependency on emerging economies than seen in the last 65 years (United Nations, 2015). The growth in Norway and Sweden is expected to continue at a relatively high pace to comparable countries, being developed and high-income countries, seen in figure 21 to the right. Population growth in general is expected to create more need for real estate space, and especially housing. The additional need for consumer goods through a growing population will, all else equal, generate more economic activity within country borders, and eventually impact commercial real estate space.

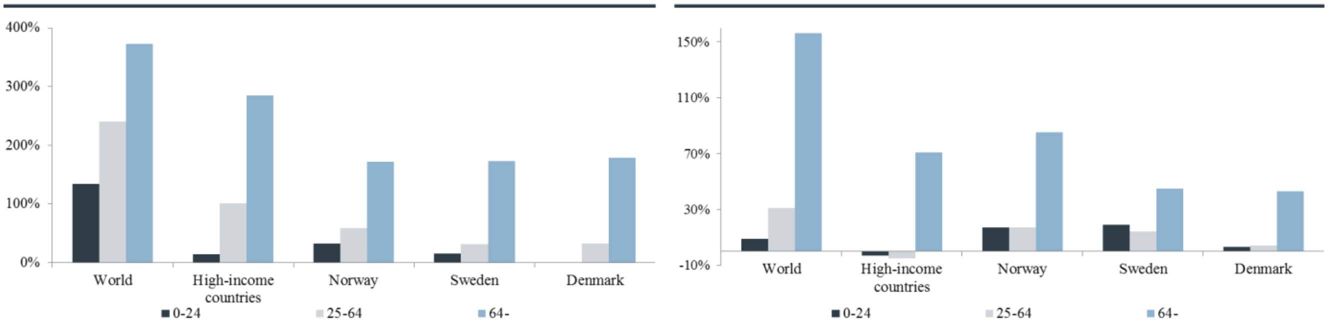
Figure 21: Left: Population growth (1950-2015) Right: Population growth forecast (2015-2050)



Source: own contribution, based on United Nations (2015)

The observed patterns in population growth is expected to continue, but at a moderate pace compared to what has been evident in the last 65 years. Figure 22 to the left illustrate how the different age groups grew from 1950 to 2015. On a global scale, the growth was steady for all age groups, driven by the elderly aged from 64 and upwards. In high-income countries, the growth was only moderate for those aged between 0 and 24, suggesting a low fertility rate. However, some of the high growth of the middle-aged group and elderly group are driven by a shift of the larger baby boomer generation (Zemke & Raines & Filipczak, 2000) comprising 0-24 in 1950. Simultaneously as the baby boomers grew older over the period, the average life expectancy has increased. The economic and technological innovations together with increased human knowledge has produced a significant addition to average life expectancy, from an average of about 45 years in 1900 to about 75 years in 1995 for industrialized countries (Baltes, 1997). Figure 22 to the right present the forecasted growth for the different age groups from 2015 to 2050. The trend of a growing elderly population is expected to continue in years to come, with only moderate growth in the youngest age group.

Figure 22: Left: population growth by age group (1950-2015). Right: by age group (2015-2050)

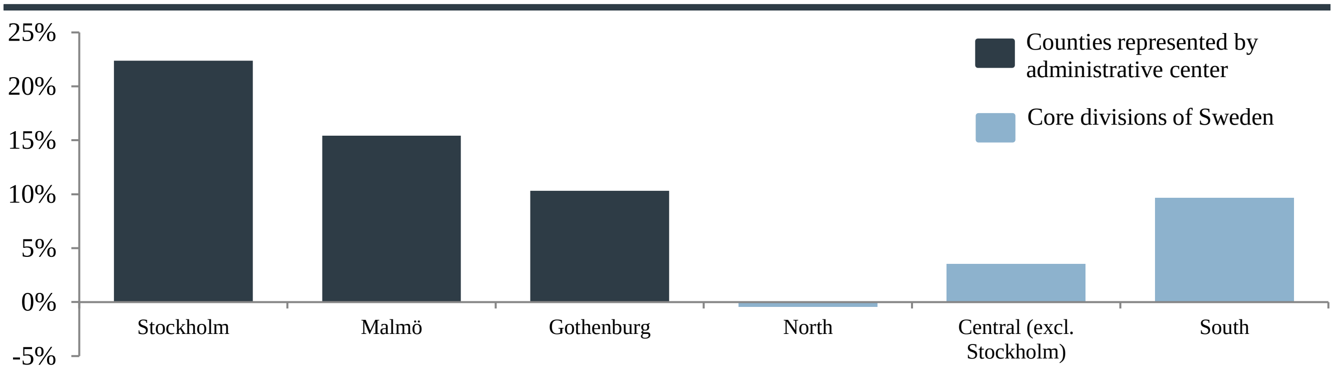


Source: own contribution, based on United Nations (2015)

In addition to the general population growth patterns, there is an ongoing trend in population mobility. The population in general has become more open towards moving into larger regional and main city locations in search of jobs and networks. Over the years, this trend has developed from intra country or region movements to an international trend (United Nations, 2014). Furthermore, globalization influences how individuals cooperate and interact cross-border, which has contributed to lower barriers for workforce mobility (NBIM, 2015). In 1950, the share of the world's population that lived in the urban areas was 29%. In 2009, this had grown to around 50%, with an expected growth to 60% by 2030 (Newsec, 2016). Stockholm is now the city in Europe with the highest population growth, followed by Copenhagen, Oslo and London (Newsec, 2016). Even though there is a general population growth supporting this, urbanization in the Nordic region is evident. In Sweden, the three major-city regions of Stockholm, Gothenburg, and Malmö comprise 53% of the country's population (Newsec, 2016).

The result of these population movements create denser inner city areas and potentially add new cities with its own identity within the larger city (Newsec, 2016). Nevertheless, with constraints on land and space for larger populations in the inner cities, the growth moves out and increases the sizes of a city's fringes. Therefore, the growth is expected to impact the larger commuter catchment areas of the growing city regions, and especially within proximity to infrastructure hubs, being public transportation stations or commuter roads (Newsec, 2016). The cities of which are targeted by the population will evidently grow to become metropolitan cities with a population of more than 1 million, and potentially megacities with more than 10 million inhabitants (NBIM, 2015). Figure 23 illustrate the overall strong population growth from 2000 to 2015 in the three largest cities in Sweden including surrounding areas compared to the aggregated population growth for the three overarching regions of Sweden.

Figure 23: Population growth (2000-2015)



Source: own contribution, based on SCB (2017a)

Workplace trends

The way we act in everyday situations depends on our surrounding society. The generalization in regards to characterization of individuals is often addressed by the period in which they were born. Today, this can be scaled down to four generations being present in the workforce at once: 1) the Traditionalists born between 1900-1945, 2) Baby Boomers born between 1946 and 1964, 3) Generation X born between 1965 and 1980 as well as the 4) Millennials born between 1981 and 1999 (Arcadis, 2016).

The oldest contributor to the workforce have their earliest memories and influences associated with the world-engulfing events of World War II. The youngest contributor, born in the late twentieth century, is up to date on technology, considered open minded and accepting of differences, as well as highly competitive (Zemke et al., 2000). The large differences between these generations and the need for them to collaborate, learn and work is critically important, and highlights certain important aspects of the use of real estate space (Arcadis, 2016).

The oldest generation now only account for a fraction of the entire workforce, while the baby boomers are retiring at a high pace (Arcadis, 2016). Generation X are about to take over management positions, while the Millennials has slowly become comfortable in the workforce. The difference between the two is only limited, but the Millennials are considered more advanced with technology and more comfortable with always being connected and available (Arcadis, 2016). Therefore, the Millennials are more prone to working anywhere and everywhere. This means that work is no longer a place you go, but an activity you do (Colliers, 2016), where office space is becoming hubs of activity supporting collaboration, knowledge sharing, and innovation (Arcadis, 2016).

The Millennials are characterized as being more open to flexible work hours and appearance together with a more established balance between work and life (Zemke et al., 2000). Furthermore, they are considered more urban-oriented (Gensler, 2016). This points to more demand for office space integrated with urban districts. With the younger generation only growing at a moderate pace, the need for corporations to attract the right talent becomes is high, where location of office comes in as important competitive edge. Especially for companies seeking front-office employees who are meeting clients, partners or other networks, it is important to be present in the CBD (REoptimizer, 2015). A study conducted by JLL (2014) showed that the performance of central London office space had outperformed office parks in the fringes and out-of-town locations by a clear margin (JLL, 2014), proving the demand for connected inner-city office space.

Conclusion on socio-cultural factors

The moderate growth of the young population together with increased elderly population will potentially create challenges in the years to come. There will potentially be fewer people in the working age who will have to support a growing population, of both young and old people. For real estate, the demand will firstly be for care properties and housing, and taking into account urbanization, within the larger city regions. It is though expected that these activities will increase demand for more office and retail space (Newsec, 2016).

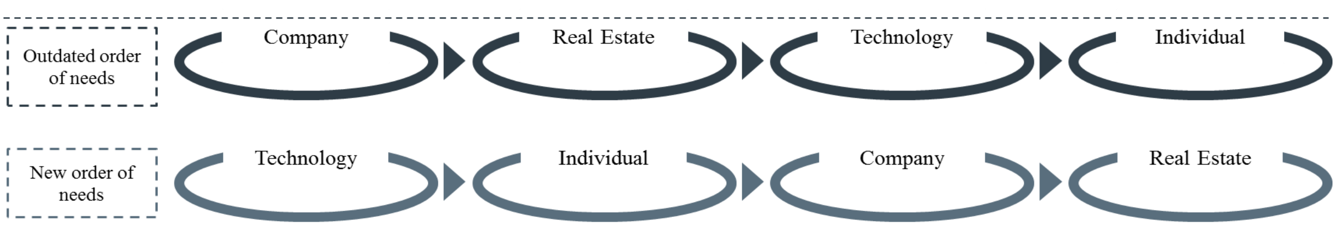
Previously, countries have either been attractive or not from an investor point of view. However, this broad sense of attractiveness seems not to prevail anymore. Northern Sweden have negative population growth, and with the expectation that the younger generations are first movers, the authors expect this trend to continue. Therefore, investors have to narrow the analysis and put focus on cities. The authors also expect that the urbanization trend will eventually create more value for real estate in the fringes of growing cities as the catchment area grows with the population. For property owners, it becomes more important to invest actively in the micro area to support local growth and attract tenants.

5.1.4. Technological factors

The fast-paced changing environment the population has faced in recent years due to technological advancement is unprecedented (CBRE, 2017b). As the population adapts to changing environments, including state of living, consumer preferences, and working conditions, the buildings they use and occupy will have to follow. The technological factors, if not adapted adherently by property owners, could possibly create obsolete space. These rapid changes can shorten the overall property life cycle (presented in figure 4 in section 3.2.) of properties and affect how properties are used.

Previously, within the office segment, the decision to where companies wanted to be located was made before building, purchasing, or leasing the required space. Companies thereafter configured and populated the property with necessary technology, with each stage of this process conducted without reference to the individual employees (CBRE, 2017b). This hierarchy of decision-making, as presented in figure 24, is gradually becoming outdated, with the evolution of knowledge-driven economies. Over time, the process has changed with individuals possessing needed knowledge becoming the leading influence with companies' decisions informed by the need for connectivity and accessibility, as well as talent attraction and retention (CBRE, 2017b).

Figure 24: Hierarchy of needs for office space



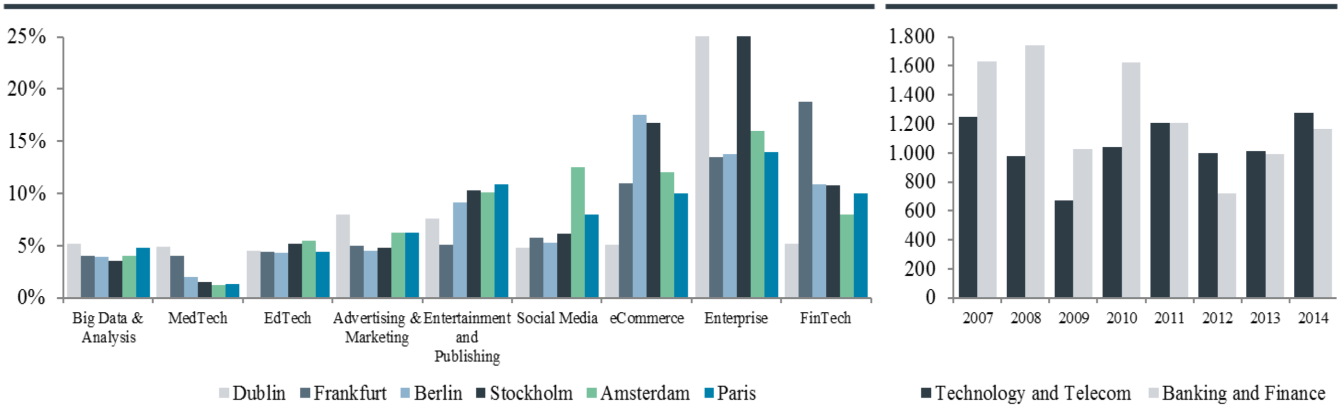
Source: own compilation, based on CBRE (2017b)

Office segment and the technology

With technological advancement and innovation accelerating, tech-focused office markets are seeing rapid growth in demand for office space. In San Francisco, a global technology hub, it has been seen that high-tech companies have been responsible for 95% of the 4 million sq.ft. of occupancy gains between 2013 and 2015, with office rents levels doubling since 2010 (CBRE, 2015b). This prominent role of technology is now increasing in Europe as well. The sector's locational behavior and driver, within and across cities, have distinctive characteristics, similar to those presented above, that will continue to affect market dynamics in many central locations.

Across Europe's primary markets, the technology sector accounted for more than 15% of office leasing in 2014 (CBRE, 2015b). It was the third consecutive year of growth, and the third in which technology companies accounted for a higher share of take-up than the banking & financing sector. In addition to the scale of its activity, sub-sector specialization, preferred property format and procurement routes, and sensitivity to particular location drivers, notably labor, has been key findings from recent behavior of technology companies (CBRE, 2015b). Sweden has consistently been ranked as one of the most competitive and globalized countries, and among the global leaders in productiveness (CBRE, 2017a). It has resulted in Stockholm becoming one of few hubs in Europe for start-up companies with the majority being within enterprise, e-commerce, fin-tech, and entertainment & publishing, shown in figure 25 to the left. Sweden, and more specifically Stockholm, has been able to market itself to foreign companies with a highly educated population and proper infrastructure. This has attracted entrepreneurs and larger foreign corporations to Sweden, and been an important factor for recent years' increase in rent.

Figure 25: Left: distribution of start-ups by industry (%). Right: annual take-up of sqm by sector (thousand sqm)



Source: own compilation based on Catella (2017) and CBRE (2015b)

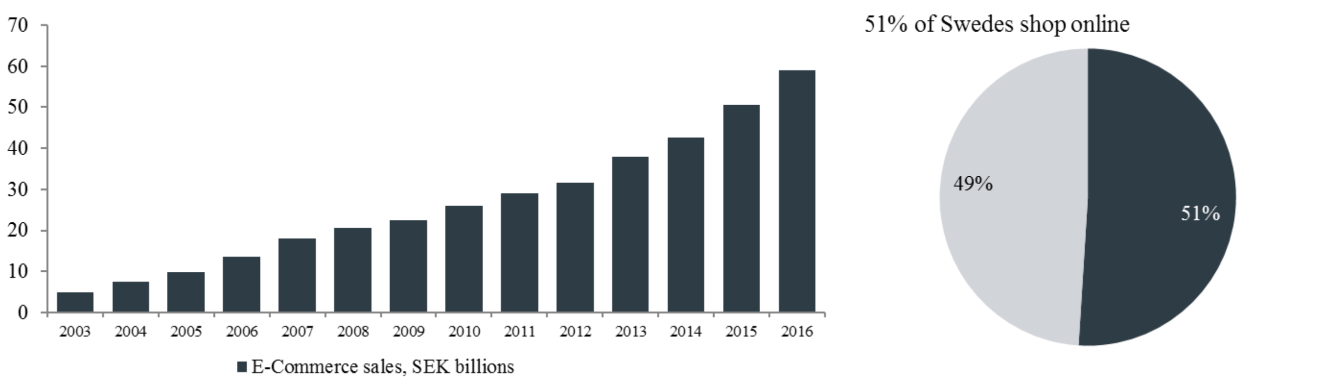
With these new emerging companies and industries driving the market, new ways of using the office space becomes coherent. Buildings continue to be more productive and efficient through space optimization, efficient open plan layouts and hot-desking, all of which are contributing to the evolution of the reduction in office space allocation per employee (CBRE, 2015b). With these advancements occurring again sooner than later, real estate owners will have to move towards more flexible and adaptable properties, while location still remains critical.

E-commerce

Online retailing has seen an exponential growth since entering the new millennium. In developed economies, the growth has initially been very strong within fashion and electronics, while the food sector is currently emerging as the next sector to embrace the scale advantages from e-commerce (JLL, 2013).

Sweden, with its prominent position within technology, has grown to be at the forefront of e-commerce. Furthermore, with its beneficial location as a logistics hub in the Nordics, there is still a great potential to increase its position within e-commerce through increasing export volumes (CBRE, 2017a). Online retailing in Europe is expected to grow at double-digit rates in the coming five years, which will further increase demand for logistics space. Until now, online retailing has accounted for as much as 20% of all warehouse leasing deals across Europe (CBRE, 2017a), while only 4% of global retail sales were being made online in 2013 (JLL, 2013). In Sweden, 2015 e-commerce sales increased by 17% year over year to SEKbn 50.1, equal to 6.9% of swedes shopping online.

Figure 26: Left: total e-commerce sales (SEKbn). Right: Share of swedes shopping online

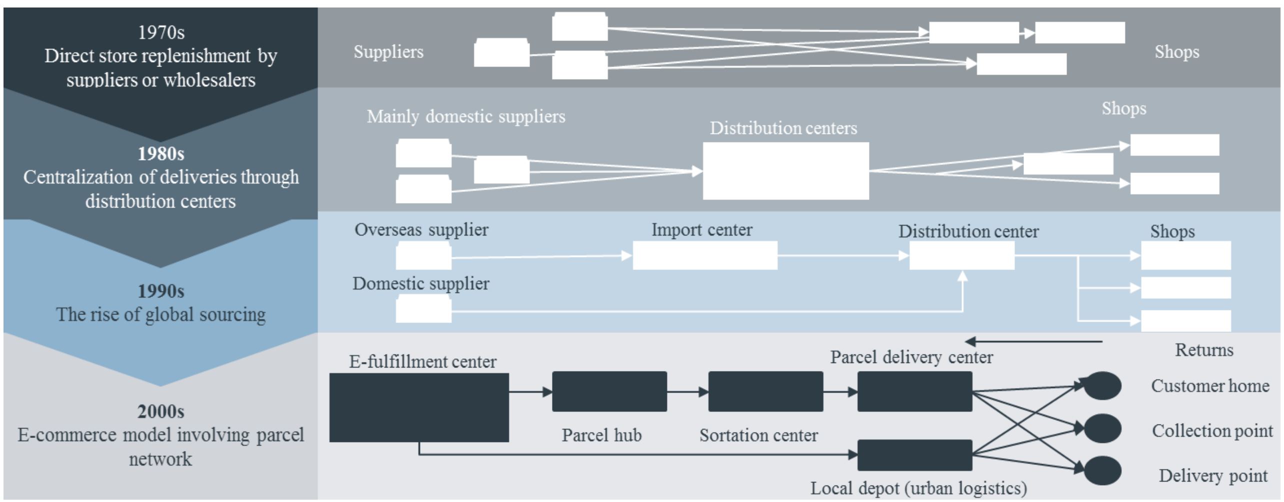


Source: own compilation based on CBRE (2017a)

This growth is not expected to be a short-term phenomenon, but rather a long-term structural change, enabled by technology, but driven by fundamental changes in societies and the way people choose to live and shop (JLL, 2013). With the expectations of current demographic changes continuing for the years to come and the emergence of digital natives as independent consumers, dynamics of e-commerce will only get stronger.

The retail supply chain has evolved in the last 40 years from a time when most retail stores were replenished by direct delivery from suppliers or wholesalers (JLL, 2013). The emerging standard of today, with e-commerce rapidly expanding with pure-play (internet-only) retailers leading the way, in establishing e-fulfillment distribution networks. The new normal within retail trade emerges from large e-fulfillment centers storing all merchandise, where after it will be sent to parcel hubs and distribution centers, sorting orders by post codes for final delivery and eventually parcel delivery centers, who handles the 'last mile' delivery to the customer (Appendix 2). Ceteris paribus, the evolution of e-commerce seems to have left pure retail space out of the supply chain. But, the high rate of goods returned with e-commerce has created a new channel within retail, omni-channel marketing, integrating the channels of online and physical retailing with high-street and near city shopping center shops will play a major role, both marketing wise and for inventory management purposes to align supply and demand for products (JLL, 2013). Figure 27 illustrate how the structure of retail logistics has evolved over the last 50 years.

Figure 27: Evolution of retail logistics



Source: own compilation, based on JLL (2013)

Conclusion of technological factors

Both short-term phenomenon's, and most importantly, the structural changes occurring in the real estate universe due to technological advancements sets new standards for real estate owners. It will be inevitable that property lifecycles will shorten with time, meaning higher rate of reinvestments in existing properties is required to create functionalities as demanded by tenants, especially in the office sector. Additionally, companies are attracted by the status of cities and regions, due to knowledge driven economies, rather than target markets. Stockholm, and Sweden in general, performs well within growing industries, which will be important to attract new possible tenants in premises.

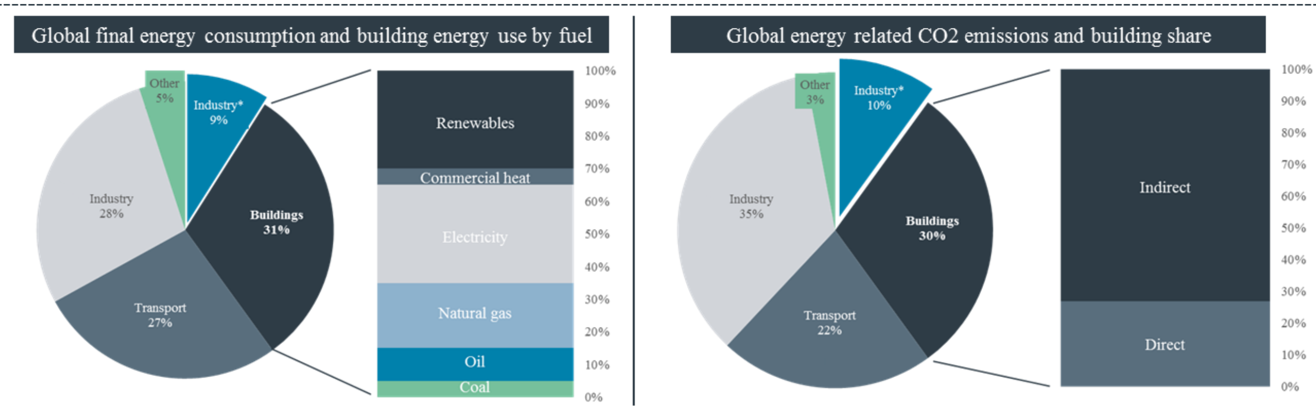
There seems to be a trade-off between pure retail- and logistics properties due to the increasing importance of e-commerce. Out of CBD located retail premises are being traded down for logistics space and online solutions. Retail space in high-street and top of the class shopping centers is expected not to be affected by these changes, as it serves as an omni-channel retail system as well as marketing for products.

5.1.5. Environmental factors

In a global context, cities are marked with consumption of more than two-thirds of the world's energy, and found to be the majority producer of greenhouse gas emissions (UNEP, 2016). Buildings, which is considered one of the main contributors to the environmental footprint of cities, has been highlighted in recent years with increasing pressure on reducing carbon footprint. With pressure from public authorities, the actors in the real estate supply chain will have to take part with a key role in mitigating the impact of climate change (UNEP, 2016).

Figure 28 illustrates to what degree buildings contribute to global energy consumption and the share of energy-related CO2 emissions. The building industry, including the entire real estate supply chain, contribute with energy and carbon footprint through fossil fuel combustion for heating, management of waste and wastewater, as well as leaks from refrigerants and through indirect emissions from electricity consumed (IEA, n.d.).

Figure 28: Left: Share of final energy consumption by industry. Right: Share of energy-related emissions (by industry)

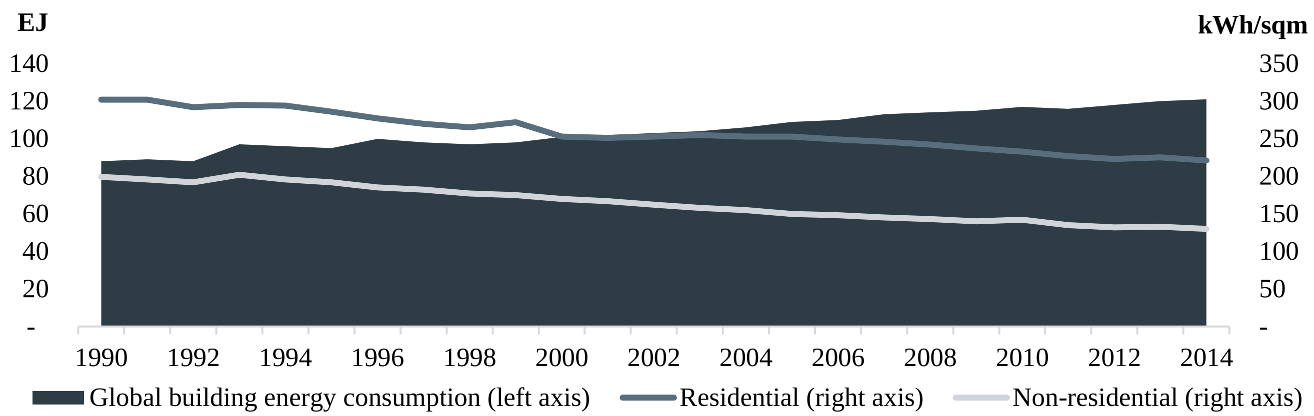


Source: own compilation based on UNEP (2016)

UNEP (2016) suggest that buildings and construction, including manufacturing of materials, accounted for more than one-third of global final energy consumption. If including upstream CO2 emissions, buildings account for nearly 40% of energy-related CO2 emissions. With underlying economic and population growth, as well as increasing importance of technological advancement, the demand for energy is expected to increase with 50% by 2050 and global building floor area could double within the same period. This is set to drive energy demand and related greenhouse gas emissions from construction further in coming years (UNEP, 2016).

Figure 29 show that global energy performance has improved in the last 25 years. By 2014, energy usage per sqm in non-residential buildings had decreased with 35% and the residential sector by 27% since 1990. Nevertheless, the total effect in the real estate supply chain had increased with 38%, indicating that the efficiency gains are offset by other factors. The increasing global wealth is typically related with increased use of energy in the residential segment through consumer demand for more space per household and more tempera, while the increased new sharing economy with more focus on technology emphasize higher demand for energy services and comfort at the workplace through e.g. temperature regulation (UNEP, 2016).

Figure 29: Left: global building energy consumption. Right: energy efficiency (right)



Source: own compilation, based on UNEP (2016)

On December 12th, 2015, the Paris Agreement was reached with 195 countries embarking to work together to reduce with global warming. The agreement was reached at a meeting called COP21, which focused on generating support for an international cooperative action plan on global warming. COP22 in 2016 outlined actionable and tangible steps to for how to meet the Paris Agreement with 88 Nationally Determined Contribution (NDCs) strategies for buildings, including Sweden as one of the nations (UNFCC, 2015).

The overall agreement from COP21 was to make sure global temperature increase does not increase more than 2 degrees Celsius in this century. A set of targets for the real estate industry has been set within the European Union; and the new high-level target is to reduce energy consumption by 20% by 2020. Specific for the building industry is that all new buildings in Europe must be nearly net-zero in energy by 2021, meaning that energy used are equal to renewable energy produced on site. Further, all EU member states are required to develop national renovation strategies every 3 years to provide an overview of national building stock and identify policies to stimulate cost-effective renovation (UNEP, 2016).

These legislations will put even more emphasis on new construction with higher standards, increased operating efficiency, and more energy friendly solutions. With this new pace of change, older properties will eventually stand in the cross point of either becoming obsolete, or in need of reinvestments to improve standards. With the speed at which the population is reinventing itself, this is then suggested to become more prominent over shorter life cycles in the decades to come.

