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Stocks and residential real estate as investment options in Finland

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Bachelor's Thesis

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This study focuses on two asset classes, residential real estate and stocks, and their roles as investment options in Finland. The purpose of this study is to observe and analyse the fundamental characteristics of both asset classes.

Residential real estate and stocks have historically not differed in terms of return as was discussed by Shiller in his book *Irrational Exuberance* in 2015. It is therefore useful to study the potential and obligations brought on by purchasing these asset types alone and simultaneously. By doing this, an investor can consider factors and scenarios that are not necessarily apparent at first glance and manage their risk better.

I have approached this topic with the help of relevant literature pertaining to both stocks and residential real estate. This data was complemented with graphs of historical price developments and statements on what they could mean in the future.

In this study I wanted to answer whether it is a good decision to invest in both stocks and residential real estate simultaneously. My hypothesis was, yes, it is a good decision, as these assets produce returns differently. I attempted to challenge this hypothesis by searching for evidence that would prove otherwise. I found differing opinions on the future of correlation between the asset classes but eventually discovered no evidence that would fully support a negative answer. It is therefore a good decision to invest in both stocks and residential real estate simultaneously.

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1 INTRODUCTION TO THE TOPIC AND THE REASON FOR CHOOSING IT

This study aims at introducing, analysing and comparing residential real estate and stocks as investment options in Finland. The focus of this study is in finding evidence for or against investing in two different financial instruments through studying their fundamental qualities and historical price developments. Any findings this study gives rise to will be used to evaluate whether and how portfolio diversification is improved if one chooses to invest in these two instruments simultaneously. My research question for this study is:

"Is it a good decision to invest in both stocks and residential real estate simultaneously?".

I have chosen this topic to approach residential real estate as an alternative or complimentary asset class to traditional instruments of investment, in this case stocks. During the process of writing a research plan, I studied market developments in both OMX Helsinki and national RE markets and observed that the two reacted differently to both the collapse of the Soviet Union and the Financial Crisis of 2008, both resulting in economic depressions. Residential real estate is already a popular investment target, particularly in the growth centres in Finland, and I will attempt to discover and explain whether the popularity is justified or something else. I personally believe there is limited information regarding the investment validity of many asset types and have developed an interest specifically towards residential real estate due to a history of price appreciation and a seemingly low correlation with the stock market.

I have already hypothesised that the answer to the research question will be a "yes, it is a good decision to invest in both residential real estate and stocks as it improves portfolio diversification". This is my early estimation as investing across different asset classes is a common strategy used by institutional investors to mitigate risk. This study will aim at testing this hypothesis through quantitative and qualitative analysis which will bring the two asset types as close to each other as possible. Once a reasonable deduction and adding of elements to identify the risks and rewards of the two have been made, they will be set side by side for comparison.

The framework in which this study is written is based on historical data and current legislation regarding ownership and tax-related obligations of owning these two asset types. It is important for me to highlight that historical performance can only inspire an educated guess and that whatever hypotheses or results arise in this study are by no means more than that. The best outcome this study can have is to broaden my understanding and possibly the readers on how to distinguish raw comparison from meticulous analysis of two very different asset types, their risks and rewards. My intention is however not to intimidate but to encourage and facilitate reasonable decision-making when it comes to investing.

1.1 Limitations of the study

Before proceeding with the research and results I would like to address the limitations of this bachelor's thesis. These limitations are created by the vastly different nature of the asset types and the level of understanding and skill I have in analysing and presenting such a topic.

After preparing to write this study by evaluating my objectives and framework it became evident that the two assets are difficult to set side by side for comparison. This was not something that occurred to me as I initially chose to study this topic but became clear after consulting with my instructor. Stocks and residential real estate differ vastly in supply, demand, accessibility, liquidity, utility value, profiting (12 months of rent vs. 1 dividend per year), management, liabilities, etc. My objective is to however do my best to identify and include cash flows in and out of an investment process for both asset types.

As stated before, the only way to explore the sphere in which these asset types can be set up for a fair comparison can only be created through arbitrarily adding (and perhaps subtracting) elements necessary to facilitate true comparison. This will be the greatest challenge of this study. Another challenge I will face is in curbing my enthusiasm towards real estate price development in the growth centres around the country. I must remain detached from preferentially analysing either asset class.

One key limitation in this study is in how it discusses and attempts to present ways of achieving diversification. I chose to limit the origin of studied assets to Finland to bring about efficiency to the process of comparison. Limiting one's choice of investment targets is however counter-productive as a method of diversification. All assets originating in Finland are exposed to a plethora of risks

which arise from the illiquid state of the country and its state of being. Political, social, economic, geographical and a variety of other risks are present in ways that should be considered when choosing an investment target. I will do my best to address these risks to a satisfactory extent although the risk is difficult to quantify. No investment is independent of externally imposed risks. In addition, the decision to invest in only two asset types is not the best way to approach a diverse portfolio either. A truly effective portfolio does not limit its choice of asset classes in achieving a profit and limiting a risk. Bonds, index-loans, commodities, land, cars and maybe even moomin mugs can be argued to hold value as investment targets. Diversification however must begin someplace, and, in my opinion, Finnish investors should be concentrated on the benefits and risks of being too heavily invested in stocks and/or residential real estate.

It is my sincere intent to produce a meaningful study which transparently walks the reader through each section, conclusion and implication, resulting in a comprehensive reading experience. The goal of this research is to show my understanding of the process and discussed topics by not only expressing my skills and know-how on the topic but maturely professing any and all limitations and misunderstandings I encounter during this process.

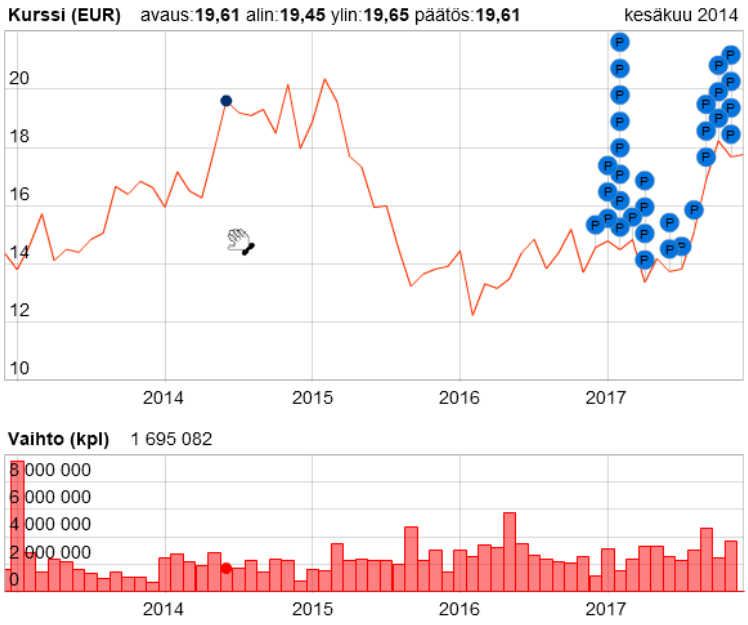
2 STOCKS AS AN INVESTMENT OPTION IN FINLAND

The following passages of the study will focus on presenting stocks as an asset class and investment option in Finland. The focus will be on stocks traded in OMX Helsinki which is the main stock market in Finland. A quick introduction into stocks will be followed by descriptions of accessing the asset, profiting from stocks, risks and rewards. Risk profiling and diversification will also be discussed in detail as they are important to the core focus of the study. I will cover direct investments, investing through funds and ETFs.

2.1 Stock fundamentals

Stocks are shares or portions of a company that are sold in exchange for capital. By owning shares, an individual or community becomes one of the owners of the company and is entitled to dividends paid by the company. Dividends are annual payments paid to company owners and are based on the company's profits and dividend policy. Dividend policies dictate how much of a company's profit is paid out from the company to owners. It is common for a company to have two types or series of stocks, for example Kone A as a preferred stock and Kone B as a common stock. It is typical that one

series is largely outnumbered by the other. Kone A for example could represent roughly 5 % of the total number of shares. The main reason for this convention is to allocate decision-making power to a controlled group of people, for example a family, and thus prevent external owners from having too much say in what the company does. All shareholders have the right to participate in company meetings and voting on company policy and the election for the members of the board of directors. It is typical that the minority share series has a significantly higher number of votes tied to it in comparison to the common series, for example 10 to 1 votes. A preferred stock is often also subject to priority placement in receiving dividends and returned capital in case of bankruptcy. Stock prices fluctuate over time as market expectations develop. The market makes several assumptions regarding the current profitability and the prospects of a company which influence supply and demand of a certain stock. When supply exceeds demand, a company's share tends to decrease in value. The opposite is equally true. Investors also tend to take differing stances on the prospects of a company. One shareholder may choose to sell his or her stocks at time where they feel a stock is overpriced or even under-priced. (Pörssisäätiö, 2017)



(Kauppalehti,fi, 2018, Fortum Oyj)

This image is from Kauppalehti's website (2018) and shows a five-year trend of Fortum's share trading on OMX Helsinki. You can notice that the share price has moved between roughly 12 euros and just over 20 euros. The bottom graph illustrates the number of trades made with the share.

There is quite a lot of variance in the number of trades ranging from 1 million shares to eight million. An increase in the number of trades often results from a significant change to the perceived value of the share.

