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Analysing Earning Outlook for Housing Investment by Using Different Strategies in the Area of Tampere

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The purpose of this thesis is to research the profitability of housing investments in Tampere. Cash flow and capital gain are used as strategies to evaluate the profitability of investments. 14 districts are researched, which are located in the centre, west, south, and east of Tampere. Based on that, the research question is specified as analysing earning outlook for housing investment by using different strategies in the area of Tampere.

Two data collection methods are used. Quantitative method includes own calculations of cash flow and capital gain. Numerical data to perform calculations is gathered from Statistics of Finland. Final results were converted into graphs in PowerBI. The purpose of calculations is to analyse profitability of housing investments based on historical data occurring during the last 10 years. Qualitative method includes an interview with three professional housing investors. The purpose of the interview is to support the results and provide an overview of predictions on development of housing investments in the future.

According to the results, combination of both strategies is the most profitable. Capital gain results in higher profit in shorter time period. Whereas cash flow provides higher profit for investors in the longer time period as the amount of loan decreases. Housing investment has become more common nowadays. Respondents believe that investment popularity follows the pattern of supply of apartments. However, covid-19 pandemic has increased uncertainty and risk among investors.

Keywords	Housing investment, one-room apartments, cash flow, capital gain, return on an equity

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Glossary

Capital gain

"It is an increase in capital asset's value and it is considered to be realized when you sell the asset. A capital gain may be short-term or long-term and must be claimed on income taxes." (Chen, 2019)

Cash flow

"It is the net amount of cash and cash-equivalents being transferred into and out of a business." (Tuovila, 2020)

Leverage

"Leverage results from using borrowed capital as a funding source when investing to expand the firm's asset base and generate returns on risk capital. It is an investment strategy of using borrowed money to increase the potential return of an investment." (Hayes, 2021)

ROE

Return on an equity "It is a measure of financial performance calculated by dividing net income by shareholders' equity." (Fernando, 2021)

ROI

Return on an investment "It is a financial metric that is widely used to measure the probability of gaining a return from an investment. It is a ratio that compares the gain or loss from an investment relative to its cost." (Beattie, 2021)

1 Introduction

Investing in real estate is becoming more common nowadays. According to Statistics of Finland, there were around 200 000 private equity-owned investment apartments at the end of year 2017. In 2006, the corresponding figures were around 115 000. Investment apartments owned by the private people has increased by 77% during the last decade. (Mervola, Statistics Finland, 2019)

The popularity of real estate investment can be explained by its practicality and concreteness. An investor has a concrete apartment, which has a beneficial use. Investment will be rented for other people to have an apartment. (Airinen 2017,6) Real estate investments have also other benefits. Apartments' sale prices remain quite steady in the long time period. Price fluctuations occur to be more stable than in stock market. (Kaarto 2015: 25)

It is also easier to have a loan to real estate investments rather than other investments. Banks require higher interest when there occurs a higher risk. Investing in shares provides a certain risk because it can result in a loss of wealth. Negative results within the company can affect share prices and the value of an investor's portfolio, which will happen outside of investor's control. Paying dividends is not also a necessity for companies. (Kaarto 2015, 27)

Another reason for lower risk in real estate investments is the collateral involved. It is a type of deposit, which secures unpaid rent, department damages, eviction expenses and other problems related to the lease agreement. Collateral can be used to finance an occurring loss caused by the leaseholder.

Risk is smaller when investing in apartments because rent revenue is enough to cover loan expenses in good sale contracts. This does not mean that investors will never lose money. However, this reflects the overall image of private equity-owned investment apartments. (Kaarto 2015, 27)

There occurs to be two different types of investors: regular people and professional investors. Regular people do not need to have a profession in real estate management. The main principal is that they buy an apartment funded by their own financial capital and loan. Investors rent the apartment forward. They pay monthly loan amortization + fees covered by the rental revenue. In a longer time period, they will be able to pay back the loan and have a debt-free apartment, which will provide positive cashflow. Professional investors may focus only on the real estate investment or the real estate is only one part of whole investment scope. Their strategy to real estate market may vary depending on their target. (Kaarto 2015, 15)

1.1 Topic of my thesis

My research question is comparing earning outlook for housing investment by using different strategies in the area of Tampere. I will be analysing whether it is profitable to buy an apartment and rent it towards. I am going to evaluate it by different strategies including calculations of cash flow and capital gain.

Real estate investments are gaining more popularity among people nowadays. The topic is also relevant for me at the moment. I am planning on buying an apartment within few years. Later on, I will benefit from it by using it as an investment.

1.2 Research limitations

My research is limited in the area of Tampere. I am going to research occurred housing sales in many districts of Tampere, which will be evaluated by calculating cash flow and capital gain. I am also going to limit the research only to one-room apartments which are around 25-35m^2 since they are the most typical investment apartments, and they have the highest demand at the moment.

1.3 Research methods and literature

The research is divided into two parts: quantitative and qualitative research. In the first section of my research, collecting information and providing results is quantitative. The

main source for the data collection is Statistics Finland. It provides detailed information of already occurred housing sales with the current sale prices. Statistics Finland also provides charts and graphs including current figures in real estate investments in Finland. Based on information gathered in Statistics Finland, I am going to calculate monthly and annual cash flow, rental revenue, and capital gain. This will lead to results of comparing housing investments by using different strategies. At the end, I am going to have results of how to gain profitable cash flow and capital gain including the ratio of own finance and debt leverage used.

The second section of my research will include qualitative method of information and data collection. I will create an interview, which will be answered by the professional investors. The results gathered through the interview are going to supplement and support my results calculated in the first section. Quantitative research is based on last decade. Whereas interview concentrates on the future of real-estate investments and its possible changes.

1.4 Thesis outline

My thesis is divided into literature review, quantitative research, qualitative research, discussion and further research. Literature review includes theory based on real estate investments and strategies of calculating profitability of an investment using cash flow, capital gain and return on an equity.

Literature review also has a detailed analysis of demographic factors including increased rent prices, demand for one-room apartments in Tampere and idealistic profit margin of housing investments. Theory is supported by using graphs from Statistics of Finland.

There is also an overall analysis of Tampere including more specific information about investment apartments in Tampere. There occurs theory about districts with the highest demand of apartments, districts providing the most profitable rental income for investors and the safest / riskiest districts to invest in Tampere.

I have also researched occurring risks of housing investments. Possible risks occurring are unpredictable real estate market, negative cash flow, high vacancy rates, hidden structural problems, interest rate risk, allocation of assets and opportunity cost of investments. Risk analysis gives critical approach towards housing investments.

Analysis and results are divided into quantitative and qualitative research. Quantitative research includes my own calculations of cash flow and capital gain. Numerical data needed to perform calculations are gathered from Statistics of Finland for example debt-free prices and average rent level for each district. Calculations are performed in Excel. Results are visualized into graphs and tables in PowerBi to represent similar patterns and changes between districts. PowerBi is learned by me using YouTube. Quantitative research concentrates on historical data occurring during the last 10 years.

Qualitative research includes an interview with three professional housing investors in Tampere and Helsinki. The interview will be performed in Teams or Zoom, and I have 8 open-ended questions. The questions are used to support and complement my results, provide an overview of the effects of current covid-19 situation on the housing market and predictions on development of housing market and its recovery in the future. Qualitative research evaluates future forecasts. Whereas quantitative research concentrates on the past 10 years.

Discussion includes academic limitations occurred for example lack of information in Statistics of Finland. Further research provides improvements on how the thesis and its research could be developed further for example in Masters' studies.

2   Literature Review

2.1 Increase in rent prices

The amount of housing sales has increased in year 2019 compared to last year according to statistics Finland. On the other side, construction of new apartments is declining. The regional differences between housing sale prices have increased and they are more

common nowadays. Prices of housing sale are increasing currently in the metropolitan areas including Helsinki, Tampere, and Turku. At the same time, housing sale prices are staying constant or decreasing on other cities in Finland. The differentiation of prices is interpreted in the following graph. (Statistics Finland 2019)
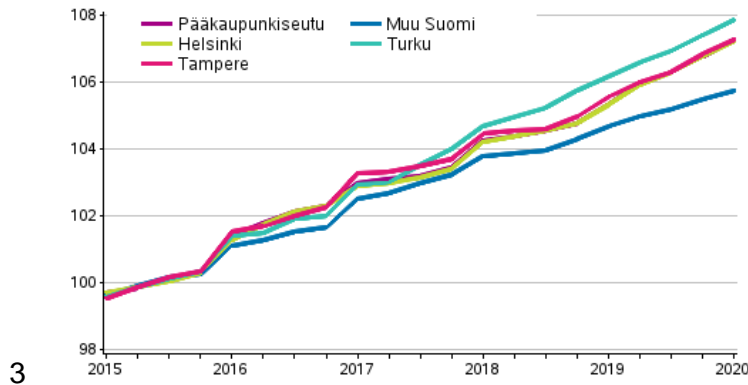
Figure 1.   Price development of rental apartments in Finland. (Statistics Finland)

When considering rental development during the last 25 years, rents have been in a steady increase every year. Rent prices have increased mostly in the 1980s when the increase was up to 7,03% per year. In comparison, the average increase in rent is around 4,70% during the statistical period 1980 – 2015. (Airinen 2017: 19)

Rent differentiation is also high inside the city when compared to different city districts. The amount of rent increases steadily closer the inner-city centre. Whereas the rent increase is not as high in the urban area away the city centre. Rents can even start declining or stay constant. For example, rent prices in the districts of Helsinki city centre have increased close to 20 percent during the last 4 years. However, increase in rents in the urban area of Helsinki has been only 6 percent. The same pattern can be seen in Tampere and Turku. (Statistics Finland 2019)

2.2 Demand for one-room apartments

During the previous years, one-room apartments have been in high popularity, especially in the biggest cities including Tampere. The average number of residents in one household has been decreasing causing one-person households to become more

common. In 2019, one-person households increased by 2,5 percentage points. In total, there occurred around 1,2 million single households, which is nearly 45% of all the households in Finland. The average size of housing units was 1.97 people in 2019. (Kannisto, Kokkonen, Korhonen & Vuorio 2019: 1)

According to statistics of Finland, one-room apartments are more likely to be rented than larger apartments. As an example, 86 percent of people are living on the rented apartment, which is sized 20-29m^2. Larger apartments are more often bought by people living in that house. Only 39 percent of people are living on rent in the 70-79 m^2 sized apartments. (Kannisto et al. 2019: 1)

The building permits have decreased during year 2018 for one-room apartments because there have been arguments whether one-room apartments have been built too many according to the current demand at the housing sale market. As an example, is too high supply of apartments in Vantaa Kivistö where many apartments have not been sold. Helsinki issued building permits for one-room apartments only fourth most in Finland during the year 2018. In comparison. Tampere issued the highest amount of building permits. This can be interpreted in the following figure. (Kannisto et al. 2019: 1)
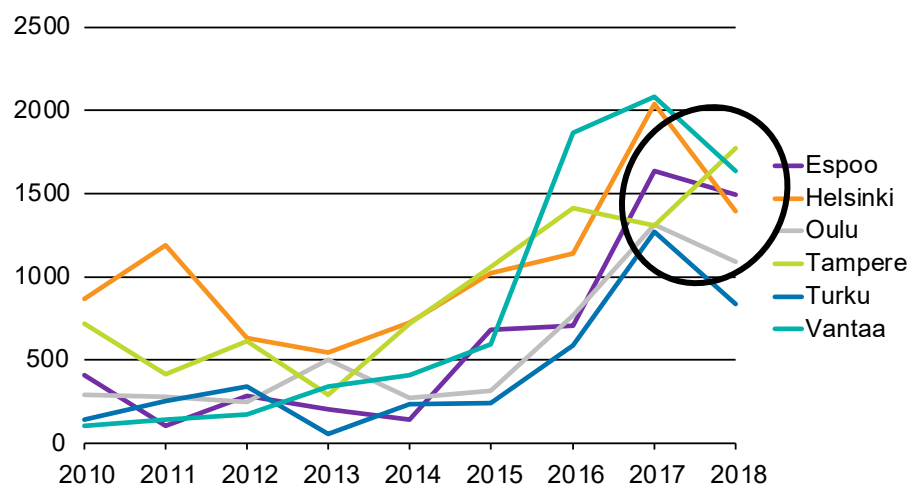
Figure 2.   The amount of building permits issued during statistical period 2010-2018. (Statistics Finland)

As I mentioned earlier, single households continued to increase in 2019. When comparing to year 2018, amount of people living alone increased by 30 000. The most

common to live alone is in the age group of over-75 where almost every second person lives alone. During the previous ten years, living alone is also more common in the age group of under-30. (Tiihonen & Rämö 2019: 1)
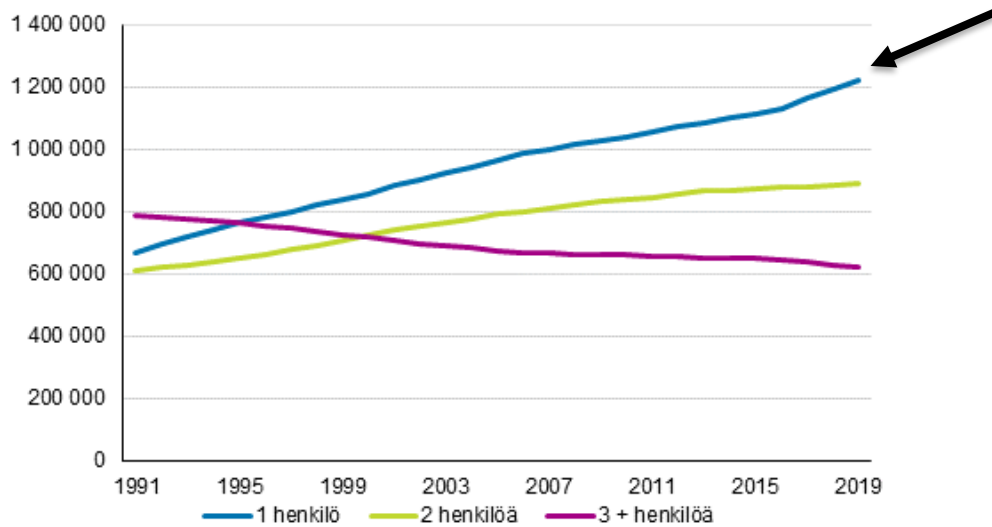
Figure 3.   Number of people in the households between 1990 – 2019. (Statistics Finland)

In the previous ten years, single households have been decreasing only in the age group of 45-54 years. On the other hand, single households have been increasing in other age groups. Living alone has increased most between age group of 70-74. In 2019, single households in that group were 55% more than ten years ago in 2009. The reason for this is that the largest age group was born between years 1945-1949 who are aged 70-74 in 2019. (Tiihonen et al. 2019: 1)

Living alone has also become more common for people under the age of 30. In 2009, 20% of people under the age of 30 lived alone. However, it has increased to 27% in ten years. The change in Kela housing aid allowance, in 2017, is one reason for the increased popularity of living alone among younger people. (Tiihonen et al. 2019: 1)

Single households have decreased from 49% to 47% in the last ten years among older people aged over-65. However, living alone is still the most common in that age group. The reason for the small percentual decrease is the higher life expectancy nowadays. Older people become widows at the older age. (Tiihonen et al. 2019: 1)

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2.3 Strategies to earn money through real estate investment

2.3.1 Housing investments in general

Private equity-owned investment apartments are becoming more common nowadays. Meaning of investment apartment is that an investor buys an apartment with the ratio of own capital and loan, which is then rented towards. The most idealistic situation would be that monthly rent revenue can be used to cover monthly loan and other expenses of an apartment. (Kaarto 2015: 22)

Investing in the houses is becoming more popular as a form of investment because real estate investing provides a steady and continuous rental income for investors. Investment apartments include only a moderate risk compared to other forms of investments for example shares. The reasons for the growing popularity of real estate investment are higher immigration to growing cities, aging population and housing premises are needed even in times of economic recession. Therefore, real estate investing provides rental income most likely even if the stock market fluctuates. (Kaarto 2015: 23)

Private and professional investors have often different strategies and goals. Private investors have the main goal to increase wealth, which will provide safety and better lifestyle. They want to earn positive cashflow meaning gaining profit after deducting loan and other expenses. Professional investors' goal is to earn enough profit to receive financial independence. Financial independence is *"the status of having enough income to pay one's living expenses without having to be employed or dependent on others"*. Reaching financial independence means that you have income to pay for all the living expenses without having to work for the rest of your life. (Wikipedia 2019)

When buying an investment apartment, investor becomes the owner of an apartment. Transfer tax needs to be paid as part of the sale contracts. The amount of transfer tax in housing is 2% of its sale price including any additional payments that had been agreed on. Tax is calculated from the debt-free price. Debt-free price includes the price of an apartment and apartment's outstanding share of the housing company loan. Tax is

calculated using debt-free price. The tax needs to be paid within 2 months from the official approval of a sale contract. (VERO 2020)

In some cases, new shareholders are justified not to pay the transfer tax. If an investor buys an investment apartment for the first time and they are aged between 18 to 39 years, share ownership will be at least 50% and the house will not be empty for more than 6 months, they do not need to pay transfer tax. (Blok 2019)

Additional fees need to be paid by an investor. Company fee consists of two parts: management fees and financial consideration. Management fee is *"a fee paid to a person or company for managing a business, property on another's behalf"* (Cambridge Dictionary, 2020). It is a charge that is paid by investor to the housing company covering the take care of all the possible costs that arise from managing a whole apartment building. In addition, it includes the costs of investor relations and administration. Management fee also covers the costs that arise from other companies who will professionally manage the real estate. In summary, management fee includes all the expenses that arise from management and maintenance of the real estate. (Chen 2018)