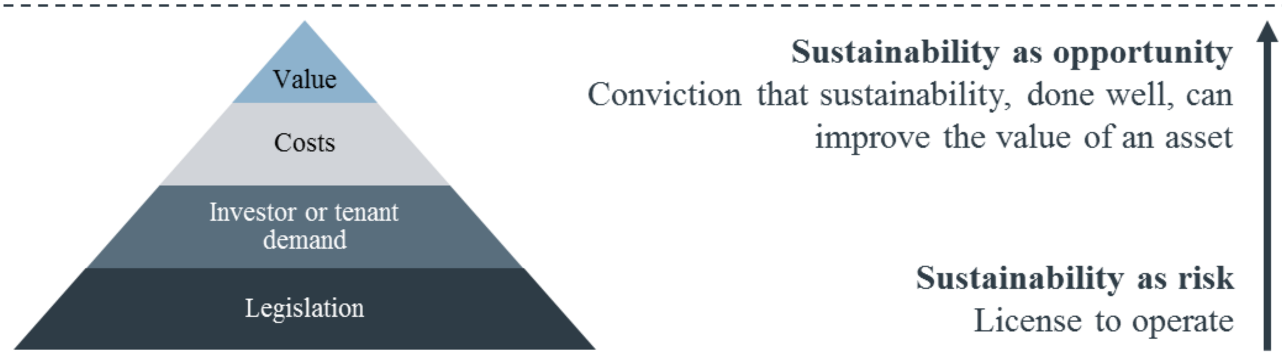
One of the initiatives in recent years to align real estate owners and entrepreneurs is the use of Building Energy Codes and Building Energy Certification, which can be used as supplementary marketing material towards potential tenants. Many of the larger creditworthy and attractive tenants with geographically diverse demand for real estate would often prefer one set of consistent rules for all properties within a particular country, or region, with the use of Building Energy Certifications as a possible measurement (Ulbrich, 2016). These corporations are employers who seek to hire and retain the best employees within a field, where it is found that as many as 90% of workers want to work for a company with a strong green reputation (Ulbrich, 2016). The result of this is that tenants have been willing to pay a premium to be in sustainable and certified properties (Ulbrich, 2016.

Hence, the change in environmental focus for real estate owners should become compelling with time. Next to rental income generated from tenants, property owners also add supplementary charges, including property taxes and operating costs as heating. With more efficient operations, real estate owners will become more competitive alone on total rental costs for tenants as the additional costs passed through to tenants decreases. Additionally, property values increase with improved environmental standards, as the potential buyer universe for specific properties could expand with institutional core investors, which are board-driven, low cost of equity and highly environmentally focused due to their exposure to the public (McKinsey, 2016)

Conclusion of environmental factors

New installations, and potentially faster pace at which properties are becoming obsolete are costly for property owners. But, as figure 30 illustrates, reinvesting funds from properties to increase property standards is potentially value enhancing as it can both improve demand and therefore rents, reduce property costs and therefore increase competitive position, and lastly potentially increase the actual property value in activating institutional capital as potential buyer. In the short- to medium term, the pricing of assets is not expected to be impacted (AXA, 2015), but is a potential eye keeper for governments to see how corporations react.

Figure 30: Opportunity through sustainability



Source: own compilation, based on (AXA, 2015)

5.1.6. Key drivers of change

Based on history, low and even negative interest rates would imply an outlook for poor growth and possible deflation. In these periods, asset values have usually also been low. The picture of Sweden and its economy does not represent these characteristics, but rather a country with steady employment growth, increased disposable income and growing production. In today's economy, in which globalization and therefore cross-border dependency marks a big part on a nations balance sheet, Sweden will not embark in an interest rate increase before trading partners, has been able to stabilize monetary and financial policies. Even though real estate prices have been affected by the low yields, rent levels are considered superior indicator for real estate return performance. In the long run, property returns are driven by rental growth, not by yields, as they oscillate without trend. The trend in rents is driven by economic growth, building/replacement costs and land and or planning constraint (Kempen & Co, 2016). As the current economic position of Sweden is considered strong and stable, there is no reason to believe that there will be a downward pressure on rents in the time to come.

The key drivers for real estate over the coming decades goes in parallel with how the society chooses to use properties. Firstly, population movements, both within national borders and cross-border, will put more emphasis on being active owner of real estate in the larger cities that decouple from a country in itself. A city with demographic growth that simultaneously are able to couple with the possibility of creating additional jobs will alone be able to drive prosperity. Secondly, technological advancements and the disruptive, innovation driven nature of business, mean that real estate products are being rethought in both form and provision (Gensler, 2016). The generations that are currently advocating the business environment are driven by human knowledge together with technology, presenting new forces in which society keeps reinventing itself at a faster pace. For a real estate owner, this highlights the importance of being active owners and able to react in an agile manner. As with the paradigm shift from closed offices to cubicles and hot-desking, the authors believe the new trend from strictly open offices to activity-based workplaces are the newest paradigm shift, with the belief that paradigms will erupt in a more rapid pace in coming decades.

Finally, the Millennials as well as the growing Generation Z (born after 1999) are both considered more actively involved in the surroundings, including the environment (Zemke et al., 2000). The current environmental regulation of real estate is not expected to hurt property values in the short- to medium run, but the authors expect that with younger generations becoming the majority of the society, property owners need to align with more environmental friendly solutions that can benefit both real estate investors and tenants. The authors expect that property owners who are already preparing for these changes in the regulatory environment and aligning with the "new normal" can generate superior returns.

5.2. Porters Five Forces

Michael Porter, a Harvard Business School professor, has spent his long-time career on analyzing strategies and competition. One of the most important aspects of his research, both admired by scholars and practitioners, was that he embodied that the goal should not be to enter an industry or sector with the sole purpose of competing against established firms, as this would only transfer wealth from the internal competitors to externals. Porter urged that one should research the attractiveness of an industry, and enter an industry or sector, if there are any "openings" in the competitive landscape (Duval & Stachenfeld, 2016)

One of his most important papers practically dictates how practitioners think of competition and strategy. In his paper *"How Competitive Forces Shape Strategy"* (Porter, 1979), he introduced a framework with five factors to consider when evaluating the attractiveness of an industry. These five factors, broadly considering the power of participants in the eco-system of an industry, illustrate competitive forces and their impact on prices, operational costs and investment costs required to compete. These five factors therefore have a direct link to the financial statements, including both the running profit generation and the capital structure of the balance sheet.

Real estate as an eco-system covers many sub sectors, ranging from real estate construction in inception phase to transaction advisory and demolition firms. To be more specific in this analysis, and limit the range of forces actually considered relevant for the specific companies in the analysis, the relevant sub-sector within real estate that is examined in the analysis is regarded as real estate owners.

5.2.1. Threat of new entrants

Generic theory applied to real estate

The theory as outlined by Porter indicate that the degree of entry barriers to an industry could have profound impacts on return prospects. The theory highlights that barriers to entry depends on possible scale advantages in the market, product differentiation & identity, and capital requirements (Porter, 1979).

Of generic theories, capital stands out as important. Unlike technology and light asset sectors, real estate is able to depict most of the values through the book value of assets. The prospects of return are dependent on the ability of assets to deliver cash flow, reflected through fair value reporting of properties. With the asset intensity of the real estate sector, it follows that extensive capital is required to enter the market. It is possible to enter the market through a leveraged capital structure, however, the level of debt limits the flexibility of industry participant. For example, a relatively conservative, but leveraged position was found prevalent for the peer group in the financial analysis (section 6.6.). Barriers on capital will be evaluated in section 5.2.2, however, the initial need for capital is high, creating barriers to enter the market.

The possibility of product differentiation and creation of a strong brand identity create certain barriers for other participants to compete (Porter, 1979). For real estate companies, it is difficult to obtain a competitive advantage based on these intangible assets. The product delivered by property owners is mostly generic in providing space for tenants. Even though quality varies and specific location is close to inimitable, the effective product delivered is undifferentiated, lowering entry barriers. In the current environment, property owner's identity is not of importance for tenants. Towards capital providers, the brand could be of importance, as property owners holding a strong record of accomplishment and solid balance sheets is considered more attractive both towards equity and debt investors. Nevertheless, these aspects do not increase entry barriers.

The relevant costs and possibilities of scale advantages is discussed in more detail in section 10.2 as well as the analysis of costs in relation to owned sqm. The findings suggest that there are scale advantages for property owners. Except for property maintenance and administrative costs, all costs in relation to consumption in properties are passed through to the tenants. Property maintenance is expected to increase one-to-one with the number of sqm owned, as the average maintenance costs is not believed to be reduced as number of properties increase. In terms of central administrative costs, figure 64 in section 10.2. indicating diminishing scale to a certain level of sqm, where after it gradually levels off, in line with the theory of diminishing returns to scale. The scale advantages create entry barriers, with larger property owners being able to attract with lower rent levels due to the lower cost schedule.

Public to private ownership

The public authority's influence real estate through both being a major owner of property and land, as well as their intervention in zoning plans and building requirements/constraints. This is to a large degree representative in Sweden, both on local and central level.

In Sweden, 18 municipalities are included among the 50 largest property owners in the country, accounting for 38% of the space. Including the public sector at central level, it accounts for 20 of the 50 largest with 43% of the total space among top 50 (Datscha, 2017). The properties owned by municipalities and government is mostly used by authorities or counties, and does not limit anyone from entry into or expand their market.

The past 5 decades has highlighted the increasing pace of deregulation. Public authorities have over time been selling land and properties to private investors who intends to add value beyond what public authorities are able to do as property owners. The value to public authorities from divesting real estate is that new owners add a purpose for properties of which could enhance the development of regions and cities (CBRE, 2011). This increased supply of properties for sale has created opportunities for new participants in the market with properties and land with a wide range of risk profiles. The reasoning for disposal of properties by the public ownership has shifted over the recent decade where it has become an element in budget deficit-reduction plans (CBRE, 2011). The properties variation in quality and hence appeal to prospective investors has again created certain opportunities for new owners due to significant room for improvement (CBRE, 2011).

The public authorities are though still able to control and navigate in the real estate market. Through regulations in zoning plans, the government are able to restrict the use, height and materials used in new constructions or redevelopment of existing properties. The risks involved with these development projects are high and would create barriers in terms of both legal and technical knowledge. Nevertheless, these services can be purchased from dedicated consultancy houses with specific knowledge in both handling authorities and planning development projects in line with requirements, limiting barriers to some extent (Deloitte, 2015).

Increasing cross-country knowledge and alternative routes to market

Before the turn of the century, domestic participants held most activity within the sector in the Nordics. The limitations for foreign investors related to the importance of local presence, knowledge to culture, regulatory implications and networks. With increased mobility between global regions in the recent 20 years follows a steep learning curve in global markets, including the real estate landscape.

At the end of 2015, the Nordic investment market constituted of between 10% and 20% of total European transactions, which is a fivefold increase from 2009. Due to the relatively stable political situation in the Nordics and an attractive profile in terms of growth prospects relative to similar European counterparts, the foreign investment activity has been an important contributor to increased number of transactions. Most of these investors are new to the market, and increases the competition directly through reduced direct returns from properties at acquisition (CBRE, 2016b; Catella, 2016).

Some of the foreign investors are making direct investment in the Nordics with established property management teams present, but the majority are either investing through the general partner structure which is growing in popularity. The last decade has seen the rise of alternative ways to invest in real estate with secondary investments through private equity firms of which only focus on real estate investments, as noted in section 3.1. This safeguards foreign investors as the Nordic general partner teams have local knowledge and networks. Additionally, foreign investors are able to outsource asset management duties to dedicated asset management firms, which have grown significantly over the last decade (Cushman & Wakefield, 2013).

The increased trend of foreign investments in a region is firstly affecting properties with secured income in prime locations. The observed dynamics is that prices on such objects increases with higher competition, reducing investment yields. Yields are compressed downwards to levels where the risk/reward equation does not hold up anymore, leading to shifts outwards on the risk curve to investment in secondary locations and properties with higher risk (Union, 2016). The current low interest rate environment creates an investment landscape in which there are few alternatives to the equivalent of fixed income investments, which will increase the allocation towards real estate in the coming years (PWC, 2014), and especially from institutional investors. This will further enhance the competitive forces and push yields down, similar to the movements seen in fully competitive markets.

5.2.2. Bargaining power of suppliers

Undifferentiated services diminish supplier power

Based on the scale of in-house operations and size of the property portfolio introduces the choice for property owners to either contract services externally or build in-house capabilities and serve customers through this supply chain. The most commonly used external services by property owners are related to letting and maintenance of properties as well as construction contractors (Marketline, 2014, 2016). These suppliers are all part of highly professional and competitive markets (Marketline, 2014, 2016).

If the operations include development, either through construction of new builds, reconstruction and/or expansion of existing properties, services are often contracted to professionals within the construction sector. This market is competitive and fragmented (Marketline, 2014). There is a large degree of smaller sized construction companies, relying heavily on receiving tendered projects. As price is an important factor when in tendering, the smaller sized constructors usually push prices down. These mechanics suggest low bargaining power for the suppliers. In addition, offerings by contractors are largely undifferentiated services, increasing the internal competition within the construction sector (Marketline, 2014, 2016)

Other suppliers, more related to ongoing operations, are letting agencies. These agencies are paid for managing operations, but the major cost for property owners often kicks in based on a success rate, meaning that the agency receives full payment based on new signed leased contracts (Marketline, 2016). Additionally, the break fee for the owner to discontinue the letting arrangements are small, meaning low switching costs. The market for letting agencies is considered professional and large with both domestic companies and international branches observed in most western countries (Keller Williams, 2011). Even though the product they supply is to large degree undifferentiated, they can create edge and are believed to charge higher prices based on historical performance and their rolodex. Based on the above, the general bargaining power is though considered low.

The final key supplier of recurring services to real estate owners is facility management providers. These services can be insourced, but tend to be outsourced at varying degree (Marketline, 2016). Facility management arrangements can both relate to certain projects and long-term recurring maintenance programs. Most companies therefore initiate an overall agreement with a company for several properties, and for a longer period. The long-term contracts are considered attractive for the suppliers, leading to price pressure on long contracts (Marketline, 2016). It is believed that there are switching costs on long-term contracts, which can be of significance if the property owner assign facility managers to specific properties instead of the entire portfolio. If a property owner sells the property through an asset deal, the facility management contract will typically be terminated. Companies with larger portfolios to assign facility management contracts are therefore suggested to have an advantage in the negotiation for these services.

Market for supply of credit as a source of capital

As mentioned in 5.2.1., capital requirements are high, for both entry and expansion. The large upfront payment for accessing the rights to properties and their existing and possible future cash flow, often result in participants using credit markets as a source of capital. The median loan to value (LTV) of the Swedish listed real estate companies is 54% (Nordea, 2016), illustrating that this is not only the case for new entrants, but established industry players as well.

The financial crisis that erupted in the late 2008 had profound impact, and essentially incepted through credit markets. Financial institutions grew larger based on increased leverage on their balance sheet. In the aftermath, several institutions reviewed the regulations within the banking sector. The supervisory pressure is particularly high in the United States and Europe, which have seen a spate of regulations in the areas of capital, governance, market infrastructure, financial crime and taxes, accounting and disclosure of remuneration (Capgemini, 2014). The renewed supervision and regulatory requirements post financial crisis impacted credit markets through lending rates, banks willingness and possibilities to issue new debt.

The Basel committee, set up by the Bank for International Settlements (BIS) has resulted in increased capital requirements, buffers, and liquidity requirements. This will affect the return on equity for banks negatively (Capgemini, 2014). The immediate effect of these requirements is that banks will have to lower high-risk weighted parts of portfolios on the balance sheet, resulting in a cut in lending volumes to a vast amount of sectors, including commercial real estate and corporate lending (Capgemini, 2014). The regulations overall are directed towards reducing the risk-taking by banks and impose restrictions on credit lending. The availability for credit will therefore limit buyers longer out on the risk curve, while it is suggested that prime properties with a core profile would not see any larger restrictions on credit capital imposed, as this would not increase the risk-weighted average profile of a bank's portfolio.

Regulations have led to higher capital buffers and increased the burden of compliance in banks, which has increased the overall cost of funding for banks (Capgemini, 2014). In addition, the higher capital and liquidity requirements have an economic cost and affect the borrowing cost of funds for banks. The loan rates have to take into account the higher cost of capital and those of other sources of funding. To overcome the increased economic cost and rising cost of credit, banks are charging higher rate of interest on lending, which enables banks to increase their lending margins (Capgemini, 2014).

The banks cost of lending, and willingness to issue debt is offset by the artificially low interest rates in the markets and alternative routes to credit funding are widening. Bond issuance in the public markets and from institutions, such as pension funds, create renewed competition and put a cap for the banks cost of debt. Again, the lack of good alternatives in the more secured investment market means that there is an increasing interest for debt financing transactions (Nordea, 2016). This is however partially in favor of the larger, stable, and established players in the industry, who is therefore given an advantage to new entrants. Nevertheless, the increasing amount of institutional capital directed towards equity investments in real estate will not be negatively affected by this, as institutional often come in with a generous amount of equity in relation to debt, with their lower cost of equity requirements and core profiles.

5.2.3. Bargaining power of customers

Transparent lending market

Tenants source space either through in-house functions or via letting agents. Property owners and managers are targeting these tenants by marketing the space, either in-house, or through letting agents. The marketplace in which tenant and property owners meets has, primarily due to the technological evolution and the size of the online classifieds market, become highly transparent. Real estate brokerages and advisors can through in-house capabilities and internet searches obtain what levels tenants are expecting for the demanded space. This is usually consolidated into a range of different market reports, either limited to paying customer groups, or free and accessible for everyone.

With the dynamics of how the supply and demand side are being informed, competitive market prices are being reached within different geographies, segments and property standards. Similar to the supply and demand dynamics of the transaction market, equilibrium is being reached based on a vast amount of public information and the prospects of value creation. This again suggest that the marketplace is highly competitive.

Property owner and tenants' position in negotiations

The common standard for office and retail space is that property owners and tenants balance the relationship between duration and consideration of a lease agreement. A property owner sees more value in long leases due to the security of income generated from the asset. With the transparency mentioned in the market, property owners will attract and incentivize prospective tenants with discounts to market rent, either as a one-off, or a general lower running rent during the lease agreement. This suggest that tenants are well positioned in lease negotiations initially, with the power they obtain in signing long leases at a reduced cost.

On the other side, in signing a long lease, the tenant commit to the space for the entire length of the lease agreement, reducing flexibility and increasing future risk in that the tenant might outgrow the space. The switching cost is therefore considered high, as tenant will be in a low powered position when negotiating an early exit to the lease agreement. Additionally, remuneration from the tenant in relation to degradation of the space during the lease term should be included in the equation. Most space is improved by property owners prior to start of the lease term, and next to normal wear and tear, tenants will have to pay for the new upgrade of the space. Even though this does not result in shift of power in bargaining, all else equal, tenants are incentivized to stay and sign a new lease for the space (Manley, 1988).

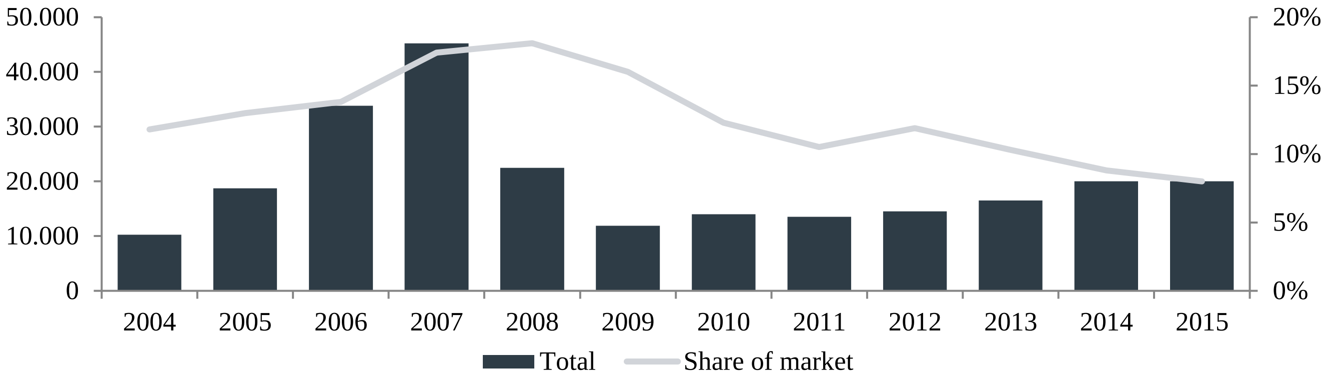
5.2.4. Threat of substituting products

From owning to renting

Tenants has the option of owning instead of renting the properties they use. But, with the uncertainties related to owning often leaves corporations with the more predictable cost i.e. rent. If a corporation was to analyze the alternative cost of owning to renting, they would have to predict interest rate movements, length of mortgage agreement and incorporate the running costs of owning the property (Marketline, 2016). As companies become more focused on core operations, real estate activities tend to be less prioritized, adding more demand in the letting market (CBRE, 2015a)

Previously, corporate real estate asset disposals such as sale and leaseback transactions was seen as a means of raising capital, and therefore compete with other alternatives (CBRE, 2015a). This could explain the increased corporate asset disposals from 2004 to 2007. With the current low interest rate environment, corporations are able to finance themselves in cheaper markets, resulting in less incentive for sale of properties. Corporate asset disposals have increased every year since 2009, but contribute relatively less to the total transaction. It is suggested that the growing trend reflects a desire to fund change in the corporation rather than raise capital (CBRE, 2015a).

Figure 31: European corporate property disposals 2004-2015



Source: own compilation, based on CBRE (2015a)

Through corporate disposals, corporations are able to motivate and fund new long-term strategic plans as well as manage occupational flexibility easier (CBRE, 2015a). Additionally, many of the corporate properties has been in the hands of corporations for decades and is outdated, both in condition and environmentally. With the focus on environmental footprint, corporate disposal and following letting of newer space could be an efficient maneuver to improve the company's environmental footprint. Offloading of older properties will also reduce uncertainties related to potentially growing maintenance costs of holding the property. With these trends steadily growing, it is expected that the threat from corporations switching from owning to leasing will be reduced significantly in coming years.

Pace of reinvention, technological progress and culture

As mentioned in 5.1.3. and 5.1.4., society is changing rapidly. The increasing size of millennials in the workforce is influencing the way we use space. The new generation of working professionals highlight the growing trend of urban life, flexibility and mobility. The gap between how the established working professionals and newly graduates use technology is profound, where new technologies will disrupt both the need for office, retail and logistics landscape.

The current business climate has supported a new wave of start-up companies. The success rate of these companies has grown, with some successful few becoming established and renowned companies. These firms are managed and often partly owned by young founders, and often recruit the similarly candidates due to their initial fundamental knowledge, and daily interaction, with technology, supporting productivity for businesses (Catella, 2017). Furthermore, structure of logistics will change following e-commerce penetration leading to more demand for urban logistics and less demand for non-high-street retail space as outlined in section 5.1.4.

Even though these trends are prevalent, society are still in the need of building space, either in the form of office, retail or logistics. There are few to none substitutes that does not include a building as the basis. The use of office and retail space will change rapidly in coming decades in line with trend in the previous decade. Those property owners who are able to react in an agile manner will be able to continue to return value to shareholders. It will become even more important to be active as a property owner in "growth cities" instead of "growth countries", as cities are able to serve its own market, and channel its own marketing towards companies, both growing population, business activity and retail trade.

The overall assessment is that e-commerce is the largest threat to demand for retail space, and can potentially create obsolete space. Within the office market, the trend point towards a growing need for flexible and open office solutions, and preferably with co-working facilities. This is though not a risk for creation of obsolete space, but rather a warning for property owners to adapt towards meeting preferences of companies, and be more proactive in terms of creating space specifically designated for a style of company or industry.

5.2.5. Rivalry among existing competitors

The conditions needed for a market to be considered perfectly competitive are: 1) no single player influence pricing and production; 2) homogenous products; 3) full transparency about product and price; 4) one price in the market, prevailing solely from supply and demand; and 5) freedom of entry and exit (Parkin, 2012).

A perfectly competitive market is not achievable in the real world, where companies are trying to differentiate products and gain market share. Nevertheless, the characteristics of the real estate market seems to be very close to a perfectly competitive market. The industry is fragmented with a handful of large property owners and a long tail of small players, were the larger players only control a moderate share of the total market. Additionally, the market in which property owners trade assets are considered highly transparent with public registration of ownership and high availability of recent property prices, leads to a competitive environment driven by observed market prices. Furthermore, the same logic is driving the competitive environment in the rental market.

Due to scale in administration costs, large owners achieve lower production costs, and the capital intensity of the industry is leading to high entry and exit barriers. However, many of the characteristics of the market points toward a market that is highly competitive. In a perfectly competitive market, a firm can make abnormal profits in the short run, while in the long run, no profits can be made (Parkin, 2012).

5.2.6. Assessment of overall competitive environment

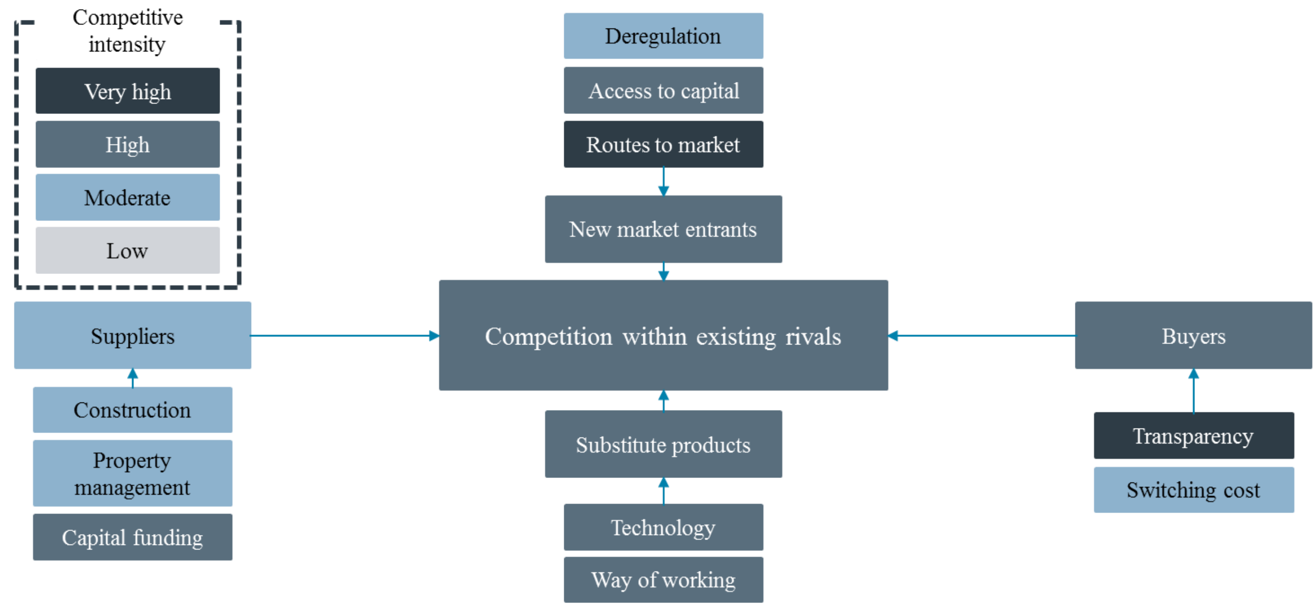
The marketplace for property ownership is relatively unique, in being highly competitive while at the same time a high-input market driven by asset intensity, creating entry barriers. This alone should limit any potential pressure from competition outside of the current market. However, the deregulation and turn from public to private ownership of both properties and land enhanced the creation of a singular private sector consisting of constructers and owners of properties. With following focus on specialization and furthermore on core operations, property ownership segregated and rapidly became a stand-alone sector, becoming highly competitive with companies fighting for market shares in the form of sqm ownership.

Fueled by the high level of transparency between the supplier, lender, and property owners, real estate has been, and always will be, a competitive market. The authors believe that the dynamics of the supply and demand side is close to a perfectly competitive market, in which case theory suggest that no profits are being amassed by the producer. Conflicting with this hypothesis is the property owners proven shareholder value creation, with varying results from booms and busts dependent on timing and cyclical trends. This then suggests that there are competitive forces in the sector, in advantage of the property owner.

The high level of competitive pressure has reduced former competitive advantages leading to a purely price driven competition. The current low interest rate environment and aggressive credit market the sector is exposed to now has created excess returns for property owners through high cash-on-cash returns from leveraged positions across all sectors of the real estate market. With a growing capital base, low cost of equity investors will further enhance competition for prime land and properties with safe returns, which increase prime property values, but also diminish returns.