2.2 Fortum's dividend history from 1999-2017.

Valitun osakkeen osinkojen historiatiedot

Vuosi	Irtoaminen	Oikaistu euroina	Määrä	Alkup. valuutta	Tuotto-%	Lisätieto
2017	05.04.2017	1.10	1.10	EUR	7.5	
2016	06.04.2016	1.10	1.10	EUR	8.6	
2015	01.04.2015	1.30	1.30	EUR	6.6	
2014	09.04.2014	1.10	1.10	EUR	6.7	
2013	10.04.2013	1.00	1.00	EUR	6.2	
2012	12.04.2012	1.00	1.00	EUR	5.7	
2011	01.04.2011	1.00	1.00	EUR	4.2	
2010	26.03.2010	1.00	1.00	EUR	5.1	
2009	08.04.2009	1.00	1.00	EUR	6.9	
2008	02.04.2008	1.35	1.35	EUR	5.1	
2007	29.03.2007	1.26	1.26	EUR	5.6	
2006	17.03.2006	1.12	1.12	EUR	5.2	
2005	01.04.2005	0.58	0.58	EUR	3.9	
2005	01.04.2005	3.75	3.75	EUR	25.0	Osakkeiden jakaminen
2004	26.03.2004	0.42	0.42	EUR	4.8	
2003	28.03.2003	0.31	0.31	EUR	4.8	
2002	27.03.2002	0.26	0.26	EUR	4.1	
2001	05.04.2001	0.23	0.23	EUR	5.2	
2000	18.04.2000	0.18	0.18	EUR	4.3	
1999	21.04.1999	0.13	0.75	FIM	2.6	

(Kauppalehti, 2018, Osingot)

The Kauppalehti (2018) image above shows dividend pay-outs made out to shareholders. The third column from left indicates the dividend per share and sixth column the percentage of return per share. You can observe a dividend payment made every year, ranging from 0,13 € per share to as much as 3,75 € per share. One observable intricacy took place in 2005 when Fortum decided to reward its shareholders with Neste Oy's shares held by the company. We can observe that in 1999, Fortum's share was trading at roughly 5 euros per share. What makes this particular stock unusual is that it paid back its purchasing price in 7, a relatively short time. A relevant figure in the image is the second column from the right which indicates the percentage of profit per share at the time shown in the second column from the left. Between 1999 and 2017, Fortum's dividend per share percentage has ranged from 2,6 % to 25 % and 3,9 % in 2005.

2.3 OMX Helsinki

There are seven industries represented in the Helsinki Stock Exchange. Oil and gas, basic materials, industrial products and services, consumers' goods, information services, general services, finance

and technology. Spreading capital across different industries is a way of diversifying a portfolio. In theory, companies that operate in two separate industries have differing risk profiles and are therefore less likely to trend similarly on the market. (Saario. 2016, 18-20) Diversification will be discussed in more detail further along in this study (Saario, 2016, Miten sijoitan pörssiosakkeisiin)

(Kauppalehti, 2018. Indeksi: OMX Helsinki)

The image above shows the 10-year trend of OMX Helsinki Index. This graph illustrates the aggregate value of every company's share in the market. Graphs like this are used to monitor fluctuations in the whole market.

2.4 Buying and selling stocks

Shares can be bought directly from companies by participating in Initial Public Offerings or the primary market. This is an event in which the public purchases stocks which have been created and issued by a public company. Most stock trades take place in the stock market exchange or the secondary market. The number of trades a company's stock is involved in is dependent on the number of shares available for trading and the demand for the stock. Stocks with a high availability and demand tend to have high "liquidity". Liquidity is essential to this research as it is a key difference between residential real estate and stocks. It is possible to trade some of the liquid stocks, such as Nokia's stocks, at almost any given time as long as the market is open. Stocks are therefore assets with high liquidity as liquidity measures the rate at which an asset can be converted into cash. Exceptions do occur but in comparison with real estate, stocks have better liquidity. Stocks can be purchased online with the help of a bank and broker. A desired purchasing or selling price is

communicated to a broker who then places the order on the market. This order is fulfilled when a buyer or seller matches the desired price with their offer. Modern trading can be almost instant due to highly efficient trading systems and an abundance of potential counterparts. Banks charge a fee for making a trade depending on the size of the order. Some banks also offer clients investor class services which offer investment services for a lower fee. Clients can often also access a more cost-efficient investor class by placing high volume orders at a frequent rate (Saario. 2016, 27-35). Profits from dividends and sales of stocks are subject to the capital gains tax. (Pörssisäätiö. 2017)

2.5 Buying through a middle-man

It is important to mention that stocks can also be accessed indirectly by using a middle-man. An investor can buy into a fund which in turn handles direct investments. Funds pool money from a large group of investors and manage the accumulated money in exchange for a fee. ETFs or exchange traded funds are a similar alternative in which the fund is comparable to a company and its' shares are traded on the stock market in a similar way stocks are. There is currently only one ETF on the Helsinki Stock Market, the OMXH25 ETF. This ETF is invested in the 25 largest companies in the Helsinki stock exchange. It is also worth mentioning that these 25 companies are often used as a "benchmark" when comparing portfolio performance. A portfolio with a similar risk profile or selection of assets that beats the performance of the ETF or the benchmark index can be considered a successful portfolio and vice versa. As an index, the 25 companies are compiled and analysed for their performance. The company selection is carried out by "weighing" their presence in the index value. There are variations to the number of shares available for the 25 companies and they are therefore equalized so that they are represented in an equal way when a part of the index. (Saario. 2016, 257-277)

In conclusion, stocks are tokens of ownership that are exchanged for capital. They are profited from by holding them for a given period, gaining dividends and eventually a profit from selling if there has been price appreciation. However, not all companies pay dividends perennially, some pay dividends irregularly, many stocks depreciate over time and some companies go bankrupt. Bankruptcy can lead to a complete loss of invested capital as lenders are prioritized in the compensation scheme of a company in case of bankruptcy. (Minilex, 2018, Last accessed 18 March 2018)

2.6 Risks of investing in stocks

To begin analysing whether stocks are a suitable asset type for an investor it is important to first identify and understand the risks involved in trading the asset. The following segment is going to present the most common risks and subsequent dangers an investor is exposed to by investing in stocks. To narrow down the scope of the study, the focus will be on identifying object-driven risks or risks that arise from the nature of the held asset.

Unsystematic risk

Unsystematic risk is the term used for describing the possibility in which individual stocks can depreciate regardless of events in the wider market. Unsystematic risk can be realized when market lowers its' expectation of the future profits of a company. There are a variety of reasons this occurs, and it is ultimately the decision of each individual investor to judge whether a depreciation is long term or short term. Many market decisions are made after a company issues its quarterly report, indicating its most recent business activities and profitability. Companies are also compelled by law to give profit warnings in situations when it has become clear that the profits of an on-going quarter will be significantly lower than the same quarter one year ago. Companies can also give profit warnings if the quarter's profits are significantly better than a year ago. An investor should be vigilant when observing what is being communicated by both the company and the media, as companies are dependent on their supply chains operating fluently. Issues with a supplier, retailer or even a customer segment can cause up or downswings to the stock price. Quarterly reports and profit warnings are trustworthy sources but can be provided too late for an investor to make the would-be desired transactions. Unsystematic risk is can be measured through analysis of mean variance and expected returns which can then be incorporated into a strategy to control for it. (Saario. 2016, 79-97; Pörssisäätiö. 2017)

Systematic risk

Systematic risk is the inborn and undiversifiable risk in the market. Systematic risk can be limited to a national market or it can be global. Systematic risk is undiversifiable, meaning that no amount of different stocks in a portfolio can eliminate the risk. Systematic risk can for example originate from

changes to fiscal policy. For example, a change in interest rates imposed by a central bank alters the amount of money available for investing which then reflects onto the whole market. Theoretically, any increase to interest rates in an economic area, such as the Eurozone, should eventually cause price depreciation in the long term. It must however be noted that investors and the money invested in a market can originate anywhere in the world and is therefore subject to different national central banks and their interest rates. (Saario. 2016, 79-97; Pörssisäätiö. 2017)

Loss of capital

However, since we are comparing public shares to residential real estate, the full extent of harm that can come to a shareholder is the total loss of invested capital. This is because a shareholder has no fiscal liability to the company. Once a company bankrupts, it liquidates its' existing assets and uses its remaining solvency to first pay back its' lenders and after that the shareholders. Shareholders are compensated according to the number of shares they hold from the company. (Pörssisäätiö. 2017)

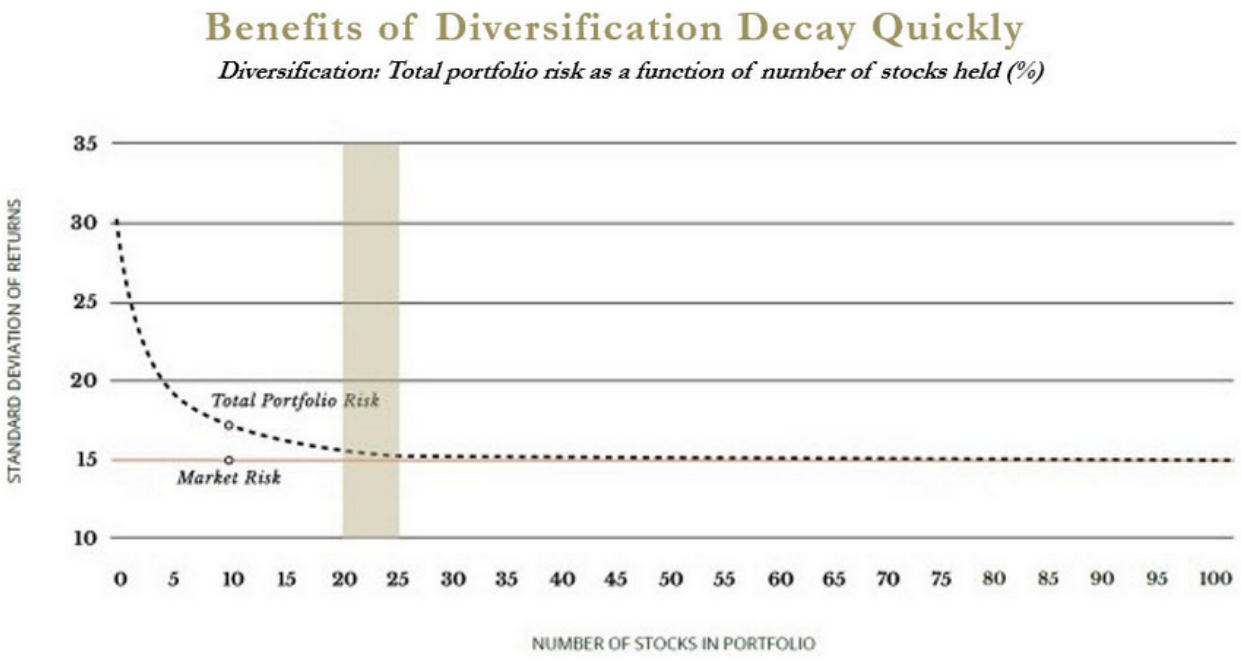
2.7 Diversification

Diversification is a method used for removing unsystematic risk by allocating capital to the stocks of several companies. Harry Markowitz is the original creator of the theory. Markowitz created a model called Modern Portfolio Theory or MPT which arranges a portfolio so that expected returns are maximized for a given level of risk. The theory relies on the assumption that investors are most interested in mitigating losses and are generally averse to risk. Modern portfolio theory maintains that the components of a portfolio should not be evaluated for their individual risk and return but for their contribution to the whole portfolio's risk and return. A portfolio constructed according to MPT are called "efficient portfolios". MPT is based on finding the optimal portfolio or "efficient portfolio" by assessing which assets are least correlated with each other. According to Markowitz, there are portfolios that offer a weaker risk-return relationship than others and that it is the best option to invest in the portfolio that has the best risk-return relationship. MPT begins with two portfolios which we can call Portfolio A and Portfolio B. Both portfolios hold two individual stocks each. To analyse a portfolio, the assets are compared for their expected returns, for example 10 % and 12 % p.a which are multiplied by each assets presence or "weight" in the portfolio. This portfolio would result in the following equation: (10% x 50%) + (12 % x 50) = 11 % p.a. return. The portfolio's risk is then calculated by using the variance of each asset and the correlation between them. The

return and risk are then compared with a different portfolio after which the investor can make a choice as to which portfolio has a higher return-risk relationship. Please note that most portfolios do not hold two individual shares but a much larger number. MPT, its derivatives and other diversification techniques are components or foundations of efficient data tools used in determining the best portfolios. In practise this means that finding an efficient portfolio is not a simple task as several stocks and their mutual relationships need to be determined beforehand. (Markowitz. 1968)

Is there an ideal number of different stocks?