Financial consideration includes all the financial related costs arising from owning an investment apartment. Possible costs, which will be included are renovation of an apartment or the whole real estate, current housing association loan expenses that company owns due to larger projects and possible loan expenses due to property rent. Financial fee does not occur if the building is built on owned property. There is also an alternative option to pay the fee of financial consideration. An investor does not need to pay the fee if he/she pays off their own share in housing association loan at the same time with the purchase of an apartment. (AUREA LKV 2017)

2.3.2 Leverage

Leverage is the use of debt to afford the purchase of an investment apartment. Leverage is also used to increase the potential return on an investment. Leverage is taking loan and this way, replacing own financial capital used to finance the housing investment. Taking loan can be more profitable in some cases. The most idealistic situation would be

to have a loan with long payback period. This way, the loan amortization is lower decreasing monthly expenses. On the other hand, high loan with short payback period is unprofitable creating negative cashflow. Short payback period increases the amount of loan amortization causing monthly expenses to increase. (Kaarto 2015: 40)

When leverage is used correctly, it can increase the revenue of an investment. The table below will demonstrate the increase in revenue while using leverage. The price of an apartment is 60 000€. When using own financial capital, one house is bought. When leverage is used, 4 houses are bought at the same time. (Neuvonen 2015)

	Rental income	Debt leverage
Price	60 000	4*60 000=240 000
Own capital	60 000	60 000
Loan	-	180 000
Rent	450	4*450=1 800
Fees	100	4*100=400
Annual rent	540*12=5400	21 600
Annual fees	100*12=1200	4 800
Annual interest rate (2%)	-	180 000*0.02=3 600
Annual revenue	5 400-1 200=**4 200**	21 600-4 800-3 600 = **13 200**
Return on equity	**7 %**	**22 %**

Figure 4.   Table demonstrating the use of debt leverage in comparison to own capital. (Kaarto, p.35)

According to the following calculations, the use of leverage tripled the return on equity. Debt leverage is profitable as long as the percentage of rental income is higher than interest rate. Leverage is often used to increase the return of an investment. Even though, you have substantially high amount of debt, it is more profitable in equity. (Neuvonen 2015)

Debt leverage is in favour when there occur low interest rates. Nowadays, 12-month Euribor interest rates are around 0.1%-0.2%, which is very low. Therefore, monthly interest expenses do not increase that much. (Kaarto 2015: 36)

Debt leverage is also good when there is expected increase in value of an investment apartment. House should be bought in an area that has a possibility for the increase in value. In Tampere, the growing areas are Tammela and Kaleva. In the most successful cases, the return on equity of an investment might increase by 30% when using debt leverage instead of own financial capital. When leverage is used correctly, it might have the strongest impact on the increased return on equity. (Saarinen, Aamulehti 2020)

However, there are also some concerns according to figure 4. It demonstrates only one year at the beginning of an investment. Loan is shortened every year by the amount of loan amortization resulting in the smaller amount of loan left. Therefore, the amount of loan decreases and the amount of own financial capital increases, which might cause decrease in return on equity of a house investment. (Neuvonen 2015)

It is good to consider that debt leverage can fluctuate in both, positive and negative, directions. Leverage emphasises the increase in value by creating higher return on equity. If an investor buys houses at the price of 300 000€ and receives 10% increase in value resulting in increased return of equity of 30 000€. However, there also occurs decrease in value of some housing investments, which results in unprofitable results. If there occurs 10% decrease in value, the investment has decreased from 300 000€ to 270 000€. Therefore, it is important to use the debt leverage deliberately. In general, the value of houses does not fluctuate rapidly. It makes housing investments less risky than some other investments and shares. (Neuvonen 2015)

2.3.3 Cash flow

Cash flow is one of the most important equations for an investor to evaluate. If the cash flow for some reason ends; investor cannot maintain his/her apartment as an investment. The use of debt leverage is the most effective when there occurs a positive cash flow. When investor earns enough profit through the positive monthly cash flow,

he/she does not need to take care of short-term and occasional inflations and deflations. (Kimmons 2019)

The main purpose in using cash flow is to be able to cover monthly loan expenses with rental surplus. The most ideal situation for an investor is to earn some money at surplus after paying all the monthly expenses. (Kaarto 2015: 69)

Using debt leverage involves many monthly expenses including management and financial fees, interest payments, loan amortization and some additional taxes, which have been explained in the previous section. The incoming cash flow is used to cover these expenses and target is to have still some positive cash flow left to other usage. In that situation, real estate investment provides additional income for an investor. (Kaarto 2015: 66)

If the monthly cash flow is negative, the problem arises for an investor. If the cash flow is 300€ negative, investor needs to pay 300€ each month from his/her own wallet. An investment is chargeable every month. In that situation, investor needs to evaluate how many apartments he/she can own with negative cash flow. (Kaarto 2015: 69)

The amount of debt used to buy an investing apartment affects strongly on the monthly expenses. If you buy an apartment at the cost of 100 000€. The use of own capital is 80 000€ and the amount of debt is 20 000€, it is self-evidence that monthly expenses are much lower than if the amounts will be another way around. The main principle of using debt leverage and still earning positive cash flow is to have lower percentage of interest payments than profit margin. (Kaarto 2015: 70)

In addition to the amount of own capital and debt, there are also other factors affecting monthly cash flow. Loan payback period and rate of interest have a major impact on the monthly expenses. When there occurs longer payback period and lower interest rate, monthly expenses decrease. Whereas there will be shorter payback period and higher interest rate, monthly expenses increase. (Kaarto 2015: 71)

The following table shows detailed equations to calculate annual cash flow, monthly cash flow and rental revenue.

Debt-free price	-
Selling price	Debt-free price * 0,65
Transfer tax 2%	Debt-free price * 0,02
Upcoming renovations	-
Equity	Selling price*0,3
Loan (leverage)	Sales price + transfer tax - own capital
Payback period	25
Interest rate	1,2%
Interest expense	Debt leverage*interest rate/12
Rent	-
Management fee	132
Corporation fee	(Debt-free price – selling price) / 25 / 12
Number of months	12
Rental income	Monthly rent * 12 - fees * 12
Interest expense	Monthly interest * 12
Taxable income	Annual rent revenue - annual interest
Capital gains tax	Taxable income * 0,3
Loan amortization	Debt leverage / payback period
Other expenses	500
Cash flow / year	Rent-interest-capital tax income-loan amortization- other expenses
Cash flow / month	Annual cash flow / 12
Return on an investment	(Annual rent - other expenses) / own capital

Figure 5.   Table demonstrating the equations to calculate cash flow. (Kaarto, p. 71)

A well-experienced investor can benefit from positive cash flow and finally reach the target of being financially independent. As an example, investor has a positive cash flow of 100€ and she owns 10 apartments with equal cash flow. As a result, she will earn 1 000€ in addition each month. Later, investor can utilise the positive profit to buy new apartments with lower use of debt. This will lead to lower monthly expenses with lower debt expenses. It is always easier to buy new apartments when you already own few good real estate investments. (Kaarto 2015: 72)

Monthly cash flow is easy to calculate and evaluate and it does not provide additional speculation. Therefore, it is a good investment strategy for an investor who wants to earn remarkable wealth in the longer time period. (Kaarto 2015: 73)

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2.3.4 Capital gain

There are two types of investors. Some investors try to gain positive cash flow. Whereas other investors try to reach capital gain of a real estate investment. The main target of capital gain is to buy apartments, which have higher selling price than purchase price. This way, investors can sell the apartment later with higher price gaining profit. (Kaarto 2015: 67)

As an example, if an investor buys the apartment with the purchase price of 100 000€ and sells it few years later with the price of 125 000€, investor has gained equity by 25 000€. Money can be used to buy new apartments or as a security of bank loan to finance new investments. The challenge for investors is to be aware of apartments on sale with the selling price being lower than current price level. (Kaarto 2015: 67)

Sales price	-
Equity	Sales price * 0,3
Loan (leverage)	Sales price * 0,7
Payback period (years)	25
Interest rate	1,2 %
Interest expense	Debt leverage*interest rate / 12
Rent	-
Capital gains tax (%)	30 %
Capital gains tax (€)	(rent-fees)/capital gains tax
Management / corporation fees	132 and (Debt-free price – selling price) / 25 / 12
Rental income (€)	Loan expenses-rent-capital gains tax-fees
Rental income (%)	Rental income/equity
Rental income in 5 years	(Sum of previous rental income) *12
Capital gain in 5 years	Selling price (2015) – selling price (2010)
Net income of an investment	5-year rental income + 5-year capital gain
Return on an equity % (yearly average)	Net income of an investment / equity * 100

Figure 6.   Table showing a list of equations and factors needed to calculate capital gain for 5 years. (Kaarto, p. 68)

There are many reasons why houses are being sold with lower sales price. Seller might want to sell the house quickly for some reason and therefore, they offer lower sales

price. Seller might also have a worse financial situation and additional money is needed quickly. They can also have challenges of finding proper leaseholder to an apartment and they are not able to cover all monthly expenses of the apartment. (Kaarto 2015: 68)

There are three main ways to increase the value of an investment apartment. Apartment's value can increase among long time period if the price level increases generally in the district area. On the other hand, apartment can be bought at the price under general price level in the market, which will eventually lead to higher selling price than purchase price gaining profit for investor. In some cases, renovations increase the value of an apartment. However, it is important to make sure that the expenses of renovation are lower than the possible value increased from it. (Kaarto 2015: 68)

In some cases, investors might have a strategy to sell their investment apartment when its selling price have increased above general price level at the market. Below is an illustration of the selling option after selling price will be higher than its purchase price. In the example, investment does not have loan expenses anymore. (Kaarto 2015: 135)

Purchase price	100 000
Rental net income / year	5 800
Selling price	200 000
Commission 3%	200 000 * 0,3 = 6 000
Revenue	200 000 - 6 000 = 94 000
Taxes (30%)	94 000 * 0,3 = 31 000
Revenue after taxes	200 000-31 000-6 000=**163 000**

Figure 7. Table demonstrating net revenue after increased selling price. (Kaarto, p. 135)

The price of an apartment has increased from 100 000€ to 200 000€. In this case, some investors might sell the investment since there occurs capital gain. After deducting the initial selling price and 3% commission, investor will have a revenue of 94 000€. However, it is still taxable income. After deducting 30% taxes and a commission, the net revenue will be 163 000€. As a result, investor receives 100 000€ that was paid initially

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as a purchase price. In addition, investor receives 63 000€ as a capital gain. (Kaarto 2015: 135)

Lost rental net income	
1st year	**5 800**
2nd year	5 800 * 2 = **11 600**
3rd year	5 800 * 3 = **17 400**
4th year	5 800 * 4 = **23 200**

Figure 8.   Table illustrating rental net income lost after selling the apartment. (Kaarto, p. 136)

Even though, investor receives 63 000€ capital gain from the apartment, she/he will lose rental net income. Rental net income lost will decrease the amount of money earned as a capital gain. Housing market prices are cyclical meaning house prices increase for a while and then start to decrease. Investor might be afraid of selling prices to decrease rapidly if they have been increasing for a while. However, price changes occur in the long time period instead of changing rapidly. (Kaarto 2015: 135)

However, selling the apartment after increased price is a reasonable option, if the investor uses money earned by capital gain (in the example above 63 00€) to reinvest new apartments. This way, investor can reduce the amount of leverage by using own equity when financing new apartments. Smaller ratio of leverage will increase the cash flow earned. (Kaarto 2015: 136)

2.5 Ideal profit margin percentage for investors

Professional real estate investors are using both, leverage, and equity when financing investments. The main reason to use leverage is to gain higher investment income. If the investment income is too low, using leverage is not profitable. Therefore, investors use different leverage and equity ratios in order to succeed. (Herpiö 2020: 17)

The most common percentage of leverage used is between 30% and 50% of the market price. Some investors might finance even 70% of the real estate market price using leverage. There are some factors that have an impact on the leverage ratio. Newer building year and better quality increase the amount of leverage used to finance an

apartment. Other factors to increase the ratio are the easiness of finding good leaseholder and the length of a rental contract. (Herpiö 2020: 17)

Professional real estate investors convince that it is easy to borrow from the bank. At some cases, investors have borrowed even 90%-100%. The ideal amount bank issues leverage is up to 70%. Bank issues leverage at higher rate easier for apartments than business premises. Common leverage ratio for business premises is 50%. Higher leverage is more profitable for apartments than other business premises. (Herpiö 2020: 17)

Investors emphasize that they often evaluate the amount of leverage by calculating the profit margin for whole contract price and not only for the invested equity. If the profit margin of a real estate investment is higher than interest rate of the loan, then profit margin becomes even higher when there is more leverage. However, increasing the amount of leverage also increases the occurrence of a higher risk. (Herpiö 2020: 17)

The current expectation for return on equity differs between 7% and 15%. Ideal return for office is 7-10% and for business premises 9-10%. Return on own equity is slightly higher between 15-20%. (Herpiö 2020: 18)

2.6 Factors affecting the value of an apartment

Location and accessibility are important factors affecting the value of an apartment. Location has a major impact on the percentage of monthly profit margin. Important factors of location are distance from city centre, other facilities and services, public transportation, and parking spaces. One of the most important factors is the distance from city centre. The highest prices per square meter occur with the apartments in the city centre. When the distance gets more far away from the centre, prices decrease at the same rate. (Soini 2017: 13)

The information mentioned in the above paragraph about prices is realistic also in different areas of Tampere city. When comparing the occurred housing sales and their

current market prices between different city districts, same pattern is noticed. According to statistics of Finland, the square meter prices in Tampere city centre occur between 4 150€ and 4 700€. Prices start to decrease when going further from centre. Prices in Kaleva are around 3 600€, which is located 3km from the centre. In Linnainmaa, prices occur to fluctuate around 2 600€. It has a distance of 8km from the centre of Tampere. (Statistics Finland 2020)

Condition of an apartment is in main role when determining the amount of a monthly rent. Rent is often evaluated based on apartment's condition. Major renovations for example pipe-, roof-, and façade repairs increase the price of an apartment and make it more valuable for an investor. An investor should be aware of possible renovations before buying an apartment as a housing investment. It is important to concentrate on the condition of a kitchen and bathroom because they include the most expensive renovations. When they are in good condition, rent is more likely to be increased significantly. It is more profitable to have a facelift with new paint, carpet, and decoration than kitchen or bathroom renovation. (Mikkola 2020: 11)

Reasonable renovation will increase the value of a housing investment. Façade repair is quite cheap to execute, which raises the overall condition of an apartment. While doing a façade repair, it is important to use light colours because they are timeless shades and are suitable for many people. The major principal of renovation is to create stylish and elegant apartment with reasonable cost. When renovating, it is recommended to remember that an investor is still selling for mass segment of customers. (Kaarto 2015: 166)

In Finland, building year has also some impact on the value of the apartment. Block of flats, detached, and semi-detached houses built in the 21st Century are especially popular among buyers and they have the highest demand at the moment in the housing sale market. (Statistics Finland 2019)

Most people prefer to have a small yard or a large terrace. The glazed balcony is in favour nowadays, which increases the price of an apartment. It is usual in the housing sale market that larger balcony increases the price and rent steadily. The direction of

the balcony and other windows are also important among buyers. The most desirable directions are west, south, and southwest. Views from window also impact on the value of an apartment. The most expensive apartments have the view towards lake or see. Floorplan and an efficient use of space have also an effect on the value of an apartment. Nowadays, people prefer open kitchen and wardrobes. Especially in the one-room apartment, use of space efficiently is important. People are seeking enough closets and storage space. (Tapio 2019: 18)

For many home seekers, having an elevator is a requirement. Apartments located in the higher floors are becoming more popular nowadays. Therefore, elevator is a must for many people. Elevator creates a major impact on the market value of an apartment. (Tapio 2019: 20)

2.7 Risk analysis

There are several risks that might occur in housing investments. Therefore, it is important for investors to be aware of possible risks while buying an apartment and be prepared for them financially during the upcoming years.