With the increasing speed in which individuals are reinventing themselves, excess returns in the future is expected to be created by the real estate providers who can meet rapidly changing human needs through both being agile and flexible. Similarly, property investors need to service the particular demands erupting from the knowledge economy, and prepare for a digital transformation of society, urging people urbanize and further drive the rise of regional- and main-cities that will become even more important economic powerhouses. Even though real estate is a depreciating asset, land is not. The scarcity of unused land, and increasing investor focus on urban areas, highlight a mismatch in the demand and supply side, where it is expected that urban land and property values will increase until potential owners see value being destroyed. The shift in value creation then stems from asset management activities, or exploitation of new unseen property markets, both geographical and in the sense of user concepts.

Figure 32: Assessment of competitive forces



Source: on compilation, based on Porter (1979)

5.3. VRIO Analysis

VRIO, introduced by Jay Barney and William Hesterly (2006), is a revised framework based on the VRIN model by Barney (1991). The model is based on the well-known resource-based view (RBV), which in contrast to the PESTEL and Porters Five Forces framework focus on how the firm's internal resources and capabilities lead to competitive advantage. This approach with analysis of competitive advantage implies that there are fundamental assumptions in the dynamics of a firm. The two vital assumptions of this framework are 1) heterogeneity in resources held, meaning that different firms may possess different bundles of resources and capabilities, and 2) resource immobility, meaning that the differences in resources and capabilities among firms are long lasting, because it is assumed to be costly to develop or acquire certain resources or capabilities (Barney and Hesterly, 2006). The VRIO framework entails four distinctive constraints that needs to be encountered by a firm to obtain sustained competitive advantage, which are also the bases for this analysis (Barney & Hesterly, 2006):

1. **The question of value**: Does a resource enable the firm to exploit an environmental opportunity, and or neutralize an environmental threat?
2. **The question of rarity**: Does only a small number of competing firms currently control a resource?
3. **The question of imitability**: Do firms without a resource face a cost disadvantage in obtaining or developing a resource?
4. **The question of organization:** Are a firm's other policies and procedures organized to support the exploitation of its valuable, rare, and costly-to-imitate resources?

The connection from the VRIO framework to the RBV model is the link and focus on resources and capabilities controlled by a firm as sources of competitive advantage (Barney & Hesterly, 2006). Resources are defined as the tangible and intangible assets that a firm control and that it can use to conceive of and implement its strategies (Barney & Hesterly, 2006). The capabilities are a subset of a firm's resources and defined as the tangible and intangible assets that enable a firm to take full advantage of the other resources it controls (Barney & Hesterly, 2006). Neither resources nor capabilities alone present the opportunity to create sustained competitive advantages for a firm, but the combination of in-house capabilities create the opportunity to enable value from the resources.

These resources and capabilities can be divided into four broad categories: financial resources, physical resources, individual resources, and organizational resources. Financial resources cover the entire landscape in which a company holds liquidity and are able to generate earnings for distribution, or reinvestment. Physical resources include the ecosystem of needed plant and equipment, geographical presence and access to needed materials to keep operations. Human resources relate to the in-house competences driven by judgement, relations and insight, which usually stems from training and experience. Organizational resources are an attribute of groups of individuals, including formal reporting and hierarchy structures, internal controlling platforms and coordination systems. (Barney & Hesterly, 2006).

For a property owner, investment properties on the balance sheet represent the core of the operations and is the main resource needed to compete within the industry (ref. Section 3.1.1). Whether a property owner is able to extract value from this asset depends on a combination of understanding properties and their needs, and organizing the company in a way that safeguards investments, to prove professionalism towards stake- and share-holders. A range of factors has been assessed in relation to this, with main resources and capabilities presented below.

5.3.1. Assessment of resources and capabilities

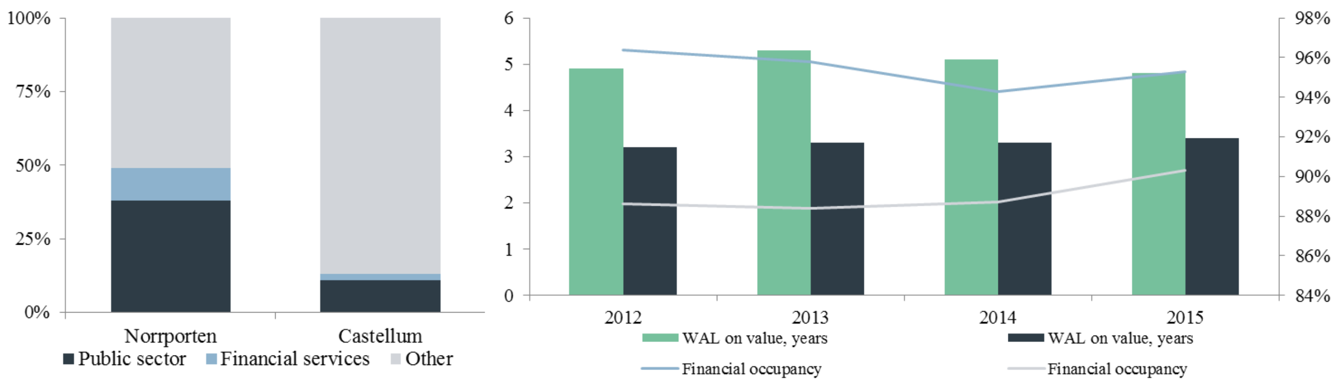
Property management

For Norrporten and Castellum as property owners, it is key to maintain high occupancy rates and secure operations through establishing sound relationships with contracted tenants as well as presenting a professional profile towards new prospective tenants. As figure 33 illustrates, both companies have been able to generate stable earnings from operations in the previous 4 years.

Norrporten has been operating with an economic occupancy (contracted rent above absolute rent potential in the portfolio) around 95% and a weighted average lease duration on current rent (WAL) stable at around 5 years for each year. Additionally, Norrporten had 50% of the rent at year-end 2015 tied up to the public sector and financial services companies. Especially public sector tenants are viewed as a good covenant for the property owner with limited default risk. The fact that Norrporten has been able to maintain a high occupancy rate, and similarly a long WAL on rents, illustrate that they are able to renegotiate lease contracts with current tenants, or in case re-let space to new tenants within a short timeframe. As concluded in 5.2.3., the competition in the leasing market is high, and the solid track-record of Norrporten suggest that tenants are pleased with their premises and the facility services as provided by Norrporten.

Castellum has a lower occupancy rate, and similarly a lower weighted average lease duration on current leases. Nevertheless, both the financial occupancy rate and WAL has marginally increased over the last four years, likely caused by improved management of the portfolio. Castellum's tenancy mix is more dispersed than Norrporten's, which is assumed to be caused by a higher diversification in both type of property and geography.

Figure 33: Left: tenancy split. Right: occupancy and WAL (2012-2015)



Source: own contribution, based on annual reports (2013-2016)

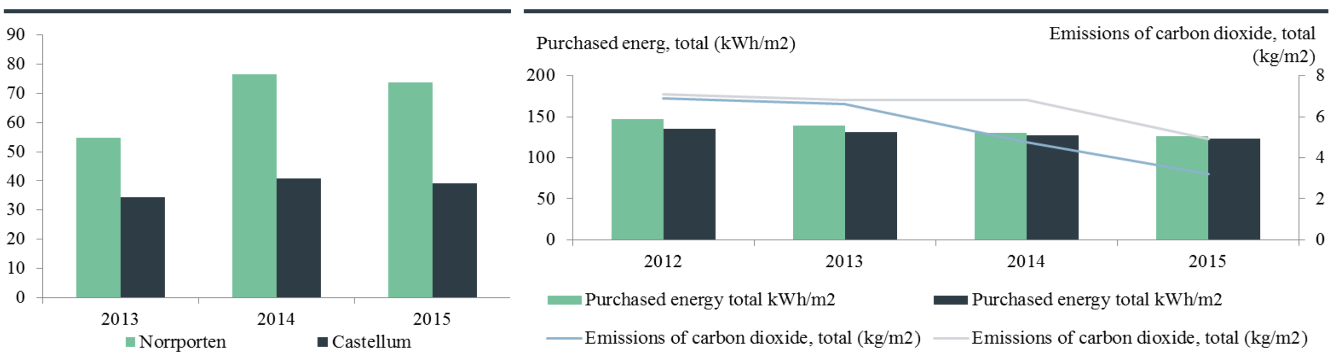
Most of the variable operating expenses are passed-through to the customers as supplements to the rent, as it concerns the respective tenants' consumption of heating, water, electricity and other utilities (Castellum, 2016a). Nevertheless, the expense level is something the tenants take into account when negotiating leases on space, as it can be considered a key competitive advantage for the owner. Ceteris paribus, a more efficient property with newer installations and standards will demand less consumption in general, which will result in lower costs for the tenant. As discussed regarding environmental factors in section 5.1.5., some tenants have become more perceptive of their carbon footprint, why environmental friendly properties are increasing in demand. Figure 34 illustrate how the cost of purchased energy and emissions of carbon dioxide has been declining for both Castellum and Norrporten. The profile for both companies illustrate decreasing cost of energy per sqm, and reduced emissions of carbon dioxide per sqm. Castellum had as of year-end 2015, 114 environmentally certified properties, representing 20% of the total portfolio (Castellum, 2016a).

Figure 34 to the left illustrate running maintenance cost per sqm for both companies and shows that Castellum used 50% less on running maintenance compared to Norrporten. This is surprising to the authors as Castellum's portfolio was perceived to be more similar to a value-add strategy portfolio (ref figure 2), which would typically result in higher running maintenance. The asset quality and standard of the portfolios was discussed with Erika Olsén (Appendix 10) in relation to whether the focus on ESG investing for institutional investors (The AP Funds) meant that Norrporten held a more environmentally friendly portfolio, and if this was important:

> *"We could see that Norrporten had put effort in having a sustainable portfolio. However, Castellum has also been doing this in very high levels in recent years. The thing is that we might not have communicated this to a large extent to investors. If Norrporten did not have focus on sustainable properties, it could rather have been a problem"*
>
> - *Erika Olsèn, CIO Castellum, interview, March 30th 2017*

The lower levels of Castellum indicate that they maintain the standard of their properties with less funds, benefiting owners. The authors' question whether the higher maintenance costs of Norrporten could be related to preparing Norrporten for an exit, i.e. to decrease economic vacancy rates by increasing running maintenance.

Figure 34: Left: maintenance costs per sqm (SEK per sqm). Right: sustainability measures



Source: own contribution, based on Castellum (2016a) and Norrporten (2016)

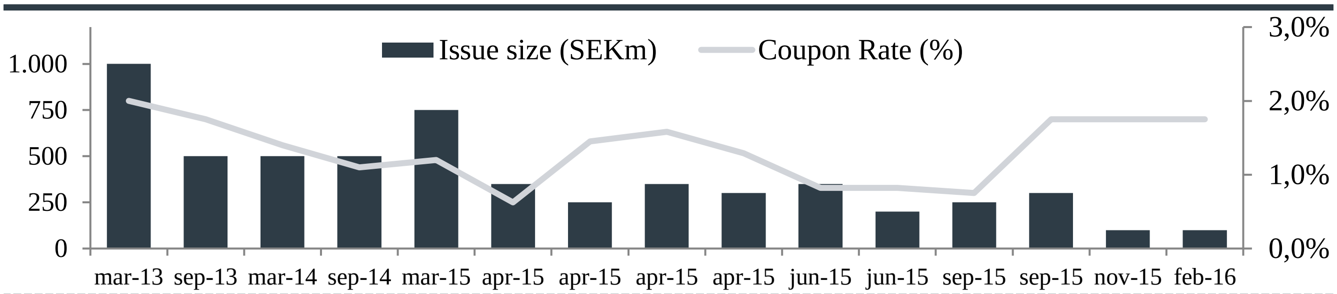
Lower maintenance costs at Castellum paired with the environmental friendly profile of both companies is expected to represent a good basis for integration of the companies due to small differences and possibilities for best practice sharing. The combination of in-house knowledge of technical property standards, relations to different groups of tenants and environmental profile could enhance exploitation of new opportunities, and even neutralize from possible shifts new regulation and shifts in demand related to green buildings. The capabilities of the companies are however neither rare nor imitable as there are leading external consultants within all fields with this knowledge and network that would be available to everyone who could afford it. The cost of creating more efficient and environmental friendly space is a barrier, but as discussed in 5.1.5., the payoff time is short due to cost efficiency of environmental friendly space. Both Norrporten and Castellum are well positioned to exploit the opportunities that erupt, with special emphasis on their local expertise in respective regions through local offices.

Creditworthiness

The capital intensiveness of real estate investing has been highlighted throughout the thesis, and it serves as an important tool for property owners. Prior to the financial crises in the late 2000's, debt did not offer the same value creation potential as today with direct yield on properties within the same range as interest rates, indicating a zero-sum game of using debt. Nevertheless, being able to access credit facilities is important.

Figure 35 illustrates the frequency at which Castellum issued bonds to investors between 2013 and 2016. In total, Castellum had 15 bond issues of different sizes with different coupon rates and maturity dates. The authors believe that these bond issues are a good representation of Castellum's ability to access credit and have credibility in the bond markets. Some of bonds are at fixed terms and others are floating with a margin above the market rate. Furthermore, shorter durations usually imply shorter coupon rates leading to the discrepancy in the coupon rates across the issued bonds. The aggregate size of the bond issues within this period was SEKbn 5.8 fully subscribed. In addition to these bond issues, Castellum have credit facilities with banks (Castellum, 2016a). The wide range of channels Castellum can access funding through, and the margins they are able to obtain the debt at, represent a solid reputation in the credit markets.

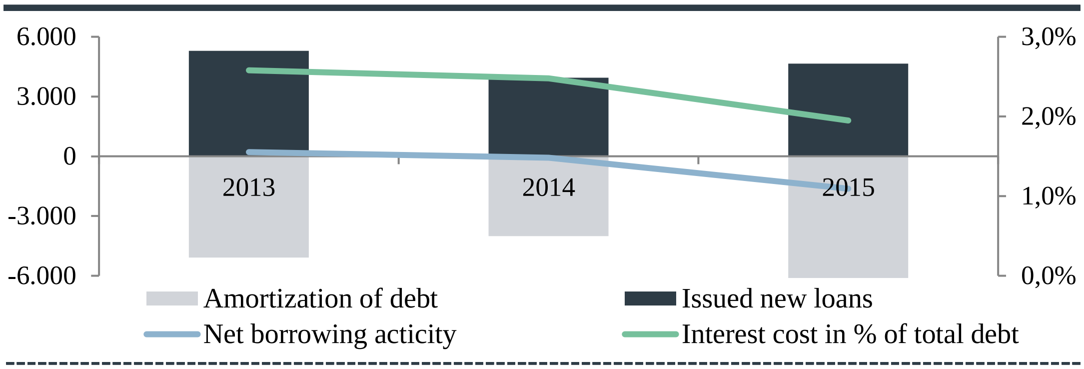
Figure 35: Castellum bond issues



Source: own contribution, based on Castellum (2016f)

The information on Norrporten's credit facilities is limited to the annual changes in new loans issued and drawdowns and fulfilment of existing loans as well as reported interest costs in the annual report and therefore difficult to analyze outside-in. Figure 36 represents how these parameters varied year over year in the three years between 2013 and 2015. In aggregate, Norrporten issued new loans worth SEKbn 13.9 and repaid loan facilities of SEKbn 15.4, indicating a net negative position in the three years. According to the annual report this is due to refinancing, and similar financing activities, assumed to be related to fulfillment of debt regarding divestment and discontinued operations in Hamburg, Germany. The interest costs in % of total interest-bearing debt were reduced, based on information from annual reports. This is no surprise, as the interest rate level in general has decreased in the period as discussed in section 5.1.2. Nevertheless, Norrporten have been able to obtain financing at market rates, confirming their access to credit.

Figure 36: Norrporten debt financing activity (SEKm) and interest costs (%)



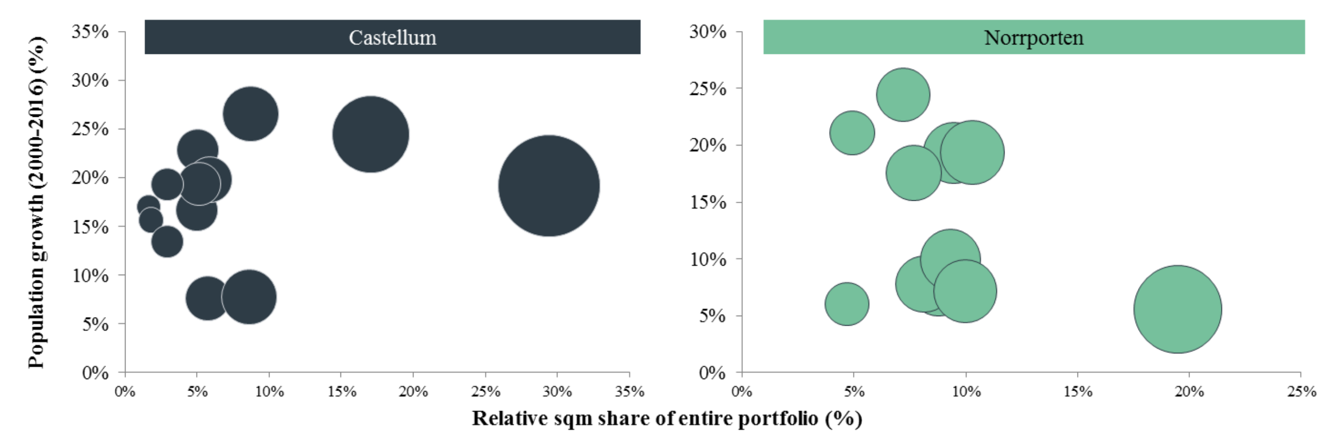
Source: own contribution, based on Norrporten (2016)

The credit reputation of the companies with both bond markets and credit institutions gives confidence in that Castellum and Norrporten will likely obtain capital if needed at fair market rates. This is valuable in the sense that it creates flexibility for the companies. Additionally, the opportunity to successfully call for capital in a relatively quickly manner could enhance the opportunity to respond to new business opportunities. Even though, it is neither rare nor imitable to be capable of obtaining financing. Historically, most large real estate companies in the Nordics have been able to retain earnings and fulfill debt obligations (e.g. the peer group as discussed in section 6.6.), and will be able to access capital similarly to Castellum and Norrporten going forward. The track-record in regards to fulfillment of debt obligations and access to new debt capital proves that their in-house capabilities are aligned and organized properly to take advantage of the credit markets. The CFO of Castellum has been with the company since 1998, suggesting that she has obtained good relations with necessary partners within this market. The management team of Norrporten is relatively new, as mentioned in section 4.2.1, but the authors expect that these are hired based on previous relevant experience and could add new capabilities to the combined company.

Market intelligence and tenant demand insight

Castellum and Norrporten's property portfolios are independently among the largest and most diversified across the Swedish listed real estate market. In the analysis of competitive forces in the industry, it was concluded that a single player will not be able to outcompete in the sector due to almost perfect competitive dynamics. Furthermore, to deliver strong recurring earnings and value creation for shareholders and stakeholders, property owners would need to react to how the population develops. The insights to what is demanded by tenants, both in regards to size, location, and functionality, is therefore important. Figure 37 illustrate the companies' relative areal exposure by area relative to population growth in the respective area. Figure 37 are based on specific municipalities and cities listed in the 2015 annual reports and does not show any trend. An analysis of how the portfolio weights in different areas changed annually from 2013 to 2015 gives confidence in that these exposures is representative to the key investment focus areas for both companies.

Figure 37: Geographical density to population growth (2000-2016)

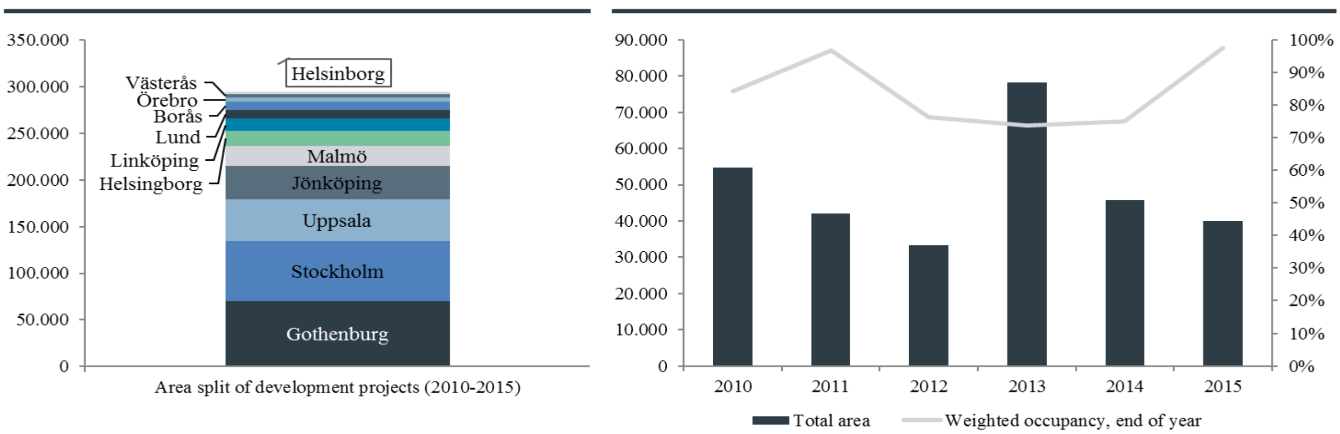


Source: own contribution, based on Castellum (2016a) and Norrporten (2016)

Figure 37 exhibit a similar diversification pattern for both companies with the largest exposure to the city where they are headquartered, i.e. Sundsvall for Norrporten and Gothenburg for Castellum. Gothenburg is among the fastest growing Swedish cities with 19.2% from 2000 to 2016, while Sundsvall had the lowest growth of all areas in the figure with 5.6% over the same period. The vacancy rate in Sundsvall was 4.1% and 44.8% of the public authorities (Norrporten, 2015), highlighting the importance of low risk from secured income.

The historical (completed) development portfolio of Castellum also proves their ability to meet tenant demand. The focus areas in their development program has been towards the fastest growing Swedish cities, as proven in figure 38 to the left. The three cities with the highest completed sqm are also the three fastest growing cities in Sweden (SCB, 2017a). Furthermore, figure 38 to the right illustrate that the economic occupancy rate has been high at the end of completion year for most years, indicating a relatively low risk development program.

Figure 38: Left: Castellum development portfolio. Right: Completed sqm and occupancy at end of completion year



Source: own contribution, based on Castellum (2011-2016)

The exposure Norrporten has towards Sundsvall in the north of Sweden could be a threat assuming regional economic activity and population growth is related. Nevertheless, as explained in section 4.1.1., Norrporten was established following the credit crisis with a strategic focus on northern cities. The relationships they have built, both towards public officials and local businesses is valuable as it represents continued access to low risk tenants. With almost 50% of rental income generated from public authorities in this area, they are able to limit threats in regards to the environment (Norrporten, 2015). Castellum has focused on building exposure in cities that holds attractive profiles in terms of population growth, and in strategic important locations, and as such being able to take advantage of and benefit from changes in the external environment. The attributions of both firms are to some extent considered rare, as it takes a large degree of experience to obtain market intelligence about the surrounding environmental forces. This again proves that it is properly organized within the firm, and will potentially be even more powerful in a consolidated firm with the consolidation of market knowledge from both companies, as well as relations to new ventures and authorities in new authorities can improve their overall position. The companies' capabilities complement each other as Castellum targets growth areas while Norrporten has a large and valuable tenancy network, as highlighted by Erika Olsén (Appendix 10). Nevertheless, these capabilities are imitable, as there are large research, consultancy, and public relation businesses with specific focus on the attributes as mentioned.

Summary of the VRIO analysis

As expected, based on the competitive forces in the industry, it is proven difficult to obtain any obvious sustained competitive advantage. Both Norrporten and Castellum hold important resources and capabilities that makes it possible for them to operate and deliver recurring earnings for owners. The analysis shows that the differences in company profiles could complement each other and create additional opportunities through a combination. Figure 39 summarizes the findings of the VRIO analysis.

Figure 39: Summary of VRIO

Ressource/ Competence	Valuable	Rarity	Imperfectly imitable	Properly organized	Competitive implications
Asset management expertise	X	O	O	X	Parity
Credit market credibility	X	O	O	X	Parity
Tenant demand insights	X	X	O	X	Parity

Source: own contribution

6. Financial analysis

To better understand Castellum and Norrporten in an external context and reveal the underlying differences between the two companies and other comparable companies, a peer group has been defined to benchmark the financial performance. To enhance comparability of the peer group and the quality of the analysis, the focus of the analysis is on metrics recommended by EPRA and common practice among research analysts. EPRA definitions follow explicit calculations based on IFRS reporting and is easily implementable for the peer group (EPRA, 2016). The underlying data for the financial analysis is provided in appendix (A5; A6)

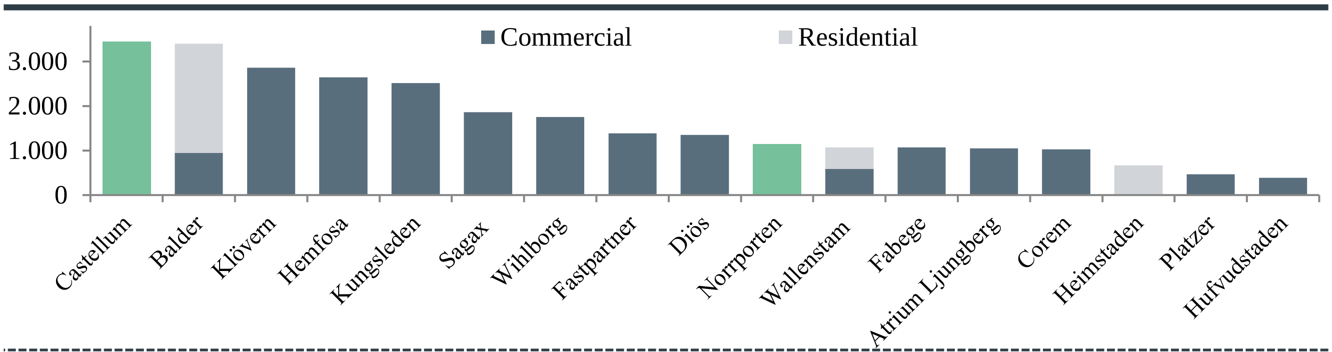
6.1. Definition and introduction of Peer Group

A peer group should have limited differences in risk for cross-sectional analysis as well as similar risk profile over time for time series analysis (Petersen & Plenborg, 2012), if similarity in risk is not ensured, the return levels will not be comparable and the analysis will not be relevant. The authors believe that it is vital to geographically limit the selection of peers due to the link between macro environment and real estate markets. To further limit differences in risk, the authors have sought to limit the peer group to similar geographical- and segment exposure within the Swedish market. The rational for this limitation is that different risk and impact from external events across residential and commercial real estate segments as well as in urban prime locations compared to small cities. This is exemplified by the vacancy rate in residential real estate in central Stockholm that is less likely to be affected by a change in the economic cycle compared to industrial real estate in Växjö as industrial property tend to house more cyclical businesses. The size of the real estate portfolio is relevant in terms of risk diversification across a range of tenants, and could be an underlying reason for differences in growth and risk metrics.

6.1.1. Size and segment exposure

Comparing all the listed Swedish real estate companies across size and segment, Castellum is the largest in terms of sqm together with Balder. Balder is though primarily exposed to the residential segment (Balder, 2016). The residential focused players as well as those that are smaller in terms of size than Norrporten has been rejected.

Figure 40: Size and segment all peers (Thousand sqm.)

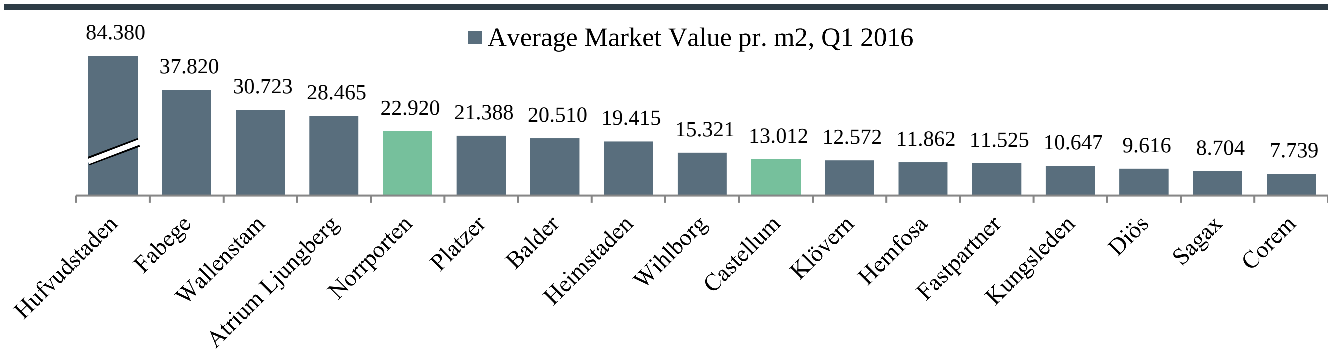


Source: own contribution, based on annual reports (2016)

6.1.2. Geographical exposure

To simplify the selection and not perform a detailed mapping of the full portfolios of all prospective peers, the average reported market value of the real estate portfolio per sqm is used to approximate how premium of the real estate assets are. For example, Hufvudstaden is a high street focused player in Stockholm (Hufvudstaden, 2016), where both attributions should be evidence of a low risk high value property portfolio. In addition to the companies rejected in 6.1.1., the authors have rejected those companies with average market value below SEK 10,000 per sqm. This leaves five potential peers: Wihlborg, Klövern, Hemfosa, Fastpartner and Kungsleden.