To discuss what is an adequate number of individual stocks I have referred to Joshua Kennon, the managing director of Kennon-Green & Co who offer asset management services. In his article for The Balance, Kennon discusses how much diversification is enough (2018). He discusses the statements of four different journals written between 1968-2006 which have varying opinions on how many individual stocks are necessary to achieve optimal diversification. John L. Evans and Stephen H. Archer argued that 10 stocks were enough diversification in 1968, whereas Domian, Louton and Racine argued that in 2006 an investor should invest in more than 100 stocks. I will not attempt to discover what the optimal number of individual stocks is for a portfolio but ask the reader to consider the difficulty present in the effort. Due to the time-consuming and difficult nature of seeking optimal diversification, it is also a reasonable choice to invest in a fund or an ETF.



Intrinsic Investing, an Ensemble Capital publication, criticizes excessive diversification in its 2016 article and calls it pointless and damaging to returns. The image above illustrates the company's

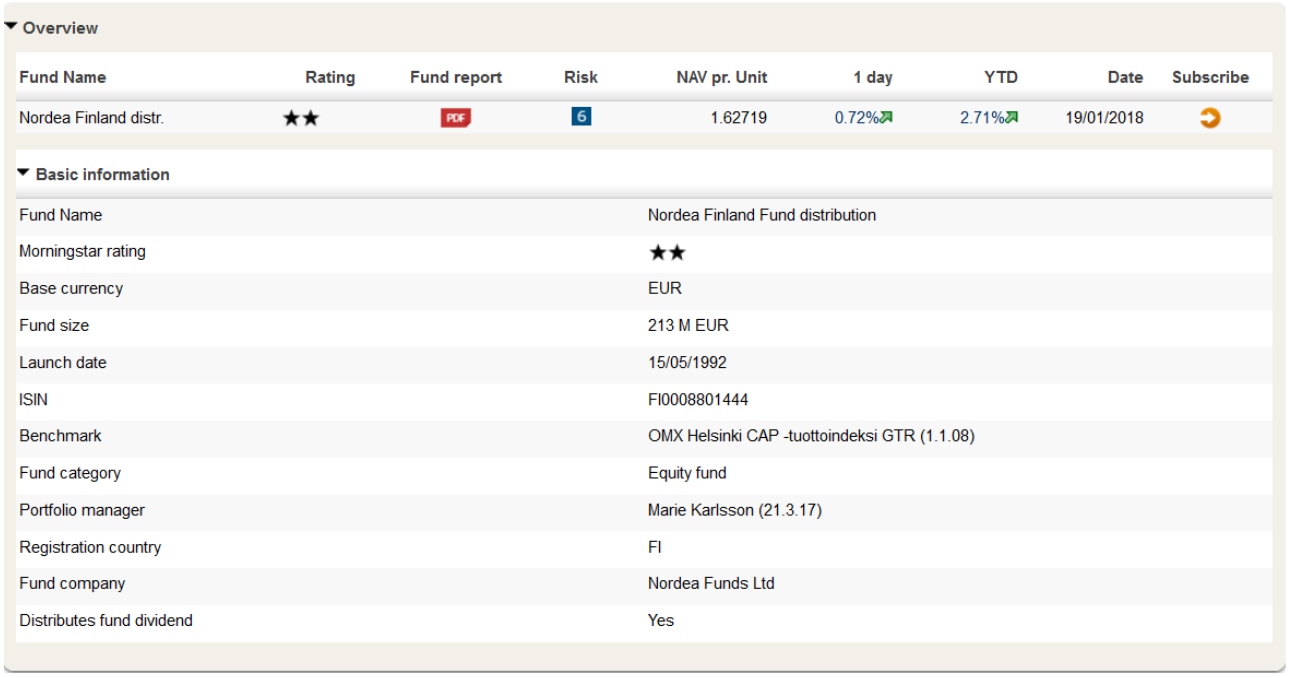
view on how investing in more than 20 stocks does not yield positive outcomes for a portfolio. The same article also points out that a fund that is over-diversified can also be costlier as the fund manager can be rewarded according to the number of different stocks. This is a factor to consider when scouting for possible funds to invest in. Overdiversification has also been studied by observing pension funds. Mckay, Shapiro and Thomas deduced in their work "What Free Lunch? The Costs of Overdiversification" (2016) that most large US pension funds are overdiversified. This leads to a reduced active risk and leaves the funds with high fees and a lowered chance of competing with its benchmark. It should also be noted that all theoretical tools used in determining a diverse portfolio rely on historical relationships between assets that are not necessarily related to each other in any other way than through artificial analysis. IFCM Capital also pointed out that behavioural economists have "proven" that the assumption of rational decision-making by investors is not a reliable or even true foundation that could be built upon when studying historical price correlations and diversification.

2.8 Funds and ETFs

Funds can be mutually owned, hedge funds, index funds or combination of two or more asset classes. ETFs are exchange traded funds and operate in a similar fashion as stocks. The downside of being invested in a fund is the management fee that the operating company charges each owner. The fee is typically a percentage of funds managed and changes according to how "active" or "passive" the management technique is. Active funds are closely managed and balanced portfolios which attempt to make market-beating profits, sometimes even regardless of the market situation. A hedge fund would be an example of a typical active fund. An index fund on the other hand can invested in a local market, such as OMX Helsinki, and will invest in each equity present in the market at their weighted presences. An index fund is typically passively managed and will yield market returns minus management fee minus transaction fees. Several companies in Finland sell different types of funds for an investor to take part in. This study will present some examples of funds operated by Finnish companies and their returns in following segments. When an investor chooses to invest in a fund or buying into it, he or she should consider the fundamental risks of the assets. According to the client guidelines provided by Mandatum Life Insurance Company Limited (2015), these risks are market risk, return risk, interest rate risk, credit risk, counterparty risk, currency risk and liquidity risk. The market risk is best described as the possibility of larger negative changes in the economy which reflect onto companies the fund is invested in. The profit risk pertains to the

changing value of the investment due to it being bound by the development of its target investments. Historical trends are not a guarantee of future returns nor is the investor entitled to unaltered profits from the companies the fund is invested in. The interest rate risk refers to possible changes originating in central banks which influence the money supply or availability of money for investing in the market. The credit risk refers to the possibility of a deficit or weakened financial position of an issuing company the fund is invested in. The counterparty risk means the possibility of a contract partner's inability or unwillingness to fulfil its' obligations towards the other party which can translate to a limited or complete loss of invested funds. The currency risk materializes when an investment in a foreign currency experiences value changes due to changes in the value of the currency the investment has been made in. The liquidity risk refers to the alternative that one or more assets can be moved only partially or not at all due to the absence of a counterparty in the market. (Saario. 2016, 257-277)

2.9 Nordea Finland fund



Overview

Fund Name	Rating	Fund report	Risk	NAV pr. Unit	1 day	YTD	Date	Subscribe
Nordea Finland distr.	★★	PDF	6	1.62719	0.72%	2.71%	19/01/2018	

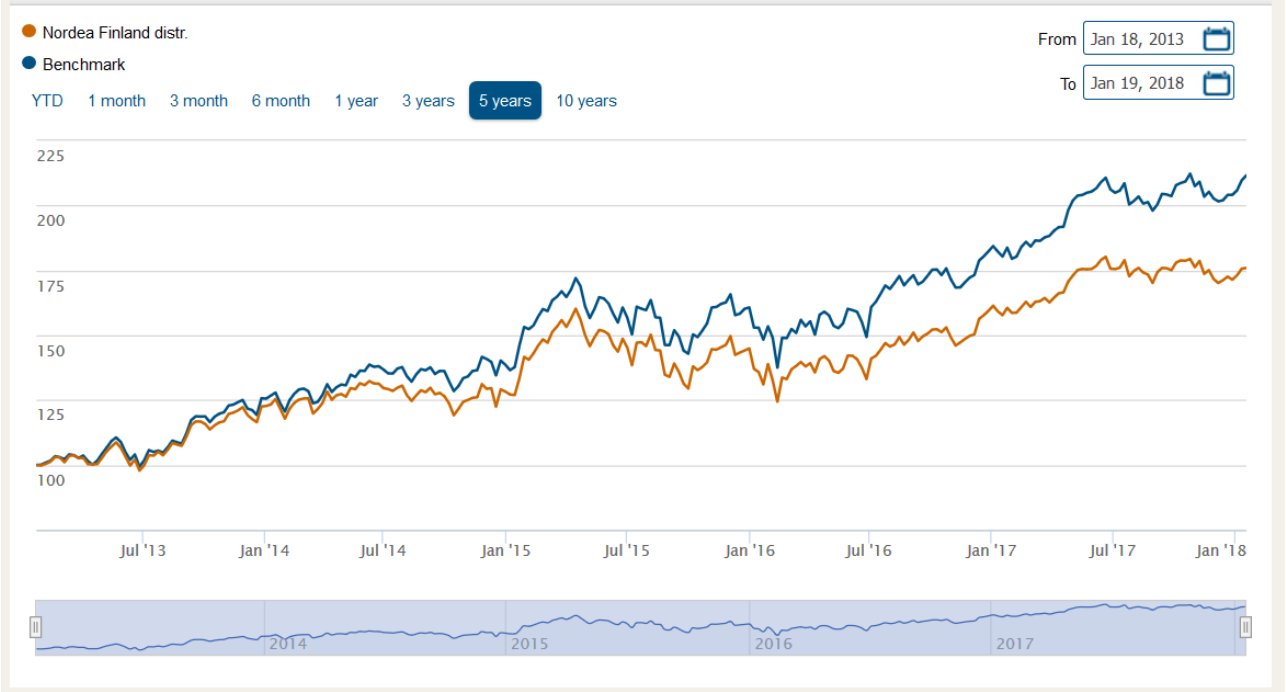
Basic information

Fund Name	Nordea Finland Fund distribution
Morningstar rating	★★
Base currency	EUR
Fund size	213 M EUR
Launch date	15/05/1992
ISIN	FI0008801444
Benchmark	OMX Helsinki CAP -tuottoindeksi GTR (1.1.08)
Fund category	Equity fund
Portfolio manager	Marie Karlsson (21.3.17)
Registration country	FI
Fund company	Nordea Funds Ltd
Distributes fund dividend	Yes

