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Investing in exchange traded funds and other investment alternatives

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Investing in exchange traded funds and other investment alternatives		
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<p>The objective of the thesis was to study investing in general, different investing alternatives in unison with exchange traded funds. The goal for the thesis was to bring awareness concerning investing, especially investing in exchange traded funds and to inspire the reader to start investing or to possess another view of different instruments.</p> <p>Seeking an answer to the research questions were conducted quantitatively – showing different results of different investments. Also, different performances on past performances. Furthermore, the thesis took an abductive point of view when different results were drawn, thus various chains of deduction continued to hypotheses, e.g., based on premises x and y the result might be z.</p> <p>Review from literature and other sources led the research to a point where the results indicated that certain investment instruments truly are more suitable and beneficial for a certain reference group of people. On the other hand, results showed that certain action took points out the repercussion, e.g., as a causal of risk-taking could be a prize.</p> <p>All things considered, the research shows that cost-efficiency, diversification, and long time on the markets are the keys to a successful investment, therefore an ETF being a reasonable alternative.</p>		
<p>Keywords investing, exchange traded funds, etf, mutual funds, stocks, finance, business</p>		

1 INTRODUCTION	8
2 RESEARCH SETTING AND CONCEPTUAL FRAMEWORK	9
2.1 Objective and purpose of the thesis	9
2.2 Conceptual framework.....	10
3 GENERAL KNOWLEDGE OF INVESTING FOR NATURAL PERSONS	11
3.1 History.....	12
3.2 Finnish framework – investing in Finland	14
3.3 Common risks in investing	18
4 INVESTMENT ALTERNATIVES	20
4.1 Money market savings and deposits	21
4.2 Stocks.....	22
4.3 Debentures	27
4.4 Real estate	28
4.5 Derivatives	30
4.6 Cryptocurrencies	34
4.7 Indirect investment alternatives	38
5 EXCHANGE TRADED FUNDS	44
5.1 ETF	44
5.2 Structural overview	48
5.3 Benefits and risks	50
6 RESEARCH DESIGN AND METHOD	53
6.1 Data collection and analyzes.....	55
6.2 Reliability and validity	56
7 ETFS AND ALTERNATIVE INVESTMENTS	56
7.1 Investor profile and risk adjustment	57
7.2 Alternative investments	59
7.3 ETFs.....	77

7.4 Summary	79
8 CONCLUSION.....	85

REFERENCES

APPENDICES

LIST OF FIGURES

1. Conceptual framework. (Author of the thesis, 2021), p. 11.
2. Long-run asset returns for all countries, 1900-2016. (Inderes, 2017), p. 13.
3. The development of stock prices in Finland between 1912-2016. (Lindström, 2017), p. 14.
4. Financial funds of Finnish households. (Pörssisäätiö, 2022), p. 15.
5. Stock owning households in Finland. (Pörssisäätiö, 2021), p. 16.
6. Total financial assets per capita. (Allianz Global Wealth Map, n/a), p. 17.
7. Returns on different investments in Finland. (Pörssisäätiö, n/a), p. 18.
8. Money market fund. (Kauppila, Puttonen, Repo, 2020, p. 40), p. 22.
9. OMXHPI. (Kauppalehti, n/a), p. 23.
10. Jeremy Siegel: Stocks for the long run. (Saario, 2007, p. 45), p. 24.
11. Debenture example. (Author of the thesis, 2022), p. 27.
12. Derivative tracking the price of an underlying asset. (Author of the thesis, 2022), p. 30.
13. An option. (Author of the thesis, 2022), p. 32.
14. Warrant. (Author of the thesis, 2022), p. 33.
15. Forwards and futures. (Author of the thesis, 2022), p. 34.
16. Blockchain and blockchain transactions. (Investopedia, 2022), p. 35.
17. Ethereum to USD. (Coinmarketcap, n/a), p. 36.
18. Apple (AAPL) Stock Price. (Apple, 2021), p.37.
19. S&P500 Index. (Marketwatch, 2022), p. 38.
20. Indirect investments example. (Author of the thesis, 2022), p. 39.
21. Active and passive fund. (Author of the thesis, 2022), p. 40.
22. OP America small cap mutual fund. (Osuuspankki, n/a), p. 42.
23. OP-Rohkea combine fund. (Osuuspankki, n/a), p. 42.
24. Short versus long interest instrument. (OP, n/a), p. 43.
25. ETF explained. (Author of thesis, 2022), p. 44.
26. Book-entry account process for an ETF. (Author of the thesis, 2021), p. 45.
27. Introduction to ETFs. (Author of the thesis, 2022), p. 46.
28. Development of the Seligson & Co's OMXH25 ETF. (Seligson & Co, n/a), p. 47.
29. Introduction to ETFs – ETFs separated. (Author of the thesis, 2022), p. 48.
30. ETP > ETF. (Kaartinen, Pomell, 2012, p. 31), p. 49.
31. Physical ETF. (Author of the thesis, 2022), p. 49.

32. Synthetic ETFs. (Closebrothers, n/a), p. 50.
33. Mutual Fund Cost Calculation. (NerdWallet, 2021), p. 51.
34. Benefits and weaknesses. (Author of the thesis after Kaartinen, Pomell, 2012, p. 16), p. 53.
35. Stock price over financing funds. (Author of the thesis After Kauppalehti, 2022). p. 63.

LIST OF TABLES

1. Diversification. (Author of the thesis after Pörssisäätiö, 2021), p. 25.
2. Trading fees. (Author of the thesis, 2021), p. 26.
3. Example of a real estate investment. (Author of the thesis after asuntosijoitusopas, 2022), p. 29.
4. A derivative use-case example: forward contracts. (Author of the thesis, 2022), p. 31.
5. Average net wealth in Finland in 2019. (Tilastokeskus, 2021), p. 58.
6. Fixed deposit account. (Author of the thesis, 2022), p. 60.
7. Using student loan as a down payment. (Author of the thesis, 2022), p. 61.
8. Stock picking with low budget. (Author of the thesis, 2022), p. 64.
9. Diversification via fractional shares. (Author of thesis, 2022), p. 65.
10. Real estate investment with extra collateral. (Author of the thesis, 2022), p. 67.
11. Real estate investment trusts. (Author of the thesis, 2022), p. 68.
12. Investing into derivatives – certificates. (Author of the thesis, 2022), p. 69.
13. Best performing crypto's in 2021 with possible outcomes. (Author after Toratti, 2021), p. 70.
14. Coinmotion monthly saving plan/crypto portfolio. (Author of the thesis, 2022), p. 72.
15. Debentures/interest trusts. (Author of the thesis, 2022), p. 73.
16. Index funds in comparison. (Author of the thesis, 2022), p. 74.
17. Active funds in comparison. (Author of the thesis, 2022), p. 76.
18. Active and passive funds together. (Author of the thesis, 2022), p. 78.
19. ETFs in comparison. (Author of the thesis, 2022), p. 78.
20. Alternative end values. (Author of the thesis, 2022), p. 82.
21. Result, ETF. (Author of the thesis, 2022), p. 84.
22. Result, ETF, stocks and cryptocurrencies. (Author of the thesis, 2022), p. 84.

1 INTRODUCTION

Private investing is trending more than ever. According to Pörssisäätiö, 936 872 private investors owned shares of companies in the Finnish book-entry system in 30th of October 2021. Whereas a year ago on 30th of October the same number of private investors possessing shares of companies were 876 346 individual investors. (Pörssisäätiö, 2021). Also, the financing funds of Finnish households have risen as well. At the end of 2020 the valuation of shares owned by Finnish households were roughly 46 € billion and the shares of ownerships in mutual funds 31 € billion. (Pörssisäätiö, 2021). However, the funds held in current accounts were higher than invested capital, placing these savings under a risk of losing value instead of gaining interest. Thus, it could raise the question of whether the necessary information concerning private investing is easily reachable for all and distributed wide enough.

Private investors are usually troubled by the issue that their invested funds are not diversified safely and properly enough. Most of the time *active* private investors are well assimilated with the market conditions, investment opportunities and other major factors concerning the outcome regarding their invested funds. Whereas the less experienced private investors might not have the same collection of information to begin with. All the same, both are facing an obstacle where the initial investment decision could remain undone due to the difficulty of investing broadly in different countries, asset classes and industries for instance.

The chosen approach of this thesis is informational and guiding concerning private individuals, particularly those who have not yet found the catalyst for the ultimate decision to begin investing, or those who are researching alternative options and eventually those who have already initiated investing. Also, the thesis views the topic as an egalitarian and necessary subject especially for those who are not familiarized with the topic and its subtopics or for those who have not had the possibility to obtain certain critical information regarding investing, particularly investing to ETFs.

The issue in the title is topical for more experienced private investors and particularly for beginners. Finding relevant and the most fitting investment objects is a crucial part of the success of invested capital. Exchange traded fund is a mutual fund that is traded in stock exchanges, such as listed stocks. ETFs are beneficial regarding the vital diversification of investments. (Kaartinen, Pomell, p. 7). The core of ETF investing is to get proper diversification with relatively low expenses when compared to

a traditional mutual fund. (Sijoittaja, n/a). Also, ETFs are possessing similarities from both, mutual funds, and shares, for instance due to the consortium of not owning a share of a company but a share of ownership within the fund and being traded in real-time whenever the chosen stock exchange is open. Furthermore, while an Exchange traded fund is still less popular in comparison with traditional mutual funds and stocks, investing to an exchange traded fund is possibly a key to versatile investing and a potential alternative option regarding decision-making in investing.

In the following chapter the research settings and conceptual framework are detailed to create the environment where the thesis shall be in and set limitations to the questions which's answers are going to be searched. In the third chapter investing as a topic is inspected in general, in the next chapter different investment alternatives are reviewed and in the fifth chapter the thesis looks at ETFs and ETF-investing in more of a theoretical view. Moreover, in the sixth chapter the research design and methods are determined whereas in the seventh chapter concrete views of different investment instruments are made along with summary between ETFs and other investment instruments in the end of chapter seven. Eventually conclusions are drawn in the eighth and last chapter. This thesis is not investment advice, rather it is an advanced overview of the topic.

2 RESEARCH SETTING AND CONCEPTUAL FRAMEWORK

2.1 Objective and purpose of the thesis

To possess the just data to find out if ETF-investing is a noteworthy alternative investment, it is necessary to construct an overview of the wholeness of investing, research, and study the finance sector and especially differences between ETF-instruments and other investment alternatives. Furthermore, the possible adopting of ETF-investing instead of something else, for example speculating with derivatives or purchasing real estate, regarding especially the target group of the thesis, the alternative investment targets shall be covered to aid the target individual to possess a better consideration of investment objects.

Furthermore, the purpose is to research and acknowledge opportunities of investing and investment alternatives but also the first-hand risks one could oppose. However, even if knowing how to invest

into other alternatives or how to *exempli gratia* (after *e.g.*), construct a certain portfolio strategy, calculating the profits etc. is important for investors, the thesis shall not focus on these details as much as it is going to focus on making the reader aware of what investing is, what options one has, and which kind of possibilities there are. The purpose is that once the reader has studied and assimilated the content of this thesis, he or she would have better understanding of the wholeness of investing and especially, to give reasonable incentives to start investing or to give supportive information for them to adjust their views broader than *e.g.*, solely in mutual funds.

The research is limited mostly to the Exchange traded funds since studying other investment alternatives on the same level of depth would make the thesis too wide. Other investment alternatives are researched only to the degree that one can separate the differences between the ETF and other investment alternatives. However, it is left for the reader to decide which one is the best for him or her. In addition, investing shall be studied only to a degree where the reader can understand and construct what is investing in general. Furthermore, the thesis shall not view investing through companies or another legal entity's point of view, instead the thesis will view investing for and from natural persons aged 18-29 (point of view). The level of text requires some type of earlier familiarization to the topic; however, the thesis can work as support tool in decision-making for less acquainted as well. Therefore, the target group is even more specifically limited to 18–29-year-old private people with some kind of earlier experience in investing or a high interest in starting it.

This thesis shall seek answers for the following:

1. What is investing in general,
2. Which kind of instruments are there and how the investment alternatives differ from each other,
3. What is an ETF,
4. Would an ETF work as a rational investment in unison, or instead of another investment?

2.2 Conceptual framework

An overview of investing in general shall be constructed, including viewpoints from the domestic point of view, also proper understanding of the history of investing. Furthermore, alternative investments shall be investigated to gain knowledge to endorse decision-making in investing and to see if some of the alternative instruments would have fitting qualities or a point of contact. Eventually, the research shall find out what ETF is in general and how it differs from its alternatives described in this thesis.

Furthermore, the thesis will study the structures of ETFs and all in all what kind of benefits, upswings and downswings, and risks there are. It is left for the reader to decide if a given instrument is the right one or e.g., a combination of certain instruments. In the figure under the conceptual framework of this thesis is shown.

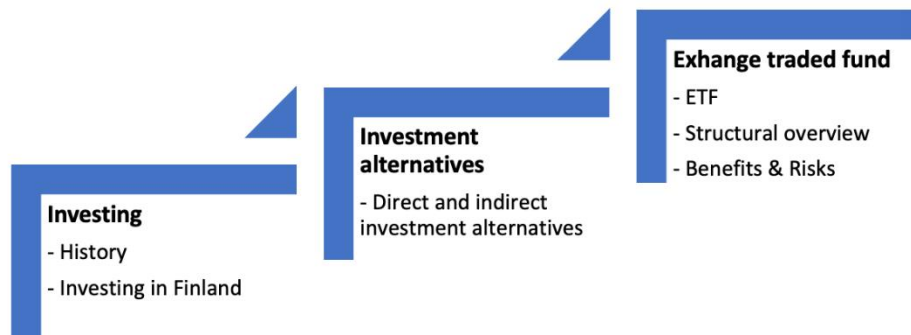


Figure 1. Conceptual framework. (Author of the thesis, 2021).

3 GENERAL KNOWLEDGE OF INVESTING FOR NATURAL PERSONS

“Den som spar, han har” (Börjesson, 2016, p. 5). Hereby meaning that the one who saves, has. The proverb constructs the thumb rule of investing internally to the proverb itself – an individual shall have to take action to possess something. However, as an exception, wealth can be gained through circumstances such as inheritance or winning a lottery etcetera. Therefore, successful investing regarding private individuals such as younger adults without external opportunities to gain the wealth such as mentioned previously, would most likely conclude that investing is not to be given rather it is done.

According to Merriam-Webster’s dictionary, the definition of investing is to commit something in order to earn a financial return. (Merriam-Webster, n/a). Generally investing could refer to the act of holding, buying, or selling a certain asset, instrument, or investment object. Asset, instrument, or investment object refers to the specific object that the committed act is done to generate the desired return. The thesis describes investors as a private person who holds, buys, or sells a certain investment instrument to generate financial profit. Furthermore, commonly the public discourse identifies stocks

and mutual funds as the most well-known investment alternatives. However, for a private investor there are a broad variety of alternatives to obtain – e.g., from real estate to raw commodities such as gold or silver.

Generally, the stock prices and different valuations of assets can fluctuate greatly in the short term. Also, the risk of losing the value of one's assets is possible and there are no guarantees that history will repeat itself in the future. Especially individuals who have not familiarized themselves with investing, might took e.g., investing to the stock market as too big of a risk even if the environment and overall market conditions would be favorable. (Saario, 2007, p. 15-16). The fundamental ideal is to have a certain overview of investing before starting. For instance, the short-term fluctuation of the investment might be caused by poor timing of the market which could be avoided with e.g., diversification of time and assets.

3.1 History

One of the drafters of today's framework for investing was created as early as in the era of Hammurabi in ancient Mesopotamia in the Code of Hammurabi. During ancient times the families of Mesopotamia could get funding for a certain project against a collateral e.g., man's entire wealth including family members. Therefore, including representation of default of payments and its' repercussions as well. The Code of Hammurabi can be viewed as the first affair that separates the financier and the entrepreneur from each other. Also, it separates equity from debt and allows collateral against a loan. (Demaria, 2020, p.21). Compared to the present time, a bank can admit an investor to purchase an apartment and use the value of the property as a collateral, if the investor defaults, the ownership of the apartment transfers to the loaning party bank.

Furthermore, one of the key moments in the finance history locates to the early modern period of modern history in Europe where the world's first stock exchange was created in the Netherlands 1602. (Petram, 2020). The Dutch East India Company held the first initial public offering where the company's shares were openly exchanged, and owners of shares or subscribers had an opportunity to decide themselves how much to invest if at all. The difference towards possible previous companies that had offered shares was that every Dutchman in the Netherlands was allowed to invest to the company therefore not confining the investors to a certain class or other e.g., position-based affair, instead the exchange was open for all. (Petram, 2020). Hereby creating the first stock exchange.

Whereas locally the Finnish stock exchange, Helsingin Pörssi, initiated in 1912. The actual stock trading was done in the physical building until 1989 (Lindström, 2017.) – in comparison nowadays an investor can e.g., buy stocks with their smartphone from multiple exchanges and from multiple countries and continents whenever the exchange is open. Again, in global comparison Helsinki stock exchange has been relatively small sized, for instance, due to the relatively small size of the country, the manufacturing industry and population when compared to e.g., United States, Germany, or France. For instance, the Frankfurt stock exchanges' total market capitalization in October 2021 in total was over 2 trillion Euros (Statista, 2021) whereas the Helsinki stock exchanges corresponding number in September 2021 in total was 332 billion Euros (Suomen Pankki, 2021). However, it has been one of the best performing stock exchanges globally (Inderes, 2017) giving an average real return on investment, over 5,1 % per annum between its initiation to the present.

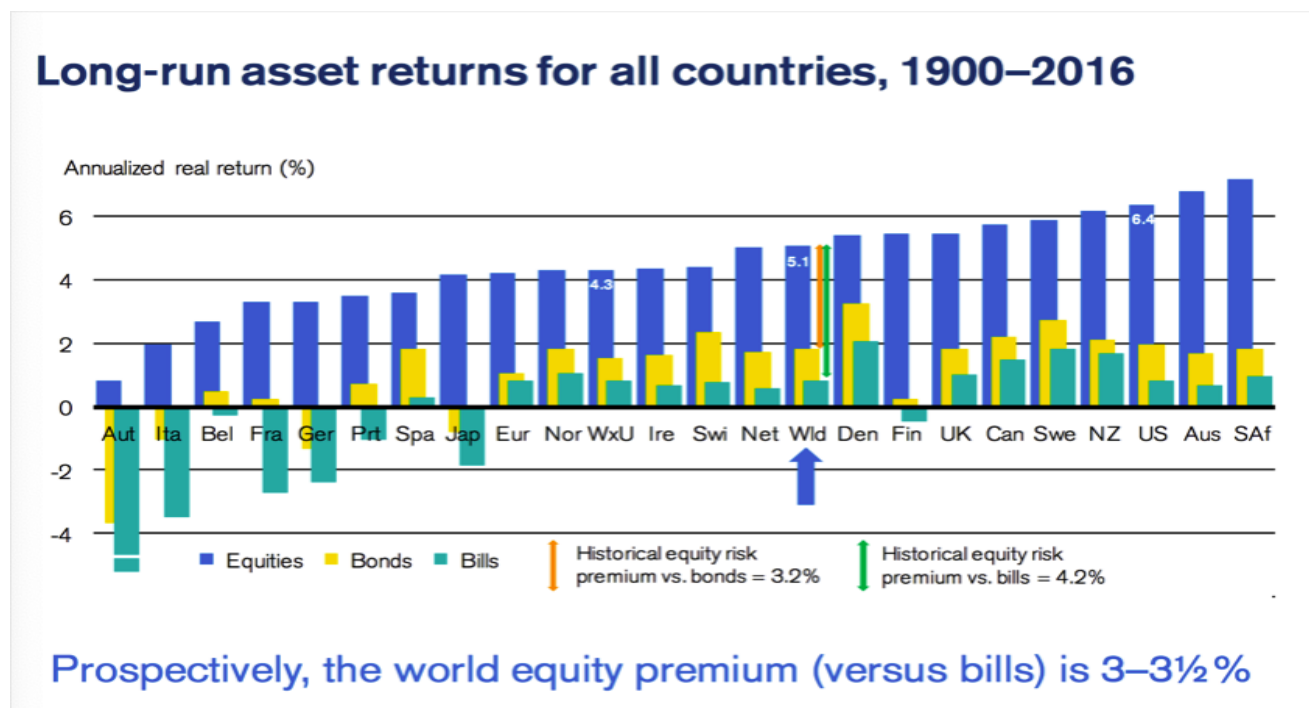


Figure 2. Long-run asset returns for all countries, 1900-2016. (Inderes, 2017).

Furthermore, despite the smaller size of markets and the relatively young age of the exchange, the Helsinki's exchange has offered a versatile environment for a private investor during its' existence, e.g., the impact of the World war and its' repercussions are in straight nexus with the domestic economy and the stock exchange.

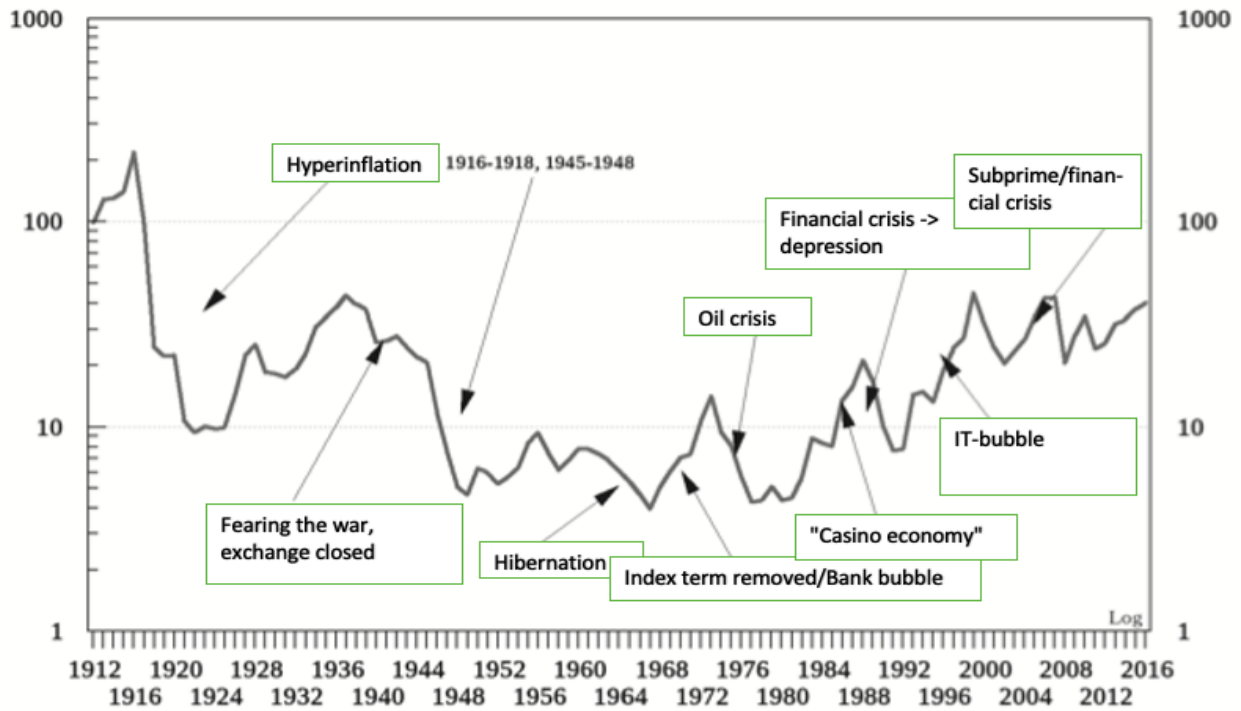


Figure 3. The development of stock prices in Finland between 1912-2016. (Lindström, 2017).