It is always good to have some additional money, which can be spent on renovation. When buying an apartment, investors should plan the renovations occurring within next 10 years and evaluate whether they have additional money to be spent on them. (Kaarto 2015: 167)

In order to reduce the number of possible risks, investor should seek apartments, which are suitable for larger segment of customers. The most popular apartments to be rented at the moment are one-room apartments, which have the highest demand in the housing sale market at the moment like mentioned earlier in section 2.2. In order to keep the customer segment as large as possible, investor can reduce the risk of not having a leaseholder. If investor is not able to rent the apartment forward, he/she needs to pay all the monthly expenses without having rent revenue. (Kaarto 2015: 169)

At the moment, general interest rate level is very low around 1,2%. However, it increases the potential risk. Interest rate risk is the possibility of a decline in the value of housing investments resulting from unexpected interest rate fluctuations. If interests start to increase, the value of a housing investment decreases due to higher expenses. The overall rate of return through investment decreases significantly. (Chen 2021)

In general, interest rate risk can be reduced by holding bonds with different durations. However, housing investments are often hold for long time period without any limit. Therefore, it is impossible to reduce the risk by holding housing investments for different time periods. Overall, interest rate risk creates uncertainty where investors cannot predict whether the level of interest rates will remain steady, increase, or decrease. (Chen 2021)

Another risk in holding investments in housing is the asset allocation. Asset allocation is an investment strategy used to balance risk and return. It is defined as "an investment portfolio technique that aims to balance risk by dividing assets among major categories". Major categories for asset allocation are cash, bonds, stocks, real estate, and derivatives (financial securities). It is preferred to have investments on different categories because each asset has different levels of risk and return. When one asset increases in value, another asset might decrease. By using asset allocation, you can minimize major losses occurring. (Chen 2020)

When having only housing investments, there is not diversification since all the investments belong to same asset. If interest rates starts to increase, it affects all the investments in similar manner causing bigger losses. Investors can diversify some housing investments by buying apartments from different districts in urban and suburban areas. It reduces risk based on regional changes for example price fluctuations, rent level and easiness of finding a proper leaseholder. However, risk is still high in relation to overall changes in the market. (Kaarto 2015: 153)

While holding investments, there also occurs an opportunity risk representing the potential benefit an investor loses when choosing one alternative over another. If an investor decides to buy an apartment, its value is away from other investments. When

buying an apartment, investor does not know whether it will provide higher overall rate of return than another apartment that was left out in the long time period. (Fernando 2020)

Liquidity risk happens when an investor cannot pay its short-term debt obligations. The risk is higher in real estate market because housing investment cannot be sold quickly due to lack of marketability. Generally, liquidity risk occurs for housing investors when they receive negative cash flow and are unable to pay ongoing expenses such as loan. In housing market, it is challenging to gain funding quickly for their short-term debt payments because investors cannot sell the apartment within next day at the current price level. (Harper 2020)

Even though, there occurs to be several risks, the major risks are unpredictable real estate market, negative cash flow, high vacancy rates, struggles with tenants and hidden structural problems. Market changes such as supply and demand, demographics, interest rates and government policies are unpredictable what investor cannot predict beforehand. Negative cash flow might occur due to high maintenance and financing costs and having too low rental level. High vacancy rate emphasises that an area is not renting well. Another common risk to lose money is to underestimate the costs of all the repairs and maintenance needed. (Kaarto 2015: 171)

2.8 Analysis of Tampere

Tampere has an increasing rate of incoming residents and amount of housing deals occurred in a year. In 2017, the amount of apartment investments was around 15 000 in Tampere and popularity of investing in apartments has increased by 77% since the year 2006. However, the amount of housing deals decreased by 15-20% during covid-19 virus on Spring. The most typical houses to be sold are small one-room apartments with the size around 30m2. They are the safest option for investors to find a leaseholder. (Ellilä 2020: A4)

The most popular districts in Tampere are Tammela and Kaleva, which are located right next to city centre. Apartments are sold during one week with the demanded price level on average. In some cases, apartments in Tammela and Kaleva are sold before public marketing. (Ellilä 2020: A5)

Block of flat buildings built in the 1970s have a significant decrease in demand at the moment. They usually require new renovations for example pipe repair and some buildings do not have an elevator which is highly required among buyers. Peltolammi and Multisilta are the districts in Tampere which are located in the suburban area. Therefore, they have the lowest demand of new apartments at the moment. (Ellilä 2020: A6)

Covid-19 pandemic has made housing deals more careful among buyers. Demand of apartments in the districts close to city centre have remained quite steady during pandemic. However, demand in suburban areas have decreased rapidly. In some cases, possible buyers offer lower price than the current selling price occurs to be. However, sellers have not accepted discount sales. Low levels of interest rates have made it possible to sell the houses with the demanded price level. (Ellilä 2020: A5)

Vuores is a new district in Tampere where block of flat buildings are built during the last decade. It is located in the suburban area around 10 kilometres from Tampere city centre. Surprisingly, Vuores is also quite popular area among housing investors. There is easy to find leaseholders for small one-room apartments even though, it is located in the suburban area long distance away from universities and other schools of applied sciences. Vuores is located close to nature and there are good bus connections to Tampere city centre. (Saarinen, Aamulehti 2020)

When comparing current prices of housing deals and general rent level, Multisilta, Lamminpää and Peltolammi have the largest percentage of net rental revenue for investors. In Multisilta, the general net rental revenue occurs to be around 6%. However, Tampere centre and other districts close tend to have a significantly lower net rental revenue. Apartments in the area of Lapinniemi-Käpylä have a net rental revenue around 3% on average. (Saarinen, Aamulehti 2020)

Rental revenue seems to increase when moving further to suburban areas. In Tampere city centre, selling prices are high compared to current rental level. In Multisilta, selling prices are significantly lower due to older buildings which have upcoming renovations in recent years. Multisilta has the lowest selling prices and amount of average rent, which increases the net rental revenue while comparing to other more expensive districts. (Saarinen, Aamulehti 2020)

However, it is in comparison with the easiness of finding proper leaseholders. As mentioned earlier, apartments located close to city centre have the highest demand at the moment. Even though, Multisilta, Peltolammi and Lamminpää have the highest percentage of net rental revenue for investors, they are also the riskiest areas to invest. It is challenging to find good leaseholders, which might lead to risk of having apartments empty for several months. In that case, investors need to pay all the monthly loan expenses and other costs by themselves without having any rental revenue. (Saarinen, Aamulehti 2020)

Tampere has been stated as a good city to because increase in value of apartments in the income has been at the top of the country. It is also predicted that the average total return will be around 7% for years 2019-2023. However, rental income will remain lower at 4%. At the moment, prices are high especially for apartments located close to city centre. The housing corporation loans have been increasing. Many companies have also increased up to 5 years before amortization of a housing company loan starts. (Malin % Laitinen 2019)

3 Quantitative research results

Next moving on to research gathering and analysing the results calculated. The first part of my research is based on quantitative method of data collection, which includes calculations measuring profitability based on cash flow and capital gain. I have calculated cash flow and capital gain for the last 10 years between 2010-2019.

I have analysed the profitability of investing in real-estate based on 14 different districts in Tampere. They are the following: Kaleva, Keskusta, Keskusta Läntinen, Pispala, Härmälä-Rantaperkiö, Lentävänniemi, Rahola, Kaukajärvi, Atala-Linnainmaa, Nekala, Koivistonkylä, Tesoma, Hervanta and Peltolammi. Keskusta, Läntinen, Kaleva and Pispala are located in the centre of Tampere. Härmälä-Rantaperkiö, Nekala, Koivistonkylä and Peltolammi are 6-8km from Tampere centre at the southern side. Tesoma, Rahola and Lentävänniemi are located on the western side of Tampere closer to the border of Ylöjärvi, a municipality next to Tampere. Atala-Linnainmaa, Kaukajärvi and Hervanta belong to eastern part of Tampere further away from centre in comparison to other districts. Hervanta has a technical university and university of applied sciences. Therefore, it is especially in favour of students. The map of Tampere attached as appendices 13-14 visualises the districts in used in my research.

I decided to limit my research based on these districts because they are spread around Tampere. Therefore, they will provide a detailed and precise results when analysing Tampere as a whole in profitability of housing investments.

3.1 Lack of information

I have limited the research for years 2010 – 2019 because information gathering from Tilastokeskus is available for those years in detailed. Tilastokeskus does not have detailed data for every year from 2010 earlier. There is mainly included the average data between 2000-2005 and 2005-2010 as an example. In addition, Tilastokeskus does not have information available for year 2020, yet.

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Tilastokeskus includes data about debt-free price of housing sales occurred in all the districts of Tampere. In my calculations, there are few districts missing some cash flow and capital gain calculations for few years. It is due to lack of information in Tilastokeskus because there did not occur enough housing sales in order for Tilastokeskus to have data for that year. Cash flow and capital gain calculations are included at the end of my thesis as an appendix.

3.2 Information gathering, equations and units

The equations used to calculate cash flow and capital gain were explained earlier in literature review section 2.3. Debt-free price for every year in each district is gathered from Statistics Finland. Apartments also include corporation loan which is reduced from the debt-free price. Selling price is 65% of a debt-free price. Selling price is the amount left after deducting corporation loan. In Tampere, the amount of corporation loan occurs to fluctuate around 60-75% and it has not changed significantly during the last 10 years. Therefore, I have the average of 65%. Current rent level for each year in different districts is also taken from Statistics Finland.

Transfer tax is always charged as an addition to the payment of occurred housing deal and it is calculated from the debt-free price. According to Finnish vero.fi website, the amount of transfer tax in Finland is 2% nowadays. Interest rate used in my calculations is 1,2%. According to website of trading economics, the interest rate has fluctuated around 0,5% and 2,0% in Finland during the last 10 years. The general interest rate level is significantly lower compared to the beginning of year 2000 when it was close to 5%. Therefore, I used 1,2% interest in my calculations.

I have used equity and leverage together to finance the housing deals. The ratio between equity and leverage is 30:70. I have used 30% own equity and 70% is financed through loan. Loan also includes payment for transfer tax.

The average level of management fee in Tampere is 132€, which I have used in my calculations. It has not had any major fluctuations in the previous 10 years, which is the

reason for keeping it constant every year. Corporation fee is the monthly loan payment to cover the corporation loan that new housing cooperatives have. The general payback period is 25 years. Based on that, I have calculated the monthly expense to cover the corporation loan in 25 years.

There is also included predicted costs of upcoming renovations during the next 10 years. In my research, apartments bought are built during the last few years. Therefore, they do not face major renovations in the upcoming years.

3.3 Equity and loan

In my calculations, I have used 70% of loan and 30% own equity to finance an apartment used as an investment. The following bar chart illustrates the ratio between equity and leverage. It shows the amount of own equity needed in order to finance rest (70%) of an investment by using leverage. The graph shows the ratio in detailed for each district. The values are average data during the last 10 years, 2010-2019.
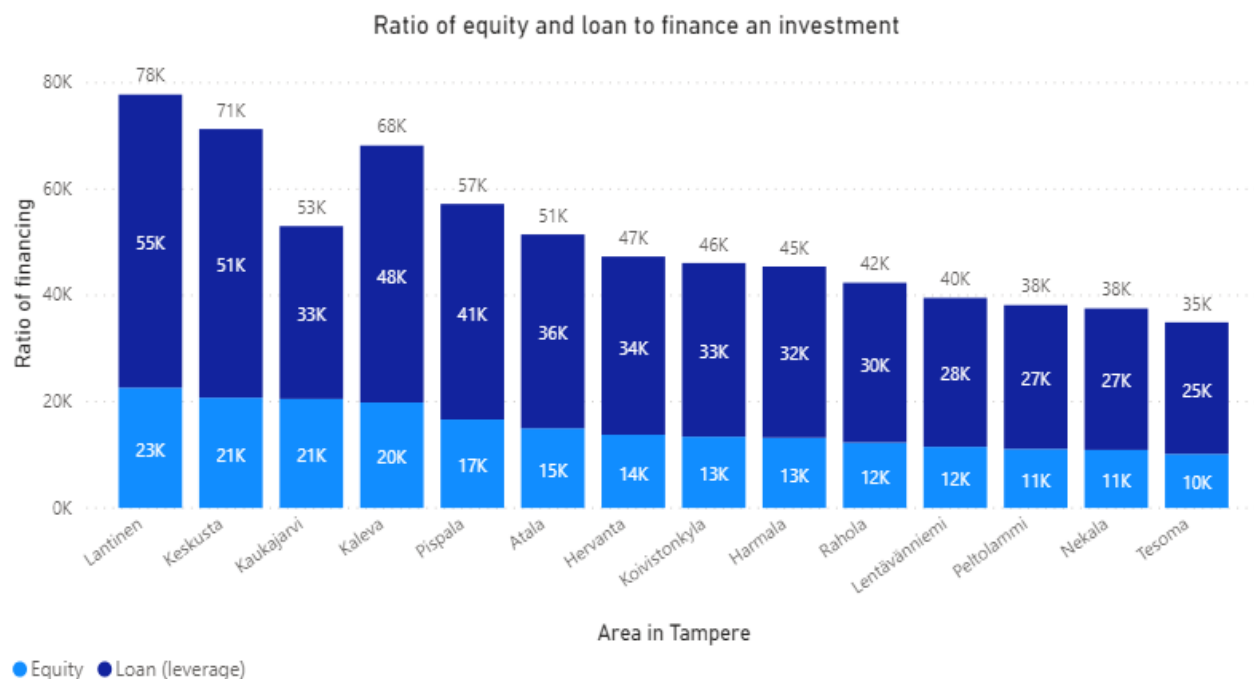

Figure 9.   Bar chart demonstrating the amount of equity and loan (€) to finance an apartment.

The amount of own equity is low and varies between 10 000€ and 23 000€. Amount of equity is higher in the districts located close to city centre and lower in the suburban areas. In order to buy an apartment, the main source of financing is leverage. However, it has a higher impact on profitability of an investment by lowering cash flows earned. Cash flows will be calculated and evaluated in the next sections.

3.4 Cash flow

I have calculated cash flow, rental income and return on an equity for 14 different districts in Tampere, which are spread around the city. The detailed calculations can be seen in a spreadsheet in the appendix.

Debt-free price and average rent level in each district are taken from the detailed data in Statistics Finland. However, the general price level of apartments is lower compared to current prices of an apartment deals expressed in Oikotie and Etuovi. However, they do not affect on comparison of districts based on their investment profitability because data is generally lower in all the districts in Tampere.

3.4.1   Cash flow for districts in Tampere

Appendices 1-8 illustrates cash flow in a year and a month for districts in Tampere during the last 10 years. Graphs are based on centre, western, southern, and eastern parts of Tampere. In appendices 17-18 is attached a map of Tampere to visualise the location of districts in Tampere, which are used in my thesis.

Kaleva, Keskusta and Läntinen have the most negative cash flows. They are shown in appendices 1 and 2. In 2010, monthly cash flow in Kaleva was -45€. It creates -537€ loss through the investment in a whole year. In 2019, monthly cash flow has increased to -90€ causing -1 082€ loss during the year. Housing investments in Läntinen have the largest losses. Monthly cash flow in 2010 was -98€ and total loss in a year increased to -1 179€. In 2019, investor earned through investment -109€ in a month leading to the

total loss of -1 234€. Negative cash flow in a month was highest in 2018 when it reached close to -130€. Cash flows earned for investments in Keskusta fluctuate between -60€ earned in a month in 2010 increasing up to -110€ in 2019.

The main reason for negative cash flow is the high price level due to location in the centre of Tampere. According to my results, the three most expensive districts, Läntinen, Keskusta and Kaleva are located in the centre of Tampere and also creating the most negative cash flow. Apartments are located close to services and other facilities. They also have diverse connections with public transportation and high variety of parking spaces available. Education for example schools, universities and kindergartens are also close.

Kaleva is located 3km away from city centre, which belongs to one of the most expensive districts in Tampere and creates highly negative cash flow. Services in Kaleva are close for example a large supermarket and other activities including gym and swimming hall. A tramline is planned to begin operation in August 2021. The tramline will attract more people to live in Kaleva by providing better and faster public transportation to the centre.

In appendices 3-4, Lentävänniemi, Rahola and Tesoma are the few districts in Tampere creating positive cash flow. Cash flow earned in a month in Lentävänniemi increased from -23€ in 2010 to 31€ in 2019. In 2019, revenue earned through the housing investment was 433€. The largest cash flow earned in a month, 47€, occurred in 2017 creating a profit of 561€ in a whole year. Tesoma had the largest cash flow earned. It fluctuated from 5€ in a month to 53€ creating profit in a year from 59€ to 631€.

In appendices 5-6, Härmälä and Koivistonkylä have negative cash flows. For investments in Härmälä, the cash flow earned in a month has increased from -55€ to 16€ creating a profit loss in a year from -395€ to 194€. Koivistonkylä had cash flow in a month from -40€ to 4€ and in a year from -475€ to 25€. Nekala had also earned positive cash flow from the year 2013 onwards. Cash flow in a year fluctuated from -10€ to 45€. Overall profit surplus in a year increased from -122€ to 535€. The highest revenue earned occurred in 2019.

The main reason for better cash flows earned than in centre of Tampere is due to lower price level of apartments. Lentävänniemi, Nekala, Tesoma and Rahola have the lowest price level in Tampere because they are located further away from city centre, in the suburban area. These districts have a worse location further away from services available for example larger supermarkets, shopping malls and other activities. Public transportation is also more limited, and it takes more time to travel to centre of Tampere. Another reason for low prices is that the most buildings have been built in the 1960s and 1970s. Buildings built in that time are nowadays in a need of bigger renovations for example facade and pipe repair.

Districts in eastern Tampere (Atala, Kaukajärvi, Hervanta) are the furthest away from centre. However, the price level is high compared to its location. Therefore, cash flow is mostly negative for Atala, Hervanta and Kaukajärvi. Atala has the most negative cash flow. Cash flow earned in a month fluctuates from -73€ to 2€ and the loss in profit in a year increases from 20€ to -882€. The only positive cash flow is earned in 2019 resulting in 20€ profit. Hervanta has negative cash flows in a month from -56€ to 5€ and in a year from -668€ to 62€. Comparing to Hervanta, Kaukajärvi has similar cash flows occurring mostly on negative. In 2018, Kaukajärvi has a positive cash flow earning revenue 110€ in a year.

The distance from Hervanta to centre is 12 km. However, price level occurs to be high. Hervanta has many universities, police school and other educations of applied sciences. Therefore, it is especially in favour of students and attracts young adults to live there.

Atala has a high price level as well being the district in a suburban area. According to Etuovi, Atala has a large variety of new buildings being built during the recent decade and new buildings are being built until year 2021. Atala is also located close to nature and forests making it more attractive.