(Nordea, 2018, Nordea Finland fund)

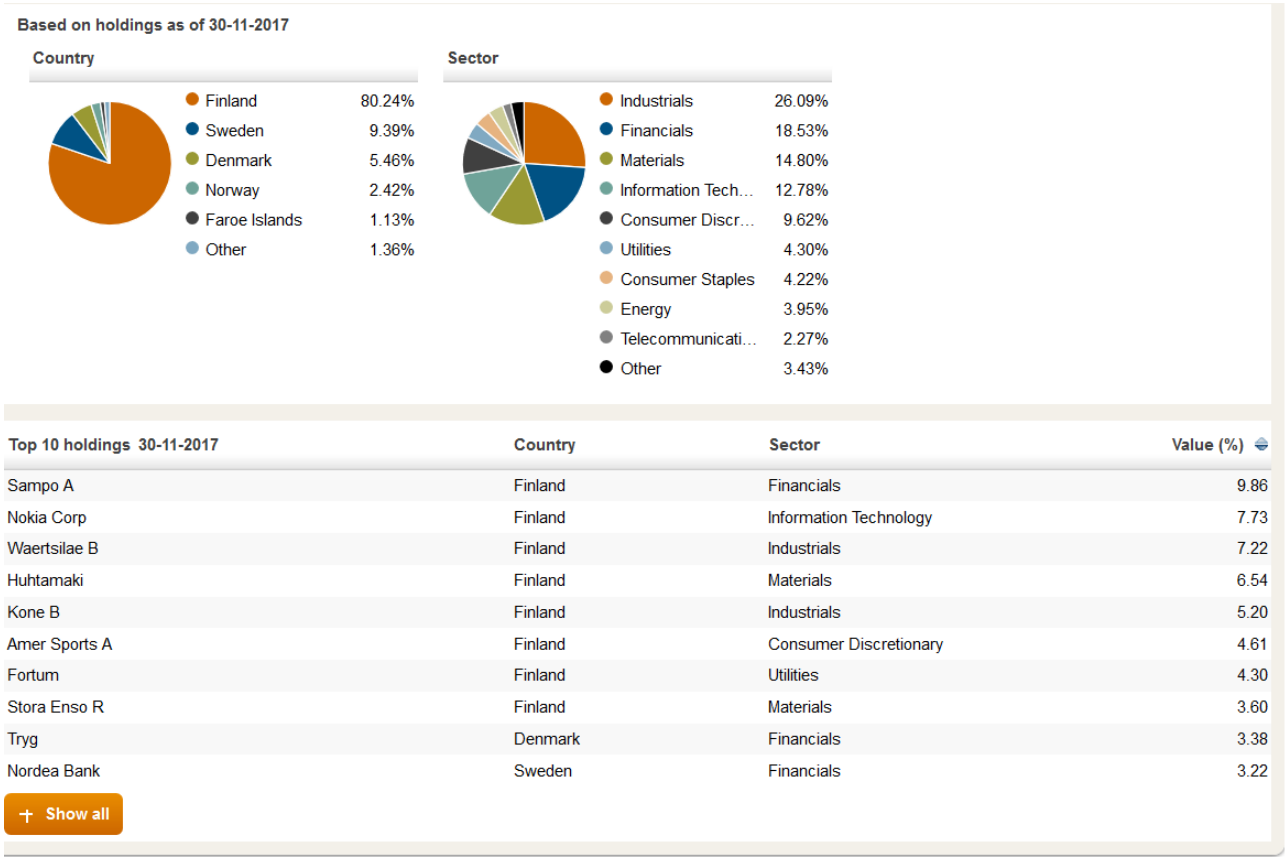
The image above is of Nordea Bank's stock fund "Finland". I would personally pay closest attention to the benchmark and Morningstar rating. This fund has been rated at two stars which would translate to it being a below-average fund. Morningstar measures performance after adjusting for

risk and accounting for sales charges. The Morningstar rating gives insight into how efficiently the fund operates. The benchmark on the other hand is what establishes how this fund should perform. (Morningstar. 2018)



(Nordea, 2018. Nordea Finland fund)

The previous image is a five-year graph Nordea Finland and its benchmark. We can observe similar trends in both lines which could indicate that the content of Nordea Finland is similar to its benchmark. Nordea Finland has been outperformed by its benchmark since its' inception which is most likely due to the management fees.



Top 10 holdings 30-11-2017	Country	Sector	Value (%)
Sampo A	Finland	Financials	9.86
Nokia Corp	Finland	Information Technology	7.73
Waertsilae B	Finland	Industrials	7.22
Huhtamaki	Finland	Materials	6.54
Kone B	Finland	Industrials	5.20
Amer Sports A	Finland	Consumer Discretionary	4.61
Fortum	Finland	Utilities	4.30
Stora Enso R	Finland	Materials	3.60
Tryg	Denmark	Financials	3.38
Nordea Bank	Sweden	Financials	3.22

+ Show all

(Nordea, 2018. Nordea Finland fund)

The image above illustrates the countries Nordea Finland owns stocks from. Interestingly enough, only 80,24 % of the companies are from Finland while the rest are mostly from other Nordic countries. This is a good example of the lack of control an investor can have when investing in a fund. It is stated on Nordea's Finnish-language website that Nordea Suomi (Nordea Finland) invests in stable Finnish publicly listed companies. This is clearly not the case. Furthermore, you can observe the different fields the owned companies operate in and the largest holdings in the Fund.

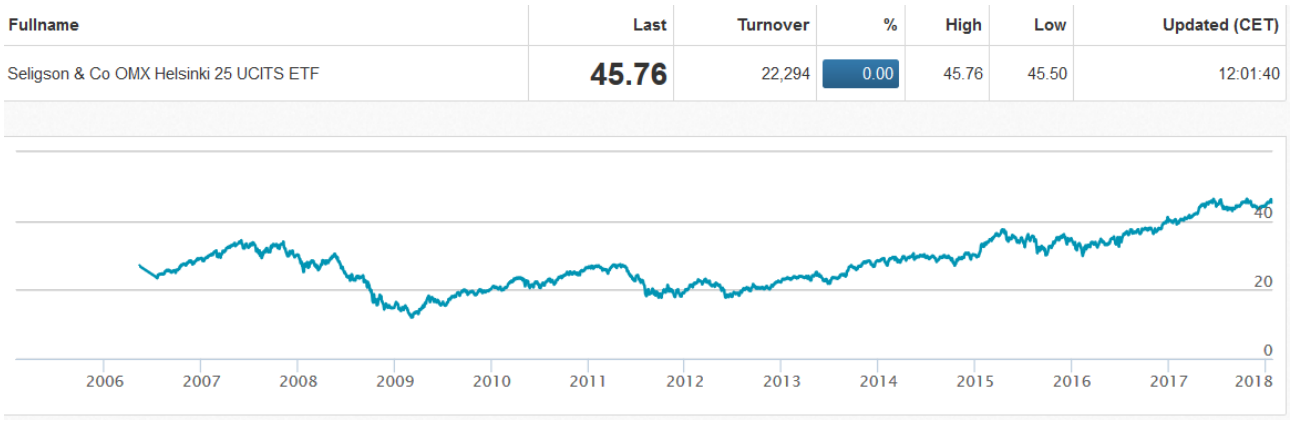
Fees

Fees	%
Minimum savings amount, EUR	10
Subscription fee at branches, %	1.00
Subscription, change and redemption on-line	0.00
Redemption fee, %	1.00
Management fee, % p.a. (included in ongoing charges)	1.40
Performance-based fee, %	No
Ongoing charges % p.a. (includes the management fee)	1.42

(Nordea. 2018, Nordea Finland fund)

The image above shows the costs (fees) of choosing to invest in this fund. There is no performance-based fee, probably because the fund is a passive fund which we could observe from its performance against the benchmark. The redemption fee is what is charged if an investor chooses to withdraw his or her investment from the fund. The annual on-going charges is the total fee for choosing to invest through this fund. This fee is 1,42 % of invested capital.

2.10 Seligson & Co OMX Helsinki ETF



(Nasdaq. 2018)

The image above is the historical trend of Seligson & Co OMX Helsinki ETF from 2006 to today. We can observe the price has move between roughly 12 and 46 euros.

INFORMATION	
Full name	Seligson & Co OMX Helsinki 25 UCITS ETF
Name	SLG OMXH25
ISIN	FI0008805627
Currency	EUR
Round lot	1
Turnover	22,294
Number of trades	14
Year high	46.40
Year low	43.88
TER	0.17
Management Fee	0.18
Number in issue	5,775,000
Leverage	100 %
Asset Class	Equity

(Nasdaq. 2018)

The image above shows details on the Seligson ETF. Perhaps the most important piece of information here is the management fee, 0,18 percent a year. We can also observe the number of trades for the day being 14.

Region or Exposure	Finland
Size or Sector	Large capitalisations
Style	
Income Treatment	Reinvest
Replication method	Full Replication
SWAP Counter Party	n/a
Management Company	Seligson & Co Rahastoyhtiö Oyj
Fund Manager	Jani Holmberg, Aleksi Härmä
Custodian Bank	Svenska Handelsbanken AB
UCITSIII Compliant	Yes
Prospectus	http://www.seligson.fi/omxh25/Suomi/esitteet/esitteet.htm
Underlying	http://www.nasdaqomxnordic.com/etp/etf/etfinfo?Instrument=HEX24201
Indicative Close Price (ICP)	45.70
Indicative Close Price date	2018-01-29

(Nasdaq. 2018)

The image above is the second part of the image on the previous page. A highly relevant piece of information here is the “income treatment” part which is “reinvest”. This means, that dividends accumulated by shares held in the ETF are automatically reinvested. This is one of the two common alternatives for income treatment, the other being paid out annually.