The illustration of the stock prices above is de facto presenting the versatile environment for the investor in Helsinki stock exchange. For example, the early hyperinflation in the figure 3 was caused by the goods shortage of the Russian military after their participation in the first World War which the Finnish companies took advantage of. As a repercussion the prices doubled hence diminishing the buying power of the populace. (Lindström, 2017). Eventually, occurrences such as the goods shortage of the Russian military or the excessive loan taking and giving of the Finnish banks (the casino economy in the late 80's turned to the countrywide depression in the 90's) or other events occurred are as if a mirror towards the stock exchange. The history of the stock exchange is also the history of the country and its' experiences too.

3.2 Finnish framework – investing in Finland

According to Helsingin Sanomat, traditionally a Finnish person has deposited his or her saved money solely to a bank account. (Westren-Doll, 2021). Eagerly the culture of investing has been limited to purchasing one's own home by taking a loan and amortizing it as fast as possible and saving the economic surplus to one's accounts. For example, at the end of 2020 Finnish households had over 100

billion Euros in their bank accounts (Pörssisäätiö, 2022) whereas mutual fund and e.g., stock investments were substantially lower as described in the introduction.

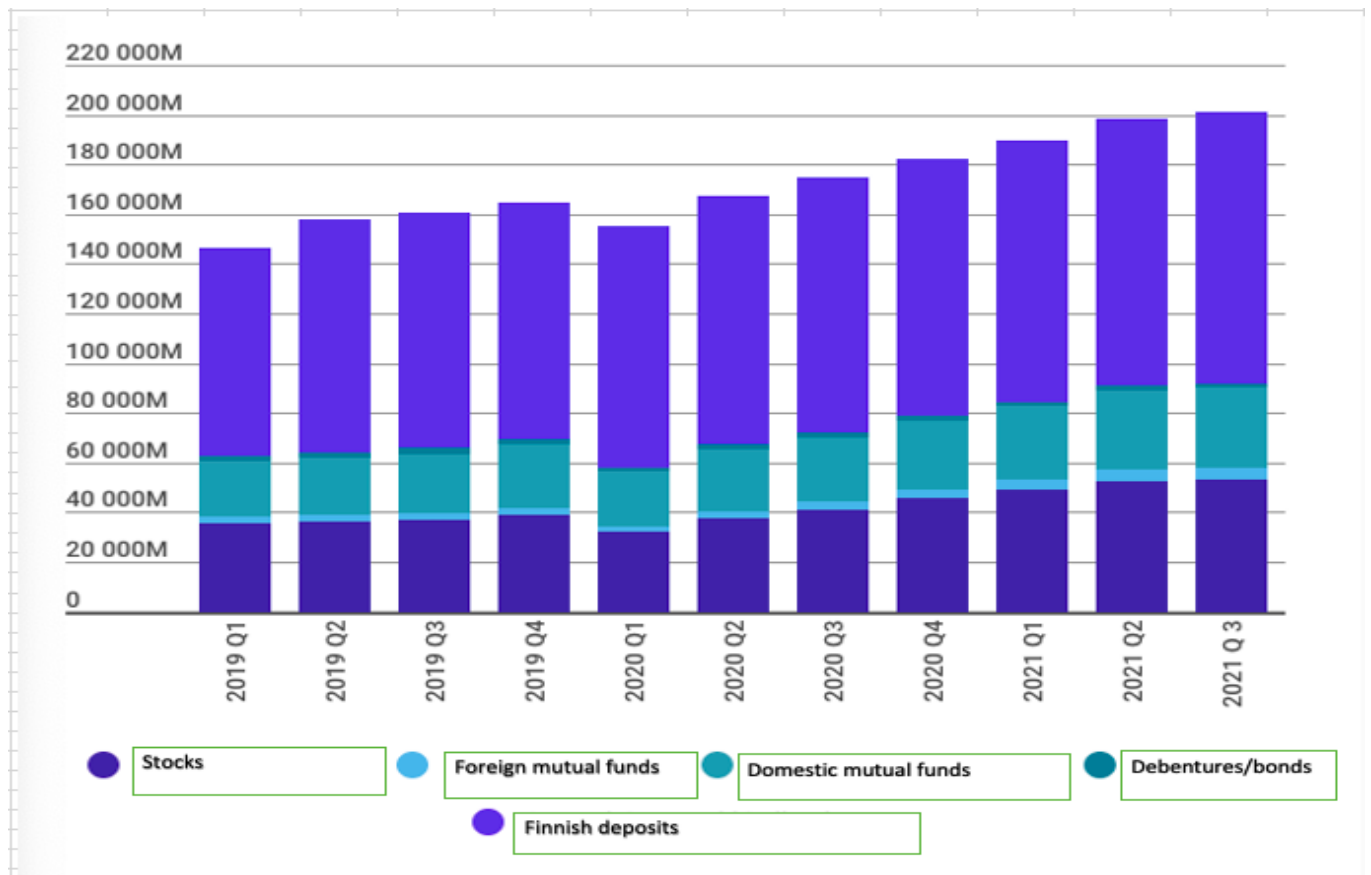


Figure 4. Financial funds of Finnish households. (Pörssisäätiö, 2022).

Above is illustrated how the financial funds have been shared within the Finnish community. However, even though deposits are still seemly at the top, the trend of investing is growing. One of the reasons for the growing trend is the stock savings account issued at the beginning of 2020. Stock savings account is an account where one can buy and sell stocks within the account without the duress to pay taxes for singular sales. Stock savings account separates cash and stock account within it. Therefore, the account can hold both simultaneously – stocks and cash. In addition, if one is paid in dividends, they are also untaxable within the account. The tax is paid only when withdrawals e.g., to a normal bank account are made. There are still few problems with the stock saving account: one can invest maximum of 50 000 € to the stock savings account at a time or in sequences, and stocks which one already owns cannot be directly transferred to the stock savings account (therefore, facing the weight of e.g., profit tax). Also, an investor cannot buy or sell mutual funds or e.g., ETFs with the account. (Vero, n/a). Despite these issues, Finnish investors have opened numerous of these accounts, also, in

one hand it is a financial innovation which might be one of the roots for the growing trend of investing in addition of the rendition in culture.

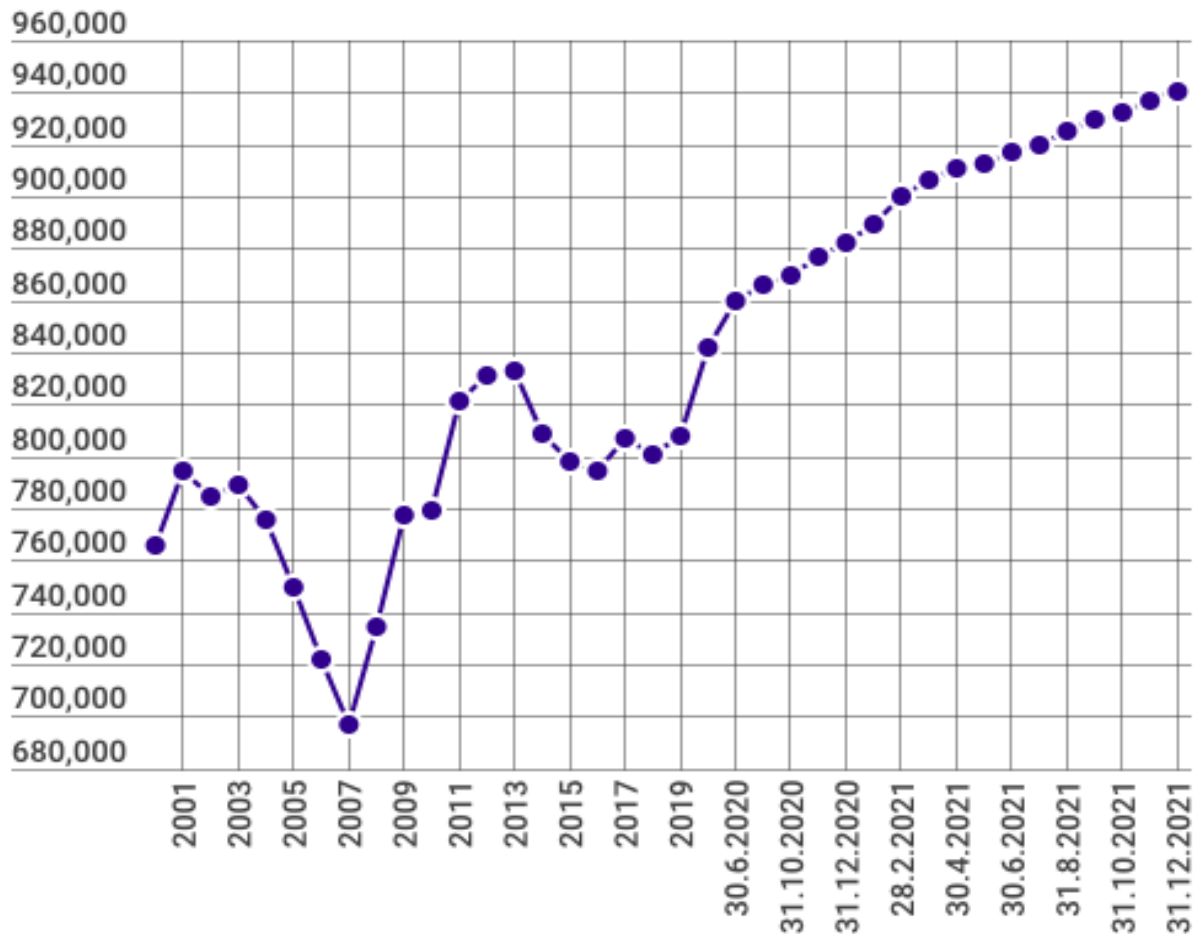


Figure 5. Stock owning households in Finland. (Pörssisäätiö, 2021).

Figure above illustrates the rise of stock owning Finnish households. As it seems that after a recession or a bear market the financial activity brightens as more liquid markets tempt more investors to invest. Also, at the start of 2020 the Pandemic took place, and the stock savings account was opened for all. Additionally, the total financial assets per capita have risen as well, which backs the rise of invested capital and rise of investors generally. Total financial assets per capita illustrated:

Development 2000 to 2020

Total financial assets per capita

in EUR

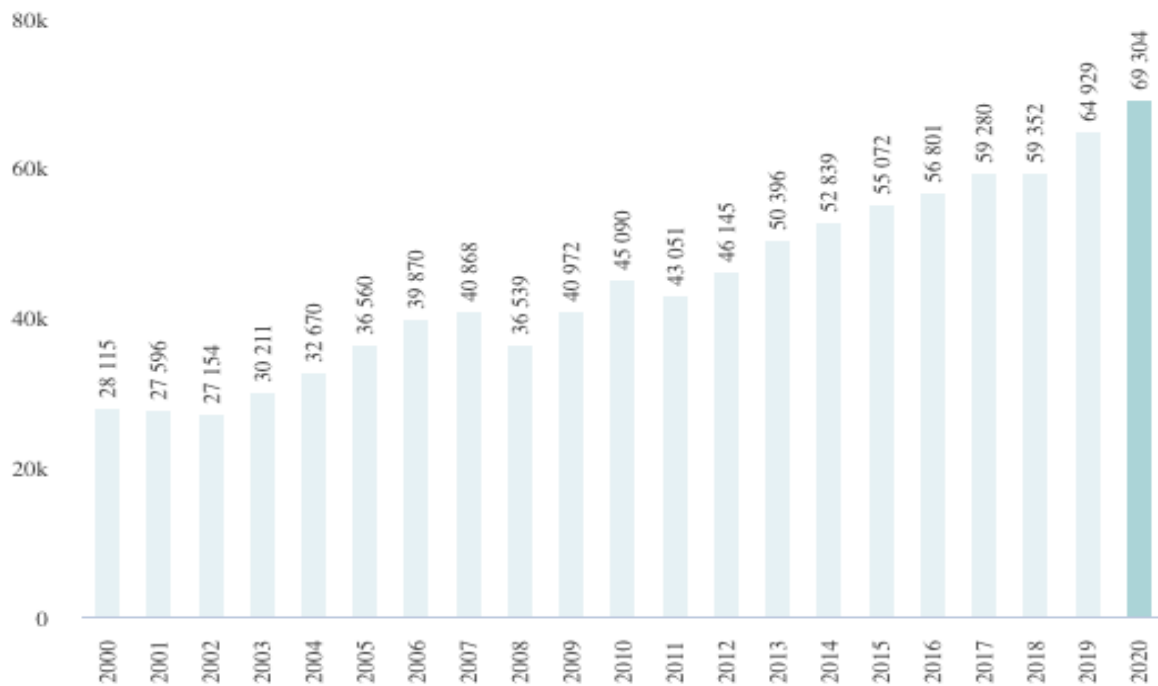


Figure 6. Total financial assets per capita. (Allianz Global Wealth Map, n/a).

Although the amount of assets has risen the reasons for it in addition to higher incomes or financial growth could be e.g., low interest rates (for loans), stimulus actions (central bank issued capital to stimulate the recessive or stagnate economy), and generally the cultural changes such as the stock savings account.

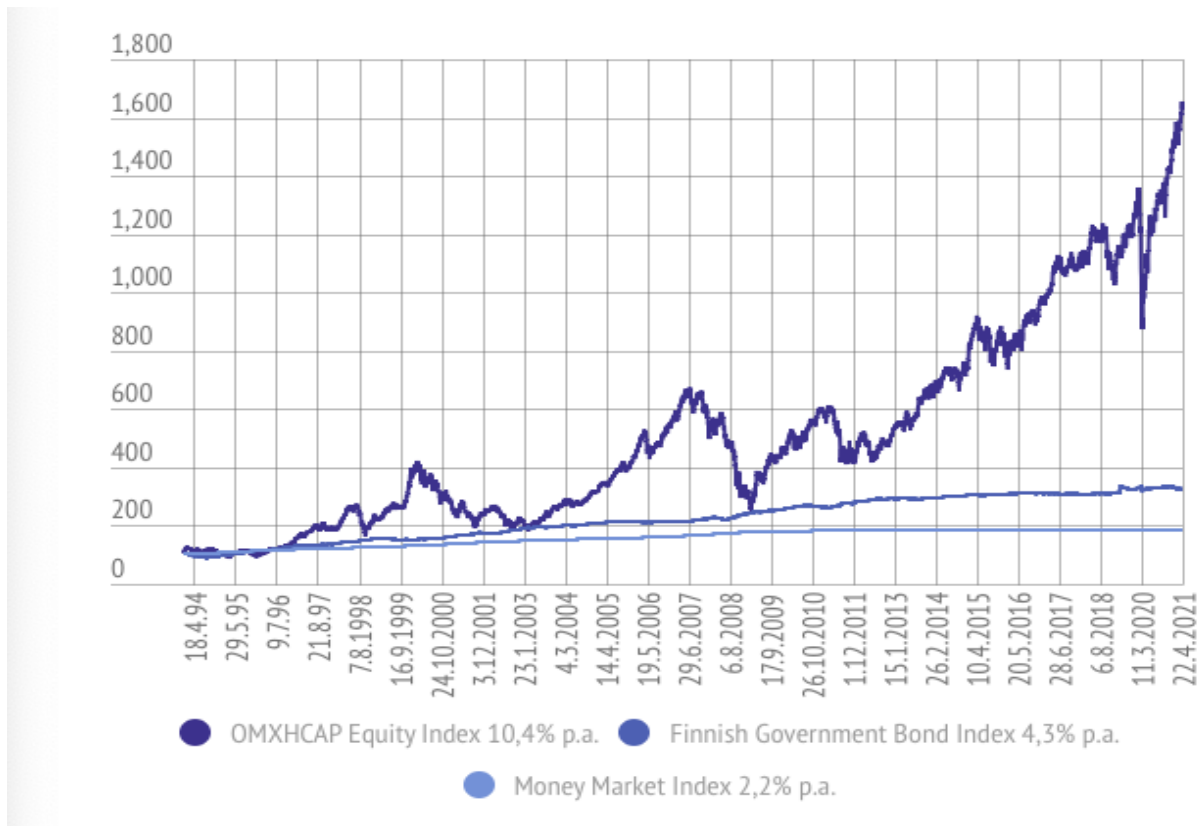


Figure 7. Returns on different investments in Finland. (Pörssisäätiö, n/a).

In the Finnish context the best returns are gotten from the stock market which the above described OMXHCAP refers to. Therefore, it might be that it is the reason why most of the capital invested is in relation to the stock market and e.g., why the number of stock owners has risen.

Even though more investors are in the markets, one of the suppressing factors of investing might be the Finnish pension construction. Mainly the Finnish pensions are paid from the working people which could inflict the attitude of being cautious towards risk-taking. The hard-earned money is not desirable to put under risk. As these funds have been invested into low-interest instruments for a long time to save pensions, it might be so that as its byproduct it has shaped a culture of not being sufficient to bear risks. (Westren-Doll, 2021).

3.3 Common risks in investing

History is never a guarantee of the future and the favorable or unbeneficial events in history might not occur again. In the investor's context e.g., even though a certain stock has performed well in history,

it could be drawn to zero in the latter context. Therefore, it is necessary to understand the risks and adjust the risk level to fit one's personal risk preference. Under the Appendixes one can discover a directional framework for identifying one's personal risk-taking readiness along with possible return outcomes (Appendix 3).

First a private investor could benefit from learning their personal level of risk bearing ergo which kind of risk and how much of it they are willing to take and handle. In addition, one should calculate and strategize the number of cash they are willing to invest. It could be an amount which the investor is also willing to lose, e.g., 10 % of the monthly income. Usually, the service providers offer alternatives for risk profiles from which the investor can choose. The lowest risk and profit expectation possessing profile is often related to interest markets whereas the highest risk and profit expectation is in the direct investments such as stocks (Säästöpankki, n/a). The risk can be measured in many ways, a few of the most popular are volatility and Sharpe's ratio. Volatility is illustrated in percentages, the higher the value is the bigger is the fluctuation in prices thereby higher value equals higher risk. If the volatility is measured on a long-term scale, its relevancy fades if compared to a short-term volatility (Haavisto, 2015). Therefore, an investor can for example adjust their risk level partly by choosing an investment which fits their risk level the best. For instance, an investor could possess a portfolio where he or she could have e.g., ½ of the portfolio as comparably small volatile stocks and the rest ½ with higher volatility. As an example, this type of portfolio and directional volatile levels illustrated in the appendices (Appendix 4). Following an example of Sharpe's ratio helps the investor to comprehend the return of an investment compared to the risk it bears. Positive Sharpe's ratio tells the investor that risk-taking has been successful whereas negative ratio would inform that the investment has been worse than a risk-free investment (Nordnet, n/a). Moreover, often ratio greater than one is considered as acceptable, two or more good, three or more as excellent indicator of expected returns with a relatively low risk. One or under is considered as suboptimal. (Maverick, 2021).

Investors oppose various risks in front of different investment alternatives. Market risk ergo systematic risk puts the investor under a risk that is not possible to dodge even with diversification since it refers to the loss factor which is in relation with all market factors. Instead, unsystematic risk or company risk refers to economic performance of a company's stock and its influence on the stock (Pörssisäätiö, n/a). Furthermore, an interest investor faces e.g., a credit risk, by currency swapping the investor could face a currency risk, and e.g., in a real estate investment the investor might be exposed to counterparty risk if the other party does not fulfill its duties (List of Terms, Appendix 1).

The realization of risks and their occurrences are a critical part of investing. In addition, it is wise to prepare oneself to a situation where the market prices could severely drop. However, with reasonable diversification to multiple instruments, assets, countries, and markets helps to balance the risk. Even though the markets would collapse or decrease in e.g., a certain sector or country, functional diversification could still balance the losses in the sectors or countries which are performing better. Moreover, a long-term plan is also one of key factors of success. The longer the investment is, the longer the investment gets to enjoy the compounding interest ergo interest from interest profits. Also, dividing the investment plan to e.g., a quarterly, monthly, or weekly plan the risk of timing the markets diminishes because the investor has more possibilities to catch a time where the valuations are lower than usual. However, even though there are risks bearing in order to gain profits, the biggest risk profit-wise is to never start investing.

4 INVESTMENT ALTERNATIVES

Alternative investment targets differ from each other by features, expenses, return expectations and risks. An investor can choose if they desire to obtain multiple instruments to balance their portfolio. Thereby, defining the ability to endure personal risk which eventually affects the collection of securities one invests. (Kallunki, Martikainen, Niemelä, 2002, p. 87).

In return of digitalization and the internet, there are nearly endless amount of investment instruments available for all, no matter the location, wealth class, or political status of an individual. Furthermore, finance and investing-related information is way reachable than pre-digitalization. Whereas before the crucial and relevant information has been difficult to obtain without a pertinent education, environment or e.g., family background. Thus', honor for the development in technology, the esoteric and marginalizing nature of investing has been evaporating, in unison, investing as an activity itself has become more available and inclusive, and eventually it might have changed to a bit more egalitarian affair than before.

The following will discuss which kind of investment alternatives there are and will distinguish the features of a given instrument. Prior to that the difference between direct and indirect investment alternatives needs to be acknowledged in order to sustain the coherency of the thesis. Direct investment

alternatives are securities, for example, stocks, debenture stocks and real estate investments. Whereas indirect investment alternatives consist of e.g., mutual funds, pension, and savings insurances. (Kallunki, Martikainen, Niemelä, 2002, p. 88-129).

4.1 Money market savings and deposits

Money market savings are interest instruments. These include investment certificates, Euro Commercial Papers and commercial papers, states' debentures, and municipality certificates (Huovinen, n/a). As an example, money market savings are instruments that are low-risk investments to investment certificates with a short period of term to maturity, usually less than a year (Kauppila, Puttonen, Repo, 2020, p. 40-41). Maturity means the period left until the interest instrument falls due (Sijoitustieto, 2017).

Concerning private investors, investing in a short-term maturity certificate usually unfolds through an investment fund which makes the investment more of an indirect investment for a smaller, private investor. (Kallunki, Martikainen, Niemelä, 2002, p.88). However, the short period interest funds or money market funds are a capable counterpart towards a bank account. These funds are offering indeed moderate profit, but the period of holding and possibly higher return than from a bank account could be the reasons why a money market account would be a better choice than a bank account. The purpose of these funds is usually to surpass a certain short period of Euribor-interests' profit. Nevertheless, even these instruments are still undergoing certain risks such as diminishing interest profits. (Kauppila, Puttonen, Repo, 2020, p. 40-41).