The price fluctuations inside Tampere are high. Price differences between districts can reach up to 60%. The most expensive districts are closer to 120 000€ and the least expensive districts are around 50 000€. The following bar chart shows the comparison of prices in Tampere.
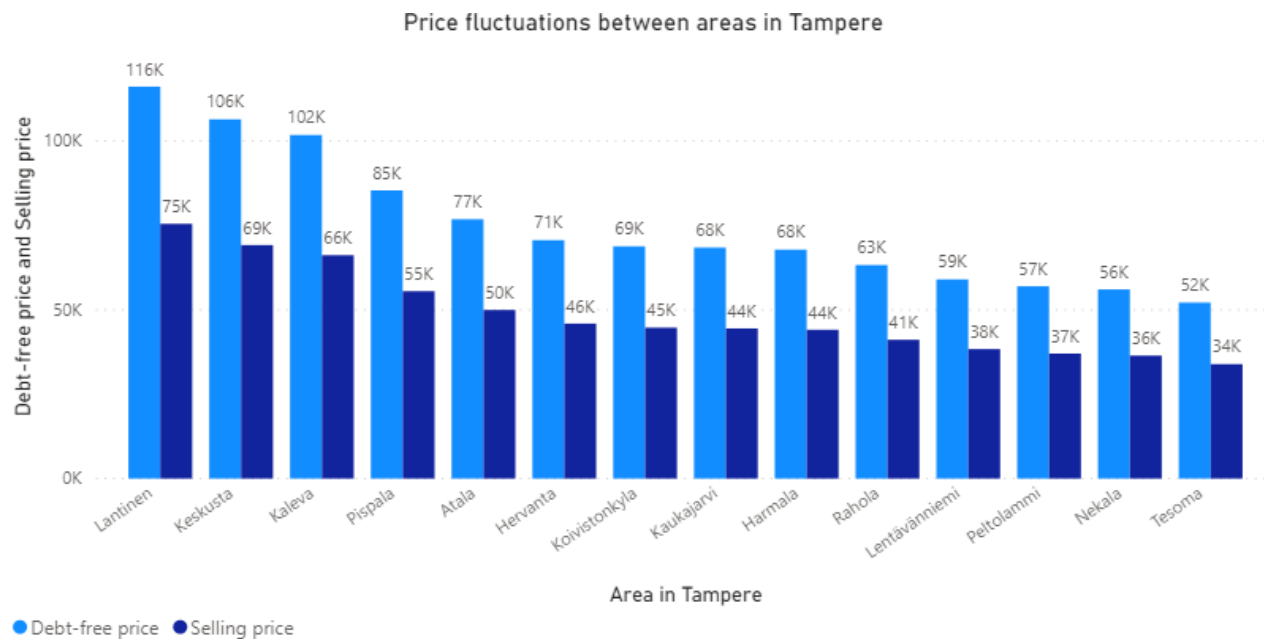
Figure 10. Bar chart demonstrating the changes of prices (€) between districts in Tampere.

The price of an apartment is in relation to cash flow earned through the housing investment. When price of an apartment increases, cash flow earned through investment decreases. It emphasises how it is rarely possible to earn positive cash flow with the current price level.

In general, another reason for negative cash flow is the large proportion of leverage used to finance an investment. In my research, leverage used is 70% in addition with the transfer tax. At the beginning, loan payments are high.

In addition, investor needs to pay a corporation fee to cover the corporation loan payments. For both loans, the payback period is 25 years. Loan payments decrease yearly creating lower expenses, which can be covered with the rental income. In 25 years, investment is loan-free creating positive cash flow. However, investments are riskier because it takes several years before investor starts to earn positive cash flow.

3.4.2 Techniques to increase cash flow

It occurs to be quite impossible with the current price level and 70:30 ratio of leverage and equity to finance an apartment. It compulsively results in the negative cash flow. Investing on new apartments is currently profitable only if investors own already housing investments, which are mainly loan-free providing positive cash flow. Investors are able to finance new apartments by spending positive profit earned through other housing investments to pay for negative cash flow at the beginning.

There are also some techniques, investor can try to minimize negative cash flow. An obvious technique to maximize cash flow is to set higher rent. It will increase rental income earned to cover high loan expenses. However, there always occurs a risk of losing tenants. To solve this and being able to increase rent, investors can provide additional services for tenants for example empty storage, garage, or parking space. Pets can also be allowed to the apartment with an additional fee. Cash flow can also be maximized by choosing good tenants. It reduces the possibility of tenants not paying rent and causing some renovations to be done in an apartment before renting it to other people.

Another way to maximize cash flow is to decrease expenses by having longer payback period for loan. It decreases loan amortization in a month. However, bank is not as flexible to agree on loan, which have a payback period longer than 25 years.

3.4.3 Comparison of districts in Tampere

When comparing the investments, the most negative cash flows have apartments located in centre, Läntinen, Keskusta and Kaleva. The apartments earning the highest postive cash flow are districts in the suburban area Tesoma, Nekala and Lentävänniemi. The following comparison is interpreted in the figures 11 and 12. I have calculated average cash flows for each district according to data for the last 10 years.
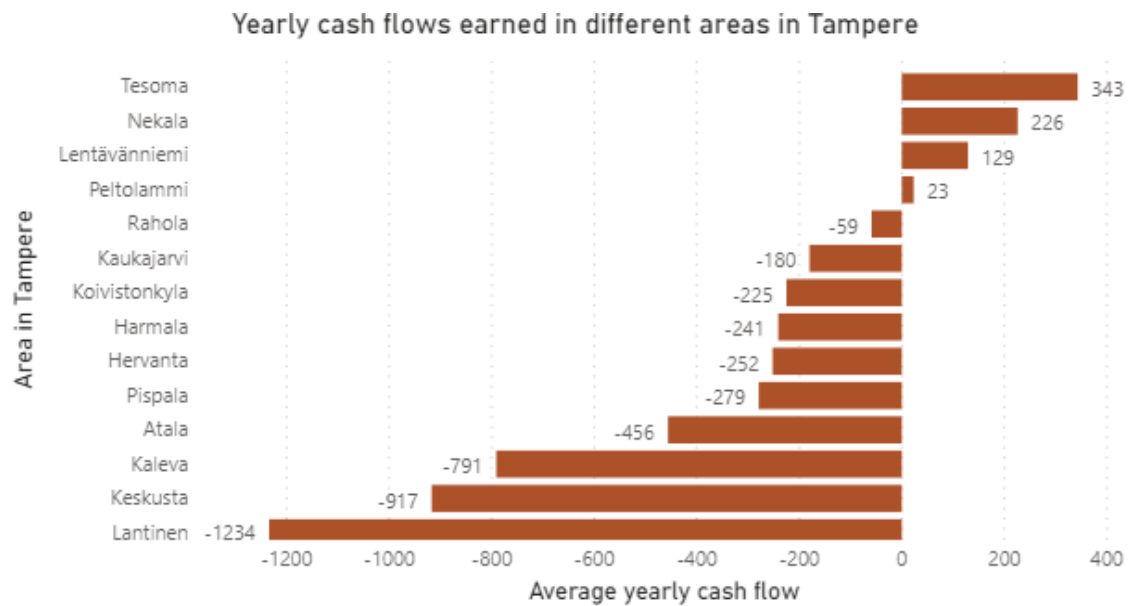
Figure 11. Bar chart comparing cash flows earned in a year (€) between districts in Tampere.
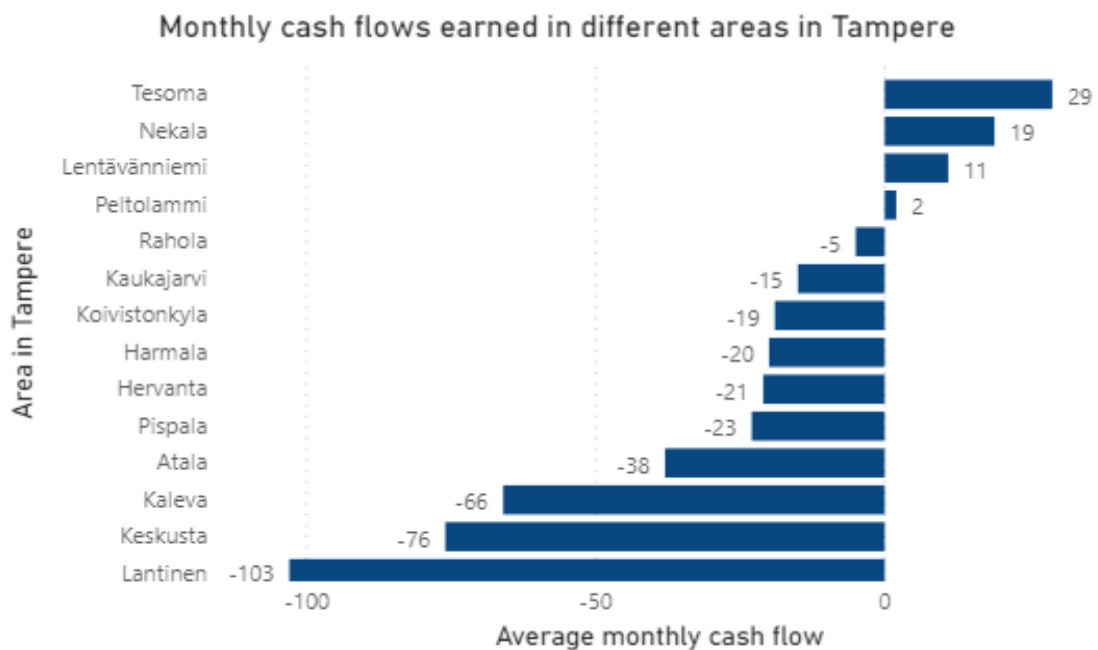

Figure 12. Bar chart comparing cash flows earned in a month (€) between districts in Tampere.

As discussed earlier, districts located in the centre of Tampere have the highest price level of one-room apartments creating mostly negative cash flow. It is possible to earn better cash flow if the apartment is bought under general price level. According to Oikotie

and Etuovi, one-room apartments in sale have general selling price and demand is good since apartments do not tend to be longer than a week in a sale. Therefore, it occurs to be rare to buy apartments under general price level in the centre of Tampere.

However, housing investments in the centre have still more positive effects than other districts in Tampere. Centre is the popular district to live increasing a high demand of tenants because services and other activities are close. Tampere university main campus also increases the demand of rented apartments because of the high number of incoming students.

High demand eventually leads to a possibility of increasing rent level. There is still many people willing to live in a rented apartment even though rent might be for example 50€ higher. High demand also reduces the risk of having apartment without tenant for some months and enables to find good tenants who keep the apartment in a good condition without the need of a bigger renovations.

Suburban districts, Tesoma and Nekala, have generally lower price level in Tampere. It leads to a smaller amount of loan expenses and other tax payments creating the highest cash flow earned in Tampere.

However, these districts have more negative factors than centre of Tampere. The demand of one-room apartments is low since shopping malls, universities, swimming halls and libraries are located further away. Districts also have lower selection of public transportation and distance to Tampere takes more time.

Lower demand leads to an uncertainty of finding tenants. It creates a risk of having an apartment empty for some months and paying expenses by the investor. Investor might not be able to increase the rent level as easily since finding tenants is harder.

According to Etuovi, apartments in Nekala are mainly built between years 1940-1960 and apartments in Tesoma are built between years 1960-1970. Older apartments built during those years are now in the need of bigger renovations for example pipe, heating,

and facade repair. Some apartments also have indoor air quality problems for example mould and can be in a risk of deconstruction.

During the years 1960-1970, urbanization was an increasing trend. Therefore, many blocks of flat apartments were built in the suburban areas. The most common building unit was concrete, which has now led to many problems. The increased renovations needed is nowadays the common trend for these apartments. Renovations are expensive, which do not increase the value of apartments. Therefore, many buildings are being deconstructed and new buildings are being built.

Tramline is starting to operate on August 2021 from Hervanta to Tampere centre and its main hospital. Another tramline has also now been permitted a building license from Tampere centre to Lentävänniemi, which will be built later and start transportation in year 2024. This increases the attractiveness of districts Lentävänniemi and Hervanta is also in favour of students because there are many universities.

Atala is located further away from Tampere centre, 10km. However, general price level of apartments is 5th highest and cash flow earned is 4th least from 14 districts in Tampere. Atala has many new apartments built during 21st Century, which increases the prices. Nature is also close attracting people. However, other services and universities are located further away decreasing demand of rented one-room apartments. Atala has high prices and also lower demand so increase in rent level is not possible and risk of having an apartment empty for some months is higher.

3.4.4 Rental income

Rental income shows the amount of money left after deducting fees from the rent earned. Rental income includes income earned before loan expenses and taxes. The following graph shows the average rental income based on last 10 years, 2010-2019.

Rental income is taxable income and belongs into the category of capital income, which determines the amount of capital gains tax payed. Capital gains tax in Finland is 30%.

The following graph shows that the highest taxes payed are districts Pispala, Kaleva, Tesoma and Keskusta. The least taxes payed are Atala, Härmälä and Peltolammi.
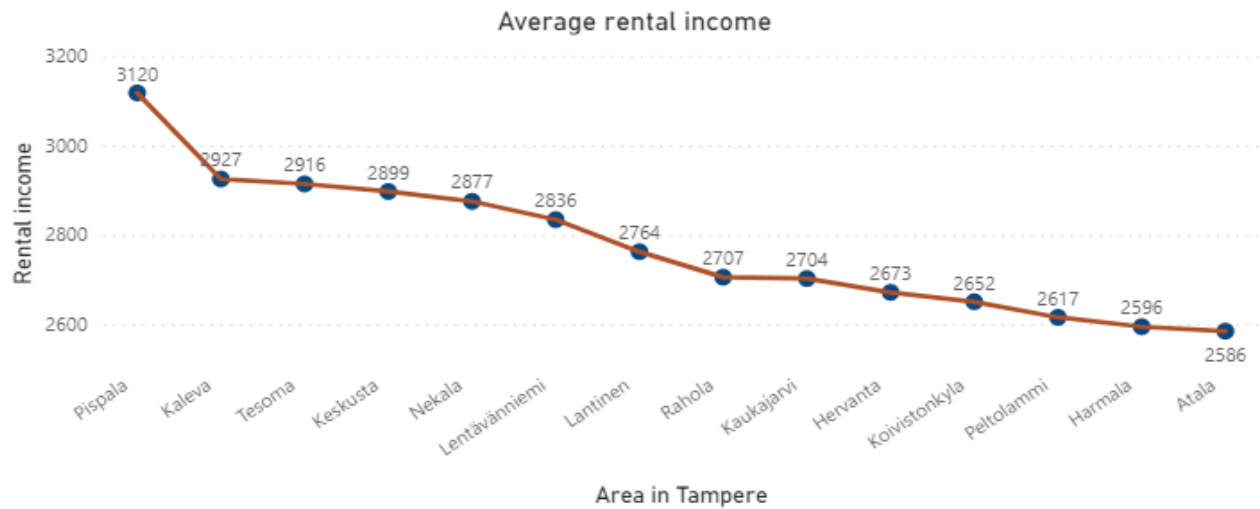
Figure 13. Line graph demonstrating rental income (€) earned in a year for districts in Tampere.

Rental income is mainly determined by the average rent received. Higher rental income is earned by having higher rent for example districts in the centre of Tampere. Atala, Hervanta and Kaukajärvi are located furthest away leading to lower rent level. Rental income can be used as an indicator when evaluating how much loan and other expenses can be paid to operate on surplus. However, rental income is not used to evaluate the profitability of an investment.

3.4.5   Return on an equity

Return on an equity is a financial measurement, which calculates the net income earned for own equity used in an investment. It is considered as a measure of profitability of a housing investment in relation to own equity used. (Fernando, 2020)
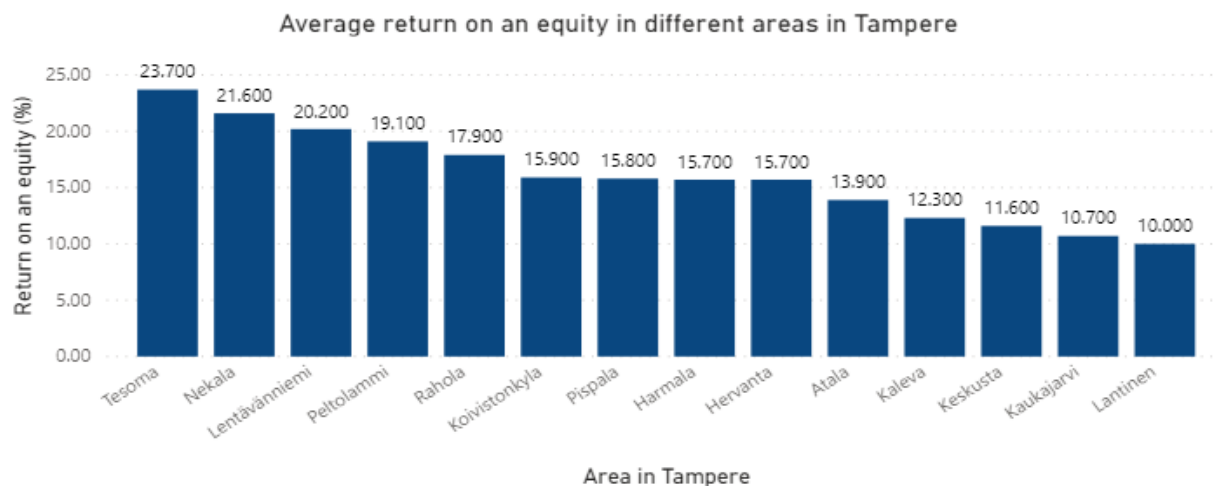
Figure 14. Bar chart demonstrating return on an investment (%) in a year for districts in Tampere.