2.11 Summary

To proceed with the core topic of the research it is important we establish that it is systematic risk that is the biggest threat to investors. Diversification and portfolio theories have been studied extensively to discover optimal stock numbers, industries and weights to create and maintain the portfolio with the best return/risk relationship. Systematic risk is however undiversifiable and will wreak havoc on any carefully crafted stock portfolio. It is therefore important to look for opportunities to mitigate these potential losses by investing in other asset classes through allocation. If listed company stocks do however seem like a sound alternative, the investor should weigh whether analysing each stock and company individually is a feasible task or if a fund would be a better alternative. A neutral stance approach would best fit an ETF as companies are not

excluded or included based on short-term sentiment but for their presence in the stock market aggregate. (Saario. 2016)

3 RESIDENTIAL REAL ESTATE AS AN INVESTMENT OPTION IN FINLAND

The following segment of this research focuses on presenting residential real estate as an investment option in Finland. This asset class will be studied for its nature as an investment, inclusive of its risks, rewards and ways of accessing the asset. The type of real estate discussed is residential real estate functioning as a place of accommodation. This purpose of this study is to discover whether residential real estate can act as an income-generating asset and will not cover whether owning or renting your own accommodation is a better option. For the sake of clarity, I have decided to exclude “flipping” which is a strategy used to make a quicker profit.

3.1 What is residential real estate and how does one purchase it?

The type of real estate studied and discussed in this research is best defined as ownership of a single apartment in a housing company (asunto-osake). This study will focus on “freely financed real estate” meaning the construction process has not been aided by the government. This will exclude ARA real estate (Real estate financed and regulated by ARA which operates under the Ministry of the Environment). Residential real estate can be accessed through direct purchase and full ownership, purchase and ownership of shares of a mutual fund invested in residential real estate, or purchase and ownership of the shares of a residential real estate trust (REIT). There is currently only one REIT operating in Finland, Orava Asuntorahasto.

Direct purchase and ownership of RRE is the most capital intensive and risky way of acquiring the asset. Apartment prices can be found at a large variety of prices depending on size, location, age of building, condition and other conditions deemed relevant by the buyer and seller. The liabilities involved in buying this asset are also carried fully by the buyer. For example, a real estate investor could choose to buy a 200 000-euro studio apartment in Helsinki and rent it out for income. RRE can be purchased directly from the construction company or from a previous owner. It is common that homeowners employ real estate agents when selling their apartments. Agents charge a fee for their services which is usually included in the cost of the apartment. It is commonplace that a buyer first secures a mortgage before buying an apartment. A mortgage is the key fluctuating component in

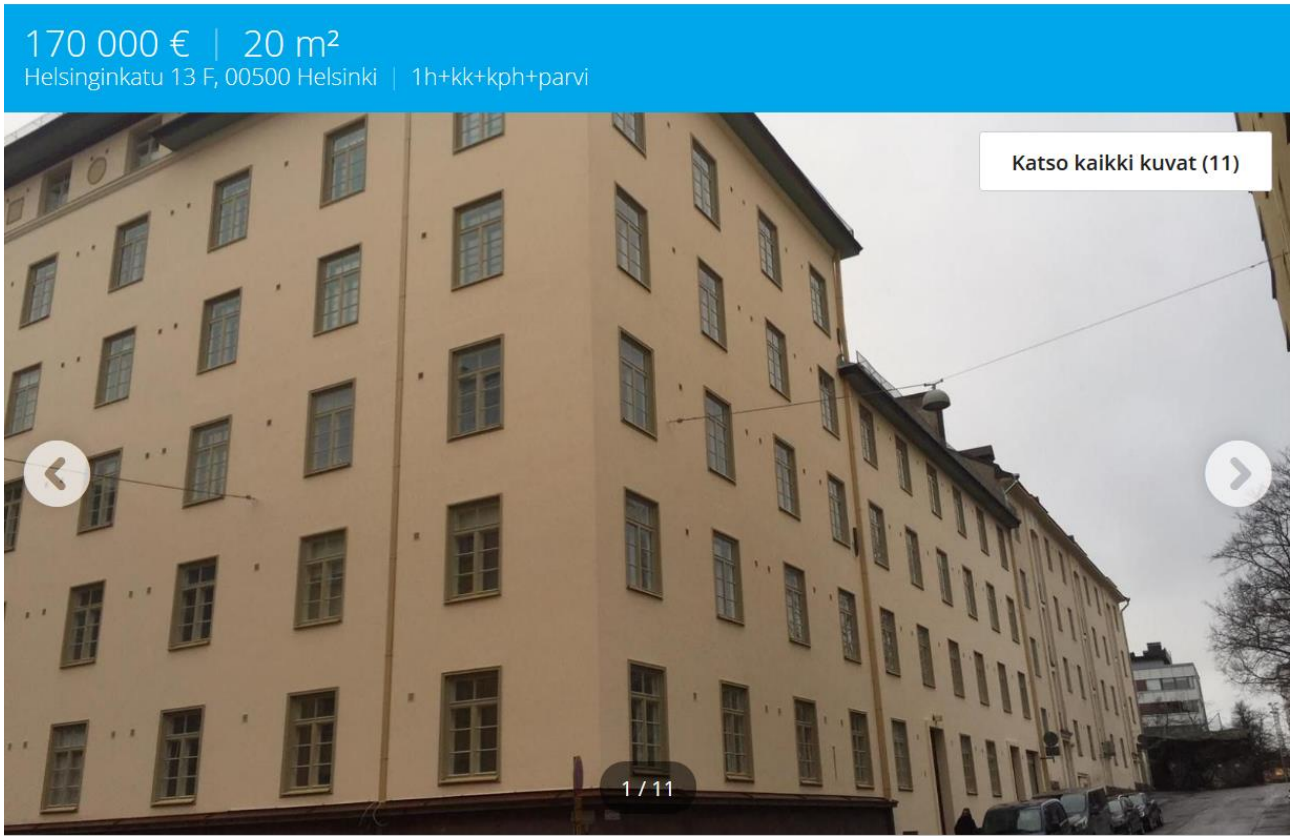
RRE investing as interest rates are highly dependent on central bank rates reflected on to prime rates used by banks (Nordea. 2018). Mortgages are therefore a component to pay detailed attention to when engaging in RRE investment. It is of course possible that a buyer can procure capital for the purchase without a mortgage. Taxation is another key factor which should be accounted for. The transfer tax for buying an apartment is 2 % of the purchasing price for apartments and 4 % for detached houses. For example, a 100 000 € apartment would translate to a 2000 € transfer tax and a 300 000-detached house to a 12 000 € transfer tax. It is noteworthy that you are exempted from the transfer tax if purchasing your first apartment or home or are receiving the property as inheritance. Inherited property is subject to inheritance tax which I will not analyse in detail due to its relative rarity as a method of acquisition. (Finnish Tax Administration)

There are several factors to consider when using a privately-owned property as an investment. Returns from RRE come from two sources, rent and the sale of the property after price appreciation. For example, the current average rent for apartments in the Metropolitan region is 15,95 €/m2 each month. This would translate to a monthly rent of 398,75 euros if the apartment's size is 25 m2. In addition to this, it would be common that the owner includes the maintenance charge in the rent. A maintenance charge is what finances the maintenance of a housing company and it is normally calculated according to the amount of square metres an owner has in the company. Maintenance charges tend to vary depending on what types of financial needs the housing company has. This money is used for such services as property maintenance, waste disposal and other running costs a housing company has. If we assume that the management charge for this particular apartment is 3 € per m2 it would translate to 75 € per month. This would amount to 473,75 € rent income per month. This sum could also change depending on whether such utilities as heating, water and electricity are paid for by the tenant or the owner. Rents are however highly varied depending specifically on the location and size of the apartment. The owner and tenant are free to agree on most if not all expenses that pertain to the use of the apartment by writing a contract. It should be noted that detached houses are often maintained without housing companies. The owner therefore has direct responsibility over all maintenance costs of the property and building. The risks of buying property for renting it out for profit includes several challenges and risks. The most important one is most likely the undiversified and illiquid state of the asset. It is difficult to find a buyer quickly and the asset cannot generally be sold in parts. It is also impossible to move an apartment and it will therefore be exposed to every risk that can involve the area or housing company in question. The

risks that pertain to stocks are also present when investing in residential real estate. Although somewhat difficult to quantify, the market risk, as it pertained to risks involved in mutual funds, also overshadows residential real estate. It is possible that a large economic downturn leads to not only a decrease in the availability of funds for renting accommodation, but also the desirability of spending. This could lead to months without rent due to the inability or unwillingness to pay. This risk is similar to the counterparty risk which was also discussed earlier. The interest rate risk is also an important factor in most real estate investments and changes originating from central banks can and will reflect onto floating loans. A way to acquire protection against a change like this is to agree to a fixed rate mortgage. Fixed rate mortgages have higher interest rates overall but can protect an investor or homeowner if interest rates were to begin climbing up. (Nordea, 2018; Tilastokeskus, 2017)

3.2 Helsinginkatu apartment

The following images are a of a single room apartment up for sale. The information in the announcement has been captured using a snipping tool on 15 January 2018. These images include information on the location, size, asking price, expenses and condition of the apartment. Nearby services and a current tenant are also provided as information.



Perustiedot

Sijainti	Helsinginkatu 13 F, 00500 Helsinki
Kaupunginosa	Kallio, Alppiharju, Harju, Alppila, Etelä-Helsinki, Keskinen
Kohdenumero	7820071
Kerros	2 / 7
Asuinpinta-ala	20 m²
Tontin pinta-ala	1753 m²
Kokonaispinta-ala	20 m²
Kuvaus	1h+kk+kph+parvi
Huoneita	1
Kunto	Hyvä
Kunnon lisätiedot	Siisti
Vapautuminen	Vuokrattu
Keittiön varusteet	Kaapistot, jääkaappi, sähköliesi, liesituuletin
Parveke	Ei
Kylpyhuoneen varusteet	suihku, wc-istuin, lavuaari, pidee, peilikaappi
Säilytystilat	Vinttikomero
Pintamateriaalit	Kph laatoitettu. Huoneessa lautalattia.
Tulevat remontit	2017 hankesuunnitelma. Kts. Liite

Tehdyt remontit	Suurimmat remontit: Sähkönousut, huoneistojen ovet -84, lämmönjakolaitteet, A-portaan hissin saneeraus -01/-02, yleisten tilojen lukitus -07, vesikatteen pinnoitus -10, ikkunat -11/-12, viemäreiden sukitus -13/-14, vesijohtojen uusiminen -15/-16, kadun puolisen julkisivun saneeraus -17. Kts. Liite.
Sauna	Ei
Asumistyyppi	Omistus
Palvelut	Kallion palvelut
Lisätiedot	10 M DNA/Welho laajakaista sisältyy vastikkeeseen. Kph tutkittu yhtiön toimesta ja todettu hyväksi. Seuraavan remontin yhteydessä suihku siirrettävä takaseinälle (sitoumus 2016).