Figure 41: Average market value per sqm (SEK)



Source: own contribution, based on annual reports (2016)

6.1.3. Financial and operating leverage

Leverage is a powerful tool in real estate investing, and high leverage is common due to structuring that allows mortgages to be related to specific assets and thus limits the equity risk to the concerned asset (Geltner & Miller, 2007). Further, in a positive leverage situation were the borrowing cost is lower than the return on assets there is an increasing benefit from leverage due to the interest rate tax shield (Poorvu, 2003). Increased leverage is also associated with risk as the interest payments are a recurring cash drain that boost operating leverage and leaves less wiggle room and flexibility and could force a badly timed divesture if the cash inflow from rental income is reduced by any unforeseen event (Poorvu, 2003).

As discussed in the preceding section, risk is an important parameter when selecting a peer group, but the above discussion together with a relatively small variation in LTV for the potential peers is why financial leverage and financial risk has not been applied as a selection criterion when defining the peer group.

6.1.4. Selected peer group

Of the five peers selected on risk parameters, Wihlborg is rejected by qualitative review due to a concentrated geographical exposure to the Öresund-region including large exposure to Copenhagen (Wihlborg, 2016). Fastpartner is rejected both from a practical point of view as they neither publish financial reporting in English nor report in necessary detail (Fastpartner, 2016). In the authors opinion the residual three companies, Kungsleden, Klövern and Hemfosa reflect the best peer group possible for both Castellum and Norrporten.

Figure 42: Peer group

Peer group: Dummy

Peer company	History	Performance	Location
KUNGSLEDEN	• Long term owner focused on development of whole areas • Founded in `94, listed in `99 • 108 FTEs across 8 offices	• # Properties: 291 • Rental value: 2,746m SEK • Vacancy: 6.8% • Fair value of assets: 27.4bn SEK	• Key segments: Office, industry/warehouse, retail • Key markets: Stockholm Gothenburg, Malmö, Västerås
KLÖVERN	• Focused on offices and growth regions • Founded in `87, listed in `94 • 214 FTEs across 17 offices	• # Properties: 415 • Rental value: 3,182m SEK • Vacancy: 9.0% • Fair value of assets: 35.0bn SEK	• Key segments: Office, health care, edu., retail, industry/warehouse • Key markets: Stockholm, cities in east/central/south Sweden
Hemfosa	• Value creation through long term development and trading • Founded in N/A listed in '14 • 53 FTEs across 12 offices	• # Properties: 411 • Rental value: 2,768m SEK • Vacancy: 9.6% • Fair value of assets: 29.5bn SEK	• Key segments: 65% co-located public tenants, 35% office/logistics/warehouse • Key markets: Stockholm, Gothenburg, Oresund regions, Finland, Norway
CASTELLUM	• Development of commercial properties in growth regions • Founded in `93, listed in `97 • 299 FTEs across > 15 offices	• # Properties: 597 • Rental value: 3,690m SEK • Vacancy: 9.7% • Fair value of assets: 41.8bn SEK	• Key segments: Office, retail and industry/warehouse • Key markets: Stockholm, cities in east/central/south Sweden, Copenhagen
NORRPORTEN	• Focused on office and retail with central locations • Founded in `94, unlisted • 116 FTEs across 11 offices	• # Properties: 120 • Rental value: 1,900m SEK • Vacancy: 4.7% • Fair value of assets: 25.7bn SEK	• Key segments: Office • Key markets: Sundsvall and north region, Copenhagen, Stockholm, Helsingborg

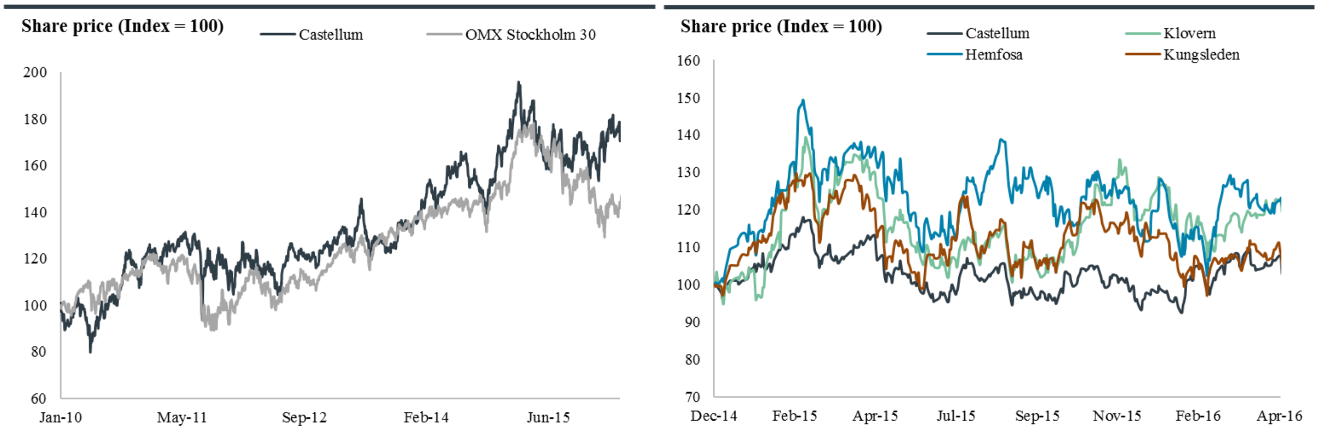
Source: own contribution

6.1.5. Long term share price performance for peer group

The long-term performance of the Castellum share compared to the overall Swedish stock market has been strong over the long-term on the back of the solid real estate markets ahead of the global financial crisis in 2008 and its quick recovery after the global financial crisis.

On a shorter, post-crisis term, the Castellum share has performed similar to the Swedish main index, OMX Stockholm 30 (Figure 43 to the left). Hemfosa was listed in 2014 and since then, Castellum has been performing in the weaker end of the peer group, also below long-time listed peer Kungsleden, however, with a catch-up prior to the acquisition of Norrporten[1] (Figure 43 to the right). The peer group's exposure to similar drivers and risks in the Swedish supports market its overall apparent correlation.

Figure 43: Left: Castellum relative performance to market. Right: Castellum relative performance to peer group

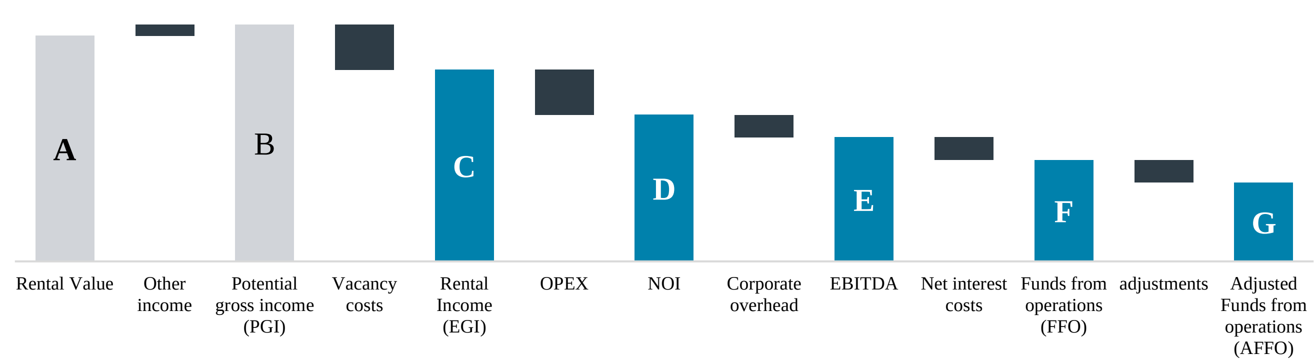


Source: own compilation, based on annual reports (2016), Factset (2017a-e)

6.2. The REOC financial statement

Figure 44 illustrates the main entries in a typical income statement for a real estate company, and the bridge between the different income and profitability measures with detailed description below based on Brueggeman & Fisher (2005) and Poorvu (2003).

Figure 44: Bridge between common real estate income statement entries



Source: own contribution, based on Brueggeman & Fisher (2005)

[1] For a thorough analysis of the performance of the Castellum share prior to the acquisition please refer to section 9.7.

6.2.1. Revenue measures

Real estate companies distinguish between rental income and rental value. Rental value (Point A) represents the potential rental income net of other revenues based on current market prices assuming no vacant space, but does not enter the profit and loss statement (P&L) for Nordic REOCs. Other income represents potential additional services that are charged on top of rent (Brueggeman & Fisher, 2005). If other income is of significant size, it needs to be investigated carefully as it often become an important profit driver due to high margins (Poorvu, 2003). The sum of rental value and other income represents PGI, the potential gross income (point B). Vacancy cost is the opportunity cost from vacant space, and should be based on a measure reflecting value of vacant space (EPRA, 2016). Rental income, also referred to as EGI, is the effective gross income (Point C) and represents the top line in the P&L for companies in the peer group.

6.2.2. Operating expenses

The difference between the rental income (Point C) and net operating income (NOI), (Point D), are the operating expenses directly related to operating and managing properties e.g. maintaining general building condition. The expense level varies with the size of the asset base, the number of units and locations and service level determined in the contracts and the building conditions. Castellum`s operating expenses can be segmented into general operating expenses, maintenance, ground rent, property tax, leasing and property management where general operating expenses is the sum of utilities, facility management, cleaning, insurance and rent losses (Castellum, 2016). Leasing and property management costs represents administration costs directly related to properties including for example rent collection, rent negotiation and accounting (Castellum, 2016). EBITDA (Point E) for real estate companies is calculated by deducting central administration costs from NOI.

6.2.3. FFO and AFFO

Funds from operations (FFO) is an estimate of the cash flow available for distribution to shareholders, and is similar to the earnings concept for industrial companies (Brueggeman & Fisher, 2005). FFO is calculated as EBITDA adjusted for net financing costs (Geltner & Miller, 2007). Recently, more and more real estate financial statement users have adopted adjusted funds from operations (AFFO) as a substitute for FFO, mainly to capture the cash flow effect from recurring capital improvement expenditures (Brueggeman & Fisher, 2005). Due to data availability, FFO is preferred to AFFO in this thesis.

6.2.4. Tax and depreciation

There are several taxes relevant for REOCs in Sweden as covered in section 5.1.1. Corporate rental income net of expenses is taxed with 22%, where expenses comprehend interests, maintenance, administration and operations with a general exception for interest on intra-group financing. Capital gains tax on sale of properties is calculated as sales price less tax value of the property and taxed with the corporate tax rate of 22%. Similarly, capital losses are deductible against capital gains on property and can be used to net out gains intra-group (DLA Piper, 2015). There are several minor fees and taxes levied by municipalities for residential property, and by the state for commercial and industrial properties, as well as land regulated for residential buildings or under construction. These taxes are in the range of 0.1%-2.8% of the tax value of the properties (DLA Piper, 2015).

Deferred tax

Deferred tax in the income statement is the change in the deferred tax assets or liabilities over the accounting year. Deferred tax liability is a very common item in the balance sheet of a REOC and relates to the temporary differences between book value and taxable value for investment properties, as the book value is measured at fair value (i.e. appreciated to market value), while the taxable value is subject to depreciation. The notes of the financial statement are further required to disclose reconciliation of the book value amounts at beginning and end of the period.

Depreciation

As investment properties are measured at fair value there are no depreciations of the investment properties in the financial accounts. However, initial book value for the investment properties in the balance sheet are measured based on the purchase price for the asset or the current book value if acquired through an SPV. If the asset is acquired through construction the construction and associated costs make out the initial book value. Depreciation in the financial statement for real estate companies is small relative to other industries and is mainly related to non-property fixed assets (Castellum, 2016a)

6.3. Accounting policy

Overall definitions

The following definitions and specifications are prevailing for the peer group and compared across the financial reports. Investment properties is defined as the building and land owned for the purpose of creating value through revenue generation or value increase and are measured at fair value. Rental income is the revenue from operating lease agreements with the assets remaining in the company’s books, plus additions as tax, utility costs etc. that is passed on to the tenant. Gains and losses from property sales are recognized at the date when the company take possession of the property, or at transfer of risk. Derivatives and investment properties is measured at fair value with adjustments in the income statement (Castellum, 2016a; Norrporten, 2016; Hemfosa, 2016; Klövern, 2016; Kungsleden, 2016). The fair value represents the value the investment property wisely can be exchanged for, reflecting actual market value (IAS 40.5).

Deferred tax

Deferred tax liabilities are measured at nominal value and are accounted with the corporate tax rate of 22% without any discounts or deductions. This typically overstate the value of the actual liabilities as efficient structuring of property transactions would reduce effective tax rate, and also considering the time value of money and nominal measurement when the liabilities are not expected to be paid for a foreseeable future (Castellum, 2016a). Treatment of deferred tax in the consolidated financial statements for single asset SPVs were the owner company expect to receive the fair value of the asset inside the SPV when the shares in the SPV are sold, have recently been discussed by the IFRS Interpretation Committee with relation to IAS 12, section 35 and 39. The committee concluded that both the asset and the SPV needs to be measured and recognized separately in the consolidated financial statements if this is required by local tax law (Harzheim, 2014).

6.4. Reclassification of Financial Statements

Reclassification of the peer group's financial statements have been conducted to isolate the company's core operations according to the main principles of Petersen & Plenborg (2012) applied to a real estate environment and the applied valuation methods. For a real estate company, financing is a more interwoven part of operations as the market value of the physical assets on a real estate company`s balance sheet typically constitutes 80-120% of the share price (Geltner & Miller, 2007) and the value of the property is not determined by the capital structure of the owner (Kempen & Co, 2016).

For the purpose of both the valuation and the peer group analysis, the income statement should reflect the core real estate operations, which should be a defined set of activities as equal as possible across the peer group to ensure the performance measures are benchmarking comparable activities. In the analysis there has been limited need for normalization except a company to company assessment of weather the joint venture activities should be defined as a part of the core or not. The only significant adjustment required was to carve out Nordic Modular Group from Kungsledens' core activities. Nordic Modular Group develops, manufactures, sells and leases out moveable buildings across the Nordics and was included in Kungsleden core financials in 2012, and later separated as income from associated after it was considered to not be part of core and divested over two rounds in 2014 and 2015 (Kungsleden, 2016).

As for the income statement, balance sheet adjustments have been made accordingly to adjust for potential non-core or discontinued activities which is only found to be significant for Kungsleden. Further, several balance- and income statement adjustments are made in conjunction with the NAV analysis and these adjustments are covered in detail by section 8.1.2. with further company specific comments in section 8.3 and 8.4.

6.5. Profitability benchmark

This section benchmarks the historical performance of Castellum and Norrporten against the defined peer group to identify capabilities and weaknesses concluded in the SWOT together with the strategic analysis.

6.5.1. EPRA cost ratio and NOI margin

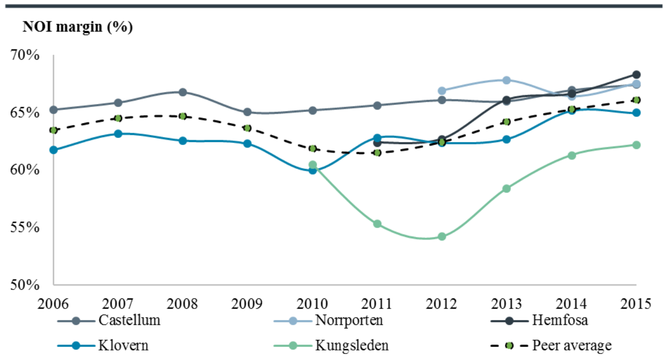
EPRA cost ratio isolates the underlying profitability of the core real estate operations, and translate this into a relative and comparable operating profitability measure (EPRA, 2016). The EPRA cost ratio has a similar information content as the EBITDA-margin, but the margins move in the opposite direction i.e. higher EPRA cost ratio is associated with lower EBITDA margin. Tax and ground rent is not included in EPRA cost ratio in this analysis due to differences stemming from geographical exposure, e.g. impact from ground rent in Stockholm region. Property tax and ground rent is however included in NOI margin analysis to keep the NOI concept consistent throughout the thesis as it is a key value driver for valuation later in the analysis.

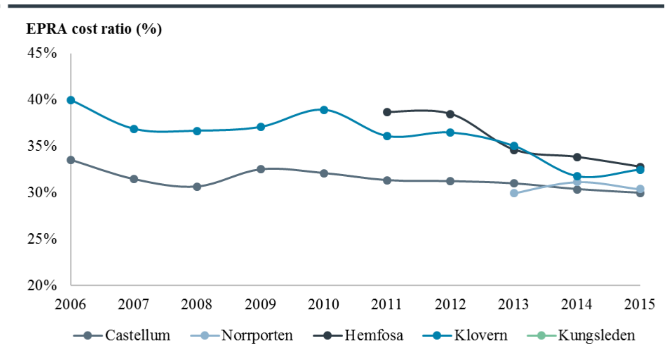
$$\boldsymbol{EPRA\ cost\ ratio = \frac{Property\ expenses + administration\ expenses}{Gross\ rental\ income}}$$

A complimentary measure to the EPRA cost ratio is the NOI margin, which measures the operational profits on core rental operations. A relatively high NOI margin and EPRA cost ratio could indicate an inefficient or large corporate overhead compared to peers. Castellum has a long term stable NOI margin but slightly weaker than Hemfosa and Norrporten, considering the last three years. Hemfosa is a fast growing company and its improving NOI margin could stem from learning curve, scale and other effects associated to growth that is hard to assess in an outside-in analysis. Kungsleden has the lowest NOI margin in the peer group, and this can be some bias from discontinued activities. However, the 2014 and 2015 NOI margin for its core real estate activities is likely a highly accurate estimate of core real estate activities. The larger variation for EPRA-cost ratio indicates that there is larger variation in corporate overhead across the group, where Castellum stands out as the best practice example for back office utilization.

Kungsleden was excluded from the EPRA cost ratio analysis due to limitation from isolating property tax from core property operations due to Nordic Modular Group and also due to limited information and divesture of a former real estate company called Hemsö AB sold to AP3 in 2012 (Kungsleden, 2013).

Figure 45: NOI Margin (%) and EPRA cost ratio (%) (2006-2015)





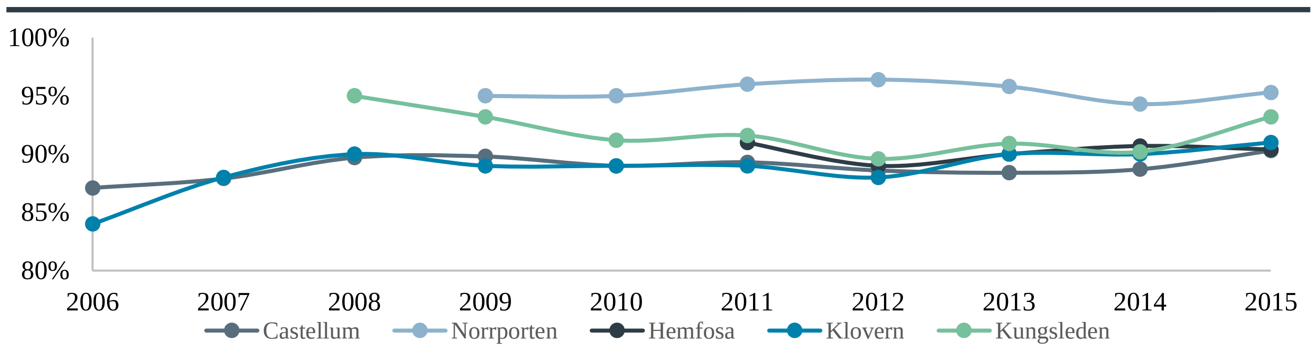
Source: own contribution, based on annual reports (2007-2016)

6.5.2. Economic occupancy rate

Historically, there has been little consistency in reporting of vacancy numbers across REOCs. A common problem was that the vacancy rates based on sqm only reflected the areal vacancy (EPRA, 2016). The issue arising from areal vacancy metrics is that vacant space rented out below market rate could inflate vacancy numbers, which would reduce areal vacancy but not show the real vacancy in terms of rental value and therefore yield a positively biased vacancy estimate. EPRA recommends to use estimated rental value of vacant space compared to estimated rental value of the portfolio to provide a value-adjusted vacancy rate, also known as EPRA vacancy (EPRA, 2016). However, economic occupancy as reported is used in lieu of the EPRA vacancy as EPRA vacancy is not reported by any of the companies in the peer group, and not possible to estimate outside-in. Economic occupancy is assumed a fair approximation of EPRA vacancy, but could include some bias from different methods for estimating the fair market rent applied across the peer group.

Norrporten has the most solid occupancy rate across the peer group supported by stable relationships among its top 10 largest tenants including The Swedish Police Force, Judiciary of Sweden, County administrative board of Sweden and the Swedish tax agency. Castellum is in the lower end of the peer group throughout the sample period.

Figure 46: Economic occupancy rate (%), 2006-2015



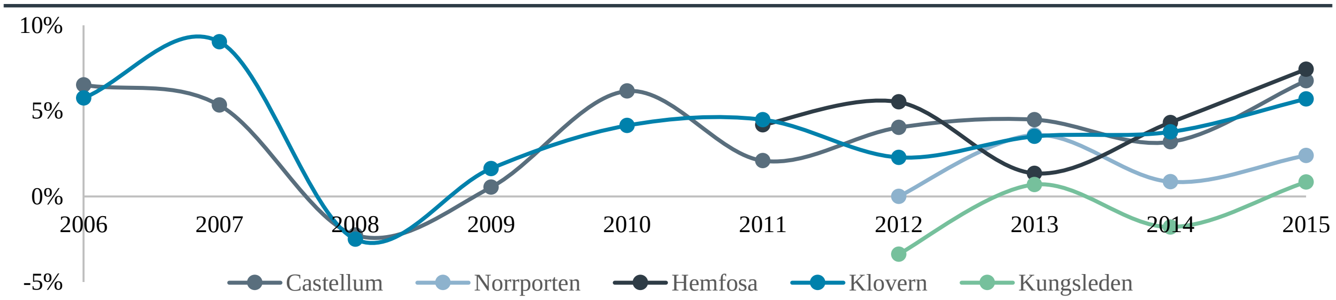
Source: own contribution, based on annual reports (2007–2016)

6.5.3. Return on Assets

Return on assets measures the profitability relative to the size of the balance sheet, and is in this analysis calculated as net profit for the year after tax over total assets. The NOI margin and EPRA cost ratio describes how the running operations performs, while the generated actual profits after tax also depends on changes in the fair value reporting of investment properties and interest rate derivatives (EPRA, 2016).

The drivers for Castellum's falling return on assets in 2008 is both value change on derivatives and properties, while Klövern's falling return on assets in 2008 is mainly property related. Castellum (6.8%) and Hemfosa (7.4%) stand out in the peer group with the highest return on assets. Kungsleden's low return has been due to changes in accounting policies and discontinuing of divisions that has not been possible to adjust for.

Figure 47: Return on assets (%), 2006-2015

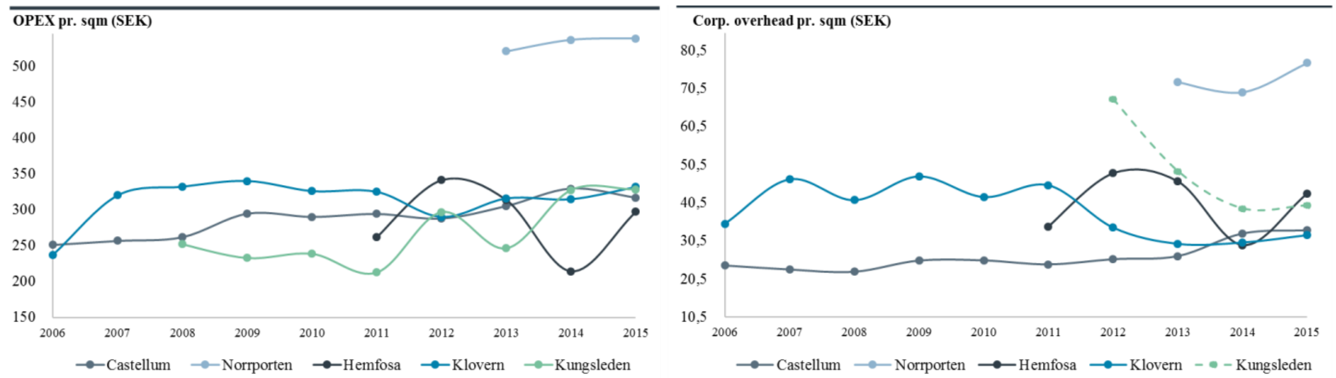


Source: own contribution, based on annual reports (2007-2016)

6.5.4. Operating expenses per sqm

Operating expenses is for this analysis defined as the difference between rental income and NOI. Divided over the size of the portfolio, this outlines the efficiency in terms of property administration and other operating expenses. The OPEX per sqm from figure 48 shows that all peers except Norrporten have a comparable OPEX per sqm but that Norrporten appears much less efficient. Analyzing the underlying numbers including segmented OPEX costs on a per sqm basis it is not possible to draw any conclusions on systematic differences between Castellum, Hemfosa, Kungsleden and Klövern on any constituent of OPEX related to size of portfolio. However, Norrporten is significantly above the rest of the peer group in terms of general OPEX with SEK 246 per sqm. Compared to an average of SEK 174 for the rest of the peer group. The difference is also significant for property administration were Norrporten's property administration costs per sqm is SEK 107 compared to an average of SEK 60 for the rest of the group. The difference is not assumed exclusively related to the average size per property, as Kungsleden, with a comparable average property size to Norrporten, is significantly closer to the peer group average for general OPEX and property administration. However, Kungsleden is the least efficient of the peer group on a per sqm basis, excluding Norrporten, indicating a relationship between size of properties and efficiency in administration. Scale advantages and efficiency is further elaborated on in section 10.2.1.

Figure 48: Left: OPEX per sqm. Right: corp. overhead per sqm, 2006-2015



Source: own contribution, based on annual reports (2007–2016)

6.6. Leverage and liquidity benchmark

As the cash coverage in real estate operations is relatively predictable due to high predictability of income due to contractual recurring rental agreements, most weight in this section is put on the leverage and financial liquidity positions across the peer group. The section covers two leverage related metrics; LTV and net debt to EBITDA (NIBD/EBITDA), as well as two liquidity related metrics; the solvency ratio and interest coverage ratio (ICR)

Loan-to-value

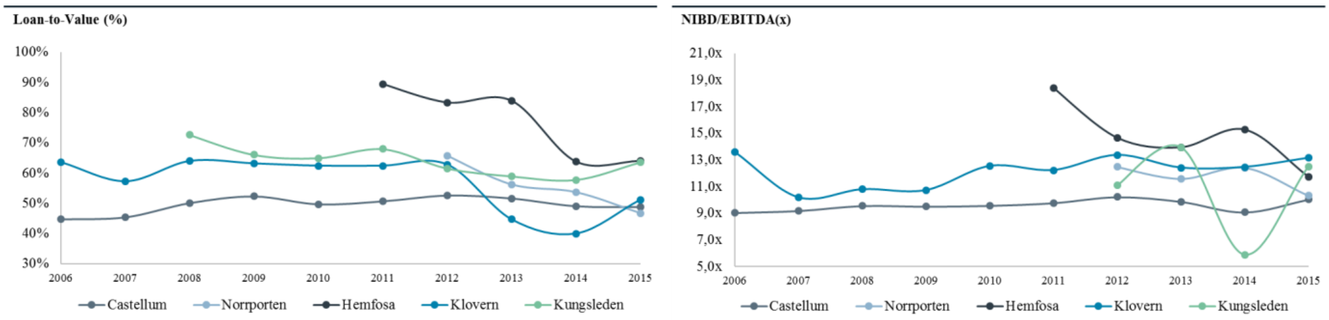
LTV indicates the book value of the interest-bearing debt, both long term and short term over the book value of the fair value of investment properties. The LTV is an indication for the leverage-level and financial risk associated with the real estate assets and has a similar information content as the traditional leverage-ratio (Petersen & Plenborg, 2012), however with higher accuracy as the investment properties are measured at market value.