Figure 14 demonstrates the annual return on an equity for different districts in Tampere based on data in the last 10 years. Return on equity is highest for districts, Tesoma, Nekala and Lentävänniemi because they have the highest rental income earned compared to own equity. Districts located in the Tampere centre have lower return on equity because they have lower rental income due to higher selling prices. The equation to calculate return on equity is **ROE= (rental income – other expenses) / own equity**, which is taken from the book Sijoita Asuntoihin by Marko Kaarto. I have kept other expenses constant 500€ to be able to compare districts in other calculations. (Kaarto, 2015, p. 69)

Other investments, such as shares, are usually financed only using own equity. Housing investment differs from other forms of investments because there can be used leverage meaning loan as a bank financing. It enables the possibility to only use 30% of own equity like I have used in my calculations. It is cost-effective because return on equity can be increased by having other forms of financing in addition.

Return on equity is higher when using more leverage as a financing. I have used 70% leverage resulting in a high return on equity. ROE fluctuates between 8% and 23% in my calculations, which is explained by high ratio of leverage. ROE decreases every year when the amount of leverage decreases creating more equity. ROE also decreases if the

interest rate level increases. When interests increase, expenses of leverage increase as well, which leads to a decline in equity. The profitability of using leverage is negative when interest rate increases higher than return on an investment. As an example, if the return on an investment is 5,0% and interest rate increase to 5,2%, it will lead to use of leverage being unprofitable.

However, ROE is not predictable when evaluating cash flow of a housing investment. At the beginning, cash flow is low and, in my calculations, mainly negative. At the beginning of an investment, cash flow is negative due to high selling price and loan expenses and ROE is high because lower amount of equity used. However, cash flow increases every year when loan expenses decrease. ROE, on the other hand, decreases because the amount of equity increases every year.

In housing investments, it is important to calculate return on an equity because use of leverage is possible. In my calculations, the highest percentages in ROE increase up to 23%. Generally, ROE generates between 12-15%. It is high, which increases the occurring risks. ROE increases as leverage increases. However, more risks are faced with higher leverage used. Risks are uncontrollable for investor because they occur in the global market of finance, which is not in control of an investor for example increase in general interest rate level.

3.5 Capital gain

Capital gain is calculated for different districts in Tampere for years 2015-2019 by subtracting selling price 5 years ago from the current selling price. Capital gain was not able to be calculated for districts Kaleva, Pispala, and Peltolammi due to lack of debt-free price for several years in Statistics Finland. There did not occur enough housing sales during those years to report the average price. Detailed calculations can be seen in an Excel file attached as an appendix 17 and 19.

3.5.1 5-year capital gain for districts in Tampere

Appendix 9 is the line chart illustrating 5-year capital gain (€) for districts in centre of Tampere in 2015-2019. When comparing all the districts, the highest capital gain occurs in districts Läntinen and Keskusta. Keskusta has the highest 5-year capital gain fluctuating from 11 000€ to 15 800€ during the years 2015-2019. Läntinen has the second highest capital gain, which occurs to be around 8 300€ - 13 800€.

Appendix 10 illustrates the 5-year capital gain for districts Lentävänniemi and Rahola in western Tampere during the years 2015-2019. Capital gain for Lentävänniemi is the highest in 2018 when it reaches into 5 400€. However, the lowest capital gain occurred in 2017 when it was only 370€. The reason for this is the significantly lower selling price than other years. 5-year capital gain for Rahola fluctuates around 3 500€ and 5 700€. However, the highest capital gain was in 2015 when it was 15 000€. However, the selling price in 2010 was significantly lower than in other years by being around 34 000€. Otherwise, selling price has started to increase from 38 200€ to 44 300€.

Appendix 11 shows the line chart illustrating 5-year capital gain (€) for districts in southern Tampere in 2015-2019. All the three districts have the similar values for capital gain. Capital gain for Nekala fluctuates between 2 300€ and 7 000€. Whereas capital gain for Koivistonkylä increases from 1 600€ to 7 400€. Tesoma has the capital gain from 5 300€ to 9 700€.

Appendix 12 is the line chart illustrating 5-year capital gain (€) for districts in eastern Tampere during the years 2015-2019. Capital gain for Kaukajärvi is around 1 300€ and 9 200€ with the highest capital gain occurred in 2019. Capital gain in Atala has the similar values fluctuating from 2 300€ to 8 100€. However, capital gain was negative in 2016, which is very rare because the selling price in 2016 was lower than in 2011. Hervanta has lower selling price compared to Kaukajärvi and Atala. Capital gain differs from 180€ to 3 000€. However, capital gain was significantly higher in 2016, when it reached up to 9 600€ due to the highest selling price on that year.

As can be seen from the results, there occurs capital gain during the next 5 years in all the districts in Tampere. Capital gain results in a positive profit in shorter time period than strategy of earning cash flow. Investor can earn higher income through capital gain. The most profitable investment strategy is to buy an apartment and increase its value for few years and sell it when the corporation loan payments start.

Capital gain is a good strategy for investors at the beginning who do not have additional profit earned through other investments. Capital gain increases profit for investors within few years. After that, apartment is sold, and profit can be used to buy new apartment. When investor has gained enough profit through capital gain, cash flow strategy is more profitable. When cash flow is negative at the beginning, investor can finance profit loss through additional income earned in capital gain.

3.5.2   Comparison of districts in Tampere

When comparing the capital gain in Tampere, I have calculated the average 5-year capital gain for every district based on years 2015-2019. The most frequent pattern emphasises that districts in the centre of Tampere have the highest capital gain and districts located in the suburban areas have the lowest capital gain in 5 years.
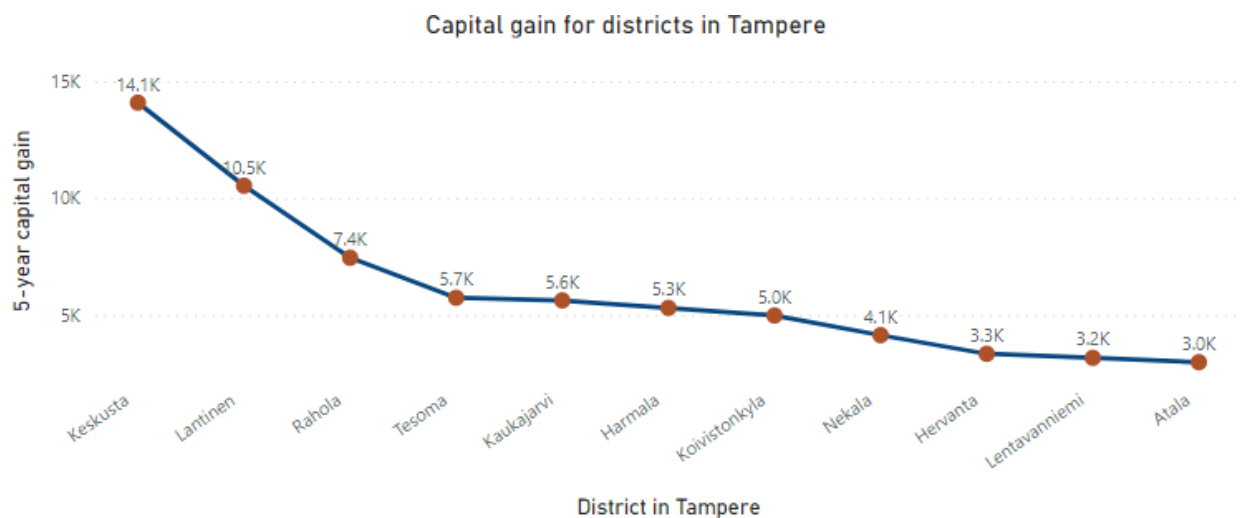

Figure 15. Line chart illustrating 5-year capital gain (€) in different districts in Tampere.

The main purpose of figure 15 is to show the difference between capital gain during 5 years and evaluate the districts in Tampere with the highest capital gain. According to results, apartments in every district has an increase in capital gain in 5 years. Capital gain has occurred since the new selling price after 5 years is higher than the initial selling price.

Figure 15 demonstrates the capital gain for 5 years and shows the comparison between districts. According to figure, Keskusta and Läntinen have the highest capital gain during the years 2015-2019 fluctuating around 10 500€ and 14 100€. The reason for high capital gain is the location. They are located in the centre of Tampere close to services and other activities. There is also a diverse selection of bus lines of public transportation and railway station is close.

Selling prices for Keskusta and Läntinen remain high compared to other districts due to high demand. There is no reason to decrease the average price lower than the current price level because apartments can be sold quickly since there occurs competition between buyers. This leads into a real increase in value. It occurs when high demand increases prices above the general price level.

Hervanta, Lentävänniemi and Atala have the lowest capital gain between 3 000€ and 3 300€. They are located in the suburban area 6-8km from city centre, which is the main reason for low capital gain. Services for example schools, malls, and other activities are further away. Public transportation is not also as diverse as close to centre.

Another reason for low capital gain is older buildings. Hervanta and Lentävänniemi, specially, have mainly buildings being built during 1970s. Nowadays, they are lower in value because they are facing many larger renovations for example pipe repair. Capital gain can be increased quickly by making apartment renovations. However, there is always an uncertainty considered by having higher expenses of renovation than real increase in value. Some renovations also consider whole housing cooperation.

However, it is expected that Lentävänniemi will increase its capital gain in year 2024 when the tramline starts operating. It will improve public transportation to city centre

making services more available for example libraries, swimming halls, theatres, and shopping malls. The ideal situation would be to buy an apartment with lower price before tramline starts operating in 2024 and sell it at the higher price after year 2024.

Hervanta has a high demand among students because there is located many universities. However, it does not affect mainly on apartments' general price level since many students live in a rented apartment.

3.5.3 Net income of an investment

Net income of an investment is money received from the housing investment during the certain time period, which in my calculations is 5 years. Net income of an investment earned in capital gain for 5 years is calculated as a sum of 5-year rental income and capital gain. However, it does not include taxes and other expenses paid during those years.
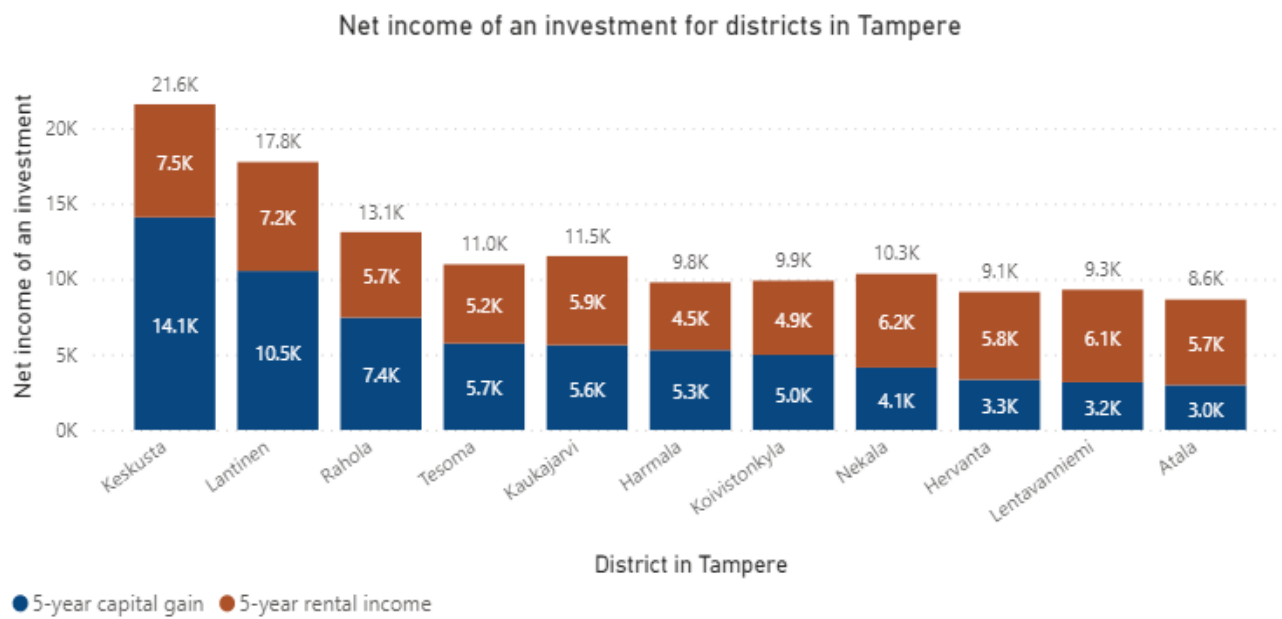

Figure 16. Bar chart demonstrating net income of an investment (€) for districts in Tampere.

Figure 16 shows the net income of an investment which is the expected amount of money earned through the investment for 5 years. It consists of capital gain and rental

income earned for 5 years. It is the highest in Keskusta and Läntinen in the centre of Tampere fluctuating around 21 600€ and 17 800€.

For those districts, demand of rented apartments is high, so they have the possibility to increase rent and still find a good tenant. Average rent level is lower for districts Hervanta, Lentävänniemi and Atala. One reason is older buildings resulting in a worse condition and lower demand among buyers.

3.5.4 Return on an equity

Return on an equity is a measure of profitability compared to the amount of equity used. It is calculated by dividing the amount of equity used to finance an investment from the net income of an investment. After that, it is divided by 5 since it is calculated on average for 5 years. I have used 30% of own equity to finance an apartment.

Return on an equity (%)

District	Return on equity
Tesoma	23.50
Keskusta	23.20
Rahola	23.10
Nekala	20.20
Kaukajarvi	18.60
Lantinen	16.80
Lentavanniemi	16.77
Koivistonkyla	16.40
Harmala	16.20
Hervanta	13.90
Atala	12.00

Figure 17.   The average return on an equity (%) for districts in Tampere.

Figure 17 shows the average return on an equity for different districts in Tampere. Mainly all the districts, expected return is good since it is above 15%. Return on an equity is in relation to the expected capital gain. The highest expected return occurs for districts in centre because they have the highest capital gain during the 5 years due to their good location and high demand of buyers.

4 Qualitative research results

Qualitative research includes interview of three professional housing investors who have around 10-50 investment apartments. Some of the investors are financially independent meaning they earn enough income through housing investments to afford living expenses. However, some investors have a function of earning more real capital through housing investments. The interview questions are attached as an appendix 13 at the end of my thesis.

4.1 Profitability of housing investments

Interviewers are seeking both, cash flow and capital gain, and strategies are used as a combination. They cannot define one strategy to use because it also depends on the apartment. For some investments positive cash flow is more important for example apartments in Tesoma and Hervanta. Whereas capital gain is more important for more expensive apartments in the city centre.

The average return on an investment varies mainly between 4-10%. 5% return on an investment is impossible for new, more expensive apartments in Tampere city centre where cash flow is mainly negative at the beginning. As an example is a project of building the highest tower building in the centre of Tampere in relation to Tampere Kansi Areena. It has 150 new apartments including small one-room apartments being around 24,5m2 in size. The price of one-room apartments, 180 000 – 230 000€, is higher than general price level resulting in the negative cash flow. However, return on an investment in suburban area for example Tesoma and Hervanta should be closer to 10%. Investors should never buy apartments with an estimation of 5% return on an investment in those areas.

One interviewer doubts the popularity of Vuores among investors. Vuores is located 10 km away from city centre, but investors receive higher return on an investment there. However, it is harder to find the tenant and there occurs a higher risk of apartment being empty. Tampere city centre has low return on an investment and negative cash flow at

the beginning. When considering investment for longer time period, cash flow turns out to be profitable and return on an investment is in total higher than in Vuores.

4.2 Equity and leverage

Couple of interviewers use same ratio with the leverage and own equity by using 70% leverage and 30% own equity. It is good to use 70% leverage because banks easily admit bank loans to that ratio. However, corporation loan mixes the ratio between leverage and equity. If the apartments have cooperative loans, it increases the use of loan closer to 80%.

One interviewer have had housing investments for over decade. Therefore, they have many loan-free apartments earning positive cash flow. In general, they have used 60% equity and 40% leverage. Since they are able to have a higher amount of own equity used, cash flow earned through new apartments in Tampere city centre is positive.

One interviewer also highlights the perception of idealizing positive cash flow. Earning positive cash flow is impossible for new apartments in Tampere at the current price level. However, there are some techniques to decrease the negativity of cash flow by increasing rent, renovating apartments, and buying under general market price, but they are often sold quickly.

Another interviewer emphasises to consider long time period of investing. Even though, cash flow is negative at the beginning, it will turn positive in the long time period. It is also good to buy small apartments in Tampere due to being in favour among students because of the university. It increases the incoming new residents and demand of rental apartments.

4.3 Criteria for selecting apartments

All the interviewers highlight location as the most important factor when buying an apartment. Good location is ranked by the availability of services and public transportation. The most idealistic districts to invest in Tampere according to good location are Tammela (centre) and Kaleva according to interviewers.

Interviewers believe that the most attractive districts in the future are located on the tramline for example Santalahti, Niemenranta and Lielahti. Santalahti and Niemenranta have many new buildings to be built in 2021 and 2022. Lielahti and Lentävänniemi are expected to have a higher increase in value when tramline starts operating in the year 2024. Tramline starts operating from Hervanta to city centre in autumn 2021. However, it has not had yet higher increase in value of districts close to tramline. Investors believe that it will have finally a higher influence when tramline starts operating.