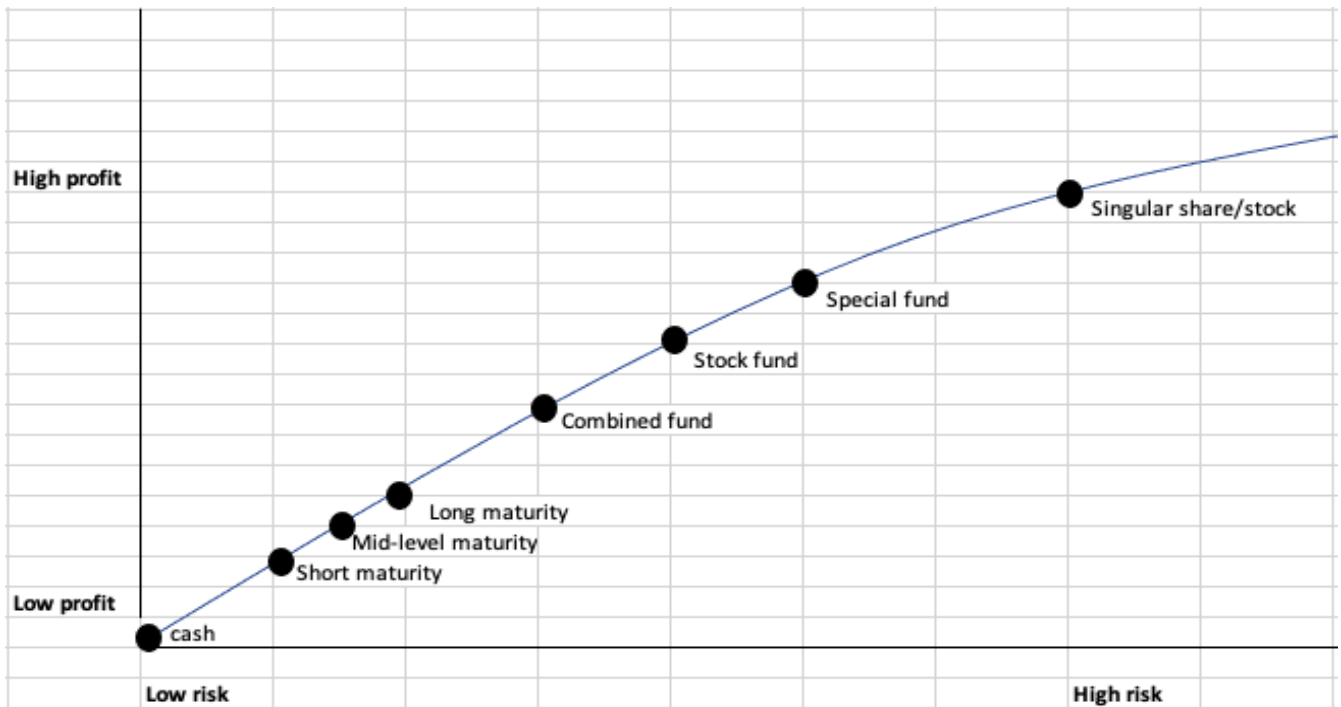


Figure 8. Money market fund. (Kauppila, Puttonen, Repo, 2020, p. 40).

As the illustrations show, whenever the trend goes towards a higher profit, the risk correlates. Furthermore, as one deposits cash to a bank account it is usually deposited to a usage account where the cash is continuously available or to an account which has an end date based on a fixed-term amount of time. The firsthand risk regarding a usage account is whenever the cash is withdrawn the interest profit ends, whereas concerning the fixed-term account, one most likely can withdraw the assets by dismounting the agreement to hold the assets for the fixed period but then one is forced to pay expenses regarding the dismounting and therefore, basically losing the interest profit. In addition, concerning a private investor, the general risk is the fluctuation of interest rates. Eventually, investing e.g., in a fixed-term account is easy, relatively inexpensive and the fluctuation of values is not so risky as with stocks for example. (Kallunki, Martikainen, Niemelä, 2002, p. 88-90).

4.2 Stocks

By investing in stocks the investor owns a share of a company which is publicly listed in a certain stock exchange. The stock exchange is a place of trade where commerce is concluded in real-time whenever the stock market is open. As an owner the investor is rightfully legitimate to get a share from the profit of the year as in dividends, also the investor gets to attend the company's shareholders' meeting. (Saario, 2007, p. 17). To initiate stock investing, one must open a book-entry account or a

stock savings account. Both accounts can be opened from one's bank or from a certain investment platform. Companies might have several stock classes which could inflict the value of a stock. For example, a company could have a hierarchy e.g., A-class and B-class where the A-class stocks has a priority in comparison to the B-class (Kallunki, Martikainen, Niemelä, 2002, p.93).



Figure 9. OMXHPI. (Kauppalehti, n/a).

Regarding the domestic context, the development of Helsinki stock exchange has its relevancy since it mirrors the whole performance of the stocks within the exchange. Above illustrated figure views the Finnish market on a three-year sphere. For instance, a stock investor can battle against the overall index of Helsinki in his or her own stock portfolio performance or choose their stocks based on the best performing stocks in the index. Thereby, the index can e.g., work as a reference value or endorse the decision-making concerning stock choices.

The stock market is often divided into two parts, primary and secondary markets. In primary markets the companies are issuing stocks to fund their operations – in the secondary markets' investors are trading the stocks between each other. In primary markets the company gets the entry amount of money whereas the investor gets the number of stocks he or she put into the entry. Effective markets demand that the investors turn the shares into cash on the secondary markets and sell the stocks to other investors. (Kallunki, Martikainen, Niemelä, 2002, p. 96-97).

Investing straight to stocks has been the most successful way of investing throughout the history. Saario states' that according to Jeremy Siegel's research in the book *Stocks for the long run*, stocks in

the United States between 1802-1997 had grown 8,4 % in average per annum whereas the government issued bonds resulted 4,8 % in average and e.g., investing to gold averaged only 1,3 %. (Saario, 2007, p. 45). The interest amounts if one dollar was invested in 1802 illustrated in the following figure:

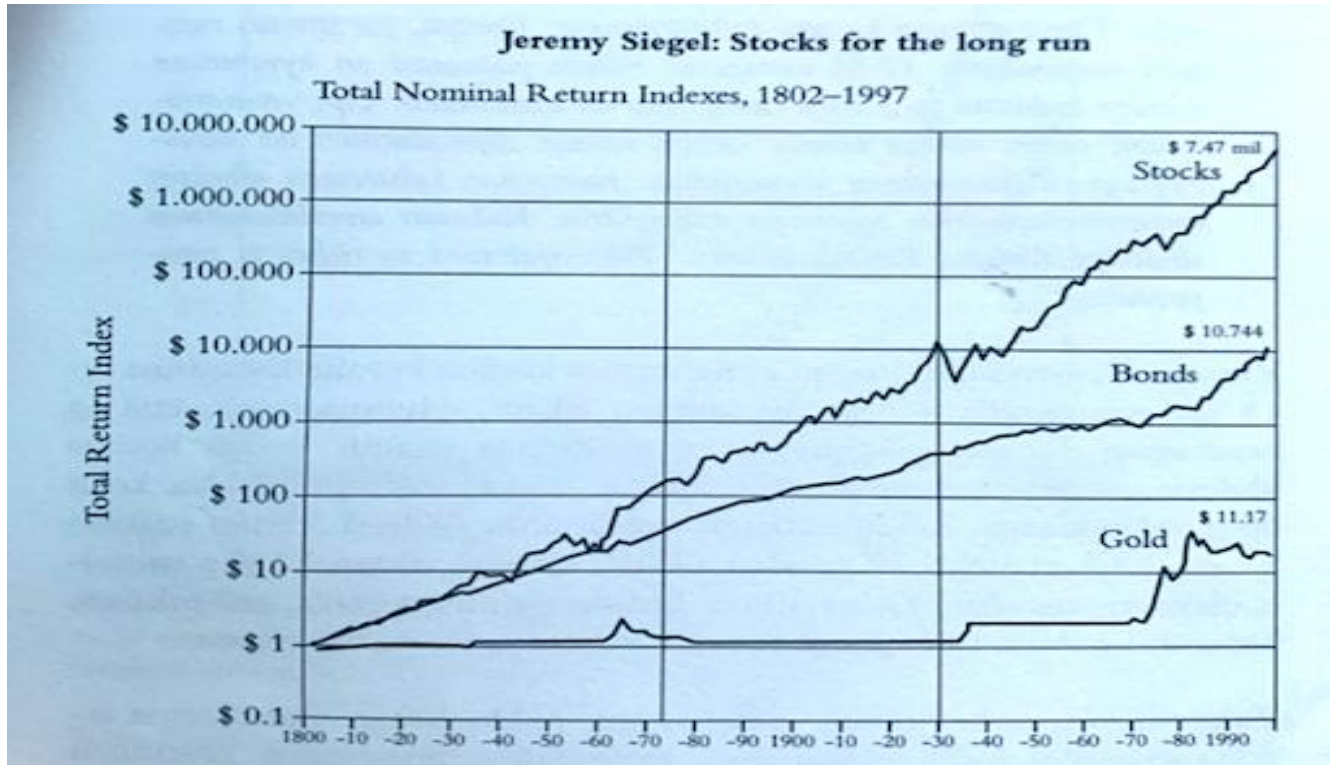
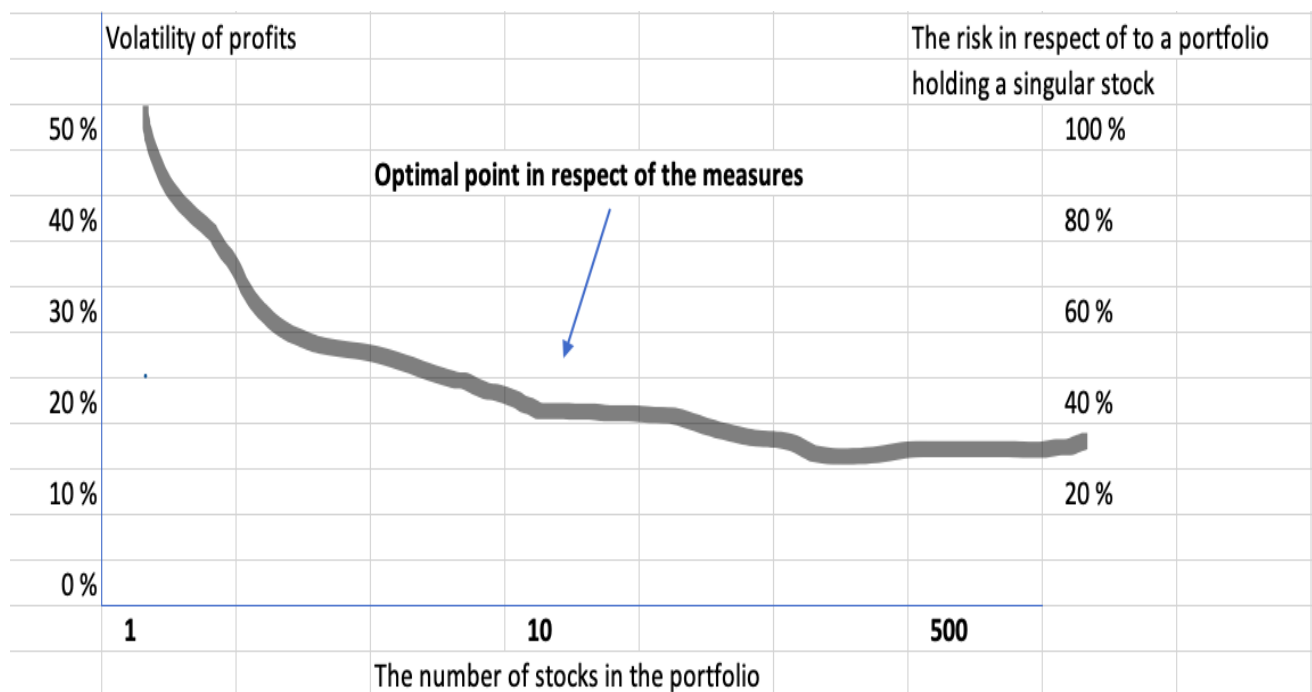


Figure 10. Jeremy Siegel: Stocks for the long run. (Saario, 2007, p. 45).

Investing straight to stocks is multiple times more volatile than investing e.g., to a money market fund (See figure 8) – therefore it might need more elaborate information and all-around know-how regarding the whole entity of investing. Even though the risk of a stock investor is limited only to the invested capital the risks of losing value are very important to consider. (Kallunki, Martikainen, Niemelä, 2002, p. 93). Furthermore, there are other risks such as systematic risk and unsystematic risk related to investing through stocks. Systematic or market risk refers to the general development of stock prices and the unsystematic or stock related risk refers to the overall performance of a given company. (Pörssisäätiö, n/a). Moreover, the stock market is only liquid because the owners of shares are either selling or buying the stocks to each other on the stock exchange. Without liquidity the investor might risk not being able to withdraw the amount invested since there is not enough liquidity to withdraw. (Kallunki, Martikainen, Niemelä, 2002, p. 95).

There are, however, ways to reduce the risk of losing the value of the investment. For example, purchasing stocks from at least 10 to 15 companies to diversify the shares to different companies, instead of buying one or two, hence it could ensure that all the companies are not plunging. In addition, it is rational to divide risk to different industries, countries, and continents as well – often the economic depression can be regional. Also, by sharing the risk to versatile industries it could prevent the risk that one of the industries is plunging but the others are not. Not to mention that the assets are wise to share by adjusting them to a certain timetable. Therefore, the investor could possibly buy the company's stock during a period where the price per stock is lower than the average price. The risk can be diversified to various asset classes as well (e.g., shares and raw materials). The diversification is the only way to lower the risk by not lowering the profit of the investment as much. (Pörssisäätiö, n/a).

Table 1. Diversification. (Author of the thesis after Pörssisäätiö, 2021).



The illustration shows that the lower the number of stocks, the higher is the risk of losing the whole capital that is invested. Whereas purchasing too many stocks the profit measure lowers relatively much since e.g., the well performing companies are not separated from the group due to the high amount. (Pörssisäätiö, n/a).

Stock prices are developing in accordance with demand and supply. Therefore, price fluctuation is not balanced, and short-term success is not likely. (Kallunki, Martikainen, Niemelä, 2002, p. 94). Furthermore, the expenses of stock trading are relatively high if the investor does not have enough

capital to start. For example, on the trading platform Nordnet if one has done zero trading during the month, the fee of trading is 20 per cent or at minimum 9 Euros per stock. Whereas trade between 1-10 is 15 per cent or minimum of 7 Euros. (Nordnet, n/a). Thus, e.g., €500 invested to 10 stocks would cost the investor 75 Euros meaning that the whole value of investment would drop to 425 Euros if calculated with the 15 per cent.

Table 2. Trading fees. (Author of the thesis, 2021).

	number of stocks	€-amount per stock	trade fee 15 %	share
	1	50	7,5	42,5
	2	50	7,5	42,5
	3	50	7,5	42,5
	4	50	7,5	42,5
	5	50	7,5	42,5
	6	50	7,5	42,5
	7	50	7,5	42,5
	8	50	7,5	42,5
	9	50	7,5	42,5
	10	50	7,5	42,5
		total value		425
		total cost	75	

However, if the investor is willing to trust using other sources to trade there are cheaper choices too. For example, eToro offers 0 % on stock commission and no management fees. Opening an eToro account is also free of charge. Moreover, according to eToro withdrawals cost 5 US dollars each – thus, the expenses are quite low. (eToro, n/a). In addition, banks might have types of special offers for their customers, e.g., as one accumulates bonuses through their savings, loans, e.g., insurances etcetera the bonuses can be used to pay for entry and management fees. (Osuuspankki, n/a).

In conclusion, investing straight to stocks is a profitable option. However, to be successful, it calls for a certain professionalism, persistence and a mindset that is attracted to the market. Thus, stocks could be a reasonable alternative after a certain assimilation of knowledge and/or gained capital to not suffer from the relatively high fees in addition to the fact that the value fluctuation might be relatively high.

4.3 Debentures

Debentures are alike with deposits and money market savings in respect of nature. Debentures are instruments issued by an organization or a public body, usually with a long-term maturity. With these instruments a company or a public body gets a certain funding, whereas an investor investing in a loan contract issued by either of the given issuers gets additional interest to his or her invested capital. The issuer decides the level of certainty of interest payments and payback of the invested capital to the investor. (Kallunki, Martikainen, Niemelä, 2002, p. 90). Debentures can be shared to short-term (1-5 years), mid-term (5-12 years), or long-term (12 years or more) debentures. From an investors' point of view debentures are a borrowed capital investment instrument. A private investor can balance the risk of their portfolio by acquiring shares of an interest fund, therefore participating in the debt markets of companies and public bodies. (Huovinen, 2021).

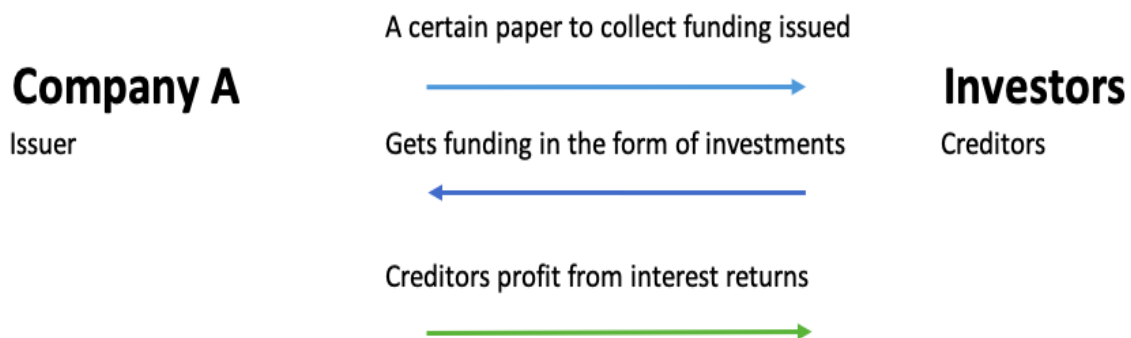


Figure 11. Debenture example. (Author of the thesis, 2022).

An issuer of a debenture can be a state, municipality and municipal community, a bank, or a company. A state can basically always meet with the terms of the debenture regarding pay-back and interest due to its right to tax its' people. Therefore, the interest demand is lower compared to other entities issuing debentures. This means that the demand for profit is higher concerning debentures issued by an entity other than the country because the risk is also higher. Thus' the risk correlates with the profit as if with other investment instruments. In addition to the issuer the profit of the investment relies on the

debentures juridical state ergo pay-back order of the loan in case of issuer default. The payback, also described as the privilege order of the debentures is classified as: obligation loans, debenture stocks, debentures, and capital loans. (Kallunki, Martikainen, Niemelä, 2002, p. 90-91).

Furthermore, an investor faces risks such as credit and liquidity risks, inflation, and currency risks, and e.g., a risk of selling the debenture before the due date. Regarding a private investor, debentures are a relatively low risk investment with a relatively low return on invested capital. However, this asset class is noteworthy regarding diversification of a portfolio. Thereby, for a private investor a debenture would be a decent investment regarding lowering the risk, however for example, it is important to inspect the instrument if: bad privilege state in a default situation, the credit rating is risky, or e.g., the country issuing a debenture loan cannot enjoin the currency, for example Greece's defaults in the Euro area. (Lounasmeri, 2014).

4.4 Real estate

Investing in real estate generally refers to the purchase and/or renting of real assets, e.g., a condo or an office space which generates income, for example from tenants or from the rise in value in general. Also, a private investor can invest in real estate by acquiring shares of companies in the industry or investing in a real estate investment trust fund for example. (Kallunki, Martikainen, Niemelä, 2002, p. 107-108).

Real estate investing differs from the other investment categories described. Real estate ties the invested capital to the target which inflicts so that the realization of the investment might be relatively slow. (Sijoittaja, 2020). Whereas e.g., stocks can be sold anytime the exchange is open and mutual funds can be redeemed in a few business days. Therefore, the short-term liquidity is weak compared to the other investment alternatives, since the unit size is large, fees of selling the premises are high, and realization might take weeks, months, or even years. In addition, real estate is most often necessary to acquire as a whole unit which refers to the fact that there would not be any other investors to share the risk with. Furthermore, investing in real estate requires a comparably high amount of knowledge regarding the field. For example, identifying the well performing locations, finding trustworthy tenants, understanding where the profit is consisted of, and how to manage the expenses (e.g., renovation and maintenance expenses to guarantee satisfactory living and renting conditions and loan amortization's relation with the rent amount). Eventually, acknowledging the events in real estate

4.5 Derivatives

A derivative is a financial contract where the subject of the contract is derived from a certain object such as a stock exchange traded stock. The subject of the contract is called an underlying asset; however, the underlying asset does not necessarily have to be an asset such as a stock – the underlying can as well be changes in the weather or the value development of a hard asset such as physical gold. Therefore, the use range of derivatives can be very broad also defining the complexity of these instruments. (Pirie, 2017, p. 3).

Value of the underlying asset	->	Value of the derivative
E.g., value of silver		Responding to the value changes

Figure 12. Derivative tracking the price of an underlying asset. (Author of the thesis, 2022).

During a recession one can estimate that the interest rates are going to rise as the economy recovers ergo apply interest derivatives to e.g., protect their portfolios. In such a case the investor would, for example, mortgage their interest rate to a fixed rate as he or she would assume that the rates would go higher in unison with the recovering economy. Vice versa, in a financial upswing the investor could e.g., try to estimate a collapse of the markets by shorting stocks, indices, or other targets for instance. Therefore, he or she would profit if the bull market would turn into a bear market. Moreover, in the next figure the use-case of a certain type of derivatives is explained through an example of a forward contract:

Table 4. A derivative use-case example: forward contracts. (Author of the thesis, 2022).

Company X estimates that due to the conflicted situations in the area where their raw materials are purchased from, there are great price fluctuations expected since threats of an economic sanctions for example

Therefore

Current unit price	30 USD
Amount	25000 Units
Current price in total	750000 USD

Forward contract

The unit price is locked to	32 USD
In total	800000 USD

Without a forward contract

Unit price	55 USD	(if the prices rise)
In total	1375000 USD	

Thus by locking the price the company yield a risk of sudden changes, however the price estimation can go to an oppose direction like in the example where the prices decrease

$$= 1375000 - 800000$$

575000 USD

In these conditions, if the company **does not** agree to the forward contract they lose:

OR if the prices decrease:

Unit price	26 USD
In total	650000 USD

$$= 650000 - 800000$$

$$-150000$$

In these conditions company loses since the price is locked to a certain number and they cannot inflict the price they pay even though the current price would decrease

These instruments are made in the form of legal agreements involving buyer and seller parties – both agreeing to fulfil a task specified within the contract. The buyer party is also referred to as long or holder due to owning and/or holding the position whereas the counterparty is referred to as the short due to holding a short position. (Pirie, 2017, p. 3). Derivates are often used to, for example, protect currency and/or stock positions against decline in the market rates and e.g., boosting the profit expectation. (Kallunki, Martikainen, Niemelä, 2002, p. 110).

Trading derivates translations to trading rights and obligations. Thereby, the right or responsibility of a party is to sell or buy the underlying asset at a certain time and at a certain price. Most often the derivative itself does not become either one's property. Sometimes the difference between the market price of the underlying asset and the agreed reclaim price (in the agreement) is paid by the other party, if it is necessary. (Kallunki, Martikainen, Niemelä, 2002, p. 109-110).