Hintatiedot ja muut kustannukset

Velaton hinta	170 000,00 €
Myyntihinta	155 671,59 €
Neliöhinta	8 500,00 € / m^2
Vuokratulo	700,00 € / kk
Rahoitusvastike	144,20 € / kk
Hoitovastike	104,00 € / kk
Vesimaksu	20,00 € / kk
Vesimaksun lisätiedot	Asukasluvun mukaan.

Talon ja tontin tiedot

Uudiskohde	Ei
Taloyhtiön nimi	Asunto Oy Helsinginkatu 13
Rakennuksen kuvaus	Ullakolla lisärakennusmahdollisuus 393 m2. Taloyhtiö hakee luvat ja myy rakennusoikeuden 1000 - 2000 EUR/m2.
Rakennuksen tyyppi	Kerrostalo
Rakennusvuosi	1932
Huoneistojen lukumäärä	158
Liikehuoneistojen lukumäärä	9
Yhteiset tilat	Pesutupa
Kerroksia	7
Hissi	Ei
Energialuokka	Energialuokka: E2007.
Energiatodistus	Kyllä
Kiinteistön antennijärjestelmä	Kaapeli-tv
Tontin koko	1753 m²
Tontin omistus	Oma

Kiinteistönhoito	Huoltoyhtiö
Isännöinti	Ritva Kiiski TILI-KIINTI OY
Kaavatiedot	Helsingin Kaupunki
Liikenneyhteydet	Hyvät
Lämmitys	Kaukolämpö
Lisätietoa talosta	Siirry talosivulle

Tekniset tiedot

Laajakaistayhteys	DNA/Welho 10 M sisältyy vastikkeeseen.

(Oikotie.fi)

The information provided is important for the buyer and real estate investor as it reveals the current expenses of owning the apartment and gives insight into what future expenses can be expected.

By using the information provided above, we can establish a preliminary business plan for renting the apartment. All prices are in € Euros. All charges and rent are monthly.

The buyer should immediately pay attention to the two differing asking prices of which one is Debt-free. It is common for a housing company to finance a larger renovation project with debt. This debt is then allocated to each share and shareholder in the housing company. The buyer has the option to pay roughly 15 000 euros more to avoid the remaining monthly charges straight away.

Indebted property		
Remaining	financing charge	remaining months
14328,41	144,2	99,3648405

If the buyer decides to opt for the indebted price the remaining debt will be paid back in approximately 100 months.

I have decided to alter a few figures (price and rent) for the following excel image which illustrates the first year forecast for the apartment if the investor chooses to pay the debt-free price. Capital gains tax is 30 % up to 30 000 € and 34 % for profits above.

3.3 First year business plan for Helsinginkatu apartment

Green=incoming	Red=Outgoing									
Kallio apartment 20 sqm										
	month	**Price**	**maintena**	**Rent**	**profit**	**mortgage**	**monthly**	**interest**	**transfer tax**	**renovation budget**
	1	150000	104	750	646	70000	233	58	3000	12000
	2		104	750	646	69709	233	58		
	3		104	750	646	69418	233	58		
	4		104	750	646	69127	233	58		
	5		104	750	646	68836	233	58		
	6		104	750	646	68545	233	57		
	7		104	750	646	68255	233	57		
	8		104	750	646	67965	233	57		
	9		104	750	646	67675	233	57		
	10		104	750	646	67385	233	57		
	11		104	750	646	67095	233	56		
	12		104	750	646	66806	233	56		
total	1 year		1248	9000	7752		2796	687		
Capital tax	30 percent				**4,70 %**					

taxable amount	7065
30 % tax	4945,5
total tax	2119,5
net profit	2149,5
	1,43 %

We can observe here that the net profit from renting out this apartment is 2149,5 or 1,43 % annually. It is important to note that this example uses a set monthly amortization. If the costs and income of this project remain the same, the investor will have made back the transfer tax and covered the renovation budget in roughly 7 years. The taxable amount, 7065, is the total rent of 9000 minus the maintenance charge of 1248 minus the total interest of 687. The calculations aiming at forecasting payback periods assume that this property will have zero growth. We cannot foresee whether the market as a whole or solely this apartment are bound to appreciate or depreciate.

3.4 On mortgages

It is common for an investor to partially finance a purchase by using debt. Leveraged investing increases the return on capital employed if the growth of an investment exceeds the interest of the loan. The more loan there is, the higher the risk. We can observe from the calculation above that the monthly payment made to pay back the loan cannot be more than 646 euros to break even. To prepare for future renovations (plumbing, windows, etc), it is necessary for the apartment to accumulate additional profits to cover these charges. An additional profit is naturally desired as the apartment is an investment so a monthly profit after all expenses is a target. The annual profit of this project is 2149,5 € after debt and taxes. It is important to note that the maintenance charge, financing charge and mortgage interest are all 100 % tax deductible. (Sadej, 2017; Finnish Tax Administration, 2018)

	Lainan tiedot	Korko 2 % korkeampi
Tarvittava lainan määrä	70 000 €	70 000 €
Laina-aika	25 v	25 v
▼ Maksuerä	292 €	408 €
Kokonaiskorko	1 %	3 %

The image above is a rough example of a 70000-euro mortgage for the apartment. Please note that each loan offer is individually tailored for each customer. The fundamental factor in determining a rate for a customer lies in his or her ability to pay back the loan. (Danske Bank, 2018)

1	292 €	233 €	58 €	69 767 €
2	291 €	233 €	58 €	69 533 €
3	291 €	233 €	58 €	69 300 €
4	291 €	233 €	58 €	69 067 €
5	291 €	233 €	58 €	68 833 €
6	291 €	233 €	57 €	68 600 €
7	291 €	233 €	57 €	68 367 €
8	290 €	233 €	57 €	68 133 €
9	290 €	233 €	57 €	67 900 €
10	290 €	233 €	57 €	67 667 €
11	290 €	233 €	56 €	67 433 €
12	290 €	233 €	56 €	67 200 €

(Danske Bank, 2018)

This image is a one-year example of how the amortization schedule the interest rate is 1 %, loan time 25 years and the loan type serial. You can observe the loan amortization payment in the middle column remains the same and continues to do so until the loan is paid in full. This is due to the fixed nature of the loan in the example. The interest in the fourth column decreases progressively until it reaches zero.

According to Tarmo Pipatti, the CEO of Rakennusteollisuus, the cost for a plumbing renovation costs between 250-1250 euros per m2 in the metropolitan region. This would translate to 5000-25000 euros for this 20 m2 apartment. The cost of such a renovation depends on what solution is used for the repair, roughly expressed, light and short-term or heavy and long-term. (Vaahtera, 2017)

1	525 €	233 €	292 €	69 767 €
2	524 €	233 €	291 €	69 533 €
3	523 €	233 €	290 €	69 300 €
4	522 €	233 €	289 €	69 067 €
5	521 €	233 €	288 €	68 833 €
6	520 €	233 €	287 €	68 600 €
7	519 €	233 €	286 €	68 367 €
8	518 €	233 €	285 €	68 133 €
9	517 €	233 €	284 €	67 900 €
10	516 €	233 €	283 €	67 667 €
11	515 €	233 €	282 €	67 433 €
12	514 €	233 €	281 €	67 200 €

(Danske Bank, 2018)

The above amortization is otherwise similar to the previous sample except the interest rate has been increased to 5 %. We can observe here that the monthly payments have significantly increased. The monthly expenses of the apartment have now become 629 euros. While the project will still make a positive return, the annual profits from the apartment drop significantly. It should also be noted that the figures used in the business plan I have created are somewhat optimistic.

3.6 Kotka, Lahti, Helsinki example apartments

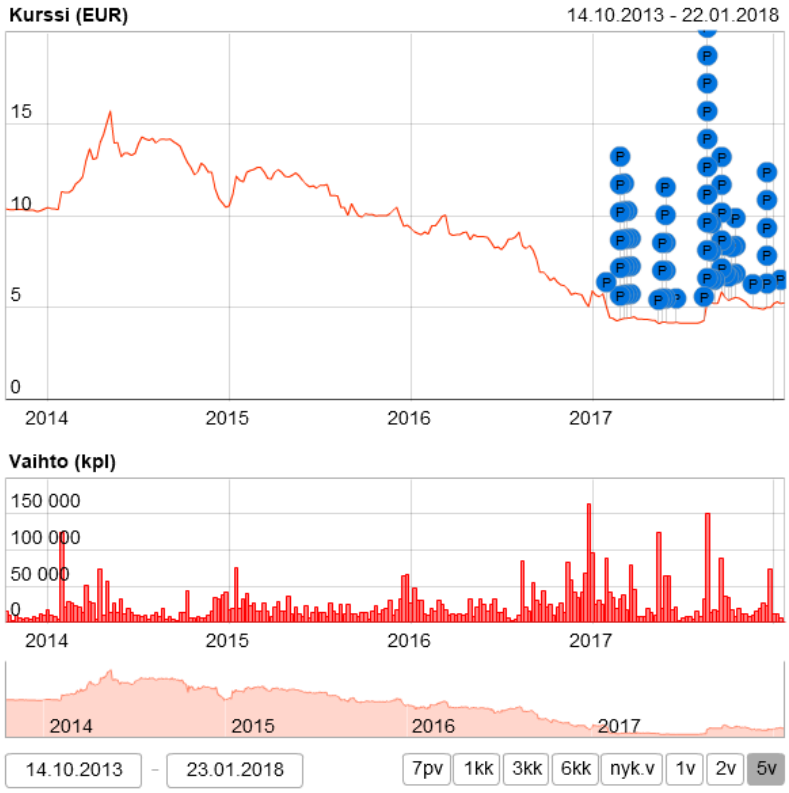
city	size	price	rent	maintenance charge	financing charge	annual profit	Per annum profit
Kotka	22,5	59500	400	107,3	30,45	3147	5,29 %
Lahti	22,5	94000	575	103,5	41,39	5161,32	5,49 %
Helsinki	20	155671,6	700	104	144,2	5421,6	3,48 %

The image above includes two additional sample apartments from Kotka and Lahti, both cities Orava Residential REIT is invested in. The third apartment is the previous sample used in the business plan but with the original asking price and rent. We can observe lower asking prices and a quick glance reveals potentially better forecasts for profits in Kotka and Lahti. The example above is a simplified and its main function is to show how large the differences in purchasing price and rent can be in a relatively small area. (Orava asuntorahasto, 2018)

It is also important to notice that these examples do not include expenses arising from using third-party services which connect landlords and tenants. The calculations do not include empty months either (months without a tenant or monthly incoming payments). An investor should evaluate the usefulness and cost of using such services and factor in that the likelihood of empty months is a possibility. I found no data on the “usage rate” of apartments in Finland and decided against trying to procure this information from a company operating in the market for as such they would have abundant time and resources to minimize any empty periods in the use of their apartments and thus not really validate a solo enterprise.