Throughout the period Castellum has one of the lowest LTV ratios among the group, however Klövern and Norrporten has closed the gap to Castellum over the last years. Hemfosa's fast growing LTV was very high with 83-89% in 2011-2013, but dropped in conjunction with its IPO in 2014. Castellum's average for the 10-year period is 49% compared to their internal target of below 55% and credit covenants commitments of below 65% (Castellum, 2016a). The peer group average is 55%, higher than the 37% December 2015 weighted average LTV for the 36 real estate companies that constitutes EPRA Development Europe Index (EPRA, 2015a).

NIBD/EBITDA

As EBITDA is often used as an approximation of the operating cash flow (Petersen & Plenborg, 2012), NIBD/EBITDA is an indication of the level of debt in the company compared to ability to generate cash to operate the debt, i.e. a higher multiple signify a higher level of debt relative to income (Rosenbaum & Pearl, 2012). As discussed earlier, there is limited depreciation for the peer group and limited recurring CAPEX why NIBD/EBITDA erupt as a fair estimate for the operating cash flow relative to debt. On NIBD/EBITDA, Castellum stands out as the most stable among peers with a NIBD/EBITDA between 9.0 and 10.2 in all years. Hemfosa deleveraged following the IPO and Norrporten is slightly above Castellum and on par for 2015.

Figure 49: Left: LTV. Right: NIBD/EBITDA, 2006-2015

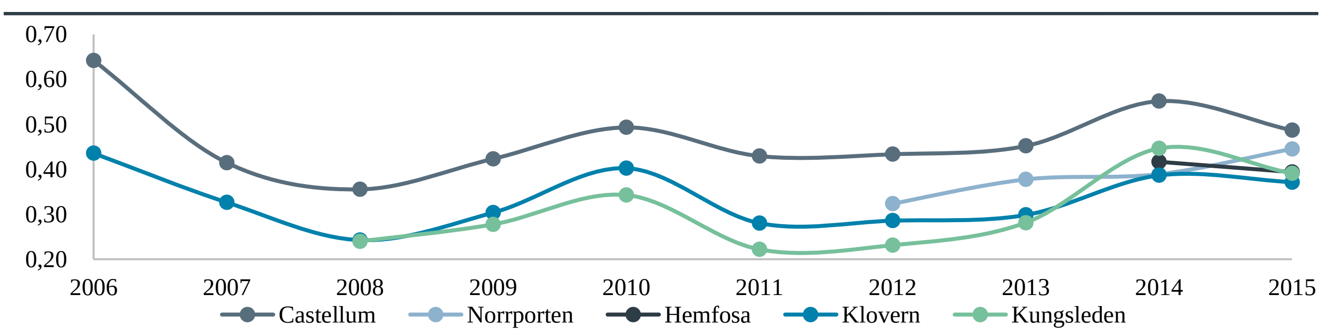


Source: own contribution, based on annual reports (2007–2016)

Solvency ratio

Solvency ratio measures equity over total liabilities, and is measured with market values if possible for a more accurate estimate as market values are a better representation of the value that can be obtained for the equity in the market (Petersen & Plenborg, 2012). Hence, the solvency ratio measures the relative size of equity to the market value of the balance sheet and therefore a low solvency ratio indicates a larger long-term liquidity risk compared to a higher value. Throughout the period, Castellum has the highest solvency ratio, and Norrporten's position is around the peer group average.

Figure 50: Solvency ratio, 2006 – 2015



Source: own contribution, based on annual reports (2007 – 2016)

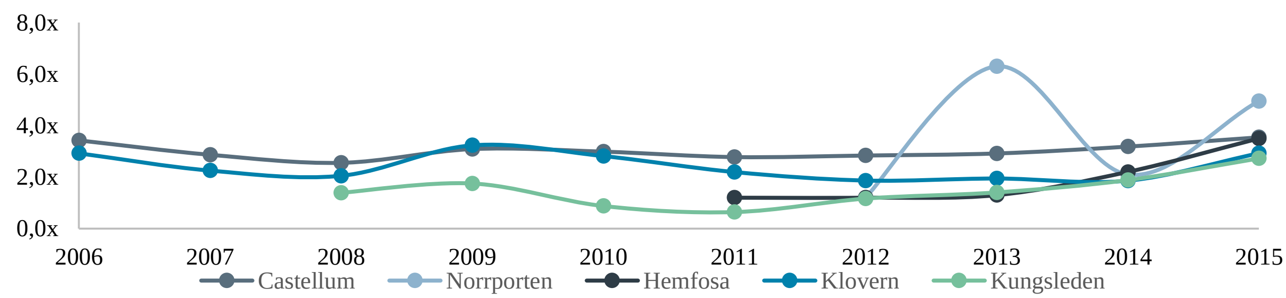
Interest coverage ratio

ICR shows how many times profits is able to cover the net financial expenses. A higher ICR ratio supports a more robust relationship between profits and interest costs. An ICR below 1.0 indicates that the proceeds are not sufficient to cover net interest expenses. ICR is often calculated with EBIT in the numerator, but this can be replaced with another approximation of operating cash flow (Plenborg & Petersen, 2012). For example, EBITDA or EBITDA-CAPEX can be applied, as they are all estimates on operating cash flow (Rosenbaum & Pearl, 2012). For Castellum's financial accounting, the income from property management including profit from associates after reversal of net financial items is used (Castellum, 2016a).

$$\textit{Interest coverage ratio} = \frac{\textit{NOI} - \textit{Corp. overhead} + \textit{profit from associates}}{\textit{Net financial expenses}}$$

Castellum has a stable ICR around 3.0x and are in the upper range of the peer group, only exceeded by Norrporten in 2015 and 2013. 3.0x is over Castellum's internal target of 2.0x and its credit covenants of 1.5x for all years (Castellum, 2016a). Norrporten has a large variation in its ratio due to fluctuations in both financial income and expenses, stemming from realization of Swedish government bonds with positive result in 2013 and a negative result of almost SEKm 200 2014 (Norrporten, 2015). Controlling for this, Norrporten has the strongest ICR in the peer group.

Figure 51: ICR, 2006 – 2015



Source: own contribution, based on annual reports (2007–2016)

6.7. Relative valuation benchmark

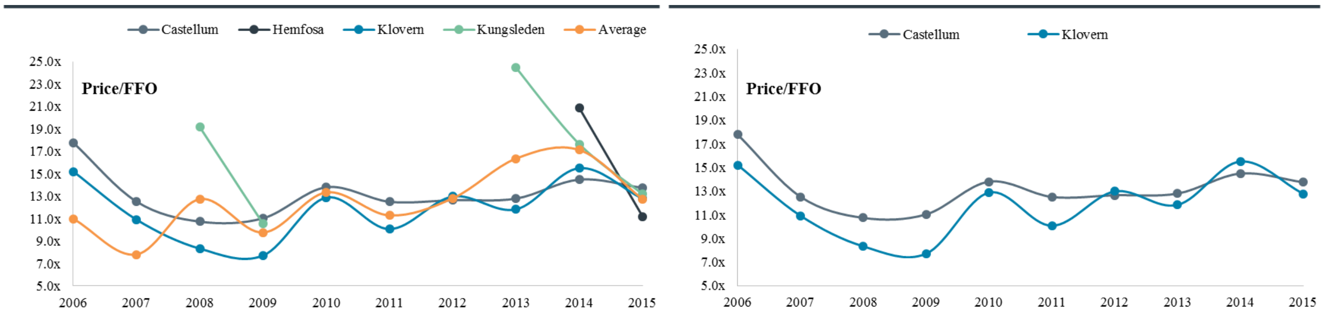
Relative valuation is often applied due to its relative low level of complexity. The multiples also reflect a market view on valuation of a particular asset and is not affected by a single analysts own projections of value drivers in a cash flow analysis (Petersen & Plenborg, 2012). Moreover, multiples can also be used to stress test a valuation based on a fundamental valuation method (Petersen & Plenborg, 2012). It is both a pro and con that multiples are market based. It is a pro because the information is current and reflecting the aggregated market view on risk and outlook, however this may bias the underlying value during periods of irrational market behavior (Rosenbaum & Pearl, 2009).

6.7.1. Price to Funds from operation (P/FFO)

The FFO measure has been preferred by REITs, equity research analysts and other stakeholders in the US since the early 80s, and has been found to have greater information content for REITs than cash flow from operations and EBITDA (Vincent, 1999). However, FFO or change in FFO has been a popular metric used for management compensation (especially in US REITs) and may therefore suffer from more bias from earnings management (Vincent, 1999), while this is not necessarily true for the peer group.

There are many other factors than FFO affecting the valuation of a REOC, which can be seen from figure 52 on the left where Hemfosa are dropping sharply due to a 112% increase in FFO vs. 14% increase in pricing, 2015 margin of Hemfosa was 45.3% vs. 45.8% for Castellum. Only looking at Castellum and Klövern, the two with data history for the entire analysis period, Castellum has historically been trading at a slight premium on P/FFO compared to Klövern. Recently, Klövern has more or less closed this gap. In 2015, the variances in P/FFO are small across the group.

Figure 52: Price/FFO, 2006-2015



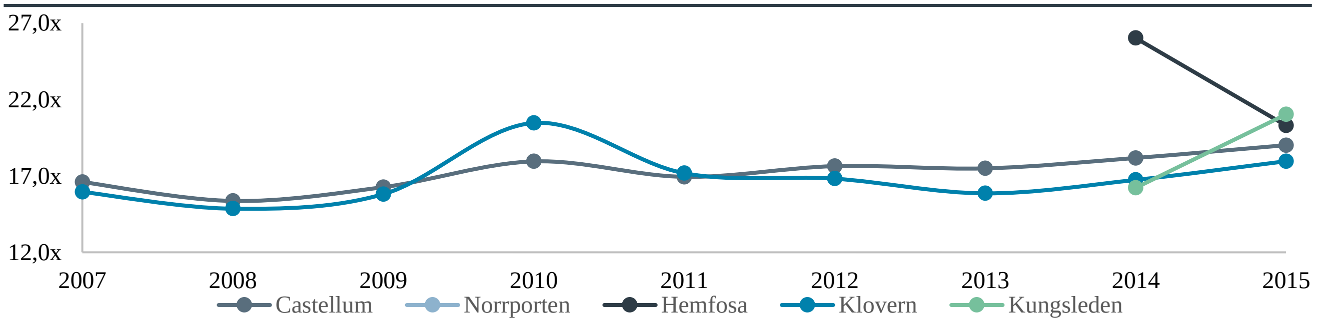
Source: own contribution, based on annual reports (2006-2015)

6.7.2. Enterprise Value to EBITDA (EV/EBITDA)

EV/EBITDA and EBITDA is often preferred as it adjusts for differences in depreciation and amortization policies across peer companies and geographies (Rosenbaum & Pearl, 2009).

Kungsleden is removed prior to 2014 due to multiple adjustments, including the divestment of Hemsö and Modular Nordic Group to makes the figures hard to interpret. As of 2015, Kungsleden has successfully divested non-core activities and as such, the 2014 and 2015 multiples should reflect the core real estate operations that are comparable to Castellum (Kungsleden, 2016). Since 2012, Castellum has been trading at a slight premium to Klövern, while in 2015, Castellum is lower priced on EV/EBITDA than both Hemfosa and Kungsleden. The average EV/EBITDA of the peer group in 2015 were 19.6x.

Figure 53: EV/EBITDA, 2007-2015

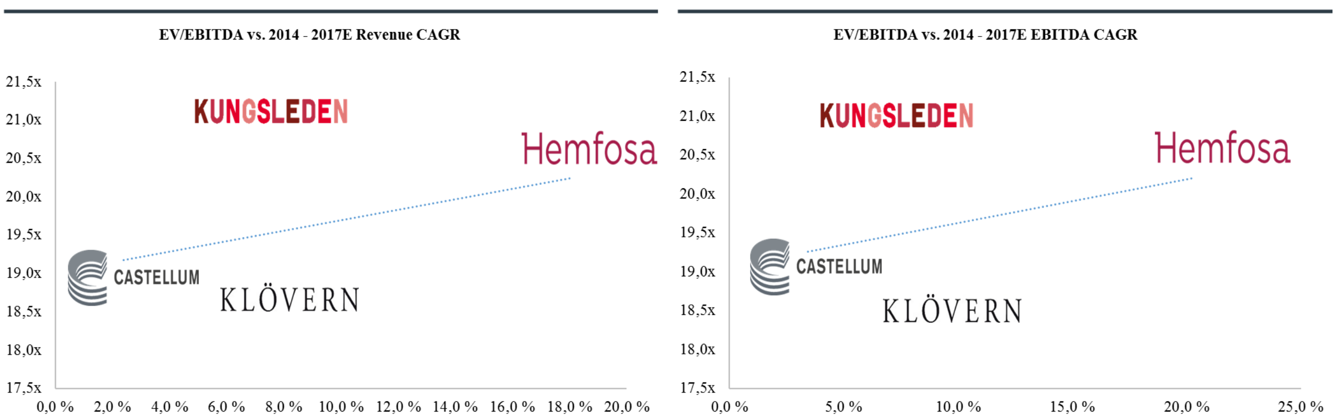


Source: own contribution, based on annual reports (2007–2016)

6.7.3. Growth adjusted valuation multiples

In many cases, valuation premiums reflect earnings, market power or growth projections i.e. a low multiple to growth could indicate that the company is undervalued (UBS Warburg, 2001). Growth is not necessarily value creating and growth in income statement measures should be adjusted for changes in the balance sheet to reflect the value creating growth (Petersen & Plenborg, 2012). Output from an analysis comparing whether differences in valuation could be explained by different growth projections is exhibited figure 54. The figure should not be interpreted directly as it wrongly indicates a linear relationship between growth and value that may overestimate the value of growth (UBS Warburg, 2001). Based on the small peer group, it does not appear to be any relationship between growth and valuation due to Kungsleden and Klövern's over and underperformance, respectively.

Figure 54: EV/EBITDA and growth relationship, 2015



Source: own contribution, based on annual reports (2016), Factset (2017f)

7. SWOT Analysis

The below matrix summarize key findings from the analysis of the external and internal environment. The external analysis gave reason to argue that there are potential future threats from the external environment, mainly related to changes in property demand across all segments driven by urbanization, digitalization and environment. However, the Swedish economy is proving to be superior to comparable European countries with good outlook across central regions. The industry analysis concluded that the market has relatively high entry barriers due to capital intensity, but for established property owners, the rivalry and transparency is high leading to a market with close to perfect competition.

The internal analyses firstly illustrated that Castellum and Norrporten complement each other on a set of capabilities, where Castellum has been able to react to demographic changes and invest in growth regions while Norrporten has access to an attractive tenancy mix with secured income. Lastly, the financial analysis revealed that Castellum is a long-term top performer in terms of profitability and efficiency combined with a low risk capital structure. Norrporten outperformed on occupancy rate as well as demonstrating a position with low financial risk, however, with room for improvements on their operational performance, suggesting that the merger of Castellum and Norrporten could make strategic sense.

Figure 55: Summary of SWOT

Strengths		Weaknesses	
Factor	**Impact**	**Factor**	**Impact**
CASTELLUM Best-in class operational efficiency	Able to generate maximum returns to shareholders	CASTELLUM Lacking exposure to city centers	Higher risk of properties in fringes and out-of-town locations
CASTELLUM Located in growth areas	Positioned for future growth	NORRPORTEN High density in Northern Sweden	Low demand with a decreasing population growth
NORRPORTEN Strong customer relations with public tenants	Able to secure income	NORRPORTEN Low efficiency on overhead per sqm	Not able fully utilize rent generation attributable to owners
NORRPORTEN Low financial risk	Well positioned for times not in prosperity		

Opportunities		Threats	
Factor	**Impact**	**Factor**	**Impact**
Technological advancement on e-commerce	Further improve the demand and value of urban logistics	Increasing interest rates	All else equal, higher interest rates will reduce asset values
Further upside pressure on office demand	Extend demand to city clusters and business parks in fringes	Slowdown in Swedish economy	Slowdown could result in reduced employment growth and lower consumer spending
BREXIT	Could increase demand for office properties in Stockholm	Regulatory changes in Swedish taxes on real estate	Higher taxes will reduce return and property values

Source: own contribution

8. Valuation

8.1. Choice of valuation methods

Petersen & Plenborg (2012) characterize an ideal valuation approach by the four ingredients; precision (unbiased estimates), realistic assumptions, user friendliness and understandable output, which is also the overarching methodology used when considering different valuation methods for this analysis. The full historical analytical statements and valuation assumption summaries is provided in appendix (A3; A4; A7)

8.1.1. The NAV debate

The valuation of a listed REOC features a unique situation with dual asset markets and hereunder valuation of parallel asset markets as listed REOCs have exposure to both the underlying private property market and the public stock market (Geltner & Miller, 2007). Dual asset markets raise several questions, including which market to use for valuation purposes and which market that is correct if there is deviation in pricing. The private market for real estate is independent from the public equities market for real estate companies, hence arbitrage opportunities may occur if the two markets prices the same real estate assets differently at the same point in time e.g. to take private real estate portfolios to the public market (Geltner & Miller, 2007). Given the parallelism of the two asset markets, the authors believe it is key to isolate the underlying asset value with a NAV model as the starting point for the valuation. The NAV method places a value on how the underlying private market would have valued the listed portfolio of assets net of liabilities, and therefore the approach makes sense to use for both Castellum and Norrporten to streamline the valuation methods used for both companies.

A discounted cash flow (DCF) analysis was considered by the authors for this valuation but was rejected after preliminary testing for the benefit of a NAV model due to the DCF models extremely high sensitivity to the terminal value estimates and most of the value being captured by the terminal period. This is due to the current ultra-low interest rate environment and its effect on the mechanics of the weighted average cost of capital (WACC) combined with the perpetuity nature of cash flow from real estate assuming a constant real estate portfolio. The DCF models behavior was found to conflict with Petersen & Plenborg`s (2012) characteristics of an ideal valuation model, especially due to unrealistic assumptions and low degree of preciseness as the model was highly sensitive to value drives surrounded by high degree of uncertainty and subjectivity. Furthermore, the model selection was also supported in an interview with Stefan Albinsson, fund manager for real estate fund Niam VI (Appendix 10).

As with all valuation methods there are both advantages and drawbacks with NAV. The pro-NAV camp, represented by Green Street Advisors, set forth that listed real estate for all practical purposes is a collection of liquid and commoditized buildings, whose underlying going market rates is observed in a large and efficient private real estate market (Geltner & Miller, 2007). The authors support the Green Street Advisors view on the NAV approach as the NAV model for this analysis can be based on widely available and granular cap rates. Moreover, the model will require limited projections into the future.

Drawbacks with the NAV approach includes that the NAV value is highly dependent on the cap rate used on NOI, especially for highly levered companies (Vinocour, 2003), and that the cap rate to some extent can be subjective (Geltner & Miller, 2007). The pro cash flow camp in listed real estate also argues that the NAV approach fails to capture the value of the management team and their ability to create value going forward by buying and selling properties as the NAV is a static metric (Geltner & Miller, 2007).

The NAV-based pricing model

Potential bias from an inaccurate cap rate is mitigated by extensive bottom-up estimation of cap rates for each segment and geography based on more than 9,000 observations, further discussed in section 8.2. To address the issue raised by pro cash flow camp as a static metric, the NAV model will be the base of the valuation and adjustments will be made according to how much value that will be destroyed or created by the company's strategy going forward (Vinocour, 2003). In most cases NAV capture 80-120% of the equity value of REITs (Geltner & Miller, 2007), and therefore represents a highly relevant starting point for the valuation. On industry level, NAV gravitates to a parity with price on the long term (Vinocour, 2003), but pricing can differ over longer periods of time with the REIT often reflecting future development of the private property market (Geltner et. al., 2007). In periods where pricing differ from NAV, a bridge from the fair market value of the underlying real estate to the fair value of the equity is necessary.

Both companies' portfolios excluding synergies will be valued with a NAV model followed by a discussion on potential premium to NAV in section 8.5. To validate the NAV valuation and premiums, relative valuation methods will also be applied, with multiples selected based on Geltner & Miller (2007) as well as common practice among Nordic real estate equity analysts, including Price/FFO and EV/EBITDA.

8.1.2. Reported financial statements translation to NAV

Some adjustments are required for both companies to ensure that the NAV estimate is as accurate as possible, with details on adjustments and estimates in section 8.3 and 8.4 for both companies. The NOI is broken down as much as possible from the financial statements and valued with the cap rate estimates discussed in section 8.2. This implies that NOI is segmented on property type and geographic regions. Furthermore, the NAV calculation is based on a 12-month forward NOI (Green Street Advisors, 2014) that needs to be estimated for both companies.

As some property expenses are not allocated to segments and regions in the companies' financials, these enters the NAV calculation as negative NOI and are capitalized with a weighted average cap rate.

As the real estate assets are valued based on NOI and cap rates in a NAV model, the corresponding balance sheet value of investment properties is excluded to not double count the value i.e. investment properties are represented by the NOI capitalization (BIWS, n.d.). Both companies have development projects and undeveloped land included under investment properties that is separated out as it is not valued on NOI basis. Some of the projects do generate income, but the annual reports do not include enough information to separate the income generating projects from the non-income generating projects. Other balance sheet items in general are assumed to be 100% of carrying value.

If possible, NAV is calculated using market value of liabilities. As this is not available, book values are used as an approximation. An assumption for the calculation of NAV is that the portfolio is valued as is, i.e. no acquisitions or divesture of investment properties is expected. This implies that the deferred tax liabilities will never be realized and is to be viewed as part of shareholder's equity. When deferred tax liabilities are assumed to be part of equity, it should be added back in the calculation to increase the NAV accordingly. This is also according to Stewart (1991) as discussed in Plenborg & Petersen (2012) and furthermore aligned with Castellum's own EPRA NAV calculations (2015), and EPRA's guidelines (EPRA, 2016). Derivative liabilities are for the same reasons reversed, as it will not lead to any payments (Castellum, 2015), this is also according to guidelines in (EPRA, 2016). The NAV valuation performed in section 8.3. and 8.4. is therefore aligned with the EPRA NAV metric, measuring the fair value of a company on a long-term basis, in contrast to the EPRA NNNAV which deducts deferred taxes and measures the spot price of the company's net assets (EPRA, 2015).

8.2. Cost of capital – The NOI capitalization rate

As introduced in the preceding section, NAV valuation is calculated using a cap rate of the NOI generated from investment properties. With the convention that the pricing, and hence NAV model, is based on first-year yield on the initial investment, cap rates prevails as one of the critical assumptions in the analysis (Green Street Advisors, 2014). An in-depth understanding of both micro location, macro environment, the specific properties state of repair, and general desirability of the real estate coupled with a good handle on surrounding cap rates is essential for determining precise estimates of cap rates (Green Street Advisors, 2014). The proceeding analysis will aim to align the cap rates of the portfolios owned by Castellum and Norrporten through combining market-conformal rates with the strategic analysis performed, with emphasis on macro environment, micro location and property condition. The cap rates are handled on a market-by-market basis, as they fluctuate widely across geographical markets and segments.

Geography and location

The conclusion on socio-cultural impact on the external environment in 5.1.3. said that being present in attractive growth countries does not necessarily provide certainties for achieving return. The conclusions set forth that society has become increasingly mobile and agile towards moving for work and networks, meaning that real estate owners are seeking exposure to the cities that can offer both demographic growth and a stable economy.

When considering the investment property portfolios on the larger geographical areas, the exposure of Castellum is higher in Central and Southern Sweden with significant holdings in all of the three largest cities in Sweden, as well as Copenhagen. Norrporten have the highest density of their portfolio in Northern Sweden, the only of the larger geographical areas of Sweden found to have negative population growth (figure 23). Additionally, the largest single exposure Norrporten holds is to the city of Sundsvall, which is the least growing city of all representative cities in both portfolios (figure 37). However, Norrporten also hold exposure to growth cities including both Stockholm and Copenhagen.

When considering micro locations, Norrporten have a higher density in central locations, being CBD (Norrporten, 2016). Castellum holds a more dispersed micro exposure on portfolio level. Their industrial/warehouse portfolio is mainly located in clusters close to transportation hubs outside cities, with good infrastructure (Castellum, 2016a). The industrial/warehouse portfolio held by Castellum is located in growth regions and close to larger cities offering attractive opportunities in line with the trends in e-commerce and urban logistics as outlined in the conclusion on technological advancement and its impact on logistics in section 5.1.4. The office and retail portfolio has some exposure to CBD, but is primarily located in city fringes in prevailing office clusters and business parks (Castellum, 2016a). Overall, Castellum evidently has a more attractive macro level exposure while Norrporten holds more attractive micro level exposure.

Property specific factors: age and condition

The illustration of a property's life-cycle and the value proposition for property owners as presented in section 3.2. gave the initial representation of how investments in existing properties are needed to align the leasable area to customer demand. In addition, the conclusions from the socio-cultural factors together with technological advancements in section 5.1.3. and 5.1.4. gave reason to argue that these investments are needed more frequently as society changes at a faster pace.

On portfolio level, both Castellum and Norrporten have property values far exceeding their aggregated debt position, resulting in that both are able to recycle capital and invest in existing property portfolios to align them with demand (in relation to figure 4 to the right on the value destruction proposition). Figure 2 illustrated the primary strategies for investing in real estate. The general attribution for property owners will be to interest core investors with the lowest risk and return profile, who are also those with the general lowest return requirements (Oaktree, 2016). This requires properties to be in a condition where they are attractive for current and future demand by tenants which will therefore attract possible investors in buying the property.

Both Castellum and Norrporten have similar profiles, based on a review of their property portfolios, including size, usage, acquisition year as well as building- and reconstruction year. Building year ranges from the early 19th century to newly constructed properties, but the general impression is that they are investing in outdated space. This is also supported with the high occupancy rates (figure 28) suggesting that they have properties that attract tenants. Additionally, both portfolios have a sustainable profile, indicating that they invest in new installations to align with technical standards. The conclusion alone on quality and condition suggest that the properties should be attractive in the transaction market, which is applicable for both companies.

Prevailing market rents to portfolio rent levels

Comparing contractual rents from a property to the market rents will help answer two important questions. Cap rates capitalize on rental income generated from the property and should be within comfortable range of the market rent. If rent levels are above the prevailing market rents for similar properties, it illustrates a skewed picture for investors, who will take into consideration that the rent level is not achievable upon re-letting. Furthermore, Castellum and Norrporten's respective portfolios are homogenous with respect to type and micro location. Therefore, assuming that the "Law of Large Numbers" applies, aggregating their portfolios in regions will ensure to align the perceived quality and demand with actual market perception with respect to rent, as it is assumed that the average rental levels in their respective areas and types of property should be close to the market average.

Rent levels prevailing in the geographic areas and specific to property types has been obtained from a set of real estate broker reports. Most of the larger brokerages in Sweden report for the largest cities, however, NAI Svefa (2012a – 2016) report semi-annually reports for most representative cities for investors as they have local branches present in most areas. Appendix 11 show the historical rent levels in the relevant cities, segmented on location and perceived asset quality. For the larger cities, additional broker reports (JLL, 2016; Newsec, 2016) have been used to sense check the rent levels as provided by NAI Svefa. The comparison of the market rent to average rent levels in the portfolios supports that both Norrporten and Castellum holds mid- to high quality properties within their respective property segments, however that Norrporten are generally located in CBD, achieving somewhat higher rents.

Vacancy levels of portfolios compared to market vacancy

As with benchmarking of prevailing market rents to rent levels in their portfolios, vacancy levels in the market compared to vacancy in a property portfolio is an important measurement when aligning cap rates. Cap rates are denoted on the rental income generated at the specific point in time of a transaction. If a property owner had 50% vacancy in a property, he would in best case have a 50% upside in rental generation on re-letting the space, which the owner would also need to be compensated for in a transaction of the property. If applying the same cap rate on a property with 50% vacancy compared to one with 100% occupancy, you would simply hand off the potential value of increased rent without being compensated for the 50% potential additional rent in the future. The market has a nominal vacancy rate which denotes vacant spaced compared to total leasable space in the specified region. Additionally, there is structural vacancy, which is unique for each market, and represent the required amount of vacancy a market must have due to e.g. tenancy relocation or new ventures expanding to the specific area (Mueller, 2006). Furthermore, the term structural vacancy includes vacant space that does not meet required standards for the current market, and can be considered obsolete space if not refurbished or reconstructed (Mueller, 2006).