Most common derivatives are options, warrants, and futures. Option refers either to a sales or purchase option, where the holder has a right to buy or sell the underlying asset at a certain time and at a certain price. The holder, however, is not obligated to do so. The seller of the option has an obligation to buy or sell the underlying asset as agreed upon by the agreement if the holder wishes so. The seller has basically unlimited risks of operating loss whereas the buyer's loss is limited to the premium (the purchase price agreed in the contract). (Kallunki, Martikainen, Niemelä, 2002, p. 110).

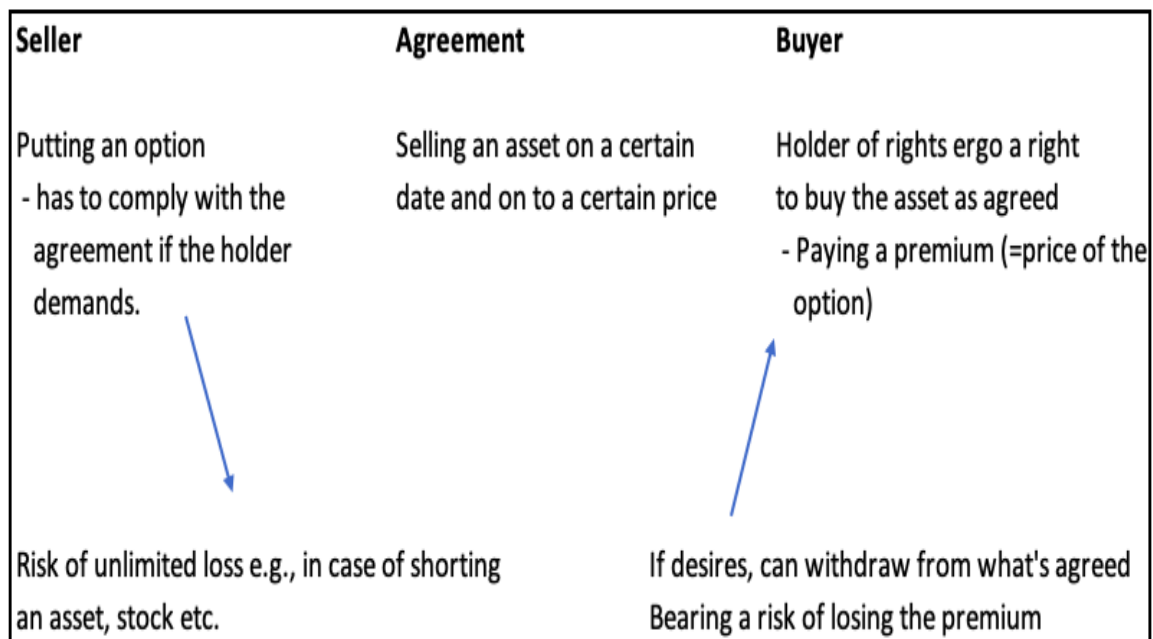


Figure 13. An option. (Author of the thesis, 2022).

Warrant is kind of an option certificate issued in unison with an option loan (a debenture where the buyers are granted a right to enter issuers stocks to a certain price and at a certain time). (Mattila, 2002). Hereby, the issuer needs to be a company. However, the difference between options and warrants is that when the investor desires to use his or her right to enter the option the issuer needs to issue new stocks to the market. (Kallunki, Martikainen, Niemelä, 2002, p. 110-111).

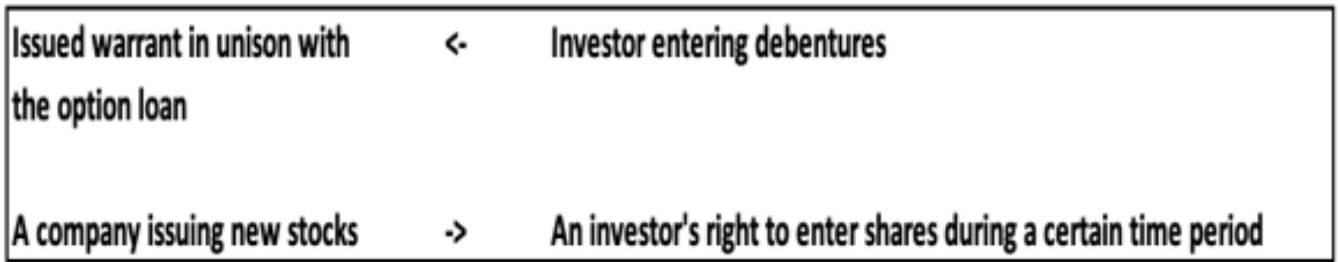


Figure 14. Warrant. (Author of the thesis, 2022).

Forwards, or forward contracts have similarities with options. However, holders' positioning in the forward contract is different than in option contracts; forward contract obligates the holder to proceed with the agreed (e.g., purchase). Therefore, also the holder's theoretical loss is unlimited. On the other hand, futures are suchlike forward contracts – however, the parties of the contract need to agree on the payments (and prices) daily whereas the forward contract's parties would agree on the details at the end of the contract. The future is a contract to buy or sell raw materials, currencies, or commodities at a certain price. Futures are usually securities for preparing for the future, e.g., changes in prices. (Pankkiasiat, n/a). For example, swap contracts are contracts of changing interests or currencies. (Kallunki, Martikainen, Niemelä, 2002, p.113). One can agree on e.g., a swap contract where a variable interest is changed to a fixed interest to cover against changes in interests, for example. In such a case, only the interest of the debt is changed, not the original capital. (Pankkiasiat, n/a). Futures often demand a margin account – a certain security account to work as collateral. (Pankkiasiat, n/a). A very common example of futures would be e.g., a petrol company agreeing to purchase oil for the consumable year at a certain price prior to the year – 50 USD for a barrel for example. If the barrel price changes during the contract under or over, the buyer makes either a loss or profit. (Pankkiasiat, n/a).

Forward contract



Holder's position in the contract -> Worthless option could lead to an unlimited loss

Futures

E.g., paying a difference of the interests on a certain time prior to the future
For example, fixed low interest during a boom benefits the party who had
the variable interest prior the contract

Agreement	->	cost of the difference between swaps	->	variable to fixed
Boom	->	higher interest rates	->	beneficiary compared to the variable

Figure 15. Forwards and futures. (Author of the thesis, 2022).

Investing in derivatives can possibly be a wise choice when e.g., speculating future prices in hopes of lifting the profit expectations or getting cover from the changes which might happen in the future. A private investor can, for example, buy leveraged certificates or short sell stocks in the stock market. However, derivatives are very complex and difficult instruments, therefore referring that the investor should be highly aware of the risks of investing in derivatives. For a beginner investor derivatives might not be a good choice due to the theoretically limitless losses.

4.6 Cryptocurrencies

According to the European Union's money laundering directive a cryptocurrency is a digital value bearer which is not accepted by federal banks, or issued by an official institution, or guaranteed by one and which is not necessarily coupled to a confirmed currency as a legal tender and which does not have the same legal status as if a currency or money which by natural or legal persons is accepted as a tender of exchange and which can be transferred, stored, or sold digitally. (European Parliament and the European Council, 2018, 1:2.d,18).

Thereby, a cryptocurrency is not legally a currency nor a legal tender, however, it is viewed as a type of security which holds value depending on the demand and supply of a certain cryptocurrency. On the one hand, cryptocurrencies as an investment target are criticized for possessing a deceiving nature due to e.g., the amount of securities and the lack of physical basis for the value. In addition, the sentiment of cryptocurrencies usage in money laundering purposes is also raising questions about whether one should invest in cryptocurrencies or not. On the other hand, the volatility of these instruments is very high which is a risk, however, in some cases a reward.

Cryptocurrencies are based on blockchain technology, in other words, blockchain is a highly encrypted public ledger where every participant ergo the network can verify e.g., the transactions that are made within the blockchain which creates the “block”, then the blocks end up being chained to each other eventually creating an open, secure, and public blockchain. The key to blockchain is decentralization, implying that there is no regulatory or restricting authority in-between of users of the blockchain making it allegedly more equal. (Investopedia, 2022).

Entering a transaction



network of peer-to-peer computers across the world



confirming the validity of the transaction



legitimate transaction clusters into a block



Chain of blocks where all transactions made are permanently seen



= Complete transaction

Figure 16. Blockchain and blockchain transactions. (Investopedia, 2022).

Largest cryptocurrencies are Bitcoin and Ethereum. As an investment, cryptocurrencies are similar in nature to derivatives; these instruments are quite complex implying the importance of experience and assimilation to the instruments. The risk of safety of the virtual currency systems, liquidity, and integrity are all based on trust between the users. For example, the development of value for a virtual currency is not regulated nor supervised by a government administered institution. In addition, the actual usage for payment is rare, rather the usage is first and foremost focused on speculative investing. Furthermore, the value fluctuation is greater than on the regular stock markets. (Finanssivalvonta, 2019). However, returns on investment at best are staggering which also makes the cryptocurrencies relatively dangerous yet tempting investment target; quick and high returns attract investors with less substantial information, experience, and starting capital. Hereby, investing more one could afford to lose in hopes of earning fast returns.



Figure 17. Ethereum to USD. (Coinmarketcap, n/a).

In the figure above is the second largest cryptocurrency Ethereum and its price history from the initiation in US Dollars.

NASDAQ: AAPL

— NASDAQ:AAPL

Zoom 1m 3m 6m YTD 1y **All**

From Feb 8, 2010 To Jan 7, 2022



Figure 18. Apple (AAPL) Stock Price. (Apple, 2021).

This figure illustrates Apple's stock price from the year 2010 to the present. Apple is the largest company in the world when measured by market capitalization.

S&P 500 Index

[+ WATCHLIST](#)

OPEN

Last Updated: Jan 10, 2022 at 2:16 p.m. EST

4,648.65

▼ -28.38 -0.61%

PREVIOUS CLOSE

4,677.03



Figure 19. S&P500 Index. (Marketwatch, 2022).

Above is illustrated the development of S&P 500 Index. The illustrations are showing the volatile nature of the cryptocurrencies; a singular ETH coin would cost circa 1200 USD in the beginning of 2018, circa 150 USD in the beginning of 2020 and eventually nearly 5000 USD at the fall of 2021. Whereas the development of Apple and the S&P 500 Index follows certain fundamentals – referring to the fact that most likely such a change in value does not appear with instruments such as stocks or indices. Cryptocurrencies might be highly profitable as an investment option, however, also very risky. If a private investor was about to invest into cryptocurrencies, he or she might want to study the field of virtual currencies, invest solely an amount they are willing to lose, and for example use the cryptocurrencies as part of their portfolio's diversification. The risk and profit relation will be looked closer into in the empirical part of the thesis.

4.7 Indirect investment alternatives

Indirect investment alternatives thereby fathom investments which are not direct. Most known instruments being mutual funds, insurance and pension related savings and investments. Insurance

related savings and investments are most often for a fixed time where the investor saves a certain amount each month for example. Therefore, the capital is tied for a certain time and to a certain place hereby not constantly available. However, e.g., insurance related savings possess tax benefits e.g., under an event of death the capital is possible to transfer to inheritors tax free whereas otherwise the inheritance is taxed progressively. (Kallunki, Martikainen, Niemelä, 2002, p. 124-125). Pension related savings and investments are objects where basically the person pays him or herself a voluntary pension – he or she might reach for an earlier retirement, for example. The profit of these kinds of investments are most likely tied to a stock profit since the expenses might be quite high. However, also pension saving has tax benefits: Pension savings related payments can be subtracted from the individual, or their partners earned income. (Kallunki, Martikainen, Niemelä, 2002, p. 123). Insurance and pension related savings and investments shall not be looked at any further, from now on the chapter will focus on different mutual funds.



Figure 20. Indirect investments example. (Author of the thesis, 2022).

Mutual fund (Open end) is a fund investing to a group of different securities owned by investors who have bought shares of the fund. The choice of securities can basically be anything from stocks and debentures to cash, money market instruments, and other investment alternatives. The value of the fund changes when the values of the securities change or when the share owners are either selling or buying their shares. (Kallunki, Martikainen, Niemelä, 2002, p. 125). The fund can be either active or passive (alfa or beta), most often the actively traded funds seem to be more known.

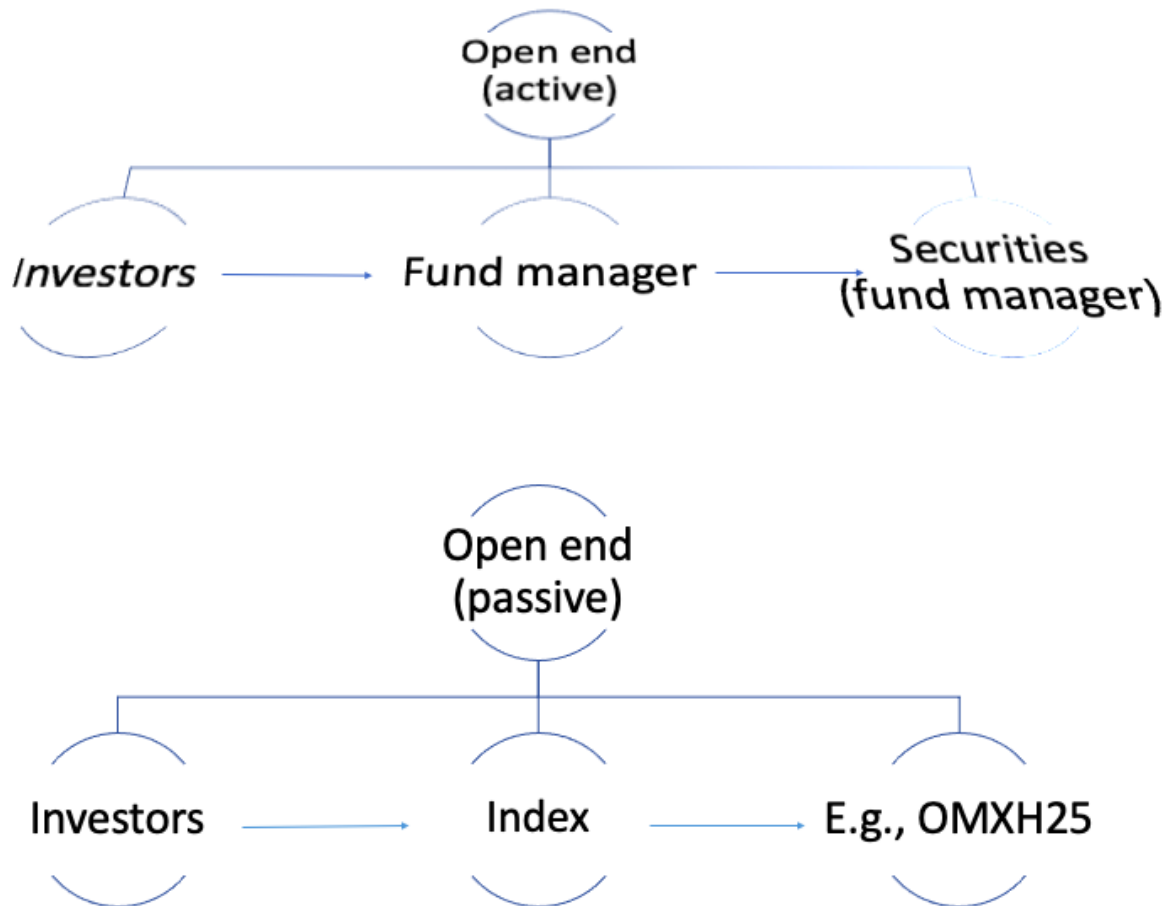


Figure 21. Active and passive fund. (Author of the thesis, 2022).

Fund collects money from the investors and creates a diversification for the collective portfolio. Mutual fund investing is also a great way to start investing along with other instruments where the performance of the portfolio does not depend as much on the investors themselves as it depends on the performance of the fund manager. Moreover, the Finnish mutual fund legislation demands that no more than 10 per cent is allowed to be invested into a singular target therefore referring to the risk managing and the security along with it. Furthermore, liquidity at least in the stock exchange is usually good and the people responsible for the decision-making regarding the chosen securities are most often professionals whose job is to seek better profit than the index. Whereas, if investing to stocks, one should make the diversification and crucial investment decisions themselves, or with ETFs the lack of active trading would reflect to the fact that the investor cannot trust on an external expert regarding the investment decisions. Moreover, an investor does not have to worry about trading, buying securities, or addedly paying fees for selling or buying different instruments, since the company responsible for the fund management is doing it. Also, the trading the fund manager(s) does is not taxable for the investor, the only position where the investor must pay for taxes is when the shares are

sold (profit tax) or if the mutual fund pays dividends to shareholders. In addition, the markets are well regulated, which makes the activity more transparent and trustworthy. (Kauppila, Puttonen, Repo, 2020, p. 44-45). Eventually, investing in mutual funds is easy going and relatively secure (if compared to e.g., risky stocks, cryptocurrencies etc.). Also, the starting capital does not need to be much, for example on Osuuspankki one can initiate a monthly savings plan with only 10 € a month. (Osuuspankki, n/a). However, there are also downsides related to investing in a mutual fund.

First the expenses of actively traded mutual fund might become very high – even though the profit would be relatively high as well the expenses e.g., circa 2 per cent will eventually substantially reduce the profits as seen in figure 33. Meaning that investing into mutual funds encompasses also e.g., entry, reclaim, administration and holding fees. However, many banks and other providers have special benefits for their clients where e.g., the entry and reclaim fees are zero. Entry fee is taken when the investor buys a share, administration and holding fee is taken before the value of the share is calculated and most importantly, the management fee is taken even though the profit would be negative. (Kauppila, Puttonen, Repo, 2020, p. 46-47). Also, if the investor is not agreeing with the investment choices, he or she cannot inflict them otherwise than investing in another fund. Thus, the allocation of assets is not as functional as it is with e.g., stocks or ETFs. In addition, if one decides to sell shares it will take a few business days to complete. Therefore, one cannot truly prepare themselves towards financial uncertainties as quickly as with e.g., stocks or ETFs. However, investing in mutual funds is very carefree, easy, and relatively secure (compared to e.g., cryptocurrencies). Investing into mutual funds also saves a lot of time. The fees one pays for an actively traded fund are the reward for the fund manager since they are investing on behalf of the investor.

Stock funds are investing their funds in domestic or international stock markets depending on the product category the fund is related to. A stock fund can invest to a certain type of companies, industries, or to other specific markets (Kauppila, Puttonen, Repo, 2020, p. 41) such as the following OP America Small Cap which invests in small cap companies in the United States. Typically, actively traded funds task is to win the reference index (alfa profit) which in the figure under is grey, and the funds development is the orange.

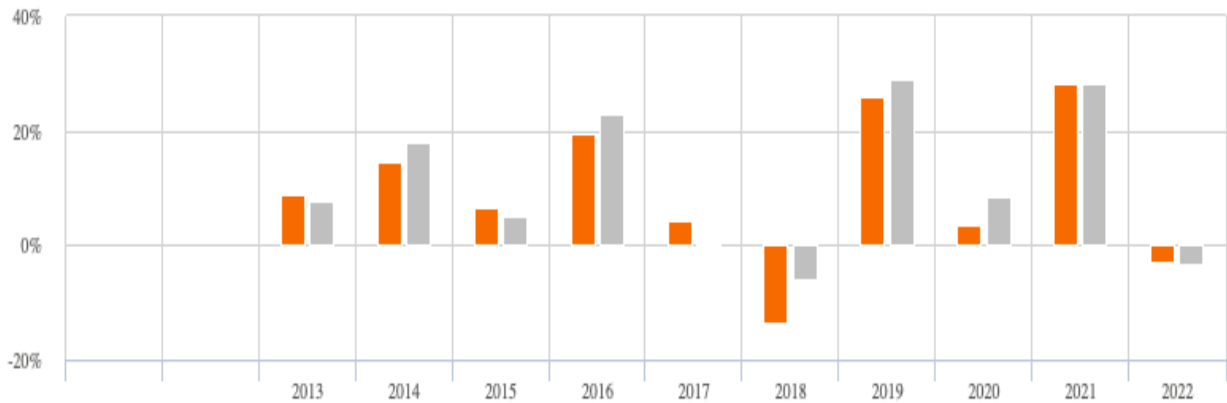


Figure 22. OP America small cap mutual fund. (Osuspankki, n/a).

Combined funds are investing in both stock and interest markets. The emphasis on stocks or interest instruments is left for the fund manager to decide which in some cases could diminish the possible transparency of the fund due to the influence of the manager. The success of the fund depends on the success of the emphasis between interest and stocks in relation to the domestic and global market environments (Kauppila, Puttonen, Repo, 2020, p. 41). As an example of this, the following illustrates the development of the OP Rohkea combine funds development between 1998 to the present. For instance, the upswing starting from 3/2020 could refer to a decision where the fund manager put a higher emphasis on stocks instead of interest instruments (since the interest rates have been record low due to the financial stimulation):

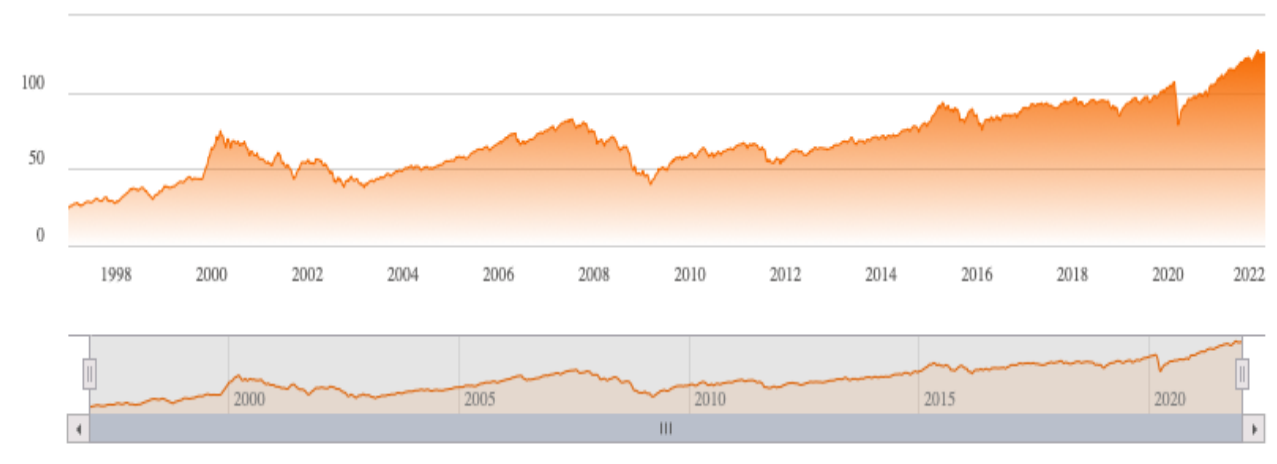


Figure 23. OP-Rohkea combine fund. (Osuspankki, n/a).

Other mutual funds are, for example, interest funds which are alike with the debentures described earlier – interest funds are e.g., funds which invest in debentures issued by public bodies or

organizations. Therefore, an individual invests in a fund which invests in a debenture for example. The risk and award relation ergo the return of the instrument depends on the maturity – short-term maturity instruments possess almost none of the risk when compared to the long-term interest funds. For a private investor, an interest fund is one way to guarantee the liquidity of the interest investment. (Kallunki, Martikainen, Niemelä, 2002, p. 127).