3.7 Orava Real Estate Investment Trust

Investing in a single apartment is not however the only alternative.



(Kauppalehti, 2018)

The image above is a five-year trend of Orava Residential REIT, an exchange traded fund invested in residential real estate. We can observe that the price moved between roughly 5 and 15 euros per share.

Valitun osakkeen osinkojen historiatiedot

Vuosi	Irtoaminen	Oikaistu euroina	Määrä	Alkup. valuutta	Tuotto-%	Lisätieto
2017	19.12.2017	0.00	0.00	EUR	0.0	
2017	21.06.2017	0.03	0.03	EUR	0.7	
2017	21.09.2017	0.03	0.03	EUR	0.5	
2017	23.03.2017	0.03	0.03	EUR	0.7	
2016	21.06.2016	0.27	0.27	EUR	3.1	
2016	21.12.2016	0.27	0.27	EUR	4.8	
2016	22.09.2016	0.27	0.27	EUR	3.8	
2016	23.03.2016	0.27	0.27	EUR	2.8	
2015	17.09.2015	0.30	0.30	EUR	2.8	
2015	17.12.2015	0.30	0.30	EUR	2.9	
2015	18.06.2015	0.30	0.30	EUR	2.6	
2015	20.03.2015	0.30	0.30	EUR	2.4	
2014	11.12.2014	0.28	0.28	EUR	2.2	
2014	12.06.2014	0.28	0.28	EUR	2.1	
2014	17.09.2014	0.28	0.28	EUR	2.0	
2014	19.03.2014	0.28	0.28	EUR	2.3	

(Kauppalehti, 2018)

The image above is the entire dividend history of this REIT. We can observe that unlike most publicly listed companies, Orava pays out four dividends a year. We can observe a major drop in the dividends in 2017.

Orava is invested in several locations in Finland. These locations are the Metropolitan region, Major cities such as Lahti and Oulu, and medium-sized cities such as Hämeenlinna and Kotka. Orava provides comprehensive information on how it appraises its investment targets. Relevant factors are the size, age, condition and property ownership status. Whether the apartment has a sauna is also considered which is possibly a very local requirement for Finland. The main reason Orava is invested in several cities is to diversify its real estate portfolio. (Orava Asuntorahasto)

I will conclude this example while highlighting that each variable is crucial to the success of purchasing and renting an apartment. The costs and mortgage cannot exceed the profit.

3.8 Risks of investing in residential real estate and diversification

As we have observed in the previous business plan examples there are risks involved in residential real estate investments. These risks are market risk, interest rate risk, return risk, counterparty risk, liquidity risk, political risk and natural disaster risk. I have decided to observe residential real estate first considering risks that are also relevant when investing in stocks. (Orava & Turunen, 2013)

If we assume that most investors who choose to invest directly in residential real estate take a mortgage it is important that dangers arising from market risk and interest rate risk are addressed first. As we have observed in the previously set examples of renting an apartment, changes to the interest rate can have a major impact on the profitability of a project.

3.9 New mortgages and mean interest rates between 2005 and 2016

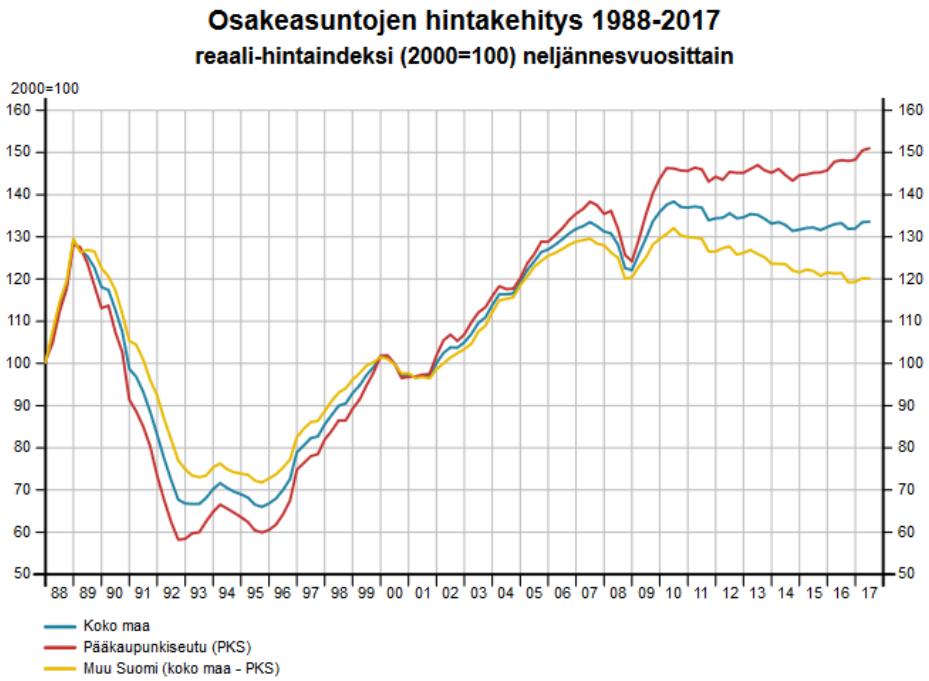
Kotitalouksien nostamat uudet asuntolainat

	Uudet asuntolainat	Keskikorko
	Milj. €	%
2005	18 555	3,03
2006	19 756	3,77
2007	21 215	4,76
2008	19 669	5,07
2009	16 155	2,45
2010	18 538	2,02
2011	20 124	2,54
2012	19 114	2,02
2013	15 220	2,03
2014	15 052	1,89
2015	16 482	1,48
2016	17 750	1,20

(Tilastokeskus, 2018)

The image above shows the aggregate amount of new mortgage money loaned from Finnish banks and their average interest rates. We can observe the aggregate mortgage amount move between 15220 and 21215 million euros while the interest rate has moved between 1,20 and 5,07 percent. As demonstrated previously, a rise in interest rates has a significant impact on how and if an apartment can generate enough profits to cover for the renovation budget and transfer tax. It is possible to shield a mortgage against interest rate rises by opting for a fixed interest rate mortgage or a third-party insurance. These will naturally be more expensive in the long run.

3.10 National residential real estate trend 1988-2017



(Findikaattori, 2018)

The image above shows residential real estate price development in Finland between 1988 and 2017. The blue line being the whole country, the red representing the metropolitan region and the yellow line the rest of Finland excluding the metropolitan region. This graph is inflation adjusted.

The market risk has several manifestations which show in the previous image. The most severe depreciation occurred at the turn of 1988 and 1989 as prices began depreciating until the beginning of 1992. The following depreciations occurred in 1994, 2000 and 2007. An interesting pattern can be observed with the rest of the country (yellow line) which shows gradual depreciation since 2011. Changes to the price of apartments have a direct impact on the market-value of a held apartment. For example, an apartment bought in late 1988 would be very difficult to sell for a profit in 1991. It is most likely that forcing through the sale now would result in a large deficit. Conversely, buying at the turn of 1992 and 1993 would have been a good entry point.

To study market risk and interest rate risk first, we can observe that the lower mortgage interest rate in 2009 coincides with an increase in residential real estate prices. In fact, apartment prices are currently at their highest since 1989. We can also see that the market has seen fluctuations which would have a direct impact on the liquidity and obtainable price of an apartment. I believe it is relevant to also include return risk, specifically pertaining to the amount of rent that can be realistically asked for every month. Since rented apartments have a business-like quality to them, it

is feasible that at a turning point in the market, let's say after a significant depreciation in prices, a major change to mortgage interest rates, or even both, could result in competing landlords and RRE investors emerging. It should be considered that these newly emerged competitors have possibly had the opportunity to buy at a much lower price while doing so with a smaller mortgage and lower mortgage interest rate. They would therefore be able to outprice an apartment that is dependent on conditions prior to these changes. I studied Osta, Vuokraa, Vaurastu (Orava & Turunen. 2013) a guide book specifically dealing with the Finnish residential real estate market, to gain a better understanding of these risks and their potency. Authors Orava and Turunen address the risk considering nominal rents having increased overall every year. The problem with this interpretation is that it does not give insight as to how individual cities let alone districts have behaved. It is therefore important to understand what the ramifications of market deprecation and altered mortgage interest rates can have on the competitiveness and profitability of a project initiated before they occurred. Another factor to consider when estimating the return risk lies in the costs of the project. Changes to the maintenance charge or financing charge have an impact on the profitability of the project. A financing charge incurred from a renovation involving the whole housing company (for example plumbing) can be either placed in the company's treasury (rahastointi) or included in the income statement (tuloutus). If the financing charges are included in the income statement (tuloutus), the charges are tax deductible and an ideal alternative for the investor. Maintenance charges and financing charges can be mitigated by investing in small apartments. It is common that costs incurred by a larger renovation project, such as plumbing and balconies, are charged to each apartment in accordance with their size. This would mean that a 40 m2apartment would have twice the cost in comparison with a 20 m2 apartment. Additionally, the floor the apartment is located on can have an impact on costs rising from elevator renovations. Authors of Osta, Vuokraa, Vaurastu make a strong recommendation against owning anything else than small apartments as rents do not rise in accordance with the size of the apartment. It is due to this recommendation, which I have observed to be undisputable, that I have decided to exclude all other apartment sizes and houses from this study. (Orava & Turunen. 2013; Suomen vuokranantajat. 2018)