The data on vacancy levels in different geographies is not as transparent as rental levels, but a set of larger brokerages perform vacancy studies but only in a few of the larger cities. The recent JLL (2016d) report stated a total vacancy level in Stockholm of 7.1% with 3-4% in the inner city area, while the adjacent suburbs had a somewhat higher vacancy between 6.3% and 7.2%. One of the key factors increasing overall vacancy in greater Stockholm is the vacancy level in, Kista, a northern suburb, with 15.7%. However, neither Castellum nor Norrporten has exposure in this area. The overall vacancy in the area is in line with what is reported by the companies.

The Gothenburg area was reported to have a vacancy of 6.1%, ranging from 3.1% in the CBD to 14.5% in Eastern Gothenburg (JLL, 2016). Only Castellum has exposure to Gothenburg, but this is also their largest market (figure 37) with exposure to CBD stretching south- and northwards of CBD, while the prevailing higher vacancy rates are in the east/west submarkets. The reported vacancy in the Gothenburg area for Castellum was as of Q1 2016 92.6%, illustrating no need to adjust for vacancy levels when applying cap rates.

Malmö and its surrounding area had a reported total vacancy of 7.1% with small differences in the representative micro locations. Surprisingly, Malmö CBD has a higher vacancy rate than the remaining inner city with 4.5% compared to 6.4%. Otherwise, the area has a stable vacancy between 6% and 7%. The highest reported vacancy in the region was in Lund, with a vacancy of 9.8% (JLL, 2016). Only Castellum hold exposure to this area.

For Copenhagen, reporting is only segmented on the CBD and greater Copenhagen. The vacancy levels within the CBD, considered applicable for Norrporten properties, was reported to be 8.1%, while the greater Copenhagen area was 10.2% (JLL, 2016). The latest reported vacancy level for Norrporten's portfolio in Copenhagen was in 2014 18.4%, which were partly due finalization of construction without leases signed (Norrporten, 2015). This will be adjusted for with the expectation that this new space is highly lettable. Moreover, Castellum experience a similarly high vacancy rate in Copenhagen, as well as the Öresund region in total with an average occupancy between segments of 85.4% (Castellum, 2016a), which will also be adjusted for.

Observed cap rates in the markets

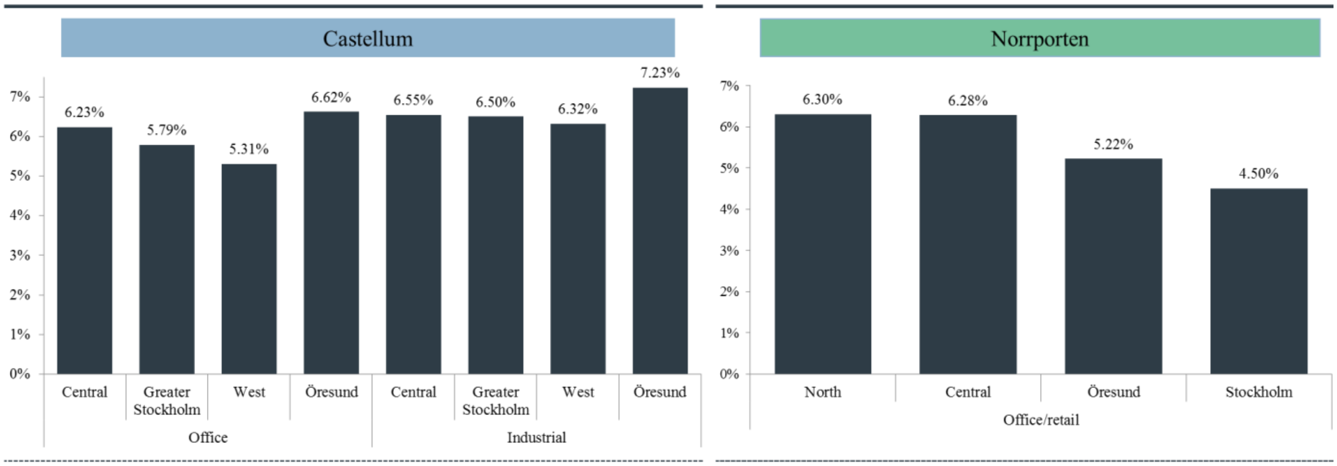
To not misalign the personal perception with the general transaction market, a large set of market data has been analyzed to align the authors expectations to the general market in terms of cap rates. NAI Svefa is the single publicly available resource covering the entire universe needed in the analysis, but reports by JLL (2016) and Newsec (2016) have been used to limit potential bias.

The trend in the larger cities has been a lowered expectation of return on capital i.e. lower cap rates. This has also been evident in the commuter catchment area, and similarly for logistic properties within southern Sweden in connection with the main transportation hubs in between cities and harbors. The smaller regional cities have not experienced the same downward shift in required return, which by the authors is expected to be due to the markets increasing focus on investing in specific growth areas, in contrary to specific countries. Especially Northern Sweden has not seen much downward trend in required return. The cap rates vary with the lowest range between 4% to 4.5%, usually for office and retail space in highly central locations, while the highest is above 10%, mainly for poorly located industrial/logistics properties. The entire dataset is illustrated in graphs in appendix (A11).

Used cap rates

The overall analysis on cap rates has been performed on the basis of 9,000 observations from 2012 until the spring of 2016 to triangulate the relationship between rent levels, property condition as well as vacancy rates. Further, market rent, vacancy levels as well as observed cap rates for the larger cities has been tested against other market reports to not solely depend on a single view, as brokers in general are using reports to market themselves and create revenue from property owners. This bias has been carefully taken into account, why the used cap rates should be considered a fair estimate for the cap rate. Figure 56 represent the used cap rates in the markets, as well as segmented on property type to the extent as possible. Furthermore, to give an indication of the importance of the specific cap rates, they are compared up against the relative revenue streams. The portfolio of Castellum is split between office/retail and industrial/warehouse, while the portfolio of Norrporten is only split between relative sqm share within the region on office and retail space due to limited transparency in reported data.

Figure 56: Cap rates applied to Castellum and Norrporten



Source: own compilation, based on NAI Svefa (2012-2016a), Newsec (2016), JLL (2016d)

8.3. Net Asset Value of Castellum

8.3.1. Adjustments, estimates and forecasts

12 Month forward NOI

On the 13th of April 2017 at 13:00 CET Castellum released its first quarter financial statements. The report included consolidated figures for the last twelve months (LTM) and quarterly data for the segments and regions. The base for the 12-month forward-looking NOI estimate for Castellum is the first quarter data from 2016 annualized and forecasted for 12 months with key value drivers. As some extra costs are allocated to the first quarter leading to lower first quarter NOI-margin compared to the full year, the annualized first quarter rental income is applied but with the NOI-margin for 2015 full-year to calculate first quarter 2016 LTM NOI per segment and region.

Most of Castellum's contracts are assumed to include a lease-adjustment mechanism that increases the rental price with the inflation rate annually and this adjustment is assumed to take place the first day of each year. As the target long-run inflation rate for the Swedish National bank is 2% (Sveriges Riksbank, 1993) and this is also expected level for 2017 (Sveriges Riksbank, 2017) this rate is used as the estimate for annual rental price growth per sqm. As annualized numbers for the first quarter of 2016 is used, the rental price growth for nine of the 12 next forecasted months is already included in the annualized first quarter 2016 LTM estimates for rental income. Therefore, 0.5% i.e. ¼ of 2% is the estimated rental price growth-rate from first quarter LTM 2016 to first quarter LTM 2017, reflecting the price increase at 1st January 2017.

Based on the strategic analysis, the assumption is that Castellum will increase occupancy in the Öresund region to market conformal rates of 90.3%. Included in the NOI estimate is also the income from the JV Corhei, mainly related to office/retail in Norrkoping (Castellum, 2016a), which is capitalized with its viable cap rate in regards to the analysis in section 8.2. Income and costs related to development projects is accounted for in the balance sheet and is therefore excluded from the NOI calculation. Transaction costs are not deducted from NOI as this is assumed to be accounted in a later period to not leak any information regarding the transaction as it was announced after the first quarter 2016 report, and as it is a non-recurring item in general assuming no further M&A activity.

Balance sheet

Development projects and building rights needs to be separated out of investment properties in the balance sheet as these are valued at book value in the valuation. The balance sheet of Castellum significantly changed from year end 2015 to first quarter 2016 due to transactions, i.e. investment properties increased from SEKbn 41.8 to SEKbn 44.7 and debt increased from SEKbn 20.3 to SEKbn 22.6. However, segmented fair value of development projects are not reported for the quarter and are therefore assumed unchanged from 2015 annual report in lieu of better alternative estimates. Value of investments in JVs are included with 0% to not double-count as this is accounted for via the NOI estimation. Furthermore, goodwill is excluded as this is not included in NAV calculation (Green Street Advisors, 2014). The quarterly report is less detailed than the full year balance sheet, and to segment some of the reported numbers for first quarter 2016 the relative size relationship between numbers from 2015 have been used as an estimate for the segmentation, e.g. break down of current receivables net. This has no impact on the valuation, but is done to present as granular numbers as possible in the output.

8.3.2. Summary NAV valuation of Castellum

Figure 57 shows the calculated NAV per share for Castellum at SEK 131.25 as of April 13th, 2016, corresponding to a total NAV of SEKbn 22.58 and SEKbn 45.08 in enterprise value. The adjusted (for later dividends) observed closing stock price at 13th of April 2017 i.e. on the announcement day prior to the announcement of the merger, but after the release of the first quarter financials is SEK 130.6. However, as the transaction was rumored on March 8th and followed by a drop in the share price of 3.9%, the share price of SEK 130.60 may contain some anticipation related to the merger, and thus the share price of SEK 134.68 adjusted for the price drop on March 8th is used instead. The estimated NAV implies that the market priced Castellum at a 3% premium to the calculated NAV. The biggest share of Castellum’s value stems from office/retail properties in west, i.e. in Greater Gothenburg, as well as office/retail properties in the east, including Mälardalen and Easter Götaland.

Figure 57: Castellum NAV Calculation

Castellum Net Asset Value (SEKm)					
Capitalized income	Assumed cap rate	12-month forward NOI	Current value	SEK pr share	% of Gross RE value
NOI contribution from:					
Real estate operations					
West - Office & Retail	5.31%	484	9,106	52.9	22.0%
West - Warehouse & Industrial	6.32%	377	5,966	34.7	14.4%
Oresund - Office & Retail	6.62%	358	5,409	31.4	13.1%
Oresund - Warehouse & Industrial	7.23%	145	2,004	11.7	4.9%
Stockholm - Office & Retail	5.79%	295	5,098	29.6	12.3%
Stockholm - Warehouse & Industrial	6.50%	219	3,367	19.6	8.2%
Central - Office & Retail	6.23%	666	10,682	62.1	25.9%
Central - Warehouse & Industrial	6.55%	106	1,622	9.4	3.9%
Unallocated property costs	6.17%	-266	-4,316	-25.1	-10.4%
Total property income:			38,939		
Profit from JVs	6.50%	24	377		0.9%
Total real estate operations			**39,315**		
Balance sheet	**Book value**	**% of carrying value**			
Non-operating Real Estate Assets:					
Projects and land	1,525	100%	1,525	8.9	3.7%
Building rights	469	100%	469	2.7	1.1%
Real Estate Assets held for sale:	0	100%	0	0.0	0.0%
Gross Real Estate Valuation			**41,309**		**100%**
Other balance sheet assets					
Cash & Cash-equivalents:	150	100%	150	0.9	
Investments in Equity interests (JVs):	0	0%	0	0.0	
Accounts receivable, net:	128	100%	128	0.7	
Prepaids and other assets:	117	100%	117	0.7	
Add back: Deferred tax liability	4593	100%	4,593	26.7	
Other balance sheet assets			**4,988**		
Gross Market value of Assets			**46,297**		
Liabilities					
Total debt, net of discounts:	22,650	100%	22,650	-131.7	
Accounts payable:	81	100%	81	-0.5	
Accrued Expenses & other:	991	100%	991	-5.8	
Total liabilities value			**23,722**		
NAV - Net Asset Value:					
Net market value of Asets			**22,575**		
Diluted shares and units outstanding			172		
Current NAV value per share			**131.25**		
Summary					
NAV equity value			22,575		
Net Interest bearing debt (NBID) Q1-16			22,500		
Estimated Enterprise value			**45,075**		
Calculated EV / 2015A EBITDA			20.71x		
NAV Price / FFO			14.95x		
Adjsuted observed market price 13th April 2017			134.68	3% premium to NAV	
Price / Calculated NAV			102.6		
Blended Cap Rate			6.12%		

Source: own contribution

8.4. Net Asset Value of Norrporten

8.4.1. Adjustments, estimates and forecasts

12-month forward NOI

The 12-month forward NOI for Norrporten is based on the same methodology as Castellum, with first quarter numbers as presented in the rights issue prospectus of Castellum as base for 12 months forward NOI estimates (Castellum, 2016e). As the reported first quarter LTM is identical to the reported full year 2015 numbers, it appears that Norrporten has not had a rent price adjustment in the first day of 2016. This rental price adjustment is therefore assumed to be adjusted by Norrporten mid-year i.e. as of the first day in the third quarter, and thus 1.5 percentage points of the 2 percent inflation adjustment is included in forecast for first quarter 2017 LTM. As for Castellum, Norrporten is with background in the strategic analysis expected to close the gap to the market occupancy rate in the Öresund-region, and the occupancy is thus assumed to be 90.3% in estimation of 12 month forward NOI.

Balance sheet

Norrporten has historically not reported income and costs segmented on development projects and building rights, and neither communicated explicitly in financial reporting the value of its's development projects and building rights. This is a challenge in the NAV model as it is not certain if the non-operating real estate assets are included in reported NOI and if including them through the balance sheet leads to double counting the value. According to the prospectus, Norrporten had 318 ongoing projects as of March 31st, including new-builds, extensions and redevelopments, with SEKm 161 in remaining investments, and SEKm 58.8 worth of building rights. Historically, around 4% of fair value of investment properties are related to development projects (Norrporten, 2015). To be consistent with the calculation methods for Castellum, 4% of investment properties implies estimated SEKm 909 in fair value of projects and building rights combined. The amount seems reasonable compared to Castellum, but due to potential bias from double counting the percentage of inclusion of carrying value for projects and land is 75% in NAV to mitigate some of the effects from potential double counting. Building rights are included at 100% as they are assumed to not be income generating.

8.4.2. Summary NAV valuation of Norrporten

Figure 58 shows the calculated NAV for Norrporten at SEKbn 11.76 as of April 13th, 2016. The NAV communicated in relation to the transaction was SEKbn 13.4, and thus the communicated NAV is at a premium of 14% to the estimated NAV. The biggest share of Norrporten's value stems from their properties in the north. In terms of implied multiples by NAV, Norrporten is priced at a discount to Castellum i.e. 3.3% discount on implied EV/EBITDA and 17% discount on NAV/FFO.

Figure 58: Norrporten NAV Calculation

Norrporten Net Asset Value (SEKm)					
Capitalized income	**Assumed cap rate**	**12-month forward NOI**	**Current value**	**SEK pr share**	**% of Gross RE value**
NOI contribution from:					
Real estate operations					
Central - Office & Retail	6.28%	287	4,575		19%
Oresund - Office & Retail	5.22%	375	7,183		30%
Stockholm - Office & Retail	4.50%	196	4,353		18%
North - Office & Retail	6.30%	577	9,151		38%
Unallocated property costs	5.77%	-99	-1,710		-7%
Unallocated central adm. costs	5.77%	-80			0%
Total property income:			23,552		
Profit from JVs					
Total real estate operations			**23,552**		
Balance sheet	**Book value**	**% of carrying value**			
Non-operating Real Estate Assets:					
Projects and land	849	75%	637		3%
Building rights	59	100%	59		0%
Real Estate Assets held for sale:	0	100%	0		0%
Gross Real Estate Valuation			**24,247**		**100%**
Other balance sheet assets					
Cash & Cash-equivalents:	229	100%	229		
Investments in Equity interests (JVs):	10	100%	10		
Accounts receivable, net:	246	100%	246		
Prepaids and other assets:	125	100%	125		
Add back: Deferred tax liability	1497	100%	1,497		
Other balance sheet assets			**610**		
Gross Market value of Assets			**24,857**		
Liabilities					
Total debt, net of discounts:	12,292	100%	12,292		
Accounts payable:	93	100%	93		
Accrued Expenses & other:	718	100%	718		
Total liabilities value			**13,103**		
Other claims on Equity					
Noncontrolling interests	-2	100%	-2		
Total other claims on equity value			**-2**		
NAV - Net Asset Value:					
Net market value of Asets			**11,756**		
Diluted shares and units outstanding			3.6		
Current NAV value per share			**3,230**		

Summary		
NAV equity value	11,756	
Net Interest bearing debt (NBID) Q1-16	12,063	
Estimated Enterprise value	**23,819**	
Calculated EV / 2015 EBITDA	20.03x	
NAV / 2015 FFO	12.39x	
Blended Cap Rate	5.33%	

Source: own contribution

8.5. Premium to NAV

According to Green Street Advisors (n.d.), the value of a real estate company is based on NAV adjusted for a premium or discount, for future value added by the management team, risk associated with balance sheet and adjustments related to overhead costs. Looking at all REIT’s covered by Green Street Advisors analysts, the aggregated premium to NAV as of April 2016 was around 0% compared to an average premium of +2.6% over the last 30 years (Green Street Advisors, n.d.). The premiums also differ across sectors with the lowest historical average premiums assigned to residential portfolios, and the highest historical premiums to health care properties. Office properties and industrial properties have seen a -2% and +5% NAV premium, respectively (Green Street Advisors, n.d.). NAV premiums for REITs have also been found to be impacted by more uninformed traders trading in the market in periods when prices are different from NAV (Clayton & Mackinnon, 2000).

Value created by management is based on whether a strong past performance is expected to continue or if there has been a shift in strategy perceived positive by the market. The balance sheet is important for NAV premium and the overall rule is that lower leverage or less risk associated with balance sheet justifies a relative premium (Clayton & Mackinnon, 2000; Green Street Advisors, 2014). Overhead costs include unusual overhead costs that potentially could be cash flow distributed to shareholders, and therefore unusual overhead costs can be capitalized and added to the NAV (Green Street Advisors, 2014).

In terms of management teams, both companies have strong and stable management teams in place that have demonstrated stable performance, which are considered by the authors to not justify any premium for value creation in excess of historical performance going forward. In terms of balance sheet risk, both companies are on par and slightly better than the peer group in terms of amount of leverage relative to value and liquidity. However, Norrporten has a very high occupancy rate and high degree of secured income from many strong relationships to public tenants, as supported in the VRIO analysis in section 5.3.1. In terms of overhead costs, it was found in the financial analysis that Norrporten had high overhead cost per sqm. For NAV premium, overhead costs should be considered in relationship with the value or size of the portfolio (Green Street Advisors, 2014), and both companies are considered to have usual overhead cost levels (i.e. Castellum 17% below and Norrporten 4% above average) especially when taking into account scale effects in overhead costs.

Based on the above discussion, no premium is assigned based on management or overhead. However, the authors have decided to assign Norrporten a 5% premium due to the low risk associated with its balance sheet. The 5% premium is based on approximately two times the historic average premium of 2.6%. The estimated NAV for Norrporten including premium is SEKm 12,343. The premium for Castellum is kept at 0%.

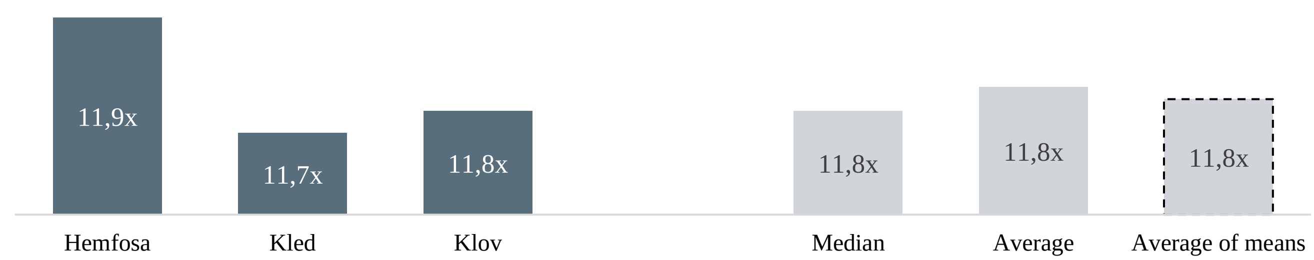
8.6. Relative valuation of Castellum and Norrporten

The NAV valuation is further supported by relative valuation. An underlying assumption for relative valuation is that the compared group of companies are comparable across accounting policies, risk and expected growth (Petersen & Plenborg, 2012). True comparability is impossible, but the authors believe multiples are highly relevant for real estate companies as the companies are mostly playing in the same market with exposure to similar opportunities to grow and same exposure to macro-economic factors. High degree of comparability in risk and exposure are ensured for the peer group companies as discussed in section 6.1.

The relative valuation is conducted with one equity based relative valuation method as well as one EV based valuation method. Equity based valuation methods are affected by differences in capital structure, and it is important to keep in mind higher LTV of Hemfosa and Kungsleden as discussed in section 6.6. The equity based valuation methods are adjusted for NIBD as of first quarter 2016 for both companies.

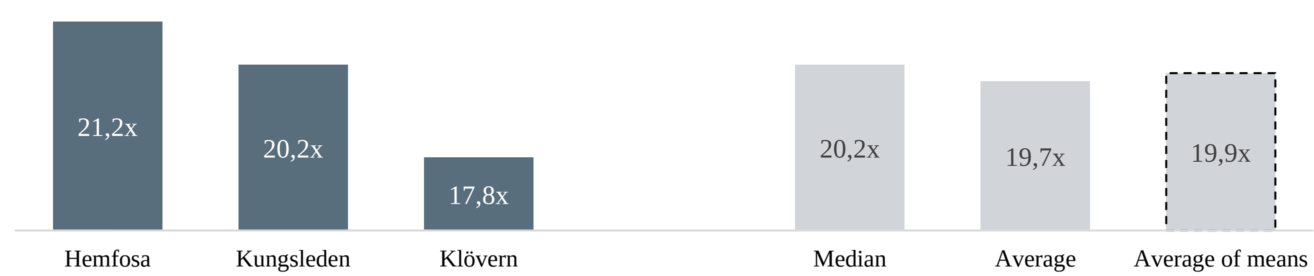
The relative valuation multiples applied in valuation are the average of the average and the median of the peer group. Hemfosa is used as a stand-alone observation on EV/EBITDA as it is most comparable to Castellum and Norrporten across the metrics in the analysis, including liquidity, return on assets, OPEX per sqm and occupancy.

Figure 59: Price/FFO as of April 13th, 2016



Source: own contribution, based Factset (2017g)

Figure 60: EV/EBITDAas of April 13th, 2016



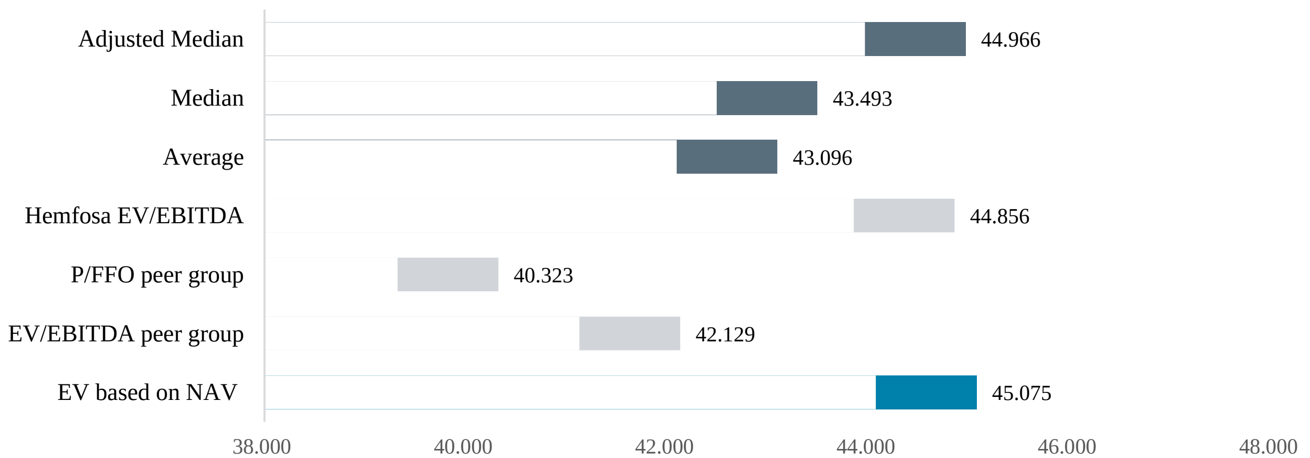
Source: own contribution, Factset (2017f)

8.7. Summary of stand-alone valuations

8.7.1. Castellum

Based on discussion and analysis in this section the median value of all enterprise value estimates for Castellum is SEKm 43,394. However, most weight is put on the bottom up NAV estimate, including a premium of 0%. As Castellum have considerably higher FFO margin compared to peers the authors believe that the FFO multiples underestimate the enterprise value, and further as Hemfosa as the closest peer is a better reference for EV/EBITDA than the average of the peer group. The adjusted median estimate includes Hemfosa EV/EBITD and NAV, and is the basis of the concluded enterprise value of Castellum of SEKm 44,966 as of April 13th, 2016. This implies a SEK 130.61 in equity value per share and is a 3% discount to the market price adjusted for rumored Norrporten transaction of SEK 134.68, but approximately equal to the unadjusted closing price on April 13th, 2016 of SEK 130.60 per share.

Figure 61: Castellum valuation football field

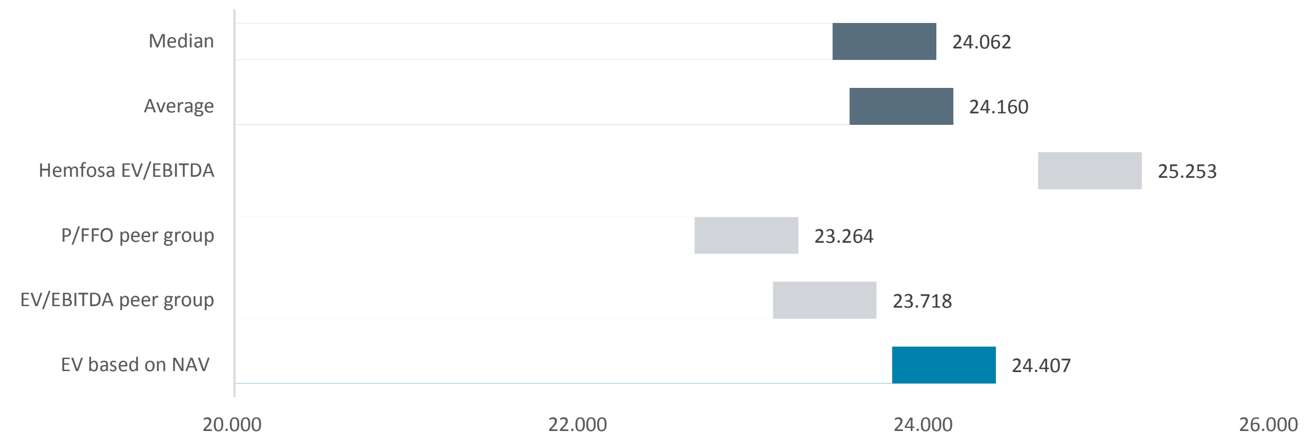


Source: own contribution

8.7.2. Norrporten

Based on the discussion and analysis in this section, the median value of all EV estimates for Norrporten is SEKm 24,062 as of April 13th, 2016. Estimates are better aligned compared to the Castellum football field and is close to the NAV estimate of SEKm 24,407, including a 5% premium. The estimated enterprise value of SEKm 24,062 implies an estimated market value of equity of SEKm 11,999. Hemfosa, the highest priced peer, is also included as a stand-alone observation in the football field as Norrporten has a high score on several metrics in the financial analysis that justifies a valuation in the top range of the peer group range.

Figure 62: Norrporten valuation football field



Source: own contribution

9. Mergers & Acquisitions

M&A is a strategy used by global and local companies of all sizes and could be rooted in a variety of different goals, with the two most common are growth, cost reduction, or both. The reason why companies engage in M&A and their historical performance is covered in the thesis is to isolate the rational for the transaction and predict what the expected performance and perception by the market will be.