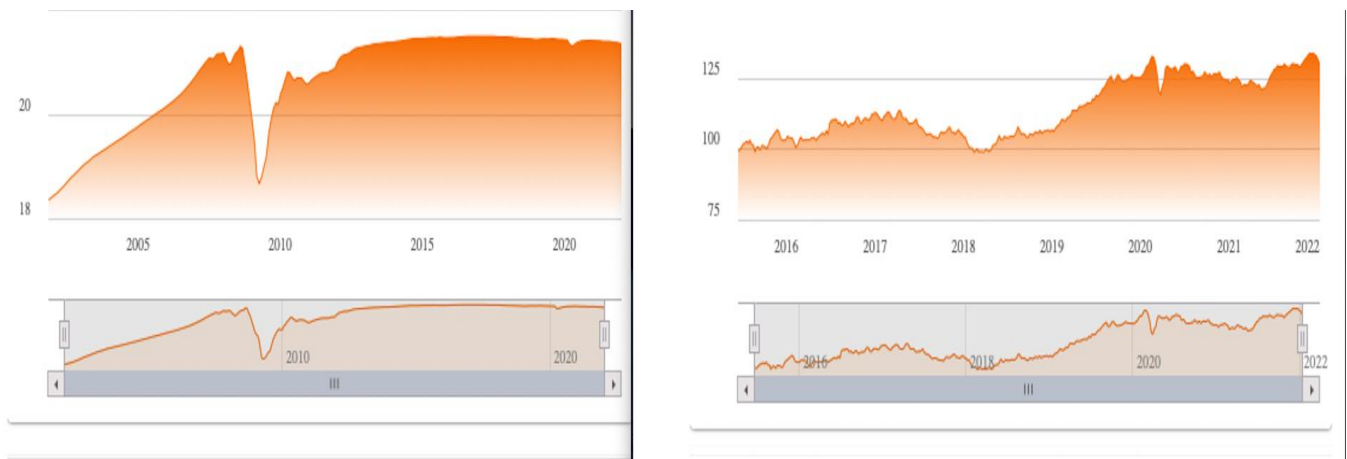


Figure 24. Short versus long interest instrument. (OP, n/a).

Above in the figure on the left is a short-term interest instrument OP Euro whereas on the right is a long-term instrument which invest to corporate loans in the United States. As described, the fluctuation of short-term interest instruments is much smaller which backs its purpose, e.g., as a sort of storage for cash. On the right the corporate loan works the same way only it has much bigger risk which realizes in higher fluctuation. However, low interest instruments are not risk-free even though the general discourse would resonate so. As the short-term instrument illustrates, after the Great Recession (2007-2008) globally and in the Euro area Central banks in unison with governments decreased interest rates to stimulate jobs, spending and the economy.

In conclusion, investing in mutual funds could be a relatively safe way to invest. All in all, it is like said, carefree and a good way to start due to the low amount of starting capital, reliable markets (regulation), and the investor does not need to have all the information themselves rather the fund manager has it on behalf of the investor. As a theoretical proposition a beginner investor could, for example, start a monthly investment plan for a market and industry he or she is keen on and afterwards emphasize their financial capital to other instruments. However, the expenses and slowness of mutual funds might risk losing profits and the personal interest of the investor in the whole activity of investing.

5 EXCHANGE TRADED FUNDS

Exchange traded fund is an investment fund that is traded as if stocks in the stock exchange. Most often ETFs are passive funds hence there is no portfolio manager as if with active mutual investment funds. ETF is a type of security that follows an index, sector, commodity, or other asset (Investopedia, 2021). Thus, an investor can either buy or sell the fund whenever the given exchange is open.

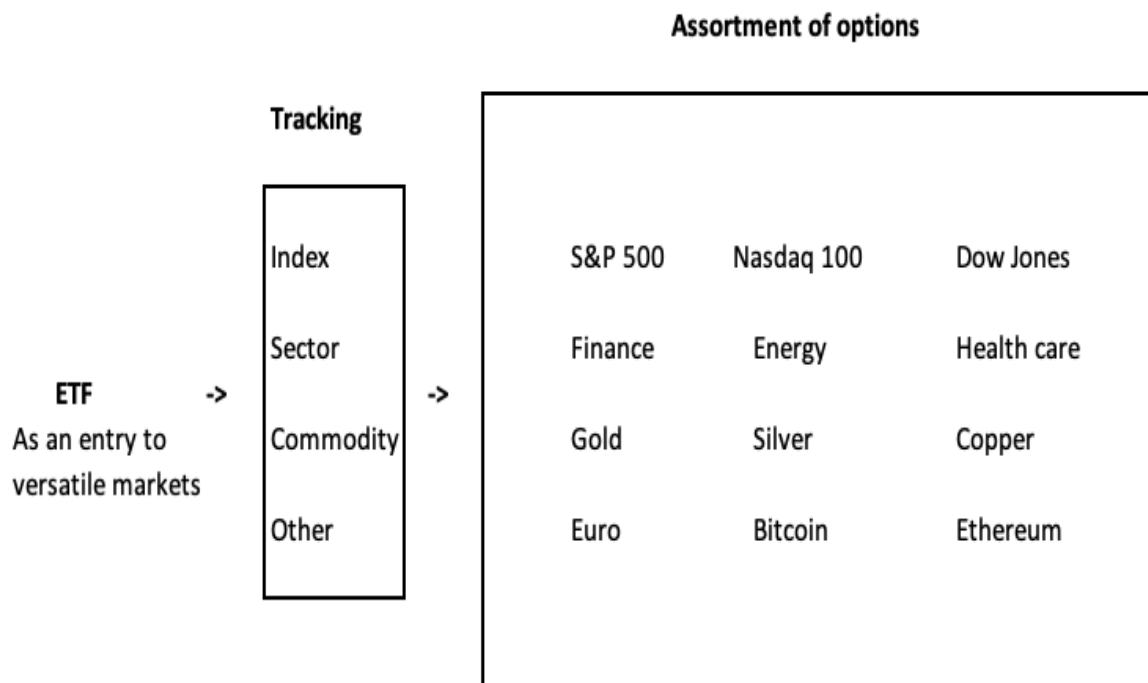


Figure 25. ETF explained. (Author of thesis, 2022).

5.1 ETF

Nonetheless, it shall be underlined that the said instrument is not a stock rather it is a fund, and the funds belong to the owner of shares within the fund whereas a stock investor owns a piece of the company one has invested in. ETF aids the private investor to get access to various and versatile assets

and investment strategies. For instance, the diversification of the portfolio is way easier when investing in ETFs since there are a lot of assets and markets the ETF can monitor. However, the term ETF describes a group of products which conceals nowadays multiple different singular products. Therefore, the objective for the thesis is to provide a general view of the structures, logic, and core of the ETFs. (Kartinen, Pomell, 2012).

To initiate ETF-investing one is required to open a book-entry account to e.g., the securities dealers' server or website.

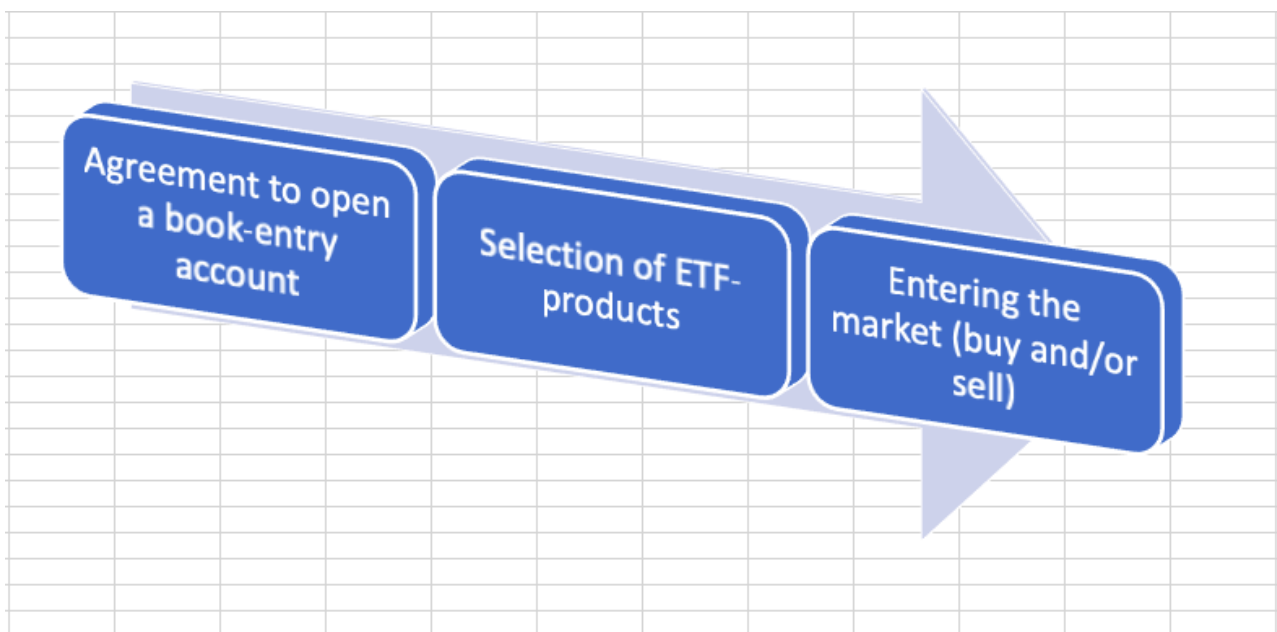


Figure 26. Book-entry account process for an ETF. (Author of the thesis, 2021).

Thus, the initiation is similar to stocks. Also, buying and selling ETFs are alike with stocks. The actual event of buying or selling an ETF is not difficult, rather the selection of the most fitting instrument or instruments. Hereby the technicalities in starting ETF-investing are quite simple although the decision-making regarding the chosen fund(s) requires a more thorough inspection.

ETF-investing's history is part of an index investing's history. Indices are securities which's purpose is to present specific markets or a specific market segment. The core fundamentals are not to beat the market by actively trading (alfa-profit) rather monitor the chosen target markets gross profit while being as cost-effective as possible (beta-profit). (Kartinen, Pomell, 2012, p. 9). The absence of active trading effaces e.g., the portfolio management expenses, hence the term passive fund. As a basis for indices is often kept the modern portfolio theory by Harry Markowitz in his dissertation, Portfolio

Selection (1952). The idea of the theory is vaguely illustrated above in the table 1 – Markowitz was first to separate a singular stock’s risk from the whole portfolio, and in unison it was noticed how to diminish the fluctuation of profits while also gaining better profit expectations for the portfolio. (Kartinen, Pomell, 2012, p. 9). In other words, the theory figures how to have an optimal combination of risk and return – from e.g., an ETF point of view the theory basis is seen in the structure of the fund since for example the diversification and allocation of assets are based on the performance of the underlying assets the fund is following. Therefore, the fund tries to sort out worse performers whenever, for instance a company is dropped out of an index etcetera. However, all in all the foundation of indices and thus, ETFs, are cost-efficiency, high-performance allocation of assets, and good diversification:

Alfa -> Beating the market by actively trading
Beta -> monitoring the target's gross profit while being cost-effective



ETFs (/Indices)

Cost-efficient	->	Low fees
Allocation	->	Allocation correlating with the investor's risk tolerance
Diversification	->	Long reach for diverse markets
Instantly tradable	->	Knowing what is owned, can be bought and sold as is stocks
Growth/dividend	->	Tax benefits from growth shares/dividends from dividend shares

Figure 27. Introduction to ETFs. (Author of the thesis, 2022).

Starting ETF investing is possible via multiple sources. For a private investor there are various options to choose from, e.g., Nordnet, Osuuspankki, and eToro. The initial amount that is invested does not need to be as much as if it was invested straight to stocks, for example Nordnet provides monthly savings plan starting from 50 € a month. However, it includes a service fee of 2,5 € - but the fee is not taken from e.g., profits nor it gains any interest. In addition, the selection of ETFs e.g., on these platforms is truly open and versatile for beginners and more professional investors as well. Furthermore, same as with the mutual funds and indices also, the investor might have to think if they

would purchase and/or save into a growth share or to a dividend share – e.g., by investing to a growth share the profit that would normally be paid as in dividends is invested back into the fund without the withdrawal of funds which would otherwise be taxable profit.

The first Finnish ETF was Seligson & Co's OMX Helsinki 25 in February 2002. (Kaartinen, Pomell, 2012, p. 10). OMX Helsinki 25 is consisted of the 25 most swapped companies in the Helsinki stock exchange. Globally years 2006 and 2007 were the turning point for ETFs. In 2007 the number of ETFs passed 1000 whereas in the year 2000 there were only 92 ETFs. Two years later the funds administered surpassed thousand billion United States Dollars. (Kaartinen, Pomell, 2012, p. 10). According to Statista's publishing in 2020 there were globally circa 7600 Exchange Traded Funds worldwide, whereas the assets managed by the ETFs in 2020 were circa 7,7 thousand billion United States Dollars (Norrestad, 2022).



Figure 28. Development of the Seligson & Co's OMXH25 ETF. (Seligson & Co, n/a).

In conclusion, if profit expectations are not considered, ETF's separation of the other investment alternatives could be compressed as follows:

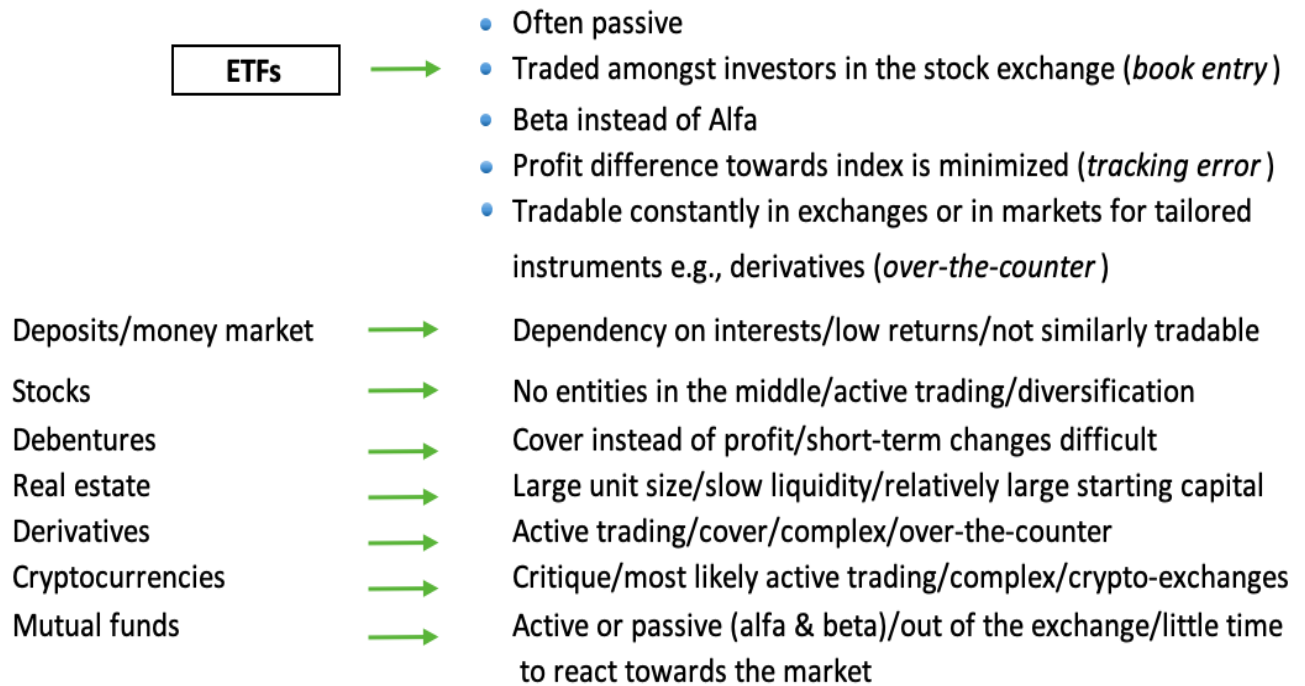


Figure 29. Introduction to ETFs – ETFs separated. (Author of the thesis, 2022).

5.2 Structural overview

Since there are numerous exchange-traded products, it has been seen as wise to categorize the listed products under term ETP (Exchange traded products). In addition to ETFs, ETPs encompasses also e.g., Exchange traded commodities (ETCs) and Exchange traded notes (ETNs). This thesis shall focus mostly on ETFs. An ETF is a portfolio possessed by those who have invested in it therefore the company responsible for managing the fund does not own the securities related to the fund. Rather, the role of the managing company is similarly relevant to traditional trust funds since the ETF usually invests passively to a target set earlier. (Kartinen, Pomell, 2012, p. 31).

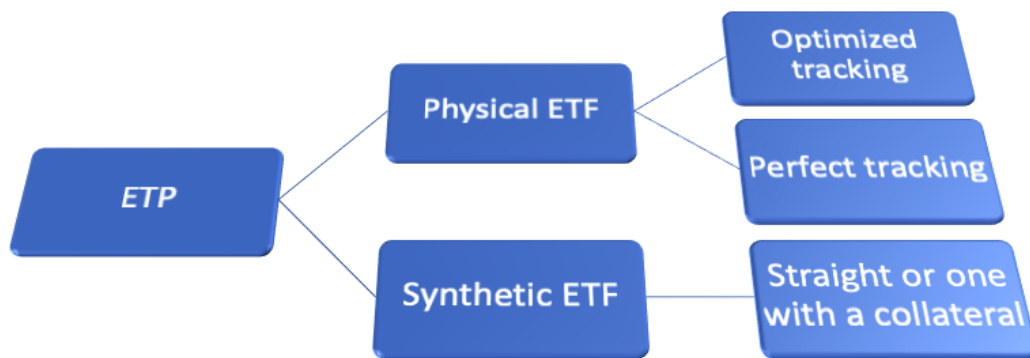


Figure 30. ETP > ETF. (Kaartinen, Pomell, 2012, p. 31).

Most often ETFs are physically or synthetically constructed. A physical ETF (such as the Seligson & Co's OMXH25) directly purchases its' target indices stocks. (Kaartinen, Pomell, 2012, p. 32).

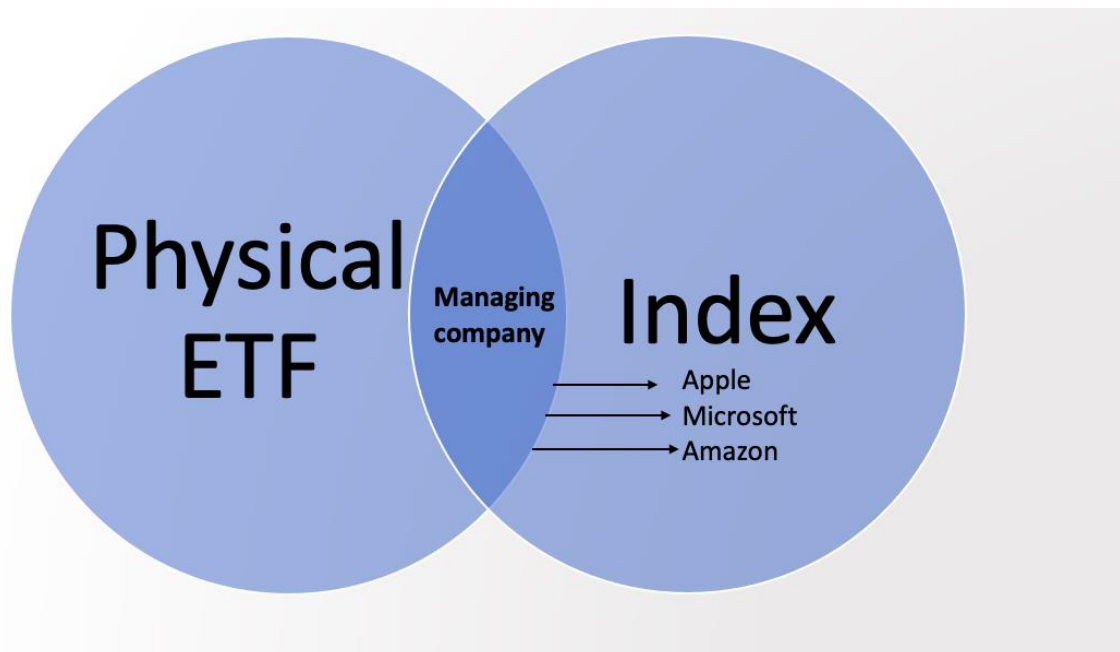


Figure 31. Physical ETF. (Author of the thesis, 2022).

Whereas the synthetic exchange traded fund is more of an investment basket (substitute basket) investing in derivatives. Therefore, they are not purchasing nor holding any physical stocks, instead

the money is invested in a collateral basket which's profit is changed to the target indices profit via swap contracts. However, in addition to being more complex, synthetic ETFs hold bigger counterparty and liquidity risks since they are legally a two-party contract and traded over the counter. (Bajpai, 2021).

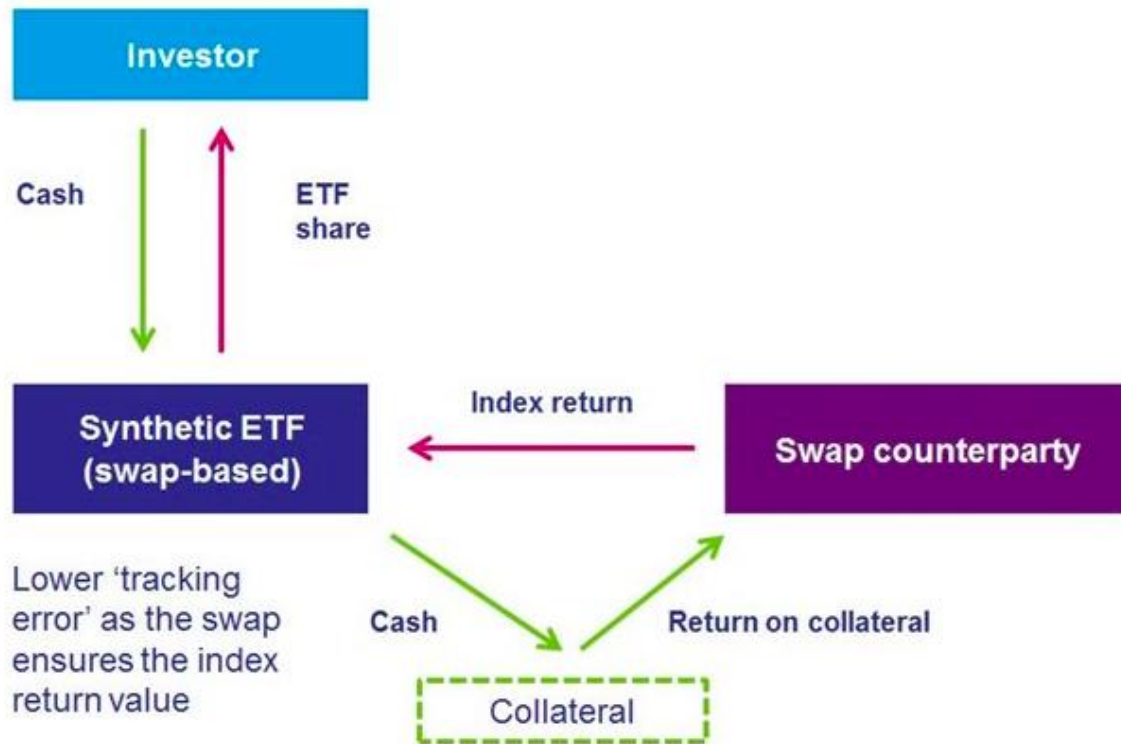


Figure 32. Synthetic ETFs. (Closebrothers, n/a).