One interviewer ranks housing corporation the second important factor after location. Investors are not buying only apartments; they also need to concentrate on the housing cooperatives. Good and fully renovated apartment in a worse housing cooperative is not a good sale.

The third important factor is the size of an apartment. One-room and two-room apartments have the highest demand. They also have a good possibility of finding tenants without apartment being empty for some months. In general, financing is a limited factor when buying an apartment and easier to get for smaller apartments. Getting financier is harder because banks do not admit loans to all the apartments.

Another interviewer has an important criterion of selecting new apartments in the Tampere centre area where corporation loan payments start later. Nowadays, the common custom is that the corporation loan payments start two or three years after the sale of an apartment. It is an advantage for investors because they can accumulate equity before paying corporation loan. It is profitable especially for investors being able to buy the apartment with lower amount of leverage.

4.4 Occurring risks of housing investments

The biggest risk occurring is a tenant not paying the rent. The tenant might also cause some renovations to be made before renting apartment forward to other tenants. Having apartment empty for some months is smaller risk because demand is high at the moment in Tampere. However, the amount of rent might need to be decreased at some cases.

Tightening financing regulations is also a risk in the future. It is smaller if investors already own some apartments and are planning to keep them. In that case, return earned through those investments can be used as a form of financing to other apartments in the future. It will also reduce the risk of tight regulations by banks before admitting loans.

Another interviewer evaluates corporation loans to be the riskiest in housing investments. New apartments have a high corporation loan. If some apartment owners do not pay the loan payments and result in a bankruptcy, other owners need to pay their payments as well. This is the risk, which is uncontrollable by the investor itself.

According to loan payments, interest rate risk is also high. If interest rates start to increase, the loan expenses increase as well. However, current level of interest rates is low and there are not signs of increases in rate level in the future. Other risks are associated to forms of financing. Tampere has some buildings where it is harder to get financing. Banks might not admit loan when renovations are needed in an apartment.

4.5 Effects of Covid-19 pandemic

Interviewers have faced the similar effects of the Covid-19 pandemic. During spring, the market slowed down significantly decreasing the amount of housing sales occurred. However, the housing market has recovered almost fully during summer and autumn increasing the sales back to its normality.

During March and April, the pattern was seen where some tenants wanted to move from apartments with higher rent to less expensive apartments. As an example, the move from two-room apartments to one-room apartment was the most typical. Some tenants were also willing to move to Tesoma or Hervanta where the general rent level is lower.

The interviewer states that Covid-19 pandemic has not had any major difficulties of finding tenants. However, investors have needed to take in account more responsible actions. This can be seen when showing the apartment to tenants. Investors cannot have It will show more appreciation towards tenants.

4.6 Housing investments in the longer time period in the future

Housing investments have increased during the 20th Century in last 10 years and the interviewer believes the popularity of investing in apartments increases more in the future. The highest increase occurred in 2017 when new investors entered the market because new buildings were built, and supply of one-room apartments was high. The popularity of housing investments fluctuates depending on the market.

However, other interviewers believe that the biggest boom has already occurred, and the popularity of housing investments will continue at the steady rate in the future. Investors, who have found it profitable, will continue. The housing investments have already become more well-known as a form of investment.

The number of tenants has increased. Earlier, students and people under 30 years old was the highest age group that lived in rental apartments. Nowadays, older people, over 65 years old, have increased the number of tenants making living in rental apartments even more common. Interviewer still believes that the biggest boom has already occurred in housing investments and the popularity will remain steady in the future. Uncertainty in working life has increased as can be seen as a consequence of the pandemic. Therefore, people might experience investing in apartments riskier.

Interviewer also states that the popularity of investing in apartments varies between different cities in Finland. Housing investments is becoming more common in larger cities

for example Helsinki, Tampere, Turku, and Oulu where the number of citizens increase at the current rate. Bigger cities also have universities, which attracts students who mainly live-in rental apartments. Smaller cities, for example Lapua and Rovaniemi, investing in apartments is not common due to lower number of incoming citizens.

5 Discussion and further research

My research question was to analyse earning outlook for housing investments by using different strategies in the area of Tampere. As a conclusion, investing in one-room apartments is profitable in Tampere in the long time period. At the beginning, earning positive cash flow is challenging in most of the districts because of the high current general price and rental level. However, capital gain enables higher profit in the short time period due to steady yearly increase in prices of apartments.

In the shorter time period, the most profitable investment strategy is to increase capital gain. It enables higher profit when the investment time is shorter. Apartment can be sold after few years when corporation loan payments start. Higher profit is earned mainly in few districts in Tampere where the general price level of apartments increases rapidly. These districts are Keskusta, Läntinen, Pispala, Kaleva and Lentävänniemi. Districts located in centre increase in value due to good location and services are close. Kaleva and Lentävänniemi increase in value in few years due to tramline being built in 2021 and 2024.

Another way to earn higher profit by using capital gain in the short time period is renovation. Investor buys an apartment in a worse condition with lower price than current price level. After renovation, apartment can be sold with higher price.

Another investment strategy for investors is to aim at positive cash flow. At the beginning, positive cash flow is possible only in few districts in Tampere including Tesoma, Nekala, Lentävänniemi and Peltolammi. These districts are located in the suburban. They have positive cash flow because general price compared to the rent level is lower due to their location. Amount of loan to finance an apartment is generally lower

than in other districts. Loan is in relation to the cash flow. When loan payments decrease, monthly expenses also decrease. Therefore, monthly revenue increases creating higher cash flow.

A recommended way to start apartment investment is to have a combination of both strategies. At the beginning, investor begins with only one apartment and aims at higher profit in short time period by using capital gain. It enables high profit and investor earns own capital. Next, investor buys one or two apartments with the same strategy of increasing in value. As the amount of apartments increases, the amount of loan needed to finance an apartment decreases leading into higher cash flow. When own capital is increased, investor moves on to the strategy of earning positive cash flow resulting in longer investment period.

Most of the interviewers use a combination of strategies and target both, positive cash flow and capital gain. It depends mainly on the location of apartments. According to future predictions, interviewers believe that the biggest interest towards housing investments fluctuates according to the market. When the supply of recently built one-room apartments increases, number of investors increases as well. Interviewers predict that the most attractive districts in the future are located on the tramline for example Santalahti, Niemenranta and Lielahti. Covid-19 pandemic might increase uncertainty and risks towards housing investments because there occur uncontrollable risks for example increase in interest rates and corporation loans.

Housing investment is also less risky than shares and other forms of investments. Income earned is more stable because housing investments are not dependable on stock market fluctuations. There does not also occur signs of increase in interest rate at the moment.

In further studies, the research could be developed further in several ways by concentrating on future developments and calculating cash flows earned for same investment in the upcoming years. It will evaluate the future earnings of an investment. According to this, there could be predicted the turning point when negative cash flow turns into positive, and the investment starts to earn profit for the investor. If the

calculations are made for several years onwards, there can be predicted the amount of profit earned when the apartment is free from loan payments.

Another way to research the topic further is to concentrate on past years. Statistics of Finland shows data for selling price of housing sales from the year 1990- onwards. Topic can be developed further by researching the development of selling prices in the longer time period than only 10 years. It will also illustrate how the profitability of investments develops when the price level was lower and interest rates were high close to 5% 15-20 years ago. Further research in a longer time period will also demonstrate the effects of the financial crisis in 2008 in housing investments.

Another topic to expand the research is to compare housing and stock markets. They have different characteristics, expected risks, and returns. This also leads into different expectations of profitability. Therefore, it is possible to compare them in more detailed.

6 Conclusion

My thesis was to analyse earning outlook for housing investments by using different strategies in the area of Tampere. I had 14 different districts located in the centre and suburban areas on west, south and east of Tampere. I used two different strategies to calculate the profitability, which were cash flow and capital gain. The time period for calculations were the past 10 years.

The research was divided into two parts including quantitative and qualitative results. Quantitative results include my own calculations of cash flow and capital gain. Data about apartments' debt-free prices and average rent level for each district is gathered from Statistics of Finland. Calculations were performed in Excel. Final results were converted into PowerBi where they were visualized into graphs and tables. I learned PowerBi myself by using YouTube. The main purpose of the quantitative research was to focus on past 10 years and analyse the profitability of housing investments based on data gathered from Statistics of Finland.

Qualitative research included an interview. I interviewed three professional housing investors in Tampere and Helsinki. The interview was performed online in Zoom or Teams. The purpose of the interview was to support my quantitative results and focus on future predictions and forecasts of housing investments. Interview also gave a realistic perspective on how covid-19 situation has affected housing markets and its recovery.

In conclusion, capital gain enables higher profit in shorter time period than cash flow. Capital gain is the highest in centre and districts next to tramline, which will start operating in few years. Capital gain is a good strategy for investors at the beginning because higher profit is earned in shorter investment time.

Cash flow is more profitable in longer time period. At the beginning, positive cash flow is mainly impossible. The highest cash flow occurs in suburban districts for example Peltolammi and Nekala due to lower selling prices and amount of loan. Cash flow is the most preferred strategy after investor has many apartments, which have gained profit for investor. This way, investor can finance new apartments with lower amount of loan and negative cash flow can be afforded with the additional profit from previous housing investments.

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Graphs of cash flow

Cash flow is calculated for every year based on that apartment is bought on that year. Calculations show the relationship of how cash flow changes every year in relation to changes in selling price.
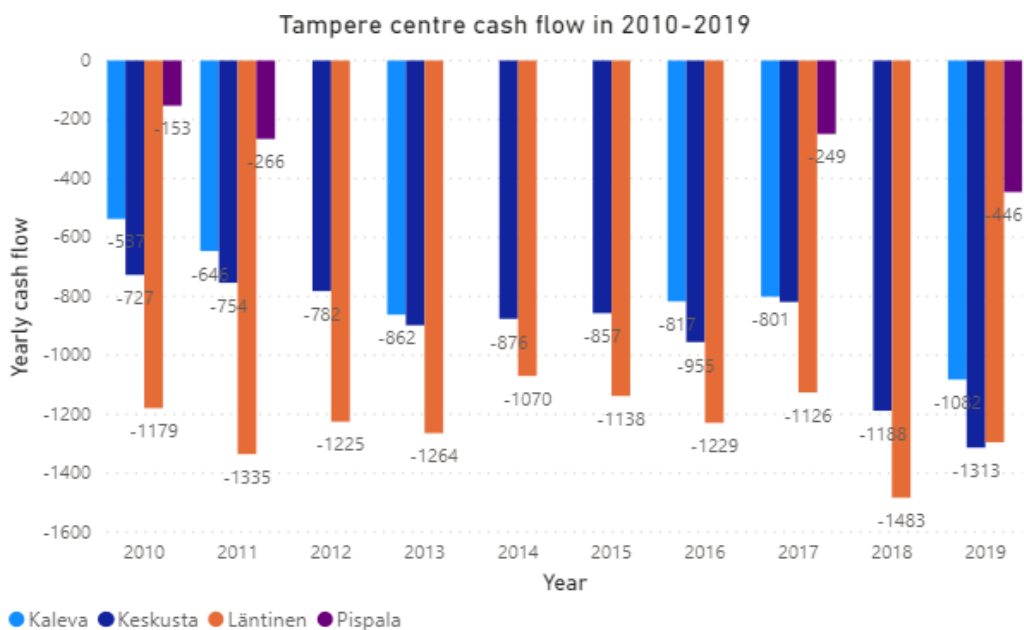
Appendix 1: cash flow (€) earned in a year, 2010-2019, in centre of Tampere.
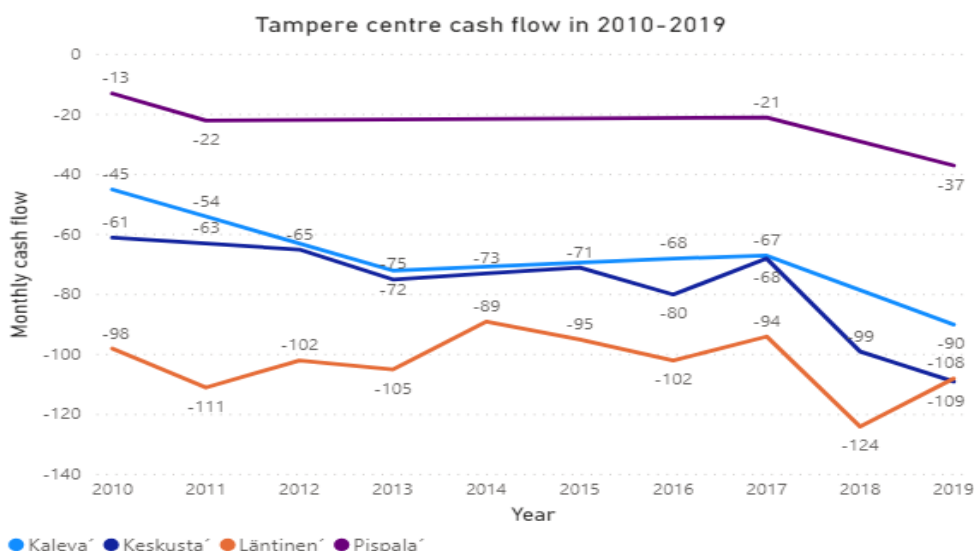
Appendix 2: cash flow (€) earned in a month, 2010-2019, in centre of Tampere.