9.1. Rationale for M&A

The findings in several studies on permanent stock price hikes for targets in unsuccessful take-over attempts could indicate that the value increase for targets in relation to take-overs are related to public new information about the targets undervalue or underutilization. However, the revaluation has been found to be mainly related to expectation of a revised bid in the future (Bradley & Desai & Kim, 1983). This indicates that the new valuation presupposes a combination with the bidding firm and thus the main rational behind tender offers are synergy and not information about the target (Bradley et. al., 1983).

While conventional companies often engage in M&A due to synergies from economics of scale and monopolistic power, large REITs have been found in a study focused solely on the scale of REITs to show decreasing returns to scale, while for smaller REITs the case is different. These findings indicate that there is an optimal size range for REITs, but that cost synergies are not a general driver for REIT mergers (Topuz & Darra & Shelor, 2005). However, other scholars disagree and concludes that synergy exploitation and horizontal integration is a key reason for REIT mergers (Freybote & Lihong, 2015). It appears to be consensus on the importance of asset allocation and portfolio considerations i.e. to gain control over assets that would add strategic value to portfolios, exposure to growth markets or add development or management skills in markets where the acquirer wants to grow or already is heavily invested (Freybote & Lihong, 2015).

9.2 Historical performance of mergers

M&A is one of the most researched topics in finance (Agrawa & Jaffe & Mandelker, 1992), but if mergers are actually value-creating is still a debated topic in finance (Brealey & Myers & Allen, 2013). This section will cover the review of empirical studies on merger performance, what factors are affecting empirical findings, and what reactions that can be expected for Castellum's investors. In general, there is a consensus among scholars that for listed companies the targets shareholders benefit from mergers and acquisitions while the effect on the bidder's shareholders and corporate performance of acquiring firms are more ambiguous (Brealey et. al. 2013). Further, as most research on merger performance covers a group of listed companies this section of the thesis will mainly relate to Castellum. The distinction between mergers and acquisitions are considered to be only a legal definition i.e. combination and integration, respectively. As most research is merger focused, the two terms are applied interchangeably. If differences in research for merges and acquisitions is prevalent, this will be highlighted.

9.2. Financial return at merger announcement

Announcement returns are returns following the immediate time before and after the announcement of the transaction. Stock prices can convey a lot of information on how shareholders view a merger, and when analyzing stock price reactions to describe the investor's reaction to the merger announcement it is necessary to separate this impact from that of long-term performance. Several general studies with large samples and risk-adjusted models incl. Mandelker (1974) and Langetieg (1978) conclude that the acquirer should expect an insignificant positive or negative share price reaction, which implies that companies should not engage in mergers as it does not create value for shareholders and thus the extensive merger activity seen is some sort of anomaly. However, as mergers seems to come in waves it can be hard to find a generalization for merger performance (Brealey et. al. 2013).

Payment method

The short-term stock price movements can be affected by payment method due to the signaling effect of equity cash flow decisions. Paying for the acquisition with equity could indicate that management believes the shares are under-valued by the market, and paying for the acquisition with cash could indicate that the management is convinced of the opposite (Brealey et. al. 2013). Consistent with this theory, a study of 399 US takeovers conducted by Franks & Harris & Titman (1991) concluded that depending on the model applied, companies with all-equity financed, defined as more than 90% of consideration paid in equity, bids performed significantly worse in the short term compared to companies with cash financed acquisitions. The signaling effect should only be prevalent on the short run as a semi-strong form efficient market should adjust the market prices to reflect the signaling of payment method immediately at announcement. However, a long term study by Agrawa et. al. (1992) also found underperformance for acquirers that financed their takeovers with equity over a 5-year horizon which questions the efficient market hypothesis.

Merger programs

Traditional research on performance of acquiring companies looks at the performance of a large sample of mergers and averages the returns across all observations. The results obtained by this aggregation may not be true for companies involved in merger programs as the market already reflects some anticipation related to mergers expected to be announced in the program. Asquith & Burner & Mullins Jr. (1983) compares the returns of companies involved in merger programs to those not involved, and found that cumulative excess returns for companies involved in merger programs were significantly larger for the second to fourth merger than for the first merger as many companies announce the merger program following the first merger. This indicates that there is a positive market reaction to announcement of a merger program, which leads to some bias in including companies with merger programs in merger announcement studies.

Other effects

When analyzing and isolating the market reaction of a merger, one should keep in mind that several other less explicit or obvious effects could contaminate the returns as the market can interpret the merger decision in several ways. For example, a high bid can be interpreted by the market as signal that the bidding company are performing better than planned and will report higher cash flow than expected at next reporting (Roll, 1986), which again can lead to a positive share price reaction. Events that increases the leverage of the acquirer, like acquisitions where the consideration are paid in equity instead of cash (Vermaelen, 1981) should, everything else held constant, increase the bidding company’s debt to equity as net debt increases and hence impact weighted average cost of capital (WACC). To isolate and improve the quality of the stock price reaction that is attributable to only the merger, the normal price reaction from leverage increase and other effects needs to be deducted (Roll, 1986).

9.3. Long term financial return from mergers

Assuming efficient capital markets, stock market prices will instantly reflect the merger news and a systematically abnormal over or under-performance of the shares of acquiring firms should be impossible. Hence, in an efficient capital market, outcome of mergers needs to be a fair game in the sense that it is equal probability for the stock returns following the merger to be positive as negative (Langetieg, 1978). If this is not the case future returns can be predicted and investors can in theory make abnormal profits by systematically trading on merger events.

Earlier research on long term merger performance were often based on samples initial built for announcement return studies and benchmarked against a proxy for market returns using an asset pricing model which often were biased due to size and beta effects (Higson & Elliot, 1998). When securities in the sample are of different size and the time series applied are long, there will often be a highly significant bias in merger performance studies (Dimson & Marsh, 1985), similarly not allowing for monthly shifts in the beta value of the asset pricing models will lead to significant bias, especially for cumulative return calculations (Agrawa et. al., 1992). Findings are also sensitive to what sample period that is applied in the study due to merger waves, exemplified by Higson and Elliot's (1998) study of 830 UK mergers, where 1981-1984 were the only sub period in the study with abnormal returns for acquiring companies and were found to have the very high value of +26%. Another example is Franks & Harris & Titman (1991) who concluded that there was no significant underperformance based on a study of 399 US mergers, where more than 50% of the observations was events from five years in the late 70s that were the only sub period with positive returns in the sample of Agrawa et. al. (1992).

The most comprehensive study found relevant for this thesis are Agrawa et. al. (1992) study of 937 NYSE mergers which is adjusted for firm size and is calculated with monthly rebalancing of beta. This study concludes that acquiring firms underperform the benchmark by -10% over a five-year period following the merger. This finding conflicted with several other prominent studies[2] that found small but insignificant underperformance, however, not all of these included beta-adjustments.

The findings of Agrawa et. al. (1992) are not consistent with what Mandelker (1974) describes as the perfectly competitive acquisitions market hypothesis (PACM). PACM implies that an acquiring firm should expect no synergies from monopolistic power due to the competitiveness of the acquisition leading to the price always being as high as the cost of reproducing the target`s assets. As such, Mandelker (1974) implies that there are no rational to do mergers, and that merger rationales are left to theories like Richard Roll`s hubris theory (1986) and other cognitive biases based on past behavior or overconfidence (Burner, 2005).

9.4. Accounting returns

A study of the 50 largest mergers in the USA in the late 1970s and early 1980s found an average post-merger increase of 2.4 percentage points in profits pre-tax. The finding was found to be especially prevalent for mergers within the same industry and to correlate with the merger announcement performance (Healy & Palepu & Ruback, 1992). As the performance of this research is correlated with the stock price performance, and since most of the sample is from the late 1970s and early 1980s which has been found to be an outlier in terms of stock price performance in later research (e.g. Agrawa et al., 1992) the authors believe that there is evidence for a positive bias in the findings of Healy et. al. (1992).

Findings by Ravenscraft & Scharer (1987) from a different period also questions Haely et. al. (1992). Ravenscraft & Scharer (1987) studies tender offers in the 1960s and 1970s and found that acquirers had inferior profit levels relative to their peers in the industry prior to the acquisition, while after the acquisition, the relative profitability

[2] e.g. Langetieg (1978), Asquith (1983), Magenheim and Mueller (1988)

gap had decreased. The findings were statistically significant. Many of the acquisitions was based on expected increased profitability due to synergies, but the decreasing profitability indicates that this was not the case (Ravenscraft & Scherer, 1987). Ravenscraft & Scharer (1987) conclude that their findings are an anomaly as mergers are often carried out to improve efficiency, and that their findings are conflicting with this rational. The study does not include tax and interest, i.e. if their findings is in fact not an anomaly and efficiency improvements are reached they have to be tax and interest related only (Ravenscraft & Scherer, 1987).

9.5. Real estate specific research

Unique characteristics and legal regulation of REITs lead them to react differently to mergers than conventional companies, and existing merger theory is insufficient to describe REITs mergers fully. The characteristics includes for example the role of fixed asset bases both operationally and strategically for REITs (Freybote & Lihong, 2015), and a SEC regulation requiring 90% pay-out ratio leading to opposite signaling reactions from payment method compared to normal companies (Ratcliffe & Dimovski, 2012). The latter also reduces the relevance of REIT performance results for Castellum.

A comprehensive study of the long-term performance of 114 REIT mergers with both public and private counterparts have found that while there can be positive announcement period returns, the long-term performance of REIT mergers over a five-year period is negative with -10%, which is statistically significant. The results are similar for both public and private companies merging with the public partner (Campbell & Giambona & Sirmans, 2007). These findings indicate that there can be an inconsistency with the efficient market hypothesis for REITs.

9.6. Summary on expected reactions for Castellum

The research reviewed is not for listed real estate companies with the same model as Castellum as this is not available. However, some general expectations can be summaries based on the research. According to the research, the underlying announcement effect of Castellum is be expected to be insignificantly positive or negative, but that it could be a negative reaction driven by the rights issue as this could signal management perception of current share price level. Capital structure is assumed to not have an effect as the details of the rights issue was not clear at the announcement and that Castellum still managed to keep its target LTV ratio. Both general and REIT research indicate that investors could expect an underperformance to benchmark of around -10% over the next five years, and that in terms of accounting performance, the company will not be able to live up to the expectations of the efficiency impact of the merger.

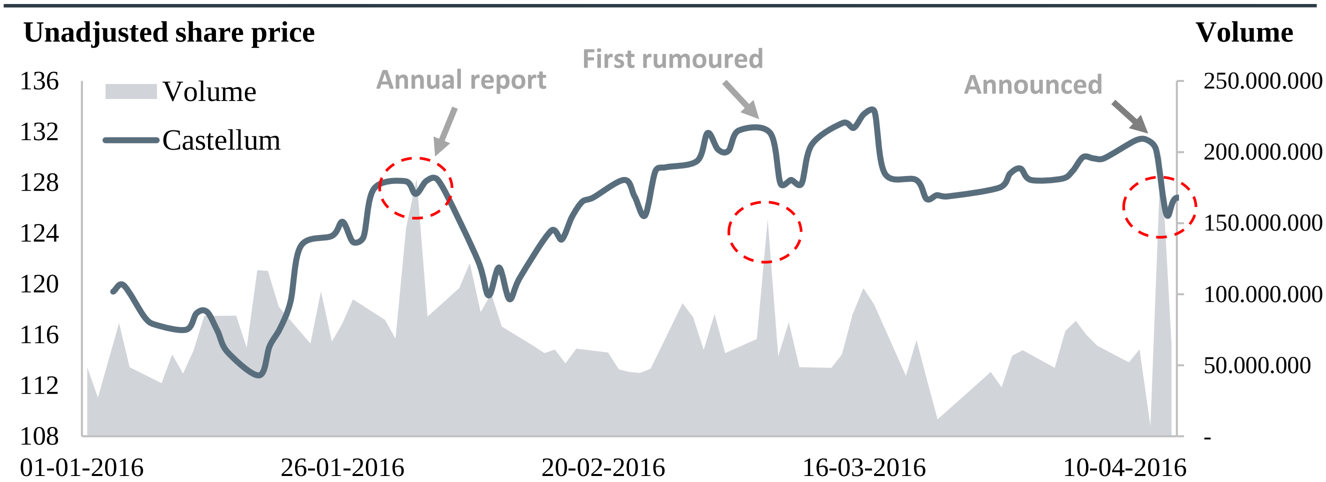
9.7. Reactions to Castellum's merger announcement

Share price reaction

Reuters reported on November 20th, 2015, that an IPO of Norrporten were being planned for 2016 (Reuters, 2015a). On March 7th, 2016, Reuters wrote that Castellum was considering a bid for Norrporten (Reuters, 2016a) which resulted in a trading halt for the Castellum share on the Stockholm Stock Exchange. Trading was not remained until the day after, March 8th, when Castellum confirmed that they were evaluating the possibilities of acquiring Norrporten (Reuters, 2016b). The trading resumed where after a month and five days later on April 13th, Castellum announced the acquisition of Norrporten to the market (Reuters, 2016c).

The share price had an initial negative reaction to the merger rumors on April 7th, and dropped 3.0%. The company's confirmed interest on March 8th did not have any significant effect and the stock price indicated that the market already priced in the news event on the time of the rumor. The price picked up again after three days before it dropped 3.7% on the March 18th, the day after the annual general meeting of Castellum without any announcements or events described in the news. In the period between the annual general meeting and the announced transaction, the share had a flat development before it dropped 3.9% on April 14th, the first day open for trading after the transaction was announced.

Figure 63: Castellum unadjusted share price, January 1st, 2016 – April 13th, 2016



Source: own contribution, based on Factset (2016a)

Other reactions

There were some negative reactions from the media in relation to the transaction. On March 8th, Journalist Ulf Petersson in the Swedish business daily Dagens Industri criticized Norrporten's chairman Bo Magnusson for wearing more than one hat in relation to the transactions as chairman of both Carnegie, the sell-side corporate finance advisor, and Norrporten (Petersson, 2016). Furthermore, there are many personal relationships across the Swedish real estate markets, and one highly relevant for this transaction is that Helena Olin, the head of real estate investments at AP2, is also the wife of Henrik Saxborn, the CEO of Castellum. Helena Olin have a conflict of interest due to Henrik Saxborn's shareholdings of more than SEKm 4 in Castellum as of 2015 (Castellum, 2016a) and his potentially increased remuneration and future career prospects related to heading a larger company, assuming that the couple have joint finances. However, the relationship is assumed to not have influenced the transaction as it is assumed that AP2 have the right governance mechanism in place.

On April 15th, Dagens Industri quoted an anonymous insider who stated that the transaction was unwise of Castellum. The motivation for the statement was the "failed IPO track" and that several institutional investors did not wish to participate in the IPO. Castellum's CEO, Henrik Saxborn, countered this by highlighting synergy potential, a well-planned financing pack and that the company was acquired below NAV (Nylander, 2016).

10. Synergies

Synergies is defined as the extra value that is created by combining two firms, either by reduction of costs, additional revenues or other value creating factors e.g. reduction of discount rate (Damodaran, 2015). The importance of synergies in M&A is high, and it has been justification for both some of the best and the worst M&A deals performed with limited granularity and communication of the hard data underlying the synergy argument (BCG, 2016). A sample of 286 major M&A transactions performed in North America between 2010 and 2015 where the acquisition targets value was at least 30% of acquirers' value, the average control premium was 34%. Comparing the control premium to the estimated synergies, the premium is a reflection that sellers foresee the buyer's synergies and require a premium. On average, the sellers capture one-third of the expected value of the synergies (BCG, 2013).

In relation to Castellum's acquisition of Norrporten, Castellum communicated SEKm 150 in cost synergies to be realized over 12-18 months, mainly related to operating synergies in overhead functions (Thomson Reuters, 2016). Judging from their cost base, some of the most obvious cost synergies could be costs related to removing one of the management teams, executive boards as well as asset management functions located in the same cities e.g. both companies have asset management offices with staff in Copenhagen. Research supports that duplicate functions and salary are some of the most typical cost cuts in real estate mergers (Anderson & Medla & Rottke & Schiereck., 2011).

10.1. Types of synergies

10.1.1. Operating synergies

Operating synergies are those allowing the combined firm to increase profits from assets at the time of the combination. Economics of scale is a typical operating cost synergy reducing relative amount of fixed costs by e.g. better utilization of a middle office function, relocation of staff or production to one combined location. Synergies affecting revenues can include the ability to increase prices due to pricing power, an effect that is greater if the market is consolidated (Damodaran, 2005). Revenue synergies can also stem from cross selling of products to existing customers, for example in a merger of two companies offering complimentary products. A combination of firms with complementary skills and a strong product portfolio can also create value (Damodaran, 2005).

10.1.2. Financial synergies

Financial synergies refer to synergies that affect cash flows or the cost of capital through any of its drivers. A typical financial synergy for listed companies acquiring private companies are access, and better utilization of cash, also called cash slack, denoting that one of the companies can pursue opportunities that otherwise would not due to limited access to cash (Damodaran, 2005). Cost of capital drivers as leverage and tax rate can also generate financial synergies through increase of debt capacity from more stable operations and utilization of deferred tax or shelter from operating losses, respectively (Damodaran, 2005). A financial synergy that is often highlighted by management is risk reduction from diversification, but many financial analysts disagree with this rational and argue that investors could more efficiently obtain the same diversification in the financial markets (Brealey et. al., 2013). Lower financing costs on new loans are also a financial synergy that considered a dubious reason to merge. The borrowing cost per se can be lower following a merger but the net gain is expected to be zero as the borrowing costs goes down due to more collateral for the debt giving bondholders a better protection. For debt that existed before the merger, the companies will not necessarily be better off as the interest rate margin is already structured but the legal collateral for bondholders' increase (Brealey et al., 2013).

10.1.3. Synergies in real estate mergers

Lower return to bidding firms in real estate mergers compared to other sectors is often explained by less synergy potential. However, scale and efficiency gains are normally mentioned as the largest potential synergy sources in real estate. (Anderson et. al., 2011). Efficiency improvements would typically be made in general and administrative functions as overhead is shared across a larger asset base. Operational cost was mentioned in 91% of the sample in a study of 32 real estate merger announcements that included disclosure of synergies, with overhead being the most mentioned type of operational cost (Anderson et. al, 2011). Interest expense is a less important synergy than overhead, but is relevant in transactions were companies with low financing costs acquire companies with high financing costs (Anderson et. al., 2011).

10.2. Synergy assessment

The valuation of synergies is divided in two parts. First, the synergy potential is assessed and tested by looking at comparable transactions, case studies and empirical research. As this research is based on an outside-in view, it is not possible to assess Castellum's synergy estimate accurately, and the research will instead map out expected sample space based on several data points. After assessing the plausibility of the communicated synergies, the estimated present value of the synergies is calculated in the following section. Both companies have sufficient size to access the same cheap financing, and a potential for interest rate or financial synergies is not been identified. This is further supported by a comment from Castellum's CEO Henrik Saxborn on the conference call covering the transaction: "*The synergies are more or less 100% operational at this stage*" (Thomson Reuters, 2016, pg. 6), and this is why financial synergies will not be further investigated in the scope of this thesis.

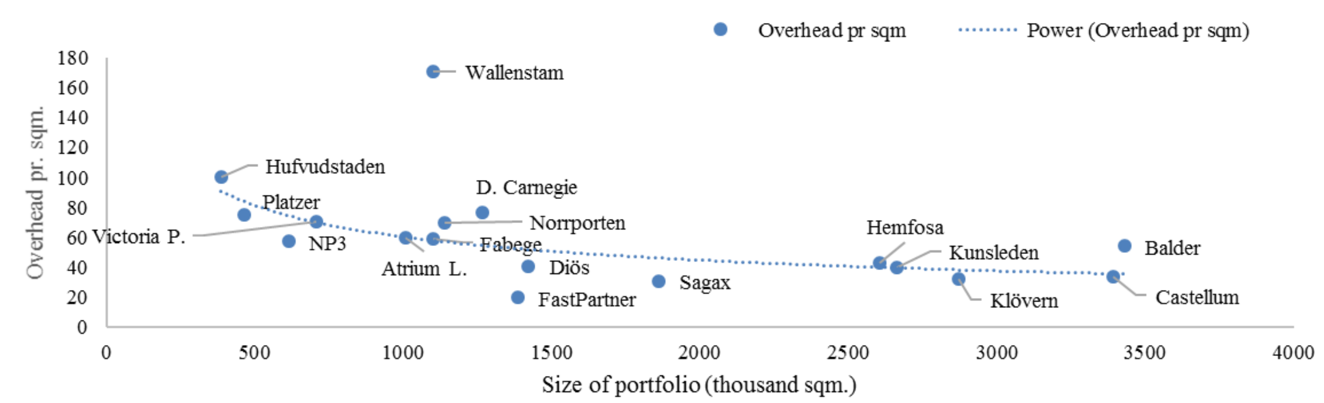
10.2.1. Scale efficiencies in administration costs

Anderson et. al. (2011) found that the median expected synergies for the sample of 32 real estate mergers made out 1.8% of the combined total revenue of both firms before the merger, with most of the costs related to central administration and overhead. For operating costs, the expected synergies were 7.15% of the combined total, and for overhead 21.25% of the combined overhead. Looking at the target in isolation, the median expected 70% reduction of the target's overhead and administrative costs, where the cut of duplicate functions and salary was found to be an important part of the cost cut potential (Anderson et. al., 2011). This research suggests scale efficiencies for real estate companies as relative cost reductions can be made following larger asset bases.

To investigate the relationship between overhead and company size, 17 listed Swedish real estate companies have been researched. In Figure 64, overhead costs are represented by corporate administration costs per sqm (y axis) which is plotted against total sqm of the portfolio (x axis) to represent size. The results exhibit overhead that is more efficient for larger companies, and support the argument of lower operating costs from sharing of overhead functions over a larger asset base made by Anderson et. al. (2011). The analysis is fitted with a power-function trend line to illustrate what appears to be diminishing returns to scale for this group of companies. This is likely caused by lack of scalability of some functions as the companies reach a certain size, e.g. an in-house legal officer might be required by listed companies but one officer might be enough until the companies reach a certain size before more officers are required leading to increased salary costs.

As can be seen from figure 48, Norrporten's central administration costs were SEK 77 per sqm compared to SEK 33 per sqm for Castellum. Assuming that Castellum as a new owner of Norrporten is able to reduce the central administration cost to the same as the current per sqm level in Castellum, and further reduce the property administration costs to the same level as Castellum, the total annual savings would be SEKm 93.03.

Figure 64: Central administration costs per sqm (2015)

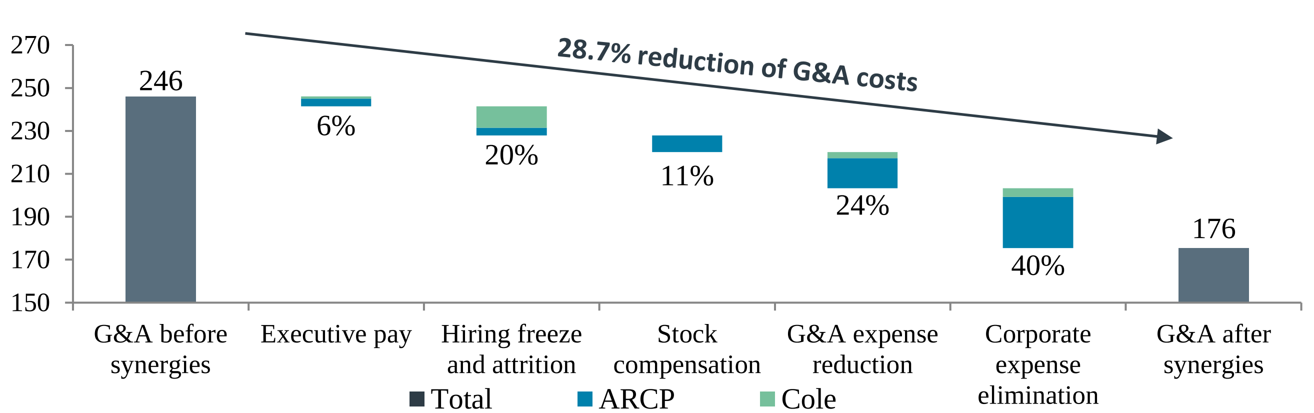


Source: own contribution, based on annual reports (2016)

10.2.2. Case study: ARCP and Cole

In 2013, American Realty Capital Properties (ARCP) acquired Cole Real Estate Investments (Cole) for an enterprise value of USDbn 11.2 to create one of the 15 largest REITs in the world, and the largest operating in the net lease segment with estimated synergies of USDm 70 per annum, corresponding to 0.6% of the transaction value (ARCP, 2013). The combined entity had almost 4,000 properties with around 50% exposure to single-tenant retail, and with the second half more or less split between industrial, office and multi-tenant retail with Texas and Illinois as the largest geographical areas (ARCP, 2013). All of the USDm 70 in cost synergies were related to general and administrative function, with 64% related to reduction of expenses, 36% related to staff reductions. Most explicit communication of synergies in the ARCP and Cole merger under skills was the ability to absorb larger transactions (ARCP, 2013).

Figure 65: ARCP and Cole synergies



Source: own contribution, based on ARCP (2013)

10.2.3. Nordic best practice benchmarking

To find a reference point for what can be considered highest achievable level of efficiency for Castellum and Norrporten after the merger, 22 listed Nordic real estate companies' size of corporate overhead, staff and property costs are compared. Hufvudstaden, Fabege and Fastpartner stands out as the three most efficient companies based on average rank over five variables, with most weight put on overhead and FTEs as this are considered most relevant for synergies based on ARCP (2013) and Anderson et. al. (2011). Of the three top-performers, Hufvudstaden and Fabege will not be used as reference cases as they are primarily operating in the central Stockholm market and cover a smaller geographical area with higher values per property. Fastpartner is somewhat smaller than Castellum and Norrporten but operates in the same segment as Castellum and Norrporten and also have a comparable geographical exposure to Castellum. Assuming that both Castellum and Norrporten would obtain the same overhead % of rental income and property costs per asset (investment properties) as Fastpartner, the annual cost savings has been found to be SEKm 167.

Figure 66: Efficiency benchmarking table, 2015

Company	Overhead % Rental Income	Rank.	Overhead / Assets	Rank.	Property costs / Assets	Rank.	FTEs / Assets	Rank.	FTEs / Rental income	Rank.	Efficiency rank
Atrium Ljungberg	2.45%	3	1.96	4	21.76	11	9.14	19	0.11	19	8
Balder	6.82%	15	2.70	8	11.20	2	9.45	20	0.24	24	16
D Carnegie & Co	7.95%	16	7.00	21	47.97	23	11.36	22	0.13	20	23
Diös	4.41%	8	3.17	10	29.45	21	10.16	21	0.14	22	20
Fabege	**3.25%**	**4**	**1.61**	**2**	**14.08**	**6**	**3.50**	**5**	**0.07**	**12**	**2**
FastPartner	**2.38%**	**2**	**1.76**	**3**	**23.66**	**14**	**3.25**	**3**	**0.04**	**8**	**3**
Heba	6.12%	14	2.61	5	16.24	8	4.22	10	0.10	18	7
Hemfosa	4.58%	11	3.79	14	26.16	17	2.00	1	0.02	5	5
Hufvudstaden	**2.30%**	**1**	**1.22**	**1**	**16.29**	**9**	**3.31**	**4**	**0.06**	**11**	**1**
Klövern	3.38%	5	2.63	6	27.18	19	5.77	15	0.07	14	12
Kungsleden	4.58%	10	3.86	15	27.99	20	3.53	6	0.04	7	9
NP3	8.58%	19	7.64	22	23.14	12	4.37	11	0.05	9	18
Platzer	5.94%	13	3.58	12	15.54	7	5.62	14	0.09	17	15
Sagax	4.42%	9	3.55	11	11.64	3	2.00	2	0.02	6	4
Victoria Park	8.04%	17	6.78	19	41.92	22	16.41	24	0.19	23	24
Wallenstam	12.14%	23	5.86	18	13.06	4	6.73	16	0.14	21	20
Entra	9.55%	22	5.68	17	13.86	5	5.27	12	0.09	16	17
Norwegian Property	9.23%	20	4.90	16	8.80	1	3.61	8	0.07	13	9
Olav Thon	4.78%	12	3.68	13	26.71	18	5.51	13	0.01	2	9
Citycon	12.45%	24	8.99	23	23.46	13	8.36	18	0.01	3	19
Sponda	9.45%	21	7.00	20	20.44	10	3.57	7	0.00	1	12
Technopolis	8.15%	18	9.75	24	49.38	24	13.42	23	0.01	4	22
Norrporten	**4.18%**	**7**	**3.07**	**9**	**23.84**	**15**	**3.96**	**9**	**0.05**	**10**	**6**
Castellum	**3.43%**	**6**	**2.70**	**7**	**25.68**	**16**	**7.15**	**17**	**0.09**	**15**	**14**

Source: own contribution, based on annual reports (2016)

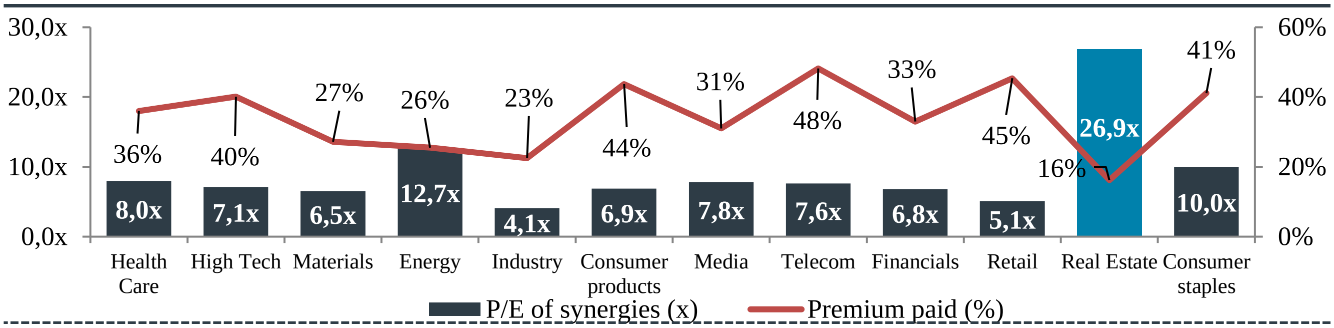
10.2.4. BCG (2016)'s P/E of synergies

BCG (2016) developed a valuation metric to compare the control premium paid to the total synergies before taxes, e.g. a SEKbn 1 control premium with SEKm 100 in synergies indicates a P/E of synergies of 10x. The P/E of synergies was compared to total shareholder return for the group which was used as a proxy for the value creation. It was found that acquirers on average had a P/E of synergies that was below average performed by the other half by ~5%, acquirers that announced synergies outperformed those that didn't by ~4%, and acquirers that publishes information on synergy progress outperformed those that didn't by ~6%.