5.3 Benefits and risks

Unlike mutual funds ETFs do not have uncertainties regarding the real-time market price. For example, selling a share of a mutual fund does not always compete with the price the investor wanted whereas with an ETF the selling and buying orders guarantee the order to happen as desired. Also, one does not have to wait for the cash for several business days, instead it is withdrawn simultaneously with the selling order. In addition, with ETFs daily trading or e.g., real-time speculating is possible, therefore for example, one can define a limit order price to cover themselves or to adjust a certain price level to buy the ETF. Referring to a situation where the platform can automatically sell or buy a certain instrument to a certain price – e.g., an investor could define that whenever the price of the instrument

decreases to a certain degree, it will be automatically sold to prevent bigger losses. Still, one must pay for the normal fees of selling and buying. Furthermore, since the ETFs are mostly passive and therefore seeking beta profit instead of the alfa profit as if with actively traded mutual funds' the fixed costs are considerably lower. (Kaartinen, Pomell, 2012, p.13-14). Especially in long-term the costs e.g., a 2,5 % reward in total will lessen the profits substantially. For example:

Initial investment amount (required) 500	Future planned contributions (per year) (required) 1200	Initial investment amount (required) 1000	Future planned contributions (per year) (required) 1200
Time horizon (years) (required) 20	Rate of return (%) (required) 6	Time horizon (years) (required) 20	Rate of return (%) (required) 7
Fund expense ratio (%) (required) 0,39		Fund expense ratio (%) (required) 2,5	
Calculate		Calculate	
Ending value (net with fees) \$46,200.66		Ending value (net with fees) \$41,751.48	
Ending value (gross) \$48,394.84		Ending value (gross) \$56,507.90	
Cost of fees \$2,194.18		Cost of fees \$14,756.42	

Figure 33. Mutual Fund Cost Calculation. (NerdWallet, 2021).

Even though the initial investment on the left is less and the return expectation worse than on the right the ending value is still circa 5000 € higher since the costs are taken literally from the profit which in the long-term might conclude to a situation such illustrated in the picture above. Therefore, on the left the return rate is lower to illustrate the effect of costs even if the investment amount would be less and the return rate lower than on the right for example. Also, there are no entry costs nor redeem costs regarding ETFs, however costs come from selling and buying ETFs (on the exchange for example). Thus, the costs are the fee of the securities dealer and the spread ergo the difference between sell and buy order. (CMC Markets, n/a).

Whereas e.g., investing in stocks the costs are similar an effective portfolio diversification with a small starting capital might become way too challenging or expensive to build as if described earlier in

chapter 4. In addition, with an ETF the optimal diversification is reached without a professional-like investigation of various assets and their fundamentals. Therefore, the amount of work regarding studying the singular instrument is substantially less – for a beginner investor e.g., a ratio analysis of a single company let alone twenty-thirty companies to choose 10 from seems very arduous when the similar result is reached via single ETF. In addition, there is no significant counterparty risk with ETFs, especially if the instrument is traded on an exchange where the market is liquid. Also, an ETF investor is justifiable to their share even if the ETF shuts down. Furthermore, ETFs are instruments which might offer an arbitrage (Kaartinen, Pomell, 2012, p. 15). For example, pairs trading could be an arbitrage situation where the investor would long and short e.g., indices which are following the same target (e.g., Nasdaq 100). Even though the instruments would have the same target the daily price might diverge creating an opportunity where either the instrument is on a discount or overpriced (buying a discounted ETF and shorting an overpriced one for instance). (Zucchi, 2021). Eventually the main differences and variations between ETFs and other detailed investment alternatives are illustrated to identify the core of ETF-investing and to summarize the topic as follows:

ETFs in comparison	ETF	Traditional mutual fund	Derivative	Stock	Real estate	Cryptocurrency	Money market/deposit
Benefits	Low expenses, diversification, constant pricing, does not need much initiation capital, arbitrages	Does not need much initiation capital (e.g., 20€), diversification, simple structure, secure-like	Clear contract parties, potentially high profits/cover on a recessive environment, bringing liquidity to the markets	Low expenses, best performing return in long-term, constant pricing, transparent, clear ownership	Large unit size, relatively secure, collateral value, tenant paying for the liabilities	Very high returns, does not need much starting capital, constantly priced	Relatively low risk (secure), simple structure, constantly usable if saved on a using account
Weaknesses	Decision-making (lot of instruments), changes in structures, potentially smaller profits than e.g., active trading	Not constantly traded, high fees, no space for fast reactions	Needs more starting capital, highly complex instruments, theoretical possibility of limitless losses	Tax payments, diversification, might need more starting capital, higher fluctuation of values when compared to e.g., traditional funds	Amount of starting capital, slow realization and liquidity, large unit size, needs experience regarding housing markets and e.g., choosing the correct tenants etc.	High fluctuation, complex instruments, legal and hoax issues	Very low returns, high inflation and low interest rates, might not be constantly available

Figure 34. Benefits and weaknesses. (Author of the thesis after Kaartinen, Pomell, 2012, p. 16).

6 RESEARCH DESIGN AND METHOD

To construct valid research, one must choose the tools to collect and analyze information. Generally, there are three research methods to select: quantitative or numeric, quantitative or non-numeric (e.g., phenomena based) and mixed methods e.g., including both previous methods. (Saunders, Lewis & Thornhill, 2019, p.175, 178 & 179)

Quantitative research method is published in numerical data, the decision or conclusion of research often is quantitative ergo it can be measured in numbers. The base information for the research might be taken from non-numerical sources even if the research's result ends up to numerical conclusions.

Quantitative research method could possess both: inductive and deductive approaches. Inductive meaning that the conclusion does not necessarily come as a repercussion of premises instead they are probable outcomes – it is often stating a general quality or fact (Tieteen termipankki, 2022). Whereas the deductive approach often possesses a given factuality in it where all the presumptions ergo premises are de facto true (Tieteen termipankki, 2022). Therefore, quantitative research method can be applied e.g., to deductively test a given hypothesis or inductively to further analyze a certain results or other subjects. (Saunders, Lewis & Thornhill, 2019, p. 176)

Qualitative research has a more expressive approach through the studied subject which often is given phenomena. Likewise in quantitative research, in qualitative research it is possible to deductively test a hypothesis or inductively approach to theory development. The result usually is given in non-numerical form. (Saunders, Lewis & Thornhill, 2019, p. 179)

Studying the performance of several investing instruments is often translated to numerical data to concretely understand the variation between instruments. Also, prior development in history and in other areas regarding investing is usually measured exactly in numerical data. Finding out if an ETF or another investment alternative is a valuable investment requires reasoning on the matter that which of them performs well and which do not. In addition, figuring out how much a certain instrument could cost currently, or overtime requires deduction concerning numerical data. Thereby, the research design of searching for a valuable investment is quantitative research.

Especially in an activity such as investing, history is never a guarantee of the future. Therefore, deductive approach including factual premises leading to only one and factual truth is difficult to complete. Thus, the approach is more of an abductive approach since the target is to reach the best available result with literature's assistance in reasoning (Tieteen termipankki, n/a).

Moreover, the research is keen on finding the closest answer to whether a certain investment is suitable for the target group's person, especially if an ETF-investment is suitable and fitting for such a person. Some of the parts of the research such as theories concerning risks, profits or even historical facts are presumed to be factual matters as causals of premises. This thesis has philosophical views as well. For example, Premise 1: volatility measures portfolios' profit fluctuation in known time frame. Premise 2: high volatility equals to high fluctuation within the given time frame. Deductive conclusion: high volatility refers to high risk (factual matter as a causal from a theory). Therefore, theoretical parts are factual and philosophically positivistic since they are generally accepted as hard truths. An interesting

viewpoint is for example the phenomenon of compound interest: it is universal law, therefore, positivistic but also depending e.g., on time, place and quantity on how it works. From an empirical point of view compound interest could be also seen from an epistemological point of view because the social constructions of realities vary, for example, time, place and quantity. (Saunders, Lewis & Thornhill, 2019, p. 144). Also, this thesis has most of the time pragmatic viewpoints since e.g., estimations may not be true, often might be far away from the truth, but finally the results are gotten from multiple different theories and estimating the co-result of the theories with events in the future for example.

6.1 Data collection and analyzes

Even if the research is quite pragmatic and the result does not necessarily follow a chain of premises type of deduction there is a lot of research to be done via literature and internet base information review. Primarily, all the factual theories and ideologies supporting pragmatic reasoning are from a literature review or an overview to internet sources such as e-books, blogs, articles and so on.

Literature ergo books and e-books are mostly finance based literature. Internet articles and blogs are most often written either by a finance specialist or e.g., a journalist especially focused on financial matters. Other internet sites are applied as well: a huge part of the resources is for example websites of public utilities (e.g., Säästöpankki/Osuuspankki) which enable an investor to open a book-entry account or a mutual fund account, select an investment instrument and so forth. Also, there are websites such as Google Finance or Morningstar which are websites offering information and analyses of specific instruments development, performance and other fundamentals. Other internet sites, for example, a certain expense calculator is used as well.

On top of the hierarchy of resources are literature, specialist's opinions and views in articles and blogs. Secondary information is other information collected for this thesis. An example of secondary information is e.g., websites of public utilities' websites. The nature of the thesis demands the writer to collect information from so-called commercial sources because e.g., to acquire data concerning, for example, the fees of trading, it is required to be inspected from a commercial website. In addition, the instruments one is intending to buy are acquired from a commercial website.

6.2 Reliability and validity

Reliability expresses how faithfully yet repeatedly a measurement measures a given objective (Tilastokeskus, n/a). For example, how reliable it is to estimate an outcome of an investment, comparing to prior development the future outcome might differ either way, positive or negative. Hereby, the thesis experiences limitations in reliability when it comes to the correctness (count: validness) of future estimations. On the other hand, reliable measurements such as a chart illustrating the net worth of different age groups in Finland has basis on information collected by official agency Tilastokeskus (eng: *National authority for collecting and compiling statistics on various fields of society and economy*). Historical information on e.g., value development of an instrument can be reliably measured continuously whereas future value development might be difficult since the value today might differ from tomorrow's value even if the tools such as the formula for compound interest is applied.

Thesis seeks an answer to the question of whether an ETF is a good investment or not. For example, a fixed cost for a certain activity can be measured by multiplying the unit cost with the fixed period. Therefore, as a measurement it is valid and reliable. However, the validity of this thesis is also somewhat limited since the result of research leaves open questions which cannot be outright answered (e.g., an estimate of an investment: future events are impossible to forecast precisely).

7 ETFS AND ALTERNATIVE INVESTMENTS

As discussed previously, investing in ETFs offers multiple beneficial possibilities for an investor, especially concerning the availability of different assets, commodities, indices, and other investment targets. An ETF-investor can be into interest rates, high paying dividend companies, cryptocurrencies and beyond. Furthermore, an ETF-investor does get to attend the market movements in real time with less risk than, for example, via derivatives or stocks. However, on a quick review ETFs seem relatively more complex compared to mutual funds and again comparably unexciting compared to direct investments such as high volatile stocks. ETF as an investment is still slightly new and does not have the same recognizability as other major investment options. Moreover, other investment alternatives

are investigated as well in depth that seem rational to construct an understandable wholeness to back up the decision-making in investing.

Regarding the target group of this thesis one must comprehend that investing in more complex instruments requires a certain level of earlier familiarization and some type of connection to investing. For example, an ETF might not be the first instrument to start with since there is not as much information available if compared to e.g., low, and mid yield mutual funds. Thus' ETF as an instrument could seem far too difficult to understand. However, the task of this thesis is also to lower the barrier to adopt more complex instruments by giving enough context and background to support the decision-making. In addition, since the point of view is through a younger person's lenses it refers to the time factor; an older individual would have had a longer time to gain and build their wealth. Thereby, the thesis trusts this kind of presumption and tries to direct the discourse in a way that the individual would not have as much starting equity as the older one would. Also, by having more time for the profits to compound, there is higher potential to get better profits interest-wise.

Furthermore, it is necessary to identify the level of risk an individual is ready to bear. However, by taking more risk it is preferable if one is after a given profit. In the first subchapter the risk and profit expectations (Risk profile) are reviewed and adjusted to create more understandable examples. In the following subchapter other investment alternatives in relation with the investors risk and profit expectation (Appendix 3) are inspected, concrete examples of investments and their performances are given, and the thesis tries to seek an answer if these investments would fit the target groups incentives or not. In the following chapter the focus is on the Exchange traded funds with concrete realizations and perceptions of these instruments. Eventually the topics what have been dealt with in chapters 7.2., and 7.3., are summarized in chapter 7.4, and finally the comparison shall be outlined to move towards the conclusion of the thesis.

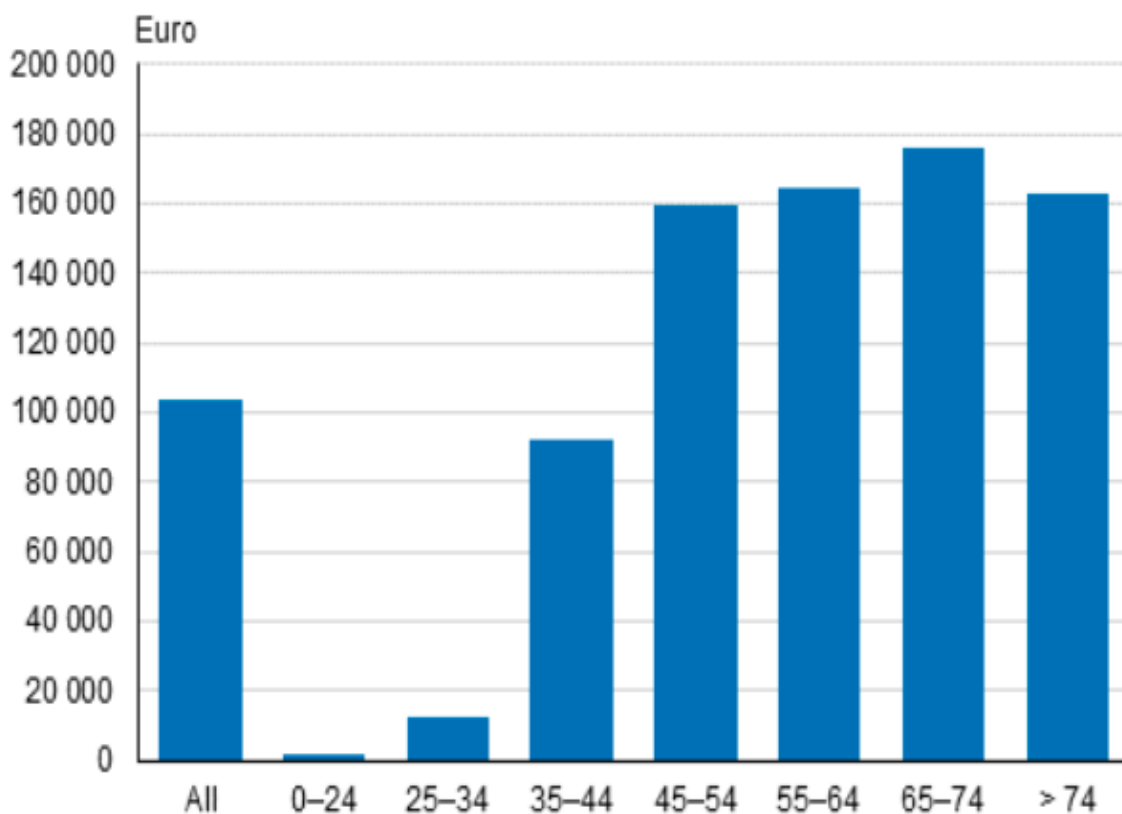
7.1 Investor profile and risk adjustment

An important part of continuously learning to invest is to set expectations for the profits and to be aware of the costs and especially the risks. First off, one could figure out their financial goals in investing. Secondly the determination of time horizon could be wise to sort out, for example to 10-20 years or so. As the research has shown the average of e.g., OMXHPI in total is higher than the yearly

average indicating that the average profit in long-term beats the short-term profits. Additionally, learning about one's personal finances and learning how to balance one's expenditure and income helps to adjust the number of financing funds the person is able and ready to risk. As a crucial note is also the age factor which refers to the presence on the markets – longer period on the markets signifies more financially potential possibilities; younger investor can take a larger risk since the losses could be balanced in the long-term. (Gopkumar, 2021).

If assumed that the individual which fits within the target group is at the genesis of his or her voyage in investing. By setting a goal the investing might become more purposeful since they would be after a certain point - goal setting could be e.g., a given per centage of growth in the portfolio during a certain time or a given amount of cash for a dream holiday etcetera. The age factor of this investor refers to the fact that he or she has not been able to actively attend work life as much as an individual who would be older than the person within the target group. Therefore, implying that the starting equity of the target group's investor would on average be smaller since he or she has less starting equity and less time spent on the markets. The distribution of (net) wealth in the following figure:

Table 5. Average net wealth in Finland in 2019. (Tilastokeskus, 2021).



The illustration shows that in average individuals between age years of 18-29 had clearly under 20 000 € of net wealth (assets *minus* liabilities). Thereby, supporting the presumption that the target group's investor would have less equity to begin with. However, the age of the investor, like described, creates advantages as well. In unison, younger age and less starting equity could be a favorable combination regarding investing instruments which would simultaneously be tolerably or highly profitable (more likely higher volatility) since the investor has multiple opportunities to buy assets cheaper than the future market price and vice versa the momentarily losses could be mended in the future upswing let alone diverging the time to prevent the buying event happening solely in a bear market. Therefore, as a proposition the target individual would be prepared to take relatively higher risks in accordance with their age. Finally, a desirable conclusion of table 5 would be that this investor could rise from the average by saving, investing in unison with rational risk taking.

The risk-taking readiness would be set in at least between tolerable and high to expect a return of at least seven per centages and above (Appendix 3). In the following chapters different investment instruments shall be reviewed likewise as if in the fourth chapter. Therefore, observing possible outcomes of different investments and keeping the target individual within the given frames to sustain coherency. For example, should a person with a low starting equity and less professional information invest straight to stocks or indirectly to a mutual fund which invests to the stock market, or instead to an ETF which has these both sides.

7.2 Alternative investments

Generally, deposit and fixed investment accounts are the most familiar saving instruments. The benefits of these type of accounts are their security – the value fluctuation is none compared to more volatile instruments such as a stock market ETF or a stock, the realization is usually quick and simple, and bank deposits are usually including deposit insurance up to 100 000 € (the investor gets their deposits back with gained interest in all cases). However, banks could also file for bankruptcy, the profit expectation for money market savings and deposits are close to none, not to mention the effect of inflation. Hereby meaning that as the effect of inflation is subtracted from the interest profit the real interest is left – if the inflation would be e.g., 2,85 % the announced interest rate should be at least 2,85 % to cover the inflation (Taloussanommat, 2022). (TalousSuomi, 2019).

Multiple finance institutions offer investment and saving instruments which are tied to deposit accounts where the profits are rooted in the interest markets. As an example, previously described fixed deposit account. The deposit period is twelve months with profit expectation of 0,05 % per year (a fixed account). The account belongs under the deposit insurance described above. Minimum deposit for the investment is 500 € and the savings can be withdrawn whenever. However, if the funds are withdrawn and the balance of the account is under the minimum input, interest profits are not paid. The interest rate fluctuates in accordance with interest markets. (Sortter, n/a). An example of 1000 € investment to the Nordea Flexible deposit account:

Table 6. Fixed deposit account. (Author of the thesis, 2022).

Own investment	100€
Interest expectation	0,05 %
Time frame	12 Months
Profit	$(1000€ * 0,05 \%) = 0,5 €$
(If inflation is considered)	$1000 € - (1000€ * 0,05 \%)$
Theoretical end value	980 €

On the other hand, multiple banks also offer ASP accounts which are like fixed accounts but instead are meant for a down payment for one's first apartment, condo or other, e.g., a house. There is no maximum period for saving, however, one must save at least eight calendar quarters, 150 € per quarter to meet with the minimum terms of the account's terms and conditions (Osuuspankki, n/a). Once the individual has saved e.g., 10 per cent of the value of the intended apartment, he or she gets the 90 % of government backed loan. For instance, Osuuspankki offers 1 % tax-free deposit rate and 4 % bonus interest rate for the first year of deposits and additional five following years. (Osuuspankki, n/a). The terms of the loan are better if compared to the previous example. However, one is obligated to use the savings and the profit solely to purchase the apartment. Even though one can dismantle the ASP contract, in such a case he or she would not be any more justifiable to the bonus interest. (Sortter, 2019). As another bonus the individual does not have to pay for the transfer tax nor sales profit tax if he or she uses the apartment as their main living situation – therefore one cannot rent the place nor use it as an effectful investment before all the dues are paid (Lehto, n/a). In relation with the target group the apartment's realization time could be slow, relatively large unit size and high price, let alone profits (in the short-term, e.g., 5 years) would be small and out of reach. Nevertheless, for instance, university student could take an advantage of the ASP account and their individual investing plan simultaneously

by saving the demanded 10 – 20 per cent down payment directly from the government backed student loan while investing to a chosen instrument from other income sources e.g., summer jobs, weekend-, and part-time jobs. However, using loans as a leverage is quite risky and this investor might need to work continuously to sustain their investment plans. For example, directional low budget investment strategy and a plan for three years, if this person would have a four-year degree including employment after three years of studying:

Table 7. Using student loans as a down payment. (Author of the thesis, 2022).

3-year plan

(assuming that employed after three years)

Student loan is used for:	Other income is used for:
<i>Calculation</i>	Incomes, other expenditure & investments <i>(per month)</i>
<i>are directio</i> Price of the apartment 120 000 €	Student benefit 250 €
10% for the loan 12 000 €	Housing benefit 270 €
Student loan/month 650 €	Savings from summer job 2 500 € -> divided to the academic
Time until 10 % full = 12 000 / 650	Divided by months 278 € (autumn & spring = 9 months)
Months 18	Monthly income in total 798 €
After 18 months	Rent (inc. water) 500 € -> before the 18 months
Loan - 108 000 €	Electricity 35 €
Student loan/total in four 23 400 €	Phone & internet 30 €
Student loan left 11 400 €	Food 200 €
Monthly payment 500 €	Surplus/emergency 33 €
Maintenance charge 150 €	
Another 18 months paid with the loan	After the 18 months up the next 18 months
	Benefits 520 € Investments
	Savings 278 € Instrumer 150 €
	Student loan surplus - € Instrumer 150 €
	Monthly income in total 798 € Surplus/e: 128 €

During the first 18 months the person could have saved enough equity for the apartments down payment. If assumed that the person has a four year degree, between the purchasing of the apartment and graduating he or she could have had paid only themselves circa 21 000 € = 12 000 € + (500 € * 18 months)

Moreover, after the eighteen months he or she could of had started investing as the equity tied to the earlier rent is free for use, therefore, if assumed that circa 300 € is invested e.g., to two ETF Indices with circa 8 % yearly return, he or she could have 8 195 € worth of savings Therefore, the whole value of the investment could be around 8195 + 21000 = 29 195 €.

Electricity	40 €
Phone & Internet	30 €
Food	300 €
After expenses	428 €

In the figure the presumption is that for the first 18 months the loan capital flowing inwards to their household is solely used to the apartment and other such as benefits, and summer job savings are used to sustain living. After the down payment of the apartment the loan capital is transferred for the loan amortization whereas the rent payment unties capital for other usage, in this case to other investments. In addition, after the second year and a half the probable employment could raise the probability of being able to invest and save more. Thus, at the time this person was finishing their studies, they would not have to uncouple a down payment for an apartment from their savings. Nevertheless, taking advantage of the ASP in unison by staying constantly on the markets by investing every month could be very beneficial. For example, the apartment could be finally sold without the sales profit tax or used as a collateral to purchase another apartment. However, this type of scenario could be difficult to execute without any prior savings or a steady income, additionally using loans as a leverage is very risky and according to the target group of this thesis it might be so that investing to relatively high-risk instruments and using a loan as a leverage to purchase an apartment would be too big of a risk to bear. For example, rise in interest rates, sudden expenses, unemployment or another disruptive factor (regarding the plan) could seize or decrease the inflow of capital to cover the illustrated expenses which are, in the first place, formed from current liabilities. Implying that even if the reward is high the risks of the reward could exceed what is rational mainly since most of the capital is tied into the apartment. Therefore, this type of plan could be too risky without e.g., a safety net deep enough.

Investing directly to stocks is a manifestation to accept daily value fluctuation which indeed can be towering from time to time. During the last hundred years stock investing has had the best return on average (Pörssisäätiö, n/a). However, it is not unordinary that the market is either up or down e.g., in two digits in a short-term frame, therefore, the stock investor agrees to take a relatively larger risk for comparably better profits.

Hypothetically a stock investor can control and mitigate the unsystematic risks and ergo the risk in specific company's performance by having a diverse portfolio. Effective diversification of a stock portfolio would typically require multiple stocks, e.g., at least ten to fifteen to sustain the optimal level in between risks and profits (table 1). Therefore, implicating that the investor would have to purchase more than one stock to their portfolio. In most platforms one must purchase the whole stock instead of a fraction like in mutual funds. Target group's individual could face an obstacle in front of this type of situation due to the level of starting equity:

Value per stock might exceed the value of monthly financing funds

	Swap/value	Development	Price/exchange rate	Swap/units
Nokia	21,17 milj €	-0,06 %	5,106 €	4 134 863
Nordea Bank	18,92 milj €	-1,32 %	10,204 €	1 845 715
Sampo A	16,99 milj €	-1,06 %	44,04 €	385 793
Neste	14,73 milj €	-3,33 %	37,15 €	392 479
Qt Group	13,7 milj €	+4,62 %	104,2 €	129 050
TietoEVRY	11,28 milj €	-2,50 %	25,74 €	438 831
Kone	9,81 milj €	-0,40 %	54,50 €	180 143
UPM-Kymmene	6,53 milj €	-1,30 %	33,40 €	195 143
Outokumpu	6,53 milj €	-2,56 %	5,63 €	1 148 814
Stora Enso R	6,41 milj €	-0,51 %	18,375 €	349 650
Metso Outotec	5,21 milj €	+0,86 %	8,928 €	586 154
Nokian Renkaat	4,6 milj €	+0,34 %	26,26 €	175 895

The price/stock would indicate that with a smaller budget one could purchase more than 1 or 2 stocks, however, as illustrated, it narrows down options

Figure 35. Stock price over financing funds. (Author of the thesis after Kauppalehti, 2022).

If the price of diversification becomes too much, for example, not being able to purchase more than a stock or two in the short-term, the possible loss or profit factor could realize concretely: the diversification would not be there in time to prevent e.g., a chosen stocks bad performance. In this case one could, for example, pick the stocks they desire even if it would bear a higher risk than optimally diversifying the portfolio, if they only wanted to invest in stocks. In addition, in such a case they could allocate the assets to different batches and adjust the purchases e.g., to a monthly and/or quarterly purchases to mitigate the risk of losing all the financing funds at once. For example, if one has e.g., 1000 € - 1200 € per year or circa a hundred Euros per month to invest, they could pick a few stocks they favor and allocate their investing funds like follows for example:

Table 8. Stock picking with low budget. (Author of the thesis, 2022).

<i>Stock picks based on the most popular stocks in Finland</i>							
<i>(Pörssisäätiö, n/a)</i>							
	Company	Initial investment	Fees (e.g., 3 €)	Units	Possible profit	Possible current value	
<i>(with directional average price)</i>							
100/quarter	Nordea Bank	1164	36	158	416		
100/every second month	Fortum	1746	54	89	293		
200/at once at the start of	Elisa	591	9	13	61		
the year		3501	99		770	4271	

Average price = *prime cost per acquisition / acquisitions times*

Estimated profit = *(Average price * units) - own investment*

In the figure above the digits are directional and the horizon of the tracking period is three years. The fees of the investment are also directional (and optimistic). The individual would start this type of strategy by analyzing and choosing the stocks they would buy, divide their investment assets depending on their desires and the prices of these stocks. To the purchasing should inflict at least the performance of the company, the probable future performance and expectations of it, does their business have a real future demand and/or is it part of a sort of megatrend etcetera. In the example table 8 the initial investment is 3 600 €, the money saved in the end is 4 271 €'s wherefrom 770 €'s is profit (taxes and other expenses are not included). As time goes by the compound interest stimulates the return. However, the calculation is directional and only to show the possible outcomes of this type of investment. One could choose for instance tech company stocks which tend to go higher in unison with the possibility of the value decreasing by double digits a day for example. Also, during the tracking period a certain set of events could happen which would collapse or greatly diminish the valuations of chosen stocks, e.g., a housing loan crisis, global energy shortages and a war or other conflict.

Moreover, nowadays it is possible to buy fractions of shares. For example, eToro's platform allows investors to purchase a part of a share ergo the investor does not own the share instead they are proportional owners via underlying asset (eToro, n/a). Therefore, any dividend and interest are provided only proportionally. In addition, transaction fees are removed. Although diversification is possible through eToro a client in eToro is not literally an owner but rather a tenant in common (eToro,

n/a). Therefore, waiving a right to vote. Furthermore, trading especially in eToro is most often done through CFD (Contract for Difference) commerce, hereby meaning that the investor makes an agreement with the broker who supplies them the given instruments hence the stock that is bought is an underlying asset instead of a stock – CFD commerce therefore is like derivative commerce. The contract is based on the difference of present price and the price at the time of agreement (Sijoitustieto, n/a). Also, the supply is different since all publicly traded stocks are not in eToro. While eToro enables e.g., purchasing stocks from international exchanges and the reaches e.g., North American exchanges quite well the investor could face additional problems such as the stock listed in another currency than their own creating a currency risk. However, if one was to invest through a platform allowing investing into a fraction of a share (e.g., eToro) diversifying would be possible to do. Likewise, in the previous example if one had 3 600 € of financing funds, it could be divided into several parts and to various companies. For instance:

Table 9. Diversification via fractional shares. (Author of thesis, 2022).

Rate/USD	Rate/USD	Values in EUR/directional figures				coefficient 0,88 (USD to EUR)				
		Company	Investment at a tim	Times	Initial investment	Quarterly av. price	Units/fractions	Possible profit	Possible current value	
19,2	21,87	Marathon Oil	30	12	360	10,67	29,68	211,24 €	571,2 €	
128,2	145,7	Moderna	30	12	360	85,96	3,69	112,53 €	472,5 €	
15,9	18,04	Ford	30	12	360	9,51	33,32	168,89 €	528,9 €	
124,0	140,9	Simon property group	30	12	360	120,57	2,63	34,22 €	325,8 €	
2685,8	3052,03	Amazon	30	12	360	2502,46	0,14	26,37 €	386,4 €	
253,4	287,93	Microsoft	30	12	360	191,01	1,66	60,24 €	420,2 €	
208,0	236,42	Nvidia	30	12	360	101,02	3,14	292,43 €	652,4 €	
17,7	20,12	J.P. Morgan Chase	30	12	360	18,84	16,82	62,26 €	297,7 €	
305,2	346,87	Home Depot	30	12	360	248,24	1,28	29,55 €	389,5 €	
55,0	62,54	Coca-Cola	30	12	360	50,38	6,29	13,92 €	346,1 €	
					3600			790,85 €	4 390,9 €	

In example table 9 the financial funds are divided into twelve sequences. The unit/fraction amount is calculated with an average price (last three years). The possibility of buying fractional shares gives the investor an opportunity to create a diversified portfolio such as in the example: even if certain companies had decreased in value, the other ones would cover the losses by performing better. Indeed, the profit is a little better and the absence of expenses differs from example 43 along with less risk of a given company performing poorly. Finally, since the nature of e.g., fractional shares investor faces

counterparty risk of brokers possible insolvency issues and liquidity risks due to situations of underlying assets liquidity problems on top of other risks related to investing and especially stock investing. (Sijoitustieto, n/a).

However, to execute this type of strategy the investor could benefit if they had prior knowledge or experience of investing in international markets, specifically to stocks, and how to build a balanced portfolio. Moreover, the ownership is different than usual, the profits of selling and dividends are taxable income, and one is required to inform taxable profit to the tax administration by themselves. (eToro, n/a). Thereby, there are multiple variables when directly investing into stocks let alone investing through a brokerage which is different than one's own bank for example. To prevent bigger losses or e.g., problems with taxation, one's benefit is to learn and assimilate both the opportunities but also the misfortunes.

Investing directly into real estate with small starting equity could be quite hard. For example, the corresponding 1000 € – 1200 € would not be enough to cover the down payment of an apartment if the investor was to invest into e.g., an apartment and rent it. Usually, the collateral value of a real estate investment is circa 60 - 80 % (Asuntosalkunrakentaja, n/a) indicating that e.g., of an apartment worth 80 000 € one would require a cash payment of 12 000 € to 24 000 € which are large amounts within the framework of reference in this thesis. However, it is possible to use collateral to fill the lack of collateral. For example, if one had a type of real estate prior to this, e.g., a forest real estate, they could assert it as collateral and get more loan capital to purchase the apartment. The downside of using other fortunes as collateral is that these assets need to be pledged for a certain time. Nevertheless, if assumed that one would desire to purchase an apartment for investment purposes it could be beneficial as if discussed in the real estate investment chapter (Table 3). As an example, if extra collateral was used for an apartment valued 80 000 € one could theoretically purchase the apartment with circa 6 per cent down payment using the collaterals to leverage. If the possible rent income was 590 € along with payback expense 334 €'s:

Table 10. Real estate investment with extra collateral. (Author of the thesis, 2022).

<i>The collateral value of an apartment 75 % -> assertable collateral 25 % = 20 000</i>							
Own investment	Apartment value	Loan	Transfer tax & loan withdrawal	Additional collateral	Total cost	Leverage-%	
5000	80000	75000	1900	15000	81900	94 %	
<i>Potential return</i>							
Rent income	Expenses	Tax	Net income	Payback times	Time until additional collateral paid (payback times)		
590	395	30 %	136,5	240	45		
							$=(334*12)*3+(334*9)$
							15030

However, with such a small budget investing in real estate might not be beneficial. For example, in front of sudden and high expenses the amounts might be very intolerable for an individual without a relatively flexible emergency trust. Also, this kind of investment could tie too much capital in relation to the free equity on hand. However, value and ROI wise investment would be an effective part of one's portfolio. Regarding target group's person the ASP option might be easier to do, hereby purchasing one's own apartment before the investment apartment. Nevertheless, if the hypothetical apartment and the housing company are in a good shape, the tenant's income is steady for the rent payment and the income exceeds the expenses, this investment would be possible. In addition, with the extra collateral to leverage with the loan the starting equity is a lot smaller. Finally, the risks in digits are a lot larger since the unit size is much higher than, for example, when investing in stocks. In addition, the expenses could be quite difficult to estimate beforehand if, for example, something uncertain, such as broken home appliances, occurs or e.g., the interest rates for the loan raise etcetera. Therefore, implying that the expenses of investing directly to real estate might differ greatly. Still, in a long-term scale apartment investment could be a beneficial investment for passive income in unison with protecting and sustaining value.

If e.g., the apartment seems far too high of an investment, it is possible to e.g., invest in real estate markets through real estate investment trusts. However, it is important to note that the expenses of the funds could be high. For example, one could invest into a real estate mutual funds (OP Rent

income/LähiTapiola) or real estate ETFs (Developed Europe, Stoxx Europe 600 Real Estate) as follows:

Table 11. Real estate investment trusts. (Author of the thesis, 2022).

* Transaction fee	Investment/entry	Horizon/yr	Development in 3 yr	Selling expenses		Possible current value
				not taken into account	With nerdwallet calculator	
Instrument				Entry fee*	Expenses	
FTSE Developed Europe Real Estate UCITS ETF 1c	5000	4	12,21 %	5	0,33 %	7 823 €
STOXX Europe 600 Real Estate UCITS ETF	5000	4	4,96 %	5	0,30 %	5 968 €
OP Rent Income	5000	4	3,9 %	2 %	2 %	5 281 €
LähiTapiola Investment Real Estates	5000	4	4,92 %	2 %	2 %	5 494 €

The table above is meant to be a corresponding option for purchasing the apartment with an extra collateral if one had the seed money of 5000 €'s to invest. The expenses of basic real estate mutual funds are usually very high, in the long term the expenses will decrease the profits; therefore, it could be wiser to choose an instrument which basically invests in similar targets but without the large fee. A problem is that there are multiple instruments which allow an individual to invest in real estate markets but finding the correct one is hard to do. Finally, as a notice, if direct real estate investing seems far too risky and/or the unit size becomes intolerable etcetera, investing into real estate funds is a considerable option. However, one should choose the one with less costs to bear. For example, the Europe 600 ETF and the LähiTapiola had nearly the same profit p.a. in the last three years, however the cost of saving into LähiTapiola's fund influenced the profits crucially. Not to mention selling and other extra fees which were not considered.

Derivative markets are quite complex and even more volatile than basic stocks, as reviewed in the fourth chapter the possible losses are great or even unlimited. Private investor belonging to the reference group might not benefit from investing to derivatives since their financial funds allocated for investments are quite small, also e.g., speculating value with a leveraged instrument would need even more prior preparation and learning than direct stock investing. For example, Nordnet Markets offers a wide range of different instruments such as mini futures and Bull & Bear certificates. Investing to e.g., short instruments with a certain leverage could offer profitable opportunities but with a low starting equity and possessing little to none of relevant information, the risk of applying these kinds of

instruments could be too high. However, it is possible to invest in certificates which are tracking, for example the price development of a certain index or currency, oil and gold or another commodity. For example:

Table 12. Investing in derivatives – certificates. (Author of the thesis, 2022).

	Currency	Underlying asset	Investment	Rate 2/2019	Rate 2/2022	Units	Possible profit	Possible current value
	EUR	Coffee	1200	0,69	1,29	1727	1 022 €	2 222 €
	EUR	Ethereum	1200	10,61	217,75	113	23 428 €	24 628 €
	EUR	Gold	1200	36,82	53,7	33	550 €	1 750 €
	EUR	Energy	1200	3,28	3,67	366	143 €	1 343 €
	EUR	Natural gas	1200	0,03	0,02	41522	- 502 €	698 €
	EUR	Crude oil	1200	7,26	7,79	165	88 €	1 288 €
<i>If the investment was divided multiple commodities</i>								
	EUR	Coffee	300	0,69	1,29	432	256 €	556 €
	EUR	Ethereum	100	10,61	217,75	9	1 952 €	2 052 €
	EUR	Gold	300	36,82	53,7	8	137 €	437 €
	EUR	Energy	100	3,28	3,67	31	12 €	112 €
	EUR	Natural gas	100	0,03	0,02	3460	- 42 €	58 €
	EUR	Crude oil	300	7,26	7,79	41	22 €	322 €

If one invested solely in a given certificate the risk of that certain underlying asset's markets performing poorly would be very highly present. Even if in some cases the profits were high in history, the future performance remains uncertain. However, when the investment capital was divided into separate parts and to separate instruments the risk of a given market's bad performance (in the future) diminishes. For example, in the current environment where the thesis is written the energy and oil markets might be at risk since the involvement of a country with plentiful natural resources. Nevertheless, both options above in the example would have possibly been profitable. Still, investing in derivatives and directly into e.g., gold or energy certificates would require a lot of specific information about the given areas, their markets and the future of the markets. Concerning the target group, derivatives might not be the first choice because of the complexity of the instruments. However, if the person had a lot of earlier familiarizations in e.g., energy production and energy markets (for example through studies) it could be an option to at least start to investigate the fundamentals of derivatives and their usage towards energy markets. Eventually it is necessary to remind that investing to derivatives might cause endless losses, for example: applying a leveraged (e.g., x10) shorting

instrument the investor benefits of rates decreasing times ten, however, nothing prevents the markets from going up for e.g., several years, therefore building constant losses, with a leverage and if the investor is not professional enough, the probability of losing their savings is very high.

One of the instruments in the example table 12 ergo Ethereum XBTE's underlying asset is the cryptocurrency Ethereum. Therefore, it is possible to invest in cryptocurrency via certificates if direct cryptocurrency investing does not seem like a fitting option. Moreover, investing directly into cryptocurrency translates to heavy fluctuation in values which in fact can be e.g., hundreds of per cent in a day. As an example, a few of the best performing cryptocurrencies (Toratti, 2021) and possible outcomes if one invested in them at the start of the tracking period, or at the top:

Table 13. Best performing crypto's in 2021 with possible outcomes. (Author of the thesis after Toratti, 2021).

<i>Time period between 1/1/2021 - 31/10/2021 & Prices based eToro records, order in profit-%</i>									
Currency	Asset	Lowest price	Highest price	%-change	Investment	Highest	Current		
<i>If invested at the start</i>									
USD	Bitcoin	29137,9	67447,3	131 %	\$ 200	\$ 463	\$ 258		
USD	Ethereum	722,9	4753,5	558 %	\$ 200	\$ 1 315	\$ 718		
USD	Axie infinity	0,5	149,5	29794 %	\$ 150	\$ 44 841	\$ 14 997		
USD	Solana	1,77	258,9	14529 %	\$ 150	\$ 21 943	\$ 7 249		
USD	Polygon	0,02	2,4	12050 %	\$ 150	\$ 18 225	\$ 10 897		
USD	Decentraland	0,08	5,0	6125 %	\$ 150	\$ 9 338	\$ 4 838		
						\$ 96 125	\$ 38 956		
<i>If invested at the top</i>									
Currency	Asset	current price	%-%change compared to highest		Investment	Current	Loss		
USD	Bitcoin	37588,69	-44 %		\$ 200	\$ 111	\$ 89		
USD	Ethereum	2593,83	-45 %		\$ 200	\$ 109	\$ 91		
USD	Axie infinity	49,99	-67 %		\$ 150	\$ 50	\$ 100		
USD	Solana	85,54	-67 %		\$ 150	\$ 50	\$ 100		
USD	Polygon	1,45	-40 %		\$ 150	\$ 90	\$ 60		
USD	Decentraland	2,58	-48 %		\$ 150	\$ 78	\$ 72		
							\$ 512		

Table 13 illustrates how even a small investment could have been a remarkably successful investment, but also how it might have lost over half of its value just in a few months. In crypto investing it is also very clear that the investor needs to understand the instrument where they are about to invest, the

fundamentals of the instrument and the crypto market and eventually that they could lose all their financing funds in matter of days or months. Nevertheless, with 1000 USD initial investment the current value in a very optimistic case could be near 40 000 dollars (minus expenses, e.g., purchasing, selling, currency swapping, and taxes).

In addition to the largest cryptocurrencies (Ethereum and Bitcoin) the example shows few of the best performing cryptocurrencies in 2021. In theory, if one had bought the said assets before the price spike and sold them at the right time, it could have been a beneficial investment. However, most often as the value of an asset rises, the purchasing volume rises as well, and vice versa as the value decreases the volume of sales rises in unison. Moreover, most likely the investor who is not familiar with the fundamentals in speculative investing could for example think that the value might go even higher. In addition, as the values of e.g., coins or tokens might be only 0,0002 €'s per asset or less or little above, it might seem that it is possible for the asset to easily reach e.g., 1 € - however, if the market capitalization of an asset might already be several billions and there could be close to infinite number of said coins or so indicating that rising from 0,0002 € to 1 € could make the coin one of the most valuable companies in the global world, probably without any base value. Also, while the regulation and administration on virtual assets is still quite ineffective, it allows different schemes to occur within the crypto investor community since almost everyone can make their own coins or currencies. An investor who is about to invest in cryptocurrencies needs to accept fluctuation and volatility. While investing into stocks for instance, it is very unlikely that the value of a stock can plunges as much as in crypto's or vice versa that the value of a stock could rise hundreds of per centages in a such short period or daily, of course exceptions are possible such as market crashes or e.g., so called meme investing where a lot of people establishes a scene where enormous amount of traders pump the price a stock in unison. Investing to cryptocurrencies has a similar reputation as lottery – however, investing should never be lottery, instead one should understand the instrument before acquiring it. Finally, crypto investors should invest in those assets which possess a real-life value ergo they could be used into something else than only speculative trading.

Nevertheless, even cryptocurrencies have certain monthly programs nowadays. For example, Finnish crypto broker Coinmotion offers a monthly plan for clients investing in cryptos with only 10 €'s a month. Also, by agreeing on a monthly saving plan the transaction fees are in total 1 % (Coinmotion, n/a). Regarding the target group the monthly saving plan could be a potential alternative since it does not evolve a large amount of equity, the broker is domestic and easy to use, and by being able to save monthly the investor can diversify their financing funds to specific times when the values are low (also

when they are high) and finally the diversification of one's crypto portfolio is also possible since there are more than one coins to select. On the other hand, Coinmotion as a platform has quite limited selection of cryptocurrencies which is both good and bad thing – for example, for a beginner it might be a better option to not to have the most volatile instruments on hand whereas for an experienced trader it could create more value to be able to invest into something riskier. If an investor desired to invest in cryptocurrencies instead of stocks or another instrument, an example portfolio with monthly saving plan could be for example:

Table 14. Coinmotion monthly saving plan/crypto portfolio. (Author of the thesis, 2022).