The counterparty risk involves the tenant. A tenant unable or unwilling to pay rent would result in "empty months" or zero-income months. The first step to rectify this situation would be to contact the tenant and inform them of a delayed payment. If the tenant does not react or informs the

landlord of his or her inability to pay, a debt collection must be initiated. If a tenant is fully uncommitted to paying his or her rent, the landlord needs to resort to annulment of the rental agreement. This would then be followed by a court order for eviction after which outstanding debt will be collected through distraint. The whole process can take few months and could result in several months of rent lost, at least temporarily. This is a simplified example of how the counterparty risk can manifest. The tenant can also be responsible for damaging the property, ranging from minor to major damages. It is common that a rental agreement includes a guarantee against damages to the property or unpaid rents. It is common for this guarantee to be one or two months' worth in rent. A way to protect against damages is to require the tenant to acquire home insurance prior to signing the contract. (Orava & Turunen, 2013)

Residential real estate is an illiquid asset class. This means that it is not easily convertible to cash. This is partly due to the involvement of a third party (banks), which are essential in financing the trade of apartments due to the underlying capital intensiveness of apartments. Unlike stocks, apartments are not usually sold for the initial asking price. According to Helsingin Sanomat, the eventual price is roughly 6 percent lower than the initial asking price. This would naturally result in proposals and counterproposals which can make for a time-consuming process. What also influences the liquidity of apartments is the availability of mortgages and their interest rates. High interest rates mean expensive mortgages which then in turn translate to fewer buyers in the market. Ideally, an asset should be cash-convertible immediately, as other opportunities can present themselves at any time. Missed opportunities become a very realistic scenario, especially when an investor operates with capital limitations. Liquidity risk is therefore an important factor to consider when evaluating the feasibility of a residential real estate project. (Laitinen & Saarinen; Orava & Turunen, 2013)

Political risks relating to residential real estate investments overshadow many aspects of the enterprise. A decision by the ECB to increase interest rates will reflect onto floating interest rate mortgages and cut into the profits of a project. Another political risk lies in what the future of government benefits and redistribution of income will look like. A noticeable number of students and/or low-income citizens rent apartments with the help of housing allowance (asumistuki) and student allowance (opintotuki). Changes to either could have a drastic impact on the apartment rental business. According to Helsingin Uutiset, Kela paid out 1,9 billion euros in housing allowance in 2016. The same article also discusses how government benefits have a tendency to drive

apartment rents up and subsequently also prices. These factors pose a threat to real estate investors. The feasibility of such a scenario is difficult to quantify but should however be considered. Decisions made on the municipal level or even on a private company level could also lead to a quick motion of population into or out of the vicinity of an apartment. (Orava & Turunen, 2013; Hämäläinen, 2017)

The risk of natural disasters is slightly misleading as a title. Natural disasters are not very common in Finland due to its relatively mild climate and inactive tectonic and volcanic environment. I would however consider natural disasters as any disasters an apartment can "naturally" be exposed to due to its' fixed location. The fact that an apartment is very difficult, if not impossible, to relocate, poses the most ambiguous yet possible risk that should be given a moment of thought. Climate change, intra-political unrest, international conflict, marginalization and decreases in birth-rates are just some of the risks that can cause problems when trying to decide whether a target is in a location that will be safe for the next several decades. I intentionally decided to leave this paragraph more open to interpretation due to the unquantifiable nature of natural disasters. (Orava & Turunen, 2013)

Diversification is possibly the biggest challenge when planning to engage in residential real estate investment, especially if the investor decides to move on a project on his or her own.

3.11 Orava's portfolio

Distribution of investment property values by location	Sep 30, 2017	Dec 31, 2016
Helsinki metropolitan area	38 %	39 %
Major cities	30 %	30 %
Medium-sized towns	32 %	31 %
In total	100 %	100 %

(Orava Asuntorahasto, 2017)

The image above illustrates how Orava Residential REIT controls its' equity. Orava is invested in three different pre-defined segments of the country, Helsinki Metropolitan area, Major cities and Medium-sized towns. These segments are placed and controlled in separate portfolios. By studying Orava's housing portfolio I have calculated that the average m2 of an apartment owned by Orava is 64,3 m2. This would suggest that Orava is invested in apartments of varying sizes and perhaps also commercial real estate. Due to the lack of more in-depth information on what types of apartments or business facilities are held, I assume that Orava owns apartments of all sizes and commercial real estate located on the street-level of otherwise residential buildings. This is probably because Orava owns entire building blocks and has decided to include apartment sizes that would cater to both smaller and larger households. These are, however, operations of an institutional operator and are not applicable to most solo enterprises. We can however deduce that being invested in several apartments in different cities can mitigate market risk, counterparty risk, political risk and natural disaster risk. (Orava Asuntorahasto, 2017)

Due to the capital-intensive nature of investing in residential real estate, the most feasible path to a diversification would be through a residential REIT fund or a residential real estate fund.

To conclude this segment on residential real estate I must highlight, that even at a competitive rate of profit, direct investments into residential real estate can make for a time, money and energy consuming endeavour. The liabilities of an owner, quantifiable and unquantifiable risks and capital intensiveness of beginning a project involving an apartment can be hazardous. On the other hand,

a securely funded and well-informed investor can maintain a spread-out cash flow of 12 months of rent a year while having extensive control over the use of the property.

4 HOW DOES RESIDENTIAL REAL ESTATE COMPARE TO STOCKS?

The motivation behind this thesis was to study whether residential real estate provides a good allocation strategy to include in a lower risk when stocks are also invested in. The current state of my research has re-directed me towards studying the fundamental characteristics of residential real estate compared with stocks. My initial research question, “is it a good option to invest in both stocks and residential real estate simultaneously?”, has still been a factor in how I have proceeded with my work and I will give a statement on the matter later in this segment.

Residential real estate is a viable option for an investor looking for a tangible asset. Control, a spread-out cash flow and an actual say in what is done to the property are benefits of residential real estate. Profits from renting out the apartment can exceed those from the stock market (Orava & Turunen, 2013). Price anomalies caused by asymmetric information can also expose the investor under-priced locations that can be upgraded through renovation to gain a better rent. Apartment prices and rents are driven only partially by investors and more so by independent households in market. A nationally diversified approach can be easily achieved through a real estate fund or REIT.

The intrinsic or physical properties of residential real estate do however bring about limitations and dangers that are not relevant when investing in most listed companies. An apartment has a permanently fixed location and cannot be broken up into separate assets if liquidation should be required. Liquidation for stocks is simpler and produces many separate assets which can be converted into cash. The worst-case scenario for residential real estate is not only loss of capital but a situation where market risk, interest rate risk and return risk manifest. In theory, a real estate investor and apartment-owner could end up in a situation where there is no buyer in the market, no tenant to rent the apartment to and an increasing management charge as homeowners relocate from an area. This would result in a scenario where the only cashflows of an apartment are outgoing. Although diversified, REITs and real estate funds have come under investigation for including bulk purchased apartments in their balance sheets at elevated theoretical prices. This procedure allowed many funds to attract investor capital by paying out high annual dividends. Funds and REITs are also threatened by capital flight. The literature I have studied to gain a better understanding of both

stocks and residential real estate do not provide conclusive evidence that would support investing in both at the same time. Robert Shiller discusses residential real estate and listed stocks in his book "Irrational Exuberance" and concludes that studying historical returns and prices of both asset classes do not give either an edge over the other. Orava and Turunen, the authors of Osta, Vuokraa, Vaurastu, conclude that investing in other asset classes in addition to residential real estate improve diversification of one's portfolio. According to their research, the correlation between apartments and OMX Helsinki 25 stocks is 0,23 between September 1988 and March 2013. Their stance on this correlation is that it is positive yet weak. They also forecast that this relationship will remain low. No explanation for this foresight is provided. A correlation of 1 would indicate identical price movement, 0 no relationship between movement and -1 completely opposite movement of the assets. Morningstar has observed that the correlation between REITs and other stocks has increased in the US between 2004 and 2014 and from 0,44 to 0,79. Morningstar theorizes that this increase is due to the increased inclusion of REITs in S&P 500 and thus the stock market having become more sensitive to real estate price fluctuations. This observation poses an alternate to Orava's and Turunen's foresight. We do not have reason to assume that similar correlation development patterns could not occur in Finland. This increase in correlation would mean that diversification benefits accrued from investing in both asset classes simultaneously will become less significant than before if RRE-related companies begin entering the stock market. (Morningstar, 2015; Lassila, 2017; Shiller, 2015; Orava & Turunen, 2013)

4.1 Risk

If we observe Fortum's dividend history at 2.2 and the Helsinginkatu apartment business plan at 3.3 we can make some assumptions as to the risk involved in the assets. Risk being the likelihood of dividends or rent diverging from what is expected, we can assume that Fortum would be a riskier option as the history of dividends already shows us that there is fluctuation. At 2.3 and 3.10, we can also observe that OMX Helsinki also experiences more fluctuation in total value compared to apartment prices in the country. This information should be considered when making expectations regarding the returns and price development of the two assets. It is not, however, an indication of future development of the market, individual shares or apartments.

4.2 Answer to research question

So, is it a good option to invest in both stocks and residential real estate simultaneously? Yes, but not because they would tend to move in different directions and thus improve diversification. RRE and stocks make up a good duo because of the differences in cash flow (regular & certain vs. irregular & uncertain). After all, dividend policies are indications, not promises. Rental contracts are obligations. Stocks on the other hand are a good partner to residential real estate because of their liquidity. I believe, however, that residential real estate should only be considered as an investment alternative if a target has the potential to produce anomalous or extraordinary profits for at least some time. This is my opinion as the potential for rising costs of an apartment needs to be accounted for. Apartments in Finland, even if they are spread across the country, are not truly diversified as they are exposed to every bit of country risk there is. Finland is a single geopolitical entity and economy, even as a member of the EU. Several of the bigger OMX Helsinki listed companies operate internationally and are thus a much safer investment if geopolitical stress is a selection factor. In my estimation, residential real estate should not be considered the sole investment at any given time nor should it act as a 50-50 partner to another asset class, such as stocks. Residential real estate which generates income through rent is, in its fundamental form, an industry and should be treated and included in a portfolio as such. This statement is not based on a previous observation but is a stance I am currently willing to take having not encountered any evidence that would prove otherwise. All in all, RRE is a valid investment option but should not be considered an independent asset class. An investor should therefore carefully evaluate whether a targeted investment apartment is the best alternative because of its fundamental value and realistic return prospect, not because it is physical and nearby.

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