The real estate companies in the sample had below average control premium with 16.2% of deal value combined with a very high P/E of synergies multiple due to low degree of synergies announced. The average synergies announced for real estate companies were only 0.85% of total deal value compared to 3.6% for the full group of industries (BCG, 2016).

Assuming that the estimated NAV without premium of SEKbn 11.76 is representative for the underlying value of the company implies a control premium of SEKbn 1.64. This corresponds to a 12.2% of the deal value, and in terms of P/E of synergies the multiple is 10.95x. Both metrics appears to be low compared to BCG (2016), even when using the conservative estimate of NAV without premium.

Figure 67: BCG (2016) synergies relative to premium

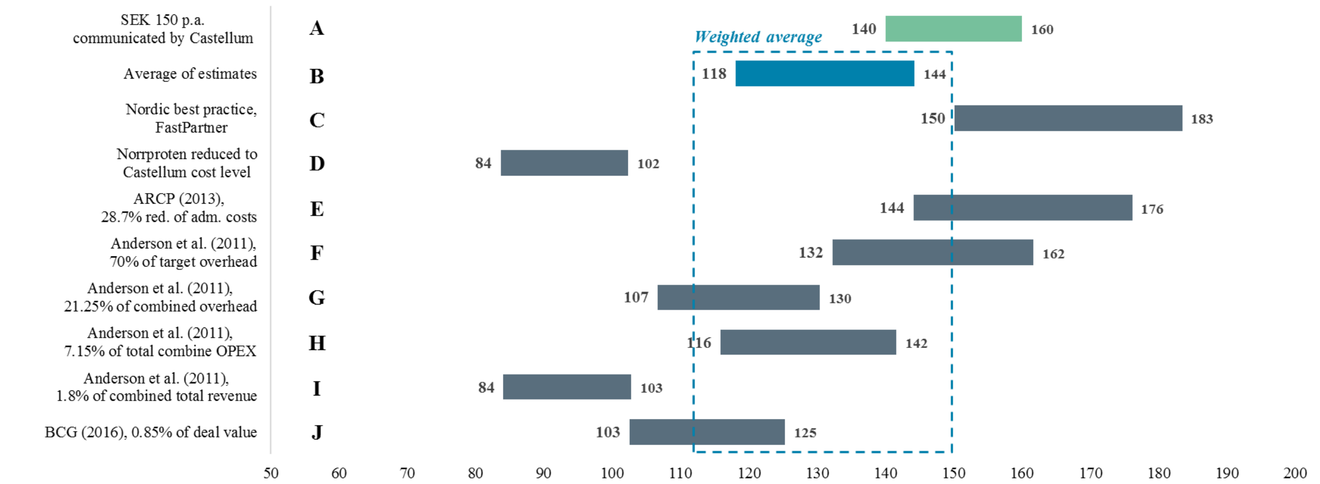


Source: own contribution, based on BCG (2016)

10.2.5. Synergy potential summary

An outside-in assessment of the communicated synergies have been conducted by combining empirical references and case studies. All estimates have been plotted with +/- 10% in figure 68 to reflect that applying empirical estimates and case references is only approximations and is associated with uncertainty. The weighted average value of estimates of SEKm 131 (B in figure 68) in annual synergies is 12.5% lower than the communicated SEKm 150 from Castellum. The average is weighted so that the four contributions from Anderson et. al. (2011) are allocated one weight equal to the other observations to avoid bias from the article. The aggregated estimate of SEKm 131 will be used for the valuation part as it is not clear how the SEKm 150 (A in figure 68) will be obtained.

Figure 68: Synergy potential football field



Source: own contribution

10.3. Realization of synergies

As the actual management and performance of the integration process is outside the cut-off date and scope of this thesis, this section will only introduce some findings on integration and realization and what general expectations an investor in Castellum should have in relation to the announced synergies of SEKm 150 per annum.

10.3.1. Post-merger integration performance

A study by KPMG of 700 large M&A transactions in the late 90's found that the project planning of the integration process was the second most important characteristic of companies doing successful deals. Deals with integration process planning were 13% more likely to be successful making it an even more important value creation factor than due diligence (KPMG, 2016). Another study based on a database of more than 200 transactions found that companies who successfully create value through M&A practice rigorous execution of post-merger integration (PMI) programs to realize synergies and extract value from the target (BCG, 2016). If synergies are not realized within 12-18 months, which equals Castellum's synergy extraction timeline, top performing acquirers consider the synergies unobtainable (BCG, 2016). Furthermore, successful companies also communicate a significantly lower synergy value compared to what they target internally (15% lower for cost synergies).

Top performers extract on average 15% synergies on top of their internal synergy target, and found to follow four general principles for PMI, including bottom-up budgeting, individual follow up of individual mangers, exhibit strong leadership, transparent communication and holding managers responsible (BCG, 2016)

BCG (2016) findings could indicate that if Castellum is conducting strategic synergy communication and PMI management, the synergies communicated internally could be higher than the SEKm 150 synergies that have been communicated. Further, the investors should consider deeming the synergies unobtainable if not obtained within 12-18 months and a strong and established PMO office should be established to further increase the probability of a successful integration.

10.3.2. Cost of integration and negative synergies

Cost of integration

The 12-18 months communicated time to realization by Castellum equals BCG (2016) maximum time for synergy realization before unobtainability. As such, time is of the essence in Castellum’s integration of Norrporten assuming that the potential value can be considered lost after 18 months and it is therefore important that Castellum formulate a strategic PMI plan as set forth above. Execution of a swift and efficient integration also comes at an integration cost which appears not to be accounted for in Castellum’s communication of synergies.

A global survey of 200 senior corporate executives from large companies across a range of industries with recent transaction experience found that the average cost of integration was 14% of the transaction value (Habeck et. al., 2014). 66% of the respondents was satisfied with the level of their integration budgets, and only 14% of the respondents said that they in retrospect wanted lower budget. The researchers isolated the group that was most likely to want to decrease their budget, which was the transactions driven by acquisition of strategic fixed assets (Habeck et. al., 2014), of which are also assumed to be the most relevant category for real estate.

By comparing the survey respondents, top priorities for time spend and budget allocation, which is operations, sales & marketing and R&D illustrate that integration costs intuitively should be smaller for a real estate company. R&D is not relevant for a real estate company, and operations, which on average is the top category, is likely less complex than for the other industries covered in the analysis including industrials and consumer products. IT costs are also an important integration priority that is relevant for Castellum, and is the fourth most mentioned priority in the survey (Habeck et. al., 2014).

Due to the different nature of real estate companies, it is hard to find relevant observations for cost of integrations that is applicable to real estate. The survey findings of total integration costs equal to 14% is assumed not relevant for Castellum as it dwarfs the annual synergies, and this makes sense considered the relative less focus on, and size of operations, sales & marketing and R&D for real estate companies. However, costs related to termination of lease contracts, cost associated with reduction of staff, integration of IT, systems and accounting are unneglectable, but the amount is very hard to estimate in lieu of internal company data. For valuation, it is assumed that the cost of integration is SEKm 150 including severance pay. The estimate is associated with high degree of uncertainty, but leaving it out altogether due to lack of other estimates risks positive bias in the valuation.

Transaction costs

There are many costs related to preparation and execution of M&A transactions, including transaction costs related to the financing pack. Costs that are incurred up to the transaction date i.e. April, 13th, should be considered sunk costs that are incurred regardless of the outcome of Castellum's offer (Johnson, 2002). Costs up to the transaction includes costs in the full preparation phase including management time and internal resources spent, fees to lawyers and advisors e.g. Castellum's fee to corporate finance real estate advisor Pangea Property Partners. In an interview with Ekonomi- och FinansNyheterna on April 14th, Henrik Saxborn stated that Castellum would incur around 25 million SEK in transaction costs (EFN, 2016). He also stated that Castellum had been considering an acquisition of Norrporten for 2.5 years (EFN, 2016), which could indicate that a considerable amount had already been spent in terms of internal resources and time.

Negative synergies

Examples of negative synergies mentioned by respondents in a survey by PwC are negative effect from alignment of accounting and practices, additional investments required in sales and marketing as well as generous employee benefits (PwC, 2010). As both Castellum and Norrporten's financial statements have a high degree of alignment due to accounting standards by IFRS and EPRA, the alignment of accounting policies is expected to have limited impact on the synergies. The rest of the highlighted negative synergies by PwC (2010) is hard to assess without access to internal company data, and it is assumed to not affect the conclusion of the analysis.

10.3.3. Pitfalls

Potential pitfalls in M&A transactions

Based on a range of case studies, some of the common reasons to failed M&A transactions are deals with high complexity that are hard for decision-makers to understand and thus makes decision-makers base some of their choices on guesswork (Burner, 2005). Other reasons for failure includes small margin of error and cognitive bias (Burner, 2005). Cognitive bias is the case when decision-makers are biased against evidence that is prevalent or ignore evidence due to successful behavior in the past or aversion to walk away from a deal and cut losses when investment are already made in preparation, time and effort (Burner, 2005). Cognitive bias due to successful behavior in the past, or overconfidence, is the hubris effect in M&A as first introduced by Roll (1966).

Another potential pitfall in M&A could be culture clash between the organizations as the larger culture typically becomes dominant (Schein, 2009). Culture defines how employees get work done in an organization. However, in a consolidation of two companies, employees become very aware of differences in practice to the other party and protective of their own practices (Marks & Mirvis & Ashkenas, 2014). This occurs as both parties favor their own culture (Schein, 2009). The risk of culture clashes is found to be most evident in integration of larger multinational firms with more distinctive differences in culture as well as language (Schein, 2009).

Potential pitfalls for Castellum and Norrporten

Complexity appears not to be especially high as the companies have very comparable operations and the transaction does not appear to be a tight margin situation, e.g. Castellum was able to maintain its target loan to value ratio (EFN, 2016). However, Henrik Saxborn and his team considered Norrporten as a target for 2.5 years (EFN, 2016), which could indicate that a lot of time, emotion and costs had been put in an acquisition of Norrporten. According to economic theory, sunk costs incurred are irrelevant for future profits and must be ignored, but psychology research suggests that human behavior violates the economic theory as incurred costs are accounted for in future decision-making, also known as the sunk-cost fallacy or sunk cost bias (Haita-Falah, 2016). In terms of culture, the similarity between the companies in terms of location and similar modus operandi, a culture crash does not seem like a big threat to the transaction but the success of a combination is highly dependent on how the management team and Henrik Saxborn communicates and shows leadership (Schein, 2009).

10.4. Synergy valuation

When assessing synergies, it is important to understand at what time the synergies are expected to affect costs to make sure the present value is accurately reflecting the future cost or revenue impact from the synergies (Damodaran, 2005), as well as potential that are incurred in relation to integration and synergy realization. As NAV valuation is based on the balance sheet and cap rate applied to NOI, general and administrative services do not directly enter the NAV valuation and needs to be valued by alternative valuation methods below.

10.4.1. EV/EBITDA multiple

Damodaran (2005) recommends valuing the operational combined firm by reflecting effects from combination in value drivers, including higher growth rate, higher margins, lower cost of deb etc. The value of the synergies would then be the value of the combined firm less the value of the acquiring firm. However, this method only makes sense for cash flow valuation methods, which does not comply with the NAV approach in this analysis. Instead, for operational synergies a method using relative valuation can put a value on the synergies by looking at e.g. the EBITDA impact of the synergies compared to the corresponding EBITDA multiple. Synergies that affect interest payments will affect the income statement below EBITDA, but financial synergies have been considered to not have any significant relevance for this case. Thus, the EBITDA multiple approach will capture the full synergies for valuation purposes. Applying Castellum's EV/EBITDA of 21.3x 2015 EBITDA as of April 13th, 2016, the implied value of the synergies on an enterprise value basis is SEKm 2,789 that is SEKm 2,639 net of assumed integration costs.

$$PV_{synergies} = EBITDA\ impact\ of\ synergies \cdot \left(\frac{EV}{EBITDA}\right) - cost\ of\ integration = SEK\ 131\ million \cdot 21.3x - 150 = SEK\ 2{,}639$$

10.4.2. Present value of perpetuity

Assuming that the valuation was made on a cash flow model, the incremental value from synergies would positively influence the free cash flow discounted with the relevant cost of capital. As the SEKm 131 in cost reductions are assumed to continue indefinitely the present value calculation would in practice be made with a perpetuity calculation (Rosenbaum & Pearl, 2012). The relevant cost of capital applied for property costs in the NAV calculation for Norrporten is 5.67%, which is the weighted average of NOI cap rate of Norrporten. This capitalization implies a synergy value of SEKm 2,310 net of integration costs. Present value of synergies has been calculated with the assumption that SEKm 131 is realized in synergies in 18 months and that SEKm 131 is realized in synergies every 12 months thereafter.

$$PV_{synergies} = PV\ cash\ flow\ impact - integration\ costs = \frac{131}{1 + cap.rate}^{\frac{18}{12}} + \frac{\frac{SEK\ 131}{cap.rate}}{(1 + cap.rate)^{\frac{18}{12}}} - 150$$

Figure 69 exhibits the result based on different capitalization rates. The most relevant cap rate has been assumed to be 5.67% under the assumption that this is the weighted average cap rate for Norrporten and that the cost reductions is mainly related to Norrporten.

Figure 69: Capitalized synergy value

SEK millions	Capitalisation rates							
	5.0%	5.3%	5.5%	5.7%	6.0%	6.3%	6.5%	6.8%
PV of synergies	2,620	2,495	2,382	2,310	2,183	2,096	2,015	1,941

Source: own contribution

10.4.3. EV / FFO

EV/FFO is a similar valuation method to the EV/EBITDA approach, assuming all synergies are reflected at FFO level. However, this method is based on enterprise value and not price as no assumption regarding capital structure relevant for synergies are made. The calculation yields an estimate of SEKm 3,799 net of integration costs.

$$PV_{synergies} = SEK\ 131\ million \cdot 29.77x - 150 = SEK\ 131\ million \cdot 29.77x - 150 = SEK\ 3{,}750$$

10.4.4. Synergies as a cap for control premium

The value of controlling a badly managed company that operates with excess capacity is in general higher than for a very well-run company, as the new owner would add relatively less value for the latter (Damodaran, 2005). The premium can be compared to the discounted value of potential synergies to yield a measure that describe the size of the synergies relative to the deal value and how much of the synergy value the buyer are sharing with the seller (BCG, 2013). The share of the value the seller receives often depends on how uniquely or easily replaceable the contribution from the target is, and the degree of competition in the auction (Damodaran, 2005). It is crucial to track the share of synergies shared with the seller, as if control premium is as big as or bigger than present value of synergies, the deal would destroy value for the acquirer (BCG, 2013). Over the last years, the seller's share of synergies has increased and had a medium share of 31% in 2013 based on 365 major transactions, with large deviations across industries. The largest observed share was found for globally operating industries and the lowest share for locally operating industries (BCG, 2013). The sellers share is not related to size or level of profitability of the target, but is positively related with the profitability level of the acquirer (BCG, 2013), which could indicate that acquirers with best practice operational know-how are expected to extract more value from target and hence has a larger synergy anticipation from seller. However, communicated synergies are not always reliable as communicated synergies are set below the management internal estimate to get a positive market reaction on over performance. For example, 94% of merger announcement with synergy announcement do not announce revenue synergies (BCG, 2013).

The estimated market value of equity of SEKm 11,999 represent the underlying equity value of Norrporten and therefore the control premium implicitly represents SEKm 1,399 of the SEKm 13,400 consideration paid by Castellum for Norrporten. This indicates that Castellum paid Norrporten SEKm 1,399 for synergies that is worth an estimated SEKm 2,639 based on the median of the three estimates. This result implies that Castellum have shared 53% of the value of synergies with Norrporten. Based on this result, the share of synergies that Norrporten got is above the observed market average, especially for locally operating companies.

10.4.5. Synergy valuation summary

Because there often is a difference between externally communicated synergies and internally targeted synergies as well as little focus on cost if integration, the true value of synergies can be hard to estimate. The estimated present value of the synergies is estimated to be SEKm 2,639, based on the median of the three estimates. Looking at the underlying calculated market value of equity, Castellum appears to have been overpaying for the synergies by sharing 53% of the value of synergies with the sellers, compared to 31% as average across a range of transactions. However, synergies communicated are often below the acquirer's internal synergy estimates, which may also be the case for Castellum, and thus over estimating the value of synergies shared with Norrporten.

11. Valuation of combined firms

11.1. Conclusion of valuation on combined firms

The value of the combined firms equals the value of both firms independently and the value of the synergies (Damodaran, 2005). The estimation of the equity value of the combination of Castellum and Norrporten as of April 13th, 2016, is based on the estimated enterprise value of the two companies, the estimated value of synergies and NIBD, and is calculated to be SEKm 37,104 or SEKbn 37.10. 63% of the overall enterprise value is related to Castellum compared to 34% for Norrporten and 4% for the synergies.

Figure 70: Value of combined firms

Estimated market value as of 13 April 2016, SEK millions		
Enterprise Value, Castellum	SEK 44,966	63 %
Enterprise Value, Norrporten	SEK 24,062	34 %
Present Value of Synergies	SEK 2,639	4 %
Combined Enterprise Value	**SEK 71,667**	100 %
NIBD, Castellum	-SEK 22,500	
NIBD, Norrporten	-SEK 12,063	
Combined Equity Value	**SEK 37,104**	

Source: own contribution

11.2. Sensitivity analysis

11.3. NAV sensitivity

The NAV valuation of Castellum and Norrporten is based on several assumptions. The most significant input parameter that is influenced by subjectivity is the cap rate for NOI in NAV. When the capitalized NOI makes out around 90% of the asset side in total NAV before deducting liabilities, together with the fact that this is the most subjective input assumption, it becomes what is considered most relevant to cover in the sensitivity analysis for the NAV calculations for both Castellum and Norrporten as independent companies.

As the cap rates are calculated regionally and for the different segments, the sensitivity analysis is conducted based on the weighted average ("blended") cap rate to illustrate the overall sensitivity. However, it is important to keep in mind that errors could cancel each other out i.e. for the blended cap rate to increase by 10% every single cap rate estimate must for that particular valuation must be 10% higher. Thus, bias in cap rates for only a specific region or segment will have considerably less impact on the valuation than an overall bias in the cap rates, e.g. 10% positive bias in the cap rate for office and retail in west Sweden for Castellum impacts the NAV by 1.7%.

As evident in the figures below, the NAV is clearly sensitive to the cap rate. However, the authors are confident the extensive bottom up analysis for cap rate calculation based on 9,000 observations sufficiently mitigates the risk from bias in cap rates.

Figure 71: Castellum: sensitivity to cap rate

Castellum, Cap. rate sensitivity									
Blended cap. rate	**5.25 %**	**5.50 %**	**5.75 %**	**6.00 %**	**6.12 %**	**6.25 %**	**6.50 %**	**6.75 %**	**7.00 %**
NAV pr. share, SEK	169.3	157.2	146.1	136.0	131.2	126.6	118.0	110.0	102.6
NAV, SEK	29,119	27,035	25,131	23,387	22,575	21,782	20,300	18,928	17,654
Index	128.99	119.75	111.32	103.59	100.00	96.48	89.92	83.84	78.20

Source: own contribution

Figure 72: Norrporten: sensitivity to cap rate

Norrporten, Cap. rate sensitivity									
Blended cap. rate	**4.67 %**	**4.92 %**	**5.17 %**	**5.42 %**	**5.67 %**	**5.92 %**	**6.17 %**	**6.42 %**	**6.67 %**
NAV, SEKm	16,796	15,344	14,033	12,842	11,756	10,762	9,848	9,006	8,227
Index	142.87	130.52	119.36	109.24	100.00	91.54	83.77	76.61	69.98

Source: own contribution

12. Conclusion

The outline of the thesis was to investigate Castellum's acquisition of Norrporten, which was announced on April 13th, 2016. Castellum announced in connection with the acquisition that they had acquired Norrporten at the fair value of the property portfolio, in addition to targeting synergies of SEKm 150 p.a. to be realized within 12-18 months. The thesis analyses how the price paid by Castellum compares to the estimated fair value of Norrporten, as well as the rational for and estimated value impact from synergies.

To set the stage for the analysis, the different buyers in the real estate sector was introduced with Castellum and Norrporten defined as Real Estate Operating Company (REOC). Furthermore, the supply chain and value drivers are analyzed to give an introduction to how REOCs create profits and what the key fundamental market value are for a REOC. Due to the structure of REOCs with a long-term ownership perspective and investment properties being depreciating assets that require recurring investment to stay relevant for the current and future demand of the society, why the presented value chain can be seen as a property life-cycle for a REOC to not be threatened by obsolescence.

For the authors to be able to accurately value both Castellum and Norrporten, as well as identify possible internal drivers for consolidation, a thorough strategic analysis was carried out with emphasis on the external environment on a macro level as well as the industry profile. The macro level analysis concluded that main factors impacting the future for real estate investors are demographic changes together with technological advancements leading to society changing at a faster pace. Focus on environmental friendliness is driven by governmental initiatives and also supported by the younger generations, which will intensify the focus on high-quality properties with up to date technical standards going forward. Nevertheless, the industry profile suggests that there are limited benefits in revenue from consolidation as no pricing power was identified.

The internal analysis concluded that a consolidation could make sense from a strategic point of view with complementing internal capabilities, especially due to Castellum's track record of investing in growth areas, and Norrporten's ability to retain a large and important customer network with what is perceived as secured income tenants, also supported by their best in class occupancy rates. Furthermore, the financial analysis proved that Castellum has been a long-term top performer on profitability and efficiency from operations with a low risk capital structure, whereas Norrporten exhibited room for improvements in operational efficiency due to high overhead costs. However, Norrporten has been able to demonstrate a position with overall low financial risk. The combined balance should allow Castellum to maintain a low risk balance sheet following the acquisition, while cost reductions from improving Norrporten's operational efficiency poses an opportunity supporting the synergy angle of the acquisition.

The NAV model with a subsequent discussion on premiums makes out the cornerstone of the valuation, as this method had the broadest support from practitioners and literature in setting the starting point for a valuation dealing with the issue related to parallelism of asset markets for REITs and REOCs. In addition, relative valuation methods were applied to sense check and support the NAV valuation. The estimated equity value of Castellum was found to be SEK 130.6 per share as of April 13th, 2016, identical to the observed stock price, but indicating a 3% discount to the share price adjusted for the reaction related to rumors regarding the acquisition of Norrporten. Norrporten's estimated total equity value was estimated to SEKm 11,999, corresponding to 10.4% or SEKm 1,400 below the consideration of SEKm 13,400 paid by Castellum in the transaction

The authors outside-in assessment of the synergy rationale and what could be expected for investors was thoroughly discussed in relation to the SEKm 150 p.a. communicated by Castellum. A study of empirical research, case studies of previous M&A activity with synergies across several sectors including real estate, coupled with the analysis of Castellum and Norrporten formed a synergy estimate of SEKm 131 p.a. When capitalizing estimated synergies, the calculated present value of the synergies was found to be SEKm 2,369 including integration costs of SEKm 150. This result implies that based on the stand-alone equity valuation for Norrporten, the acquirer paid SEKm 1,400 for synergies worth SEKm 2,369 i.e. 51% of the value of synergies was shared with the seller. This implies that the transaction is expected to be accretive for Castellum, however, the share of synergies that was shared with the sellers is high compared to empirical research, especially for a real estate company that is only operating locally.

Timing is of the essence when realizing synergies, and the completion of the post-merger integration within 12-18 months is essential for the ability to obtain the synergies. There are also negative synergies and potential pitfalls related to acquisitions that is hard to quantify in an outside-in analysis. The authors believe the high degree of synergies shared with the seller can be due to cognitive bias as hubris or sunk cost fallacy, as Castellum had considered an acquisition of Norrporten for 2.5 years prior to the announced acquisition and had thus invested time and money into completing an acquisition of Norrporten.

On a longer term, the baseline expectation for shareholders in Castellum based on empirical research is -10% underperformance for the share over the next five years, and that financing with a rights issue would typically lead to a further negative stock price reaction on the short run due to signaling. However, it is estimated that the acquisition is accretive for Castellum with SEKm 969 and the transaction should thus not destroy value for shareholders, given that the expected synergies are realized in due course.

13. The thesis in perspective

The authors were faced with complexity in valuing the companies due to the presence of parallel asset markets i.e. the stock market and the underlying real estate market. With NAV as the cornerstone valuation method, the cap rates applied to NOI are specifically calculated for the underlying real estate assets and the cost of capital is therefore independent from the operational entity owning the assets. The thesis also analyzed synergies relevant for the transaction, which are considered specific for the buyer/owner and not the underlying real estate assets, and therefore the authors question how these two methods are paired most optimally as they build on two different sets of assumptions and capital costs. No research was found on this issue, and therefore it was handled from a practical point of view by applying a range of methods in synergy valuation to validate the capitalized synergy estimate.

After study of a large selection of research papers by professionals, the authors were surprised by how little emphasis the professional equity research analysts have put on the communicated synergies, both in reports and in the analyst conference call following the transaction. The authors believe the synergies are highly relevant given their impact i.e. synergies were found to increase the combined equity value by 7.7% and represents potentially SEKm 150 dividend p.a. One hypothesis could be that equity research analysts are putting much weight on the NAV model, and that this may lead the valuation focus to underlying asset values and away from potential cash flow effects related to operational improvements and synergies. A qualitative study of valuation methods among real estate analysts and investment professionals would be an interesting extension of this hypothesis.

The authors had the opportunity to follow the performance of the consolidated company for over a year from the announcement on April 13th 2016. The SEKbn 4.0 in asset sale following the acquisition as mentioned in the analyst call was delimited by this thesis, and Castellum eventually ended up with asset sales of SEKbn 7.5 between Q3 2016 and Q1 2017 supported by a strong transaction market. The sales represented 10% of the book value of investment properties as of Q1 2017. The extensive disposals of assets highlight the relevance of asking to what extent communicated synergies was calculated assuming that the entire Norrporten portfolio is kept without any divestures, or if the synergies should be expected to be reduced by 29%, corresponding to the reduction in investment properties gained through the acquisition. This reduction would impact the conclusion of the thesis.

Since the acquisition announcement, Castellum’s share price has returned 17.4% and thus underperformed the Stockholm OMX 30 Index by 1.7%, but outperformed the peer group significantly. The SEKbn 7.5 disposal of investment properties was mainly related to the entire portfolio in Northern Sweden, as well as some assets in the Öresund region. Based on the analysis of the external environment, the Northern Sweden portfolio represented significant risk compared to the overall portfolio and could be a driver of recent stock price movements.

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