Appendix 3: cash flow (€) earned in a year, 2010-2019, in western Tampere.
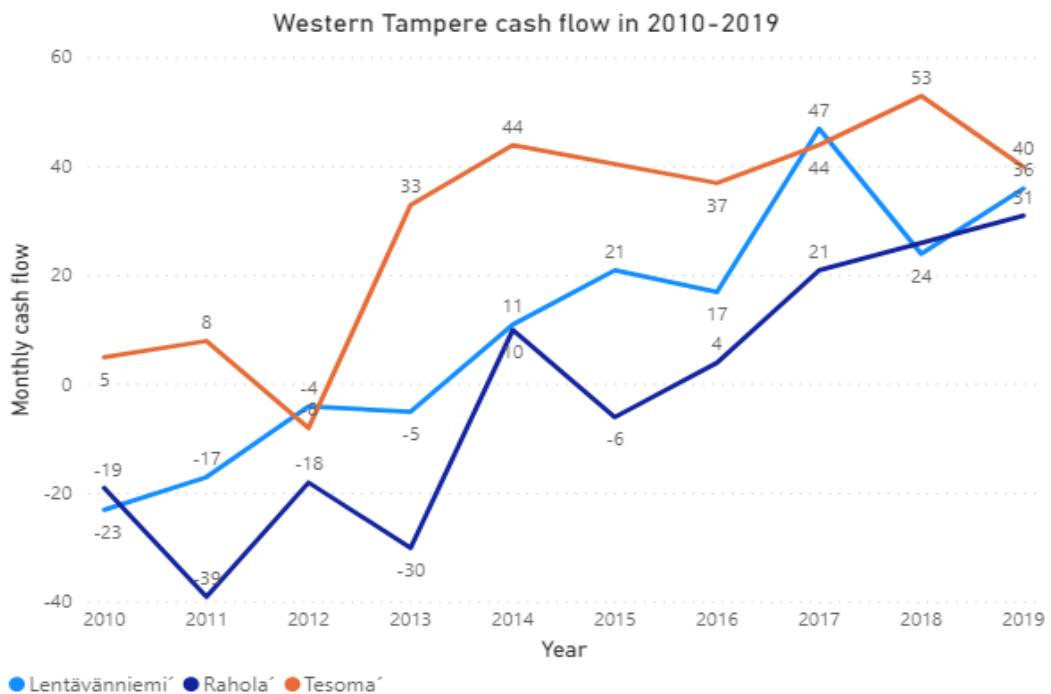
Appendix 4: cash flow (€) earned in a month, 2010-2019, in western Tampere.
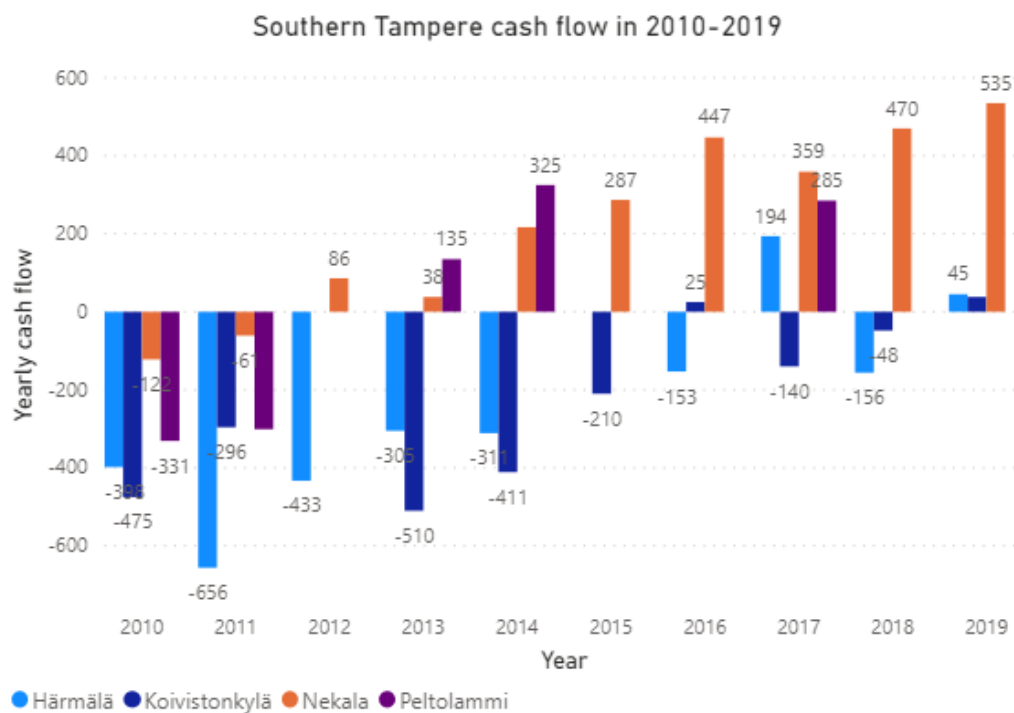
Appendix 5: cash flow (€) earned in a year, 2010-2019, in southern Tampere.
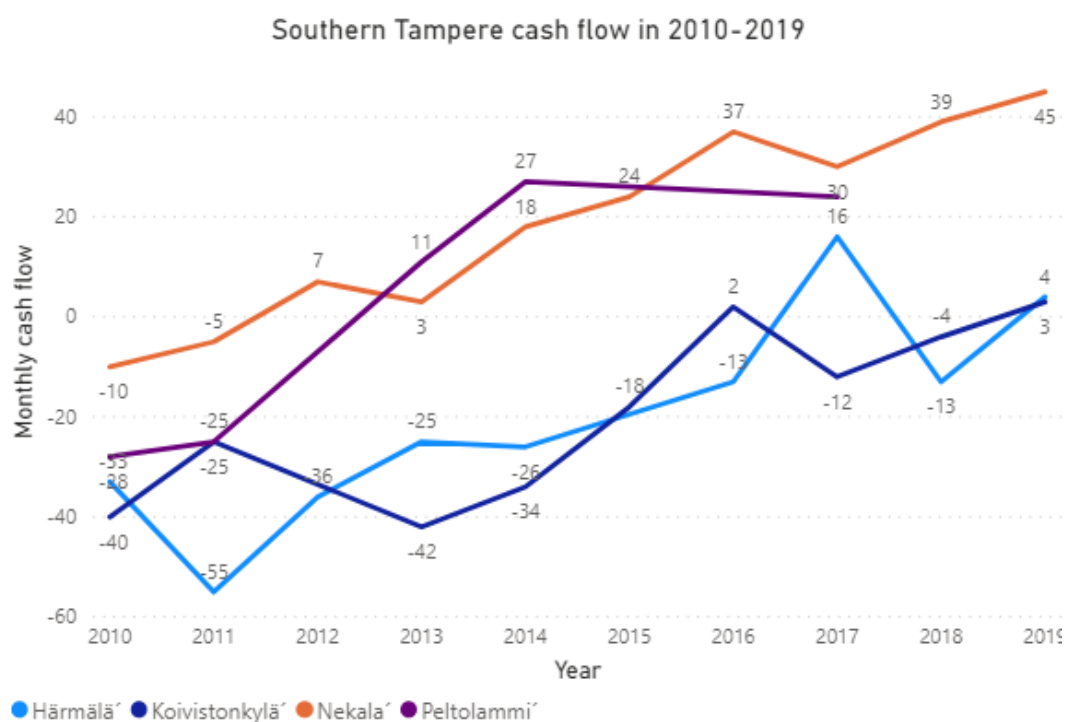
Appendix 6: cash flow (€) earned in a month, 2010-2019, in southern Tampere.
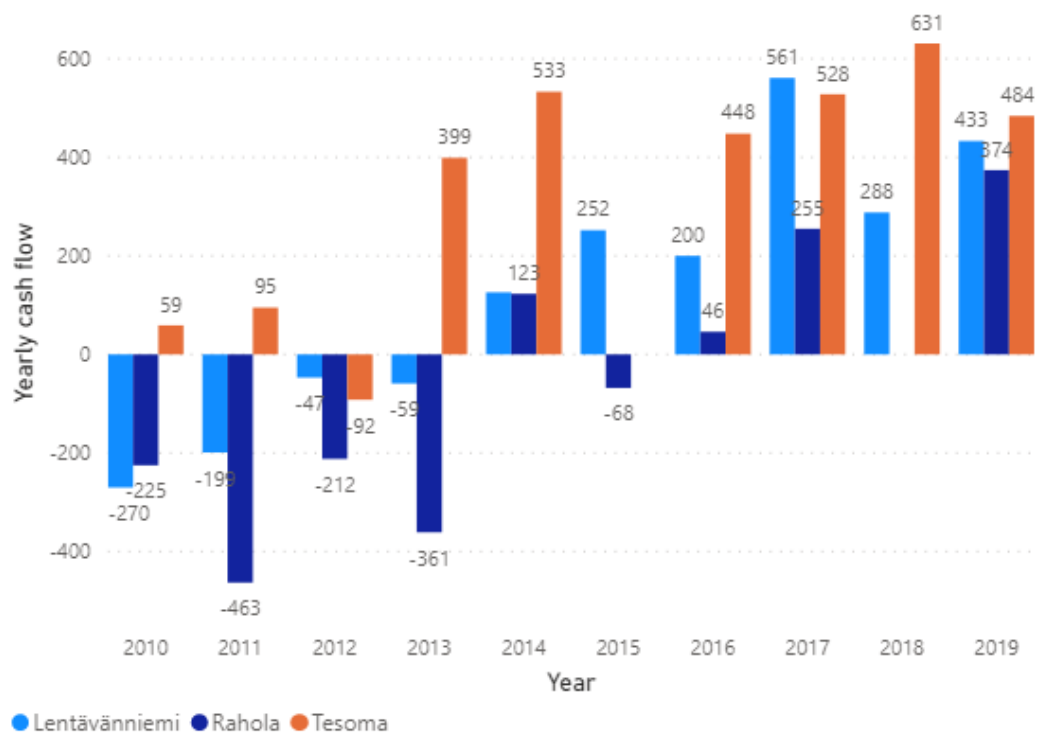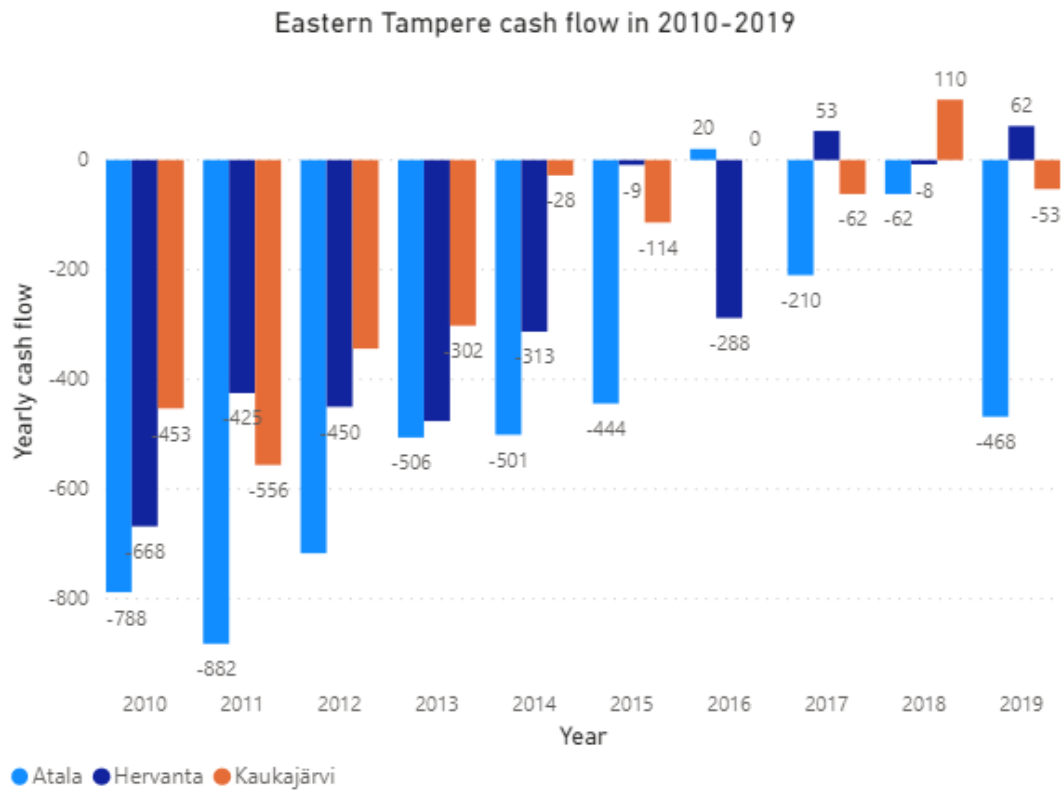
Appendix 7: cash flow (€) earned in a year, 2010-2019, in Eastern Tampere.
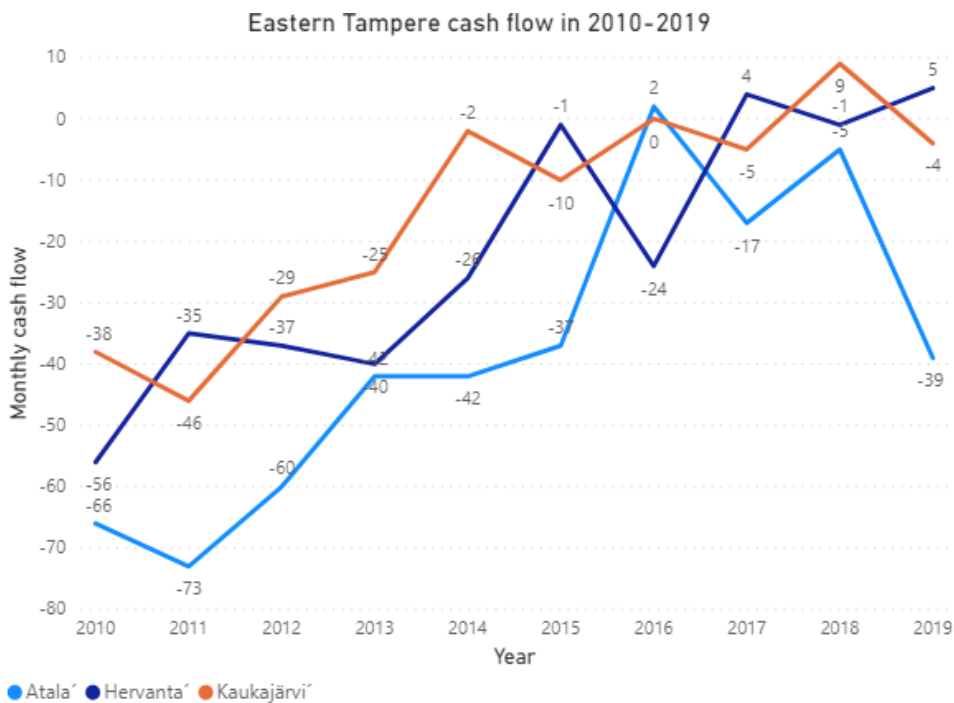
Appendix 8: cash flow (€) earned in a month, 2010-2019, in Eastern Tampere.

Graphs of capital gain

Capital gain is calculated for years 2015-2019 by deducting the selling price 5 years ago from the current price. There occurred lack of information in Statistics Finland. Therefore, capital gain was not able to be calculated for districts Kaleva, Pispala, and Peltolammi.
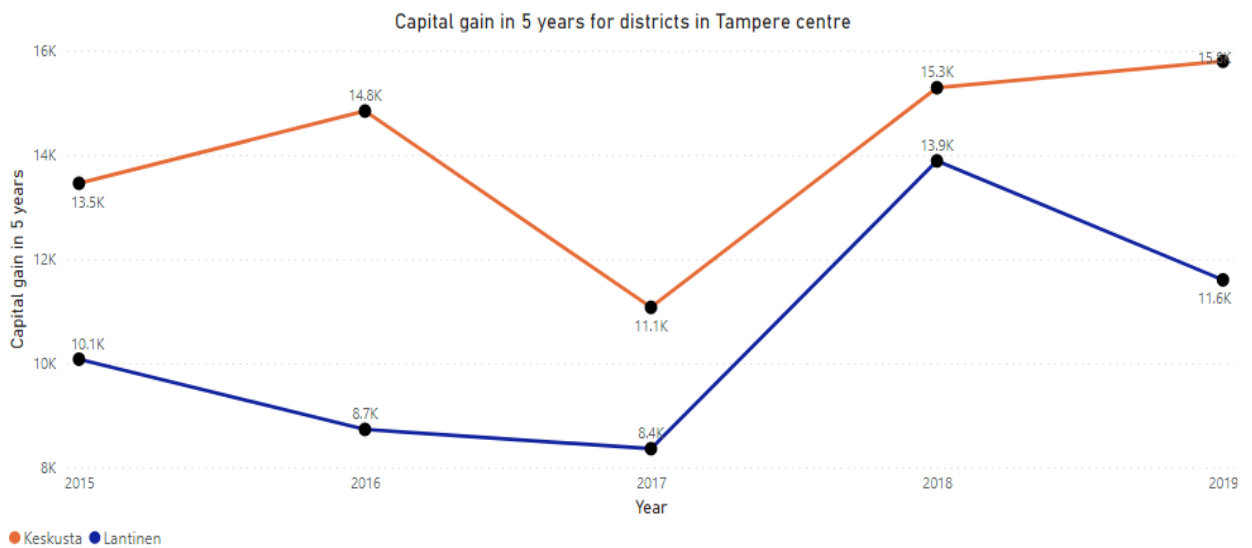
Appendix 9: Line chart demonstrating 5-year capital gain (€) for districts in centre of Tampere between years 2015-2019.
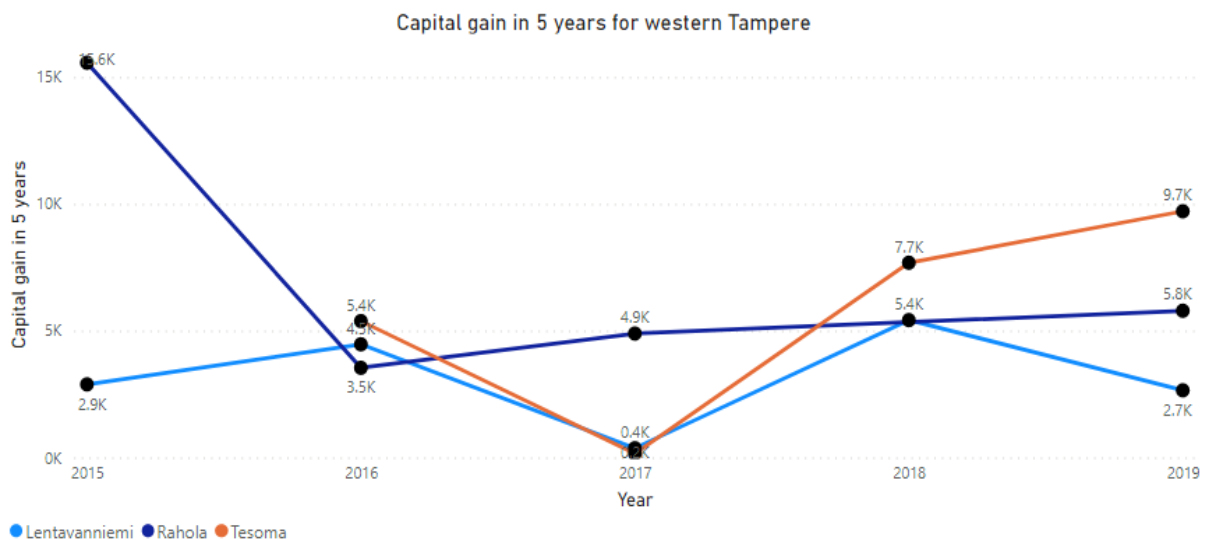
Appendix 10: Line chart demonstrating 5-year capital gain (€) for districts in western Tampere between years 2015-2019.
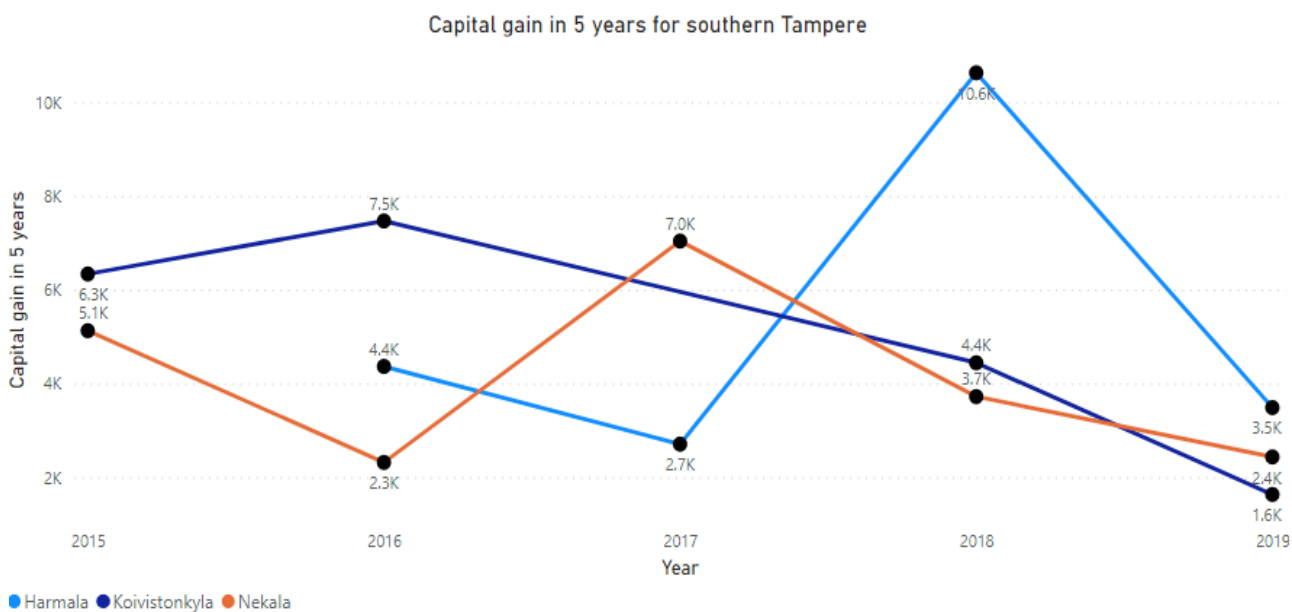
Appendix 11: Line chart demonstrating 5-year capital gain (€) for districts in southern Tampere between years 2015-2019.
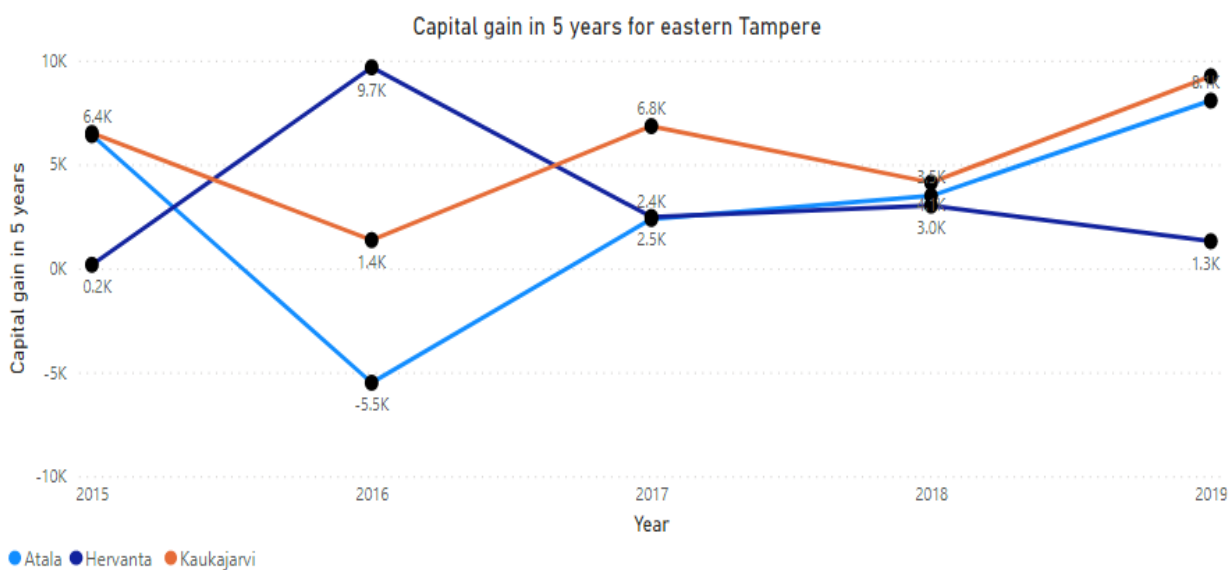
Appendix 12: Line chart demonstrating 5-year capital gain (€) for districts in eastern Tampere between years 2015-2019.