<i>Investing 100€/month between 1/19-2/22</i>				<i>(22.2.2022)</i>		<i>Directional</i>			
Currency	Asset	Own investment	Total investment	Average price	Current price	Units	Transact. exp.	Possible profit	Possible current value
EUR	Bitcoin	25 €	925 €	20 706,6 €	33 516,6 €	0,04	0,3 €	572 €	1 497 €
EUR	Ethereum	25 €	925 €	1 038,6 €	2 300,2 €	0,89	0,3 €	1 123 €	2 048 €
EUR	XRP	25 €	925 €	0,4 €	0,6 €	2121,89	0,3 €	393 €	1 318 €
EUR	Litecoin	25 €	925 €	91,8 €	94,9 €	10,07	0,3 €	31 €	956 €
			3 700 €					2 118 €	5 818 €
<i>OR Investing 50€/month between 1/19-2/22</i>				<i>(22.2.2022)</i>		<i>Directional</i>			
Currency	Asset	Own investment	Total investment	Average price	Current price	Units	Transact. exp.	Possible profit	Possible current value
EUR	Bitcoin	12,5 €	463 €	20 706,6 €	33 516,6 €	0,02	0,1 €	286 €	748 €
EUR	Ethereum	12,5 €	463 €	1 038,6 €	2 300,2 €	0,45	0,1 €	562 €	1 024 €
EUR	XRP	12,5 €	463 €	0,4 €	0,6 €	1060,95	0,1 €	196 €	659 €
EUR	Litecoin	12,5 €	463 €	91,8 €	94,9 €	5,04	0,1 €	15 €	478 €
			1 850 €					1 059 €	2 909 €
Profit-% in both cases = (current value - investment) / investment									
= (5818 - 3700) / 3700		57,3 %							

In the figure the chart above shows the directional situation if one hundred Euros per month was invested in four different cryptocurrencies in circa three years. The profit per centage is near to 60 % which is very high profit expectation for a traditional investor. The latter chart shows the exact same investment but with 50 % less ergo fifty Euros per month. If this was the case the investor's budget grew with 50 % more free capital to invest into another less risky investment, therefore, diversifying their portfolio even more. However, if compared these charts to the previous (best performing) the profits are way less, whereas the risk is a lot smaller. Also, with the monthly plan dollar (= Euro) cost averaging is possible. While cryptocurrencies are still relatively young and not as explored are as if

e.g., stocks or mutual funds the future might not hold as big profits as it has given in the past several years, concerning at least the largest cryptos, since the money flowing in would have to be staggering to for example double the market capitalization of Bitcoin for example (there maximum amount of Bitcoin is 21 million “shares” ergo coins). In conclusion cryptocurrency is a very risky investment yet they have huge profit potential. If an individual within the target group desired to invest into cryptocurrencies, they might benefit from a plan such like in the figure 49 instead of playing lottery with singular speculative coins before assimilating with the complexity and fundamentals of cryptocurrencies. The younger the investor is, the more he or she can afford to take a risk since they have a longer time to spend on the markets.

As shortly discussed earlier, if a private investor wanted to invest in debentures the easiest way could be an indirect investment through an interest fund. In addition, the fixed deposit accounts and other investment accounts dealt with earlier are also examples of interest funds. However, a deposit account is usually a shorter maturity instrument. For example, Osuuspankki offers a mutual fund called OP-Corporate Loans and S-Pankki again offers Euro Government Loan A and Handelsbanken again offers an obligation investing into bonds issued by a government, municipality or other governments organ or organ between international organs therefore excluding corporate loans. Furthermore, multiple other finance institutions offer similar trusts as well, however, the OP Corporate Loan and S-Pankki Euro Government Loan in unison with Handelsbanken’s obligation trusts are applied as examples:

Table 15. Debentures/interest trusts. (Author of the thesis, 2022).

		Instrument	Own investment	Entry fee	Managing fees	3yr av.	Possible end value	Possible profit
<i>Invests to bonds issued by</i>								
<i>European companies w/ high credit rating</i>	→	OP-Corporate Loans	3 600 €	0,25 %	0,63 %	0,62 %	3 591 €	- 9 €
<i>Invests to bonds issued by certain</i>								
<i>European governments</i>	→	S-Pankki Governments	3 600 €	0 %	0,50 %	1,3 %	3 629 €	29 €
<i>Invests to bonds issued by a government,</i>								
<i>municipality or governments or municipalitys</i>	→	Handelsbanken Obligation	3 600 €	0 %	0,62 %	2,53 %	3 668 €	68 €
<i>entity or organ between administrations</i>								

Like mentioned earlier, the environment where the thesis is written is where the interest rates globally are record low, therefore a short-term interest trust investment might feel like a poor investment now.

However, as the figure illustrates, interest funds are often cost-efficient and relatively effective value bearers. The profit factor is close to nonexistent, however investing into interest funds the investor can get some financial shelter in a situation where economic uncertainty is present. In addition, for example to a stock investor an interest fund is a decent part of their portfolio as a portion of their portfolio's diversification. Regarding the target group's investor, interest funds such as in table 15 might not be the best investment since the profit expectation in relation to the ability to expect higher profits (higher risk) does not match. During a high market volatility an investor benefits from having value bearer to cover the possible losses, however, for the target group's investor these types of funds would not potentially serve until they had enough equity to cover – less investments in instruments with close to non or small profits equals to less probability to gain as much.

The most visible separating factor between index funds and exchange traded funds is that ETFs are traded daily whereas index funds are bought and sold as if mutual funds (Vanguard, n/a). Investing in index funds could be a good way to invest in the long term. Also, it is a decent way to access the stock market – domestic or international. Regarding index funds, there are a lot of brokers to choose from. However, e.g., Nordnet has an encompassing selection of index funds with low costs. For example:

Table 16. Index funds in comparison. (Author of the thesis, 2022).

<i>Three years constantly saving 100€/month</i>								
Broker	Instrument	Investment/month	Terms	Interest rate	Expenses	Possible current value	Possible profit	
Nordnet	Index Fund Finland	100	36	11,58 %	0,00 %	4 280 €	680 €	
Nordnet	Index Fund Sweden	100	36	14,79 %	0,00 %	4 497 €	897 €	
Nordnet	Index Fund Norway	100	36	8,51 %	0,00 %	4 085 €	485 €	
Nordnet	Amundi MSCI USA SRI AE C	100	36	9,33 %	0,35 %	4 123 €	523 €	
Nordnet	Handelsbanken USA Index	100	36	19,60 %	0,20 %	4 848 €	1 248 €	
* entry fee 0,15%	Osuuspankki	OP-Europe Index	99,85	36	9,00 %	0,20 %	4 101 €	506 €
<i>Seven years constantly saving 100€/month</i>								
Broker	Instrument	Investment/month	Terms	Interest rate	Expenses	Possible current value	Possible profit	
Nordnet	Index Fund Finland	100	84	9,90 %	0,00 %	12 049 €	3 649 €	
Nordnet	Index Fund Sweden	100	84	10,00 %	0,00 %	12 095 €	3 695 €	
Nordnet	Index Fund Norway	100	84	7,50 %	0,00 %	11 003 €	2 603 €	
Nordnet	Amundi MSCI USA SRI AE C	100	84	9,33 %	0,35 %	11 748 €	3 348 €	
Nordnet	Handelsbanken USA Index	100	84	12,00 %	0,20 %	13 041 €	4 641 €	
Osuuspankki	OP-Europe Index	99,85	84	7,32 %	0,20 %	10 891 €	2 504 €	
<i>Fourteen years constantly saving 100€/month</i>								
Broker	Instrument	Investment/month	Terms	Interest rate	Expenses	Possible current value	Possible profit	
Nordnet	Index Fund Finland	100	168	7,50 %	0,00 %	29 573 €	12 773 €	
Nordnet	Index Fund Sweden	100	168	8,00 %	0,00 %	30 802 €	14 002 €	
Nordnet	Index Fund Norway	100	168	5,00 %	0,00 %	24 260 €	7 460 €	
Nordnet	Amundi MSCI USA SRI AE C	100	168	7,00 %	0,35 %	28 304 €	11 504 €	
Nordnet	Handelsbanken USA Index	100	168	10,50 %	0,20 %	37 884 €	21 084 €	
Osuuspankki	OP-Europe Index	99,85	168	7,10 %	0,20 %	28 533 €	11 758 €	

The description **Term** in the charts refers to months or times invested if the strategy is to e.g., invest once in every quarter etc. Table above is directional and mostly implicating the effect of compound interest in the long-term, also illustrating the essence of expenses and the rate of return: even a 1 % difference in return is a huge difference in a longer scale. Investor within the target group could benefit from a plan like this; investing to index funds is cost-effective (small costs), highly profitable as the compound interest is calculated, and the best part, it is very simple and easy to do. One could purchase e.g., two to three best performing index funds a month (33 € per fund) and hold it for a certain time. Furthermore, if the investment budget was e.g., 150 €'s a month the rest of the funds could be invested into more riskier instruments. Regarding the target group, investing to index funds is an easy way to get into the stock markets, keep the expenses low and compound savings in the long term.

As dealt earlier, active mutual funds which are investing to the stock market (and/or investing into stock market in unison with interest markets ergo so-called combine funds) are after better profits than a given reference index hence the portfolio manager is obligated to invest into instruments which could top the given reference index. For a beginner or also more experienced investor too, actively traded mutual funds are quite rational investment as well due to the simplicity, possibility of (comparably cheap) monthly saving and smaller requirement for equity. However, the fund manager's position brings a relatively large amount of authority to themselves which might restrict a given investor's possibility to inflict investment decision-making. Also, since the fund manager is responsible for the managing of the portfolio the diversification of investments is included to the investment, however, this could form a lot of expenses harming the cost-efficiency which is important in long-term saving (even 1 % difference matters greatly in the long-term: review figure 33, tables 17 and 18). If one invested into actively managed funds, combine or pure stock, same way as if to passive index funds the profit could be better in the short-term. Combine funds usually strategize with interests where the fund manager establishes a mutual fund with circa 70-80 % of stocks and the rest interest instruments to e.g., cover the funds during a down swing. Whereas stock mutual funds are solely investing into stocks. As an example, if an investor invested 100 €'s a month to a certain active fund:

Table 17. Active funds in comparison. (Author of the thesis, 2022).

<i>values are directional estimations</i>											
<i>Three years constantly saving 100€/month</i>			<i>Possible entry & profit fees not taken into account</i>								
Broker	Instrument	Investment/month	Terms	Years	Interest rate	Expense-%	Total expenses (est.)	Possible current value	Possible profit		
LähiTapiola	Europe Mid Cap (ESG)	100	36	3	6,2 %	1,5 %	138 €	3 806 €	206 €		
LähiTapiola	2045 ESG	100	36	3	7,9 %	1,0 %	62 €	3 987 €	387 €		
Nordnet	Sparinvest SICAV Global Value	100	36	3	11,3 %	1,9 %	122 €	4 138 €	538 €		
Nordnet	Luxembourg Selection Active Solar	100	36	3	32,6 %	1,8 %	174 €	5 806 €	2 206 €		
Osuuspankki	Maltillinen	100	36	3	5,0 %	1,4 %	79 €	3 797 €	197 €		
Osuuspankki	OP-Rohkea	100	36	3	7,4 %	1,6 %	98 €	3 921 €	321 €		
<i>Seven years constantly saving 100€/month</i>											
Broker	Instrument	Investment/month	Terms	Years	Interest rate	Expense-%	Total expenses (est.)	Possible current value	Possible profit		
LähiTapiola	Europe Mid Cap (ESG)	100	84	7	5,2 %	1,5 %	536 €	9 584 €	1 184 €		
LähiTapiola	2045 ESG	100	84	7	7,2 %	1,0 %	403 €	10 474 €	2 074 €		
Nordnet	Sparinvest SICAV Global Value	100	84	7	8,6 %	1,9 %	792 €	10 674 €	2 274 €		
Nordnet	Luxembourg Selection Active Solar	100	84	7	20,0 %	1,8 %	1 298 €	16 755 €	8 355 €		
Osuuspankki	OP-Maltillinen	100	84	7	4,5 %	1,4 %	482 €	9 385 €	985 €		
Osuuspankki	OP-Rohkea	100	84	7	7,7 %	1,6 %	656 €	10 435 €	2 035 €		
<i>Fourteen years constantly saving 100€/month</i>											
Broker	Instrument	Investment/month	Terms	Years	Interest rate	Expense-%	Total expenses (est.)	Possible current value	Possible profit		
LähiTapiola	Europe Mid Cap (ESG)	100	168	14	4,8 %	1,5 %	2 558 €	21 239 €	4 439 €		
LähiTapiola	2045 ESG	100	168	14	6,6 %	1,0 %	2 120 €	25 291 €	8 491 €		
Nordnet	Sparinvest SICAV Global Value	100	168	14	7,0 %	1,9 %	3 975 €	24 429 €	7 629 €		
Nordnet	Luxembourg Selection Active Solar	100	168	14	10,0 %	1,8 %	5 070 €	31 311 €	14 511 €		
Osuuspankki	OP-Maltillinen	100	168	14	4,7 %	1,4 %	2 376 €	21 365 €	4 565 €		
Osuuspankki	OP-Rohkea	100	168	14	6,5 %	1,6 %	3 298 €	24 036 €	7 236 €		

The funds above belong to popular investments. For example, LähiTapiola's ESG funds, OP's Rohkea and Maltillinen funds are broadly marketed in Finland. Whereas Sparinvest (SIVAC) and Luxembourg Selection Active Solar are few of the most performing mutual funds in the Nordnet's service. At first glance the profit for the first three years involves decent or even excellent profits, however, in unison with the equity compounding, the expenses are compounding as well:

Table 18. Active and passive funds together. (Author of the thesis, 2022).

Broker	Instrument	Investment/month	Terms	Interest rate	Expenses	Possible current value	Possible profit
Nordnet	Handelsbanken USA Index	100	84	12,00 %	0,20 %	13 041 €	4 641 €
Nordnet	Luxembourg Selection Active Solar	100	84	20,0 %	1,8 %	16 755 €	8 355 €
Nordnet	Handelsbanken USA Index	100	168	10,50 %	0,20 %	37 884 €	21 084 €
Nordnet	Luxembourg Selection Active Solar	100	168	10,0 %	1,8 %	32 406 €	15 606 €

This illustration includes two of the best passive and active funds within the comparison – the short-term profits of an active fund could exceed the passive's corresponding. In conclusion, active funds could work for the target group's investor due to the professionalism of the fund manager. Therefore,

the responsibility of valid choices belongs to the manager instead of the individual. Even if the profit was decent, the fees are the pay one pays for the successful or unsuccessful choices. Thus, in the long term it could be advisable to possess also less expensive instruments in unison to balance the expenses.

7.3 ETFs

As an important note a Finnish investor has been denied to directly invest into North America based ETFs which are traded in the North American stock exchanges due to the European legislation which was put into force in 2018 (Markets in Financial Instruments directive). The Finnish financing administrator Finanssivalvonta decided that a Finnish private investor is not eligible to purchase North American based ETFs if the key information brochure is not translated into Finnish or Swedish. Whereas an institutional investor is still able to join the North America based markets directly. However, a private investor can still invest in the same markets via several brokers based within Europe. Moreover, a Finnish investor can obtain e.g., from Nordnet tremendous number of ETF instruments. According to an investment bank Evli multiple fund managers in EU has ETFs which are directly investing to the North American markets. (Sijoittaja, 2018).

In addition, e.g., iShares refers to one of the largest ETF providers globally – also Xtrackers, UCITS refers to “Undertakings for Collective Investment in Transferable Securities” (Eurobank, n/a), which sets several restrictions and/or regulations for exchange traded funds. For example, ETFs must be diversified, and no single holding can be worth more than 20 per cent of the ETF’s NAV (Riedl, 2017).

For example, under Nordnet’s platform there are a lot of options for ETFs. To sustain the coherency of what is told earlier, the examples will be taken from instruments which are enabling monthly continuous saving in unison with the broker being Nordnet. Reason for this is that regarding the target group, the easier the chain of events in starting to invest or starting to invest into ETFs is, the bigger is the possibility that the reader of the target group could have the readiness to comprehend the ensemble of the topic.

Ditto as if earlier examples, investing hundred Euros a month for three years, seven years, and fourteen years. The three first instruments are physical and the latter three are synthetic. Leveraging with given derivatives to profit or to cover from downswings might be beneficial in the long run as well in the

short-term, however, most likely physical instruments as concepts are less risky at the start. For example:

Table 19 ETFs in comparison. (Author of the thesis, 2022).

<i>Three years constantly saving 100€/month</i>		<i>Possible entry & profit fees not taken into account</i>				<i>+ 2,5 € / month</i>				
Broker	Instrument	Investment/month	Terms	Years	Interest rate	Expense-%	Total expenses (est.)	Possible current value	Possible profit	
Nordnet	Invesco EQQQ Nasdaq-100 UCITS	100	36	3	25,4 %	0,3 %	106 €	5 210 €	1 610 €	
Nordnet	iShares Global Clean Energy UCITS	100	36	3	53,2 %	0,7 %	144 €	8 357 €	4 757 €	
Nordnet	Xtrackers Euro STOXX 50 UCITS	100	36	3	9,5 %	0,09 %	94 €	4 051 €	451 €	
Nordnet	Xtrackers S&P 500 Swap UCITS	100	36	3	17,1 %	0,2 %	97 €	4 565 €	965 €	
Nordnet	Xtrackers S&P Global infrastructure Swap	100	36	3	4,4 %	0,6 %	112 €	3 726 €	126 €	
Nordnet	Xtrackers S&P 500 2x Lev. Daily Swap UCITS	100	36	3	26,7 %	0,6 %	138 €	5 294 €	1 694 €	
<i>Seven years constantly saving 100€/month</i>										
Broker	Instrument	Investment/month	Terms	Years	Interest rate	Expense-%	Total expenses (est.)	Possible current value	Possible profit	
Nordnet	Invesco EQQQ Nasdaq-100 UCITS	100	84	7	20,4 %	0,3 %	264 €	18 096 €	9 696 €	
Nordnet	iShares Global Clean Energy UCITS	100	84	7	22,4 %	0,7 %	326 €	19 629 €	11 229 €	
Nordnet	Xtrackers Euro STOXX 50 UCITS	100	84	7	8,5 %	0,09 %	220 €	11 204 €	2 804 €	
Nordnet	Xtrackers S&P 500 Swap UCITS	100	84	7	12,0 %	0,2 %	237 €	12 830 €	4 430 €	
Nordnet	Xtrackers S&P Global infrastructure Swap	100	84	7	5,1 %	0,6 %	316 €	9 742 €	1 342 €	
Nordnet	Xtrackers S&P 500 2x Lev. Daily Swap UCITS	100	84	7	27,0 %	0,6 %	269 €	24 096 €	15 696 €	
<i>Fourteen years constantly saving 100€/month</i>										
Broker	Instrument	Investment/month	Terms	Years	Interest rate	Expense-%	Total expenses (est.)	Possible current value	Possible profit	
Nordnet	Invesco EQQQ Nasdaq-100 UCITS	100	168	14	13,5 %	0,3 %	675 €	48 658 €	31 858 €	
Nordnet	iShares Global Clean Energy UCITS	100	168	14	-50,0 %	0,7 %	431 €	1 967 €	-14 833 €	
Nordnet	Xtrackers Euro STOXX 50 UCITS	100	168	14	7,0 %	0,09 %	446 €	27 958 €	11 158 €	
Nordnet	Xtrackers S&P 500 Swap UCITS	100	168	14	10,5 %	0,2 %	477 €	37 483 €	20 683 €	
Nordnet	Xtrackers S&P Global infrastructure Swap	100	168	14	10,0 %	0,6 %	634 €	35 747 €	18 947 €	
Nordnet	Xtrackers S&P 500 2x Lev. Daily Swap UCITS	100	168	14	20,0 %	0,6 %	562 €	89 855 €	73 055 €	

Chart above illustrates the first three, seven, and fourteen years of saving into different ETFs. The first separative factor is especially the fees and managing such as with the index funds. The profits vary a lot depending on the instrument, however, regarding the target group e.g., Nasdaq 100 or S&P 500 could be indices which would not have as much risk if compared e.g., to a clean energy or housing markets (since the sector and industry is not as limited). The expenses are small, investment's diversification is quite broad and adjusted to the risk, possible leverage is enabled if the investor wants a little more risk without having to speculate with more complex instruments themselves, and all in all the monthly saving is quite similar as if it were with e.g., active mutual funds but the long-term performance is better.

By investing into an ETF, the target group individual would invest basically directly into a given stock market, also the movements of the markets are seen constantly instead of waiting for several days to

see how the value of their investments has changed, thus, ability to take control of unstable conditions is far more possible than with regular mutual funds. However, for a long-term investor the short-term events might not be as important, although being able to e.g., cover high short-term losses is a huge bonus.

7.4 Summary

Investing to a deposit account with a given percentage of interest return would be a very low risk decision. With low risk comes also low return – for individual who would desire to get a decent return for their investments instead of only saving to an account the money market investment might not be the choice. The current interest rates (2022) would decrease the profit to near nonexistent. However, if one wants to solely save money to a certain target, it could work as a saving instrument rather than investment instrument.

Direct stock investing is difficult alternative since the profit factor would fit the target groups desires, however, the issue is the amount of starting equity on hand. For example, obtaining a well-diversified and effectful portfolio it could take at least a few thousands since certain stocks might be valued e.g., 500 €'s a share. Nonetheless, nowadays it is possible to purchase fractional shares which would fit the needs and demands of the target group. Due to the possibility of buying fractions of stocks with low or nonexistent fees helps the investor to build their portfolio simpler than one stock per month (which is possible, however, exposing the investor to risk of possessing only one or two shares) and could e.g., increase their chances of profiting instead of losing since e.g., negligible diversification. Even if the purchasing and diversifying would be successful, still operating with fractional shares means that the investor is not an owner rather he or she is a “tenant”. Also, additional shares or other cannot be transferred to the same account since the ownership is not actually ownership. Moreover, if an investor would invest via fractional shares, they would have to inform their own taxes. For a beginner or for an individual who is not yet as assimilated with the field, direct stock investing might be quite difficult to start.

Directly investing to real estate is also very good investment when successful. Return on investment in a positive case might be far better than what is the average return of a certain index, e.g., HEX25. Though, without any additional collateral and/or cash the loan for the investment could be difficult to get. Also, even if the loan was gotten with e.g., 10 % down payment, the expenses and simply the unit

size of the investment are such big factors which would be optimal if the investor had bumper money for uncertain occurrences. Therefore, if the investor would want to be a real estate investor from the start, it could be easier to invest into real estate investment trust at start for example. Until the down payment and little more is saved. As an extra observation there is the possibility of purchasing an apartment with ASP loan as well as the loan for the ASP loan could in theory be saved from one's student loan and after two years the sales profit would be free. This kind of strategy is possible but highly risky since the investment has a long loan which is funded by another loan. Without a good safety net, the target group's investor might benefit from another alternative better.

Derivatives as an investment usually demand a lot of equity to start with. However, a small private investor can invest e.g., through certificates to different commodities with a smaller amount as well. However, this kind of investment needs a lot of knowledge of the specific area where he or she would desire to invest. For example, if one wants to invest their financing funds in crude oil, they will have to be highly aware of the short- and long-term events in the crude oil markets. Also, it would narrow down the industries, countries and other since there would be solely one target invested. Moreover, potential fluctuation and the possibility of losses could be too risky for the target group's investor. Even if the expenses would not be as much or there would be other beneficial factor advocating for investing into derivatives, it would be suggested that the investor had prior experience or knowledge of the instruments and markets etc. In recapitulation to prior investing to derivatives need a certain specific knowledge, possibly some kind of starting equity (more than the reference group's) and very high risk-tolerance.