Map of Tampere

The appendices 13-14 show the map of Tampere, which visualises the location of districts used in my thesis.
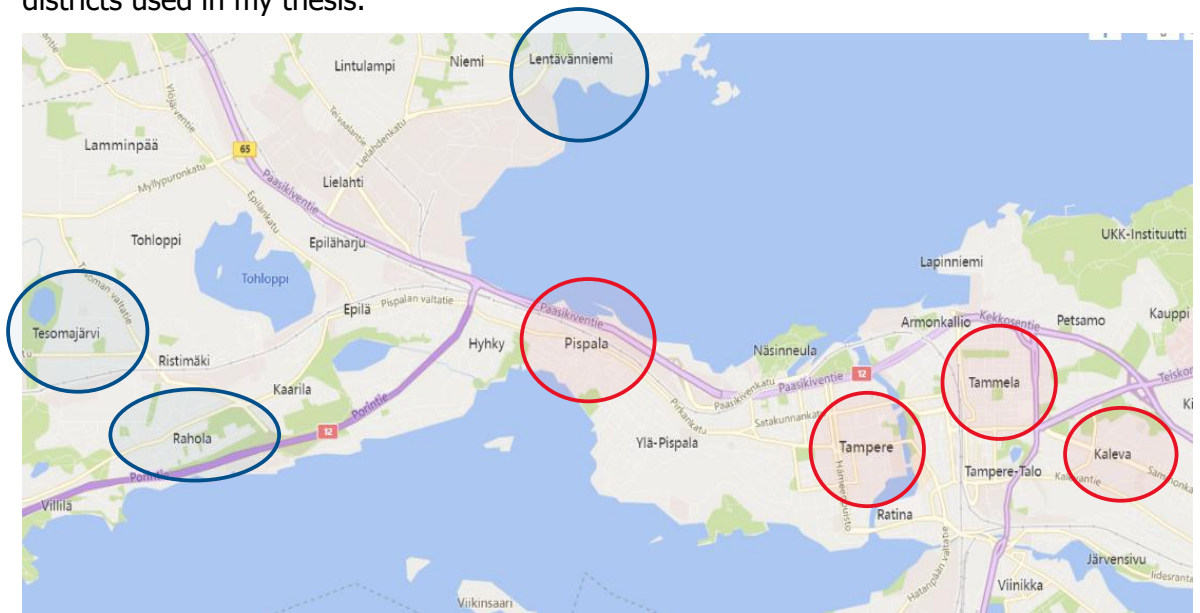
Appendix 13: Map illustrating the centre and west of Tampere. Districts circled with red are centre of Tampere and districts circled with blue are west of Tampere.
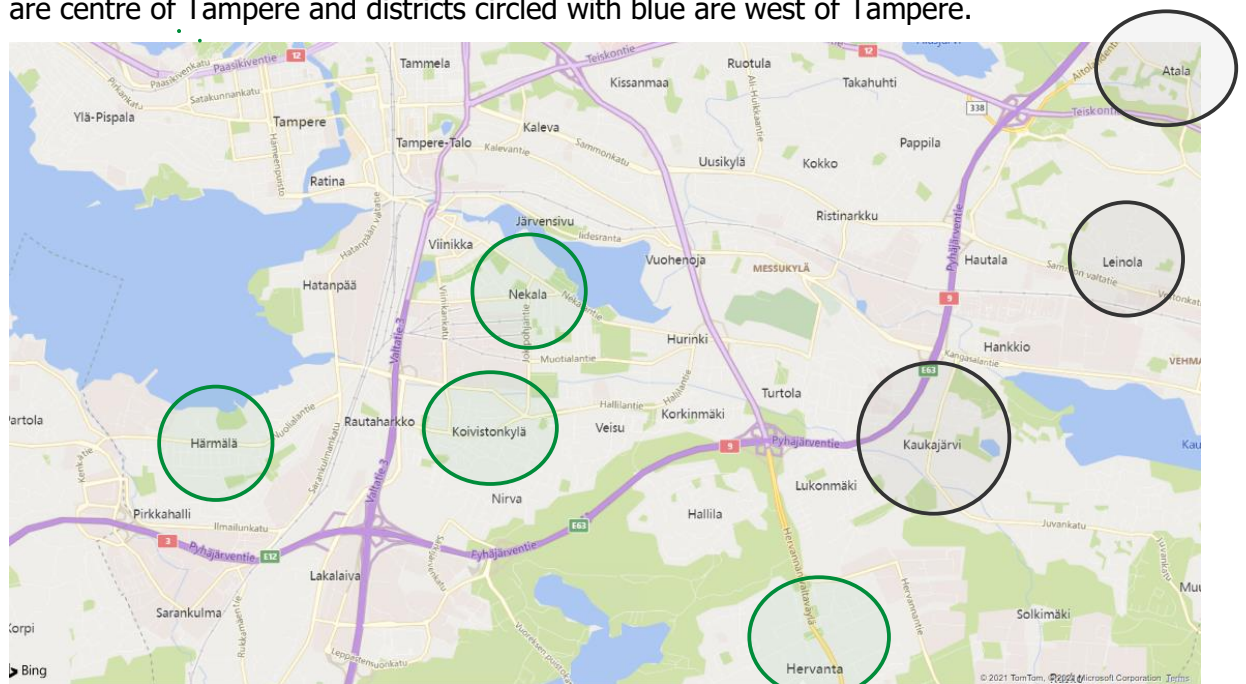
Appendix 14: Map illustrating the south and east of Tampere. Districts circled with green are south of Tampere and districts circled with black are east of Tampere.

Interview questions

Appendix 15 includes the interview questions. I interviewed three professional housing investors in Tampere and Helsinki. I had open ended questions, which enabels the pervasive results. Interviews were held in Finnish online in Zoom.

Is your target in housing investment either, cash flow or capital gain?

What is the percentage of using leverage and equity to finance apartments?

What is your targeted return on an investment, generally?

What is your criterion for selecting investment apartments?

Housing investments have increased rapidly during the last 10 years. How do you see the development and popularity of housing investments in the future?

What kind of consequences Covid-19 pandemic has on housing markets in general?

What districts in the area of Tampere are the most potential areas to invest in the future? Does tramline increase the value of apartments in some districts?

What are the biggest risks of investing in apartments at the moment and in the future?

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Excel Calculations

Cash flow calculations											
	Tampere Keskus Läntinen (33200)										
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Debt-free price	100 710	108 390	107 730	112 680	110 460	116 220	121 830	120 600	134 040	128 310	116 097
Selling price	65 462	70 454	70 025	73 242	71 799	75 543	79 190	78 390	87 126	83 402	75 463
Transfer tax (2%)	2 014	2 168	2 155	2 254	2 209	2 324	2 437	2 412	2 681	2 566	2 322
Upcoming renovations											
Equity	19 638	21 136	21 007	21 973	21 540	22 663	23 757	23 517	26 138	25 020	22 639
Loan (leverage)	47 837	51 485	51 172	53 523	52 469	55 205	57 869	57 285	63 669	60 947	55 146
Payback period (years)	25	25	25	25	25	25	25	25	25	25	25
Interest rate (%)	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %
Interest expense	48	51	51	54	52	55	58	57	64	61	55
Rent	444	456	466	481	495	510	521	528	538	538	498
Management fee	132	132	132	132	132	132	132	132	132	132	132
Corporation fee	117	126	126	131	129	136	142	141	156	150	135
Number of months	12	12	12	12	12	12	12	12	12	12	12
Rental income	2338	2367	2502	2609	2813	2905	2960	3067	2998	3078	2764
Interest expense	574	618	614	642	630	662	694	687	764	731	662
Taxable income	1764	1749	1888	1967	2184	2243	2266	2380	2234	2347	2102
Capital gains tax	529	525	566	590	655	673	680	714	670	704	631
Loan amortization	1913	2059	2047	2141	2099	2208	2315	2291	2547	2438	2206
Other expenses	500	500	500	500	500	500	500	500	500	500	500
Cash flow / year	-1179	-1335	-1 225	-1264	-1070	-1138	-1229	-1126	-1483	-1295	-1 234
Cash flow / month	-98	-111	-102	-105	-89	-95	-102	-94	-124	-108	-103
Return on an equity (%)	9,4 %	8,8 %	9,5 %	9,6 %	10,7 %	10,6 %	10,4 %	10,9 %	9,6 %	10,3 %	10,0 %

Appendix 16: Screenshot of cash flow calculations of Tampere Läntinen in Excel.

Capital gain calculations											
	Tampere Keskus Läntinen (33200)										
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Debt-free price	100 710	108 390	107 730	112 680	110 460	116 220	121 830	120 600	134 040	128 310	116 097
Selling price	65 462	70 454	70 025	73 242	71 799	75 543	79 190	78 390	87 126	83 402	75 463
Equity	19 638	21 136	21 007	21 973	21 540	22 663	23 757	23 517	26 138	25 020	22 639
Loan (leverage)	45 823	49 317	49 017	51 269	50 259	52 880	55 433	54 873	60 988	58 381	52 824
Payback period (years)	25	25	25	25	25	25	25	25	25	25	25
Interest rate (%)	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	0
Interest expense	46	49	49	51	50	53	55	55	61	58	53
Rent	444	456	466	481	495	510	521	528	538	538	498
Capital gains tax (%)	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %
Capital gains tax (€)	60	63	66	70	74	78	81	83	86	85	75
Management fee	132	132	132	132	132	132	132	132	132	132	132
Corporation fee	111	113	114	115	116	117	118	120	121	122	117
Rental income (€)	95	98	105	113	123	129	134	139	139	141	122
Rental income (%)	0,48 %	0,47 %	0,50 %	0,51 %	0,57 %	0,57 %	0,56 %	0,59 %	0,53 %	0,56 %	0,54 %
Rental income in five years						6 408	6 824	7 248	7 650	7 965	7 219
Capital gain in five years						10 082	8 736	8 366	13 884	11 603	10 534
Capital gain (%)						15,4 %	12,4 %	11,9 %	19,0 %	16,2 %	15,0 %
Net income of an investment in 5 years						16 489	15 560	15 614	21 534	19 568	17 753
Return on equity % (yearly average)						16,8 %	14,7 %	14,9 %	19,6 %	18,2 %	16,8 %

Appendix 17: Screenshot of capital gain calculations of Tampere Läntinen in Excel.

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Cash flow calculations										
Tampere Lentävänniemi (33410)										
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Debt-free price	53 790	56 460	54 750	59 010	58 830	58 230	63 330	55 320	67 350	62 910	58 998
Selling price	34 964	36 699	35 588	38 357	38 240	37 850	41 165	35 958	43 778	40 892	38 349
Transfer tax (2%)	1 076	1 129	1 095	1 180	1 177	1 165	1 267	1 106	1 347	1 258	1 180
Upcoming renovations											
Equity	10 489	11 010	10 676	11 507	11 472	11 355	12 349	10 787	13 133	12 267	11 505
Loan (leverage)	25 550	26 819	26 006	28 030	27 944	27 659	30 082	26 277	31 991	29 882	28 024
Payback period (years)	25	25	25	25	25	25	25	25	25	25	25
Interest rate (%)	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %
Interest expense	26	27	26	28	28	28	30	26	32	30	28
Rent	369	388	400	415	436	449	463	474	489	489	437
Management fee	132	132	132	132	132	132	132	132	132	132	132
Corporation fee	63	66	64	69	69	68	74	65	79	73	69
Number of months	12	12	12	12	12	12	12	12	12	12	12
Rental income	2095	2284	2445	2569	2827	2986	3081	3333	3338	3400	2836
Interest expense	307	322	312	336	335	332	361	315	384	359	336
Taxable income	1788	1962	2133	2232	2491	2654	2720	3018	2954	3041	2499
Capital gains tax	536	589	640	670	747	796	816	905	886	912	750
Loan amortization	1022	1073	1040	1121	1118	1106	1203	1051	1280	1195	1121
Other expenses	500	500	500	500	500	500	500	500	500	500	500
Cash flow / year	-270	-199	-47	-59	126	252	200	561	288	433	129
Cash flow / month	-23	-17	-4	-5	11	21	17	47	24	36	11
Return on an equity (%)	15,2 %	16,2 %	18 %	18,0 %	20,3 %	21,9 %	20,9 %	26,3 %	21,6 %	23,6 %	20,2 %

Appendix 18: Screenshot of cash flow calculations of Tampere Lentävänniemi in Excel.

Capital gain calculations										
Tampere Lentävänniemi (33410)										
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Average
Debt-free price	53 790	56 460	54 750	59 010	58 830	58 230	63 330	55 320	67 350	62 910	58 998
Selling price	34 964	36 699	35 588	38 357	38 240	37 850	41 165	35 958	43 778	40 892	38 349
Equity	10 489	11 010	10 676	11 507	11 472	11 355	12 349	10 787	13 133	12 267	11 505
Loan (leverage)	24 474	25 689	24 911	26 850	26 768	26 495	28 815	25 171	30 644	28 624	26 844
Payback period (years)	25	25	25	25	25	25	25	25	25	25	25
Interest rate (%)	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %	1,2 %
Interest expense	24	26	25	27	27	26	29	25	31	29	27
Rent	369	388	400	415	436	449	463	474	489	489	437
Capital gains tax (%)	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	30 %	0
Capital gains tax (€)	38	43	46	50	56	60	64	67	71	70	57
Management fee	132	132	132	132	132	132	132	132	132	132	132
Corporation fee	111	113	114	115	116	117	118	120	121	122	117
Rental income (€)	64	75	83	91	105	113	120	131	134	136	105
Rental income (%)	0,61 %	0,68 %	0,78 %	0,79 %	0,92 %	1,00 %	0,97 %	1,21 %	1,02 %	1,11 %	0,91 %
Rental income in five years						5 004	5 599	6 138	6 713	7 238	6 138
Capital gain in five years						2 886	4 466	371	5 421	2 652	3 159
Capital gain (%)						8,3 %	12,2 %	1,0 %	14,1 %	6,9 %	8,5 %
Net income of an investment in 5 years						7 890	10 065	6 508	12 134	9 890	9 297
Return on equity % (yearly average)						15,0 %	18,3 %	12,2 %	21,1 %	17,2 %	16,8 %

Appendix 19: Screenshot of capital gain calculations of Tampere Lentävänniemi in Excel.

I have done similar calculations for all the 14 districts used in my research. However, I included two districts as an example.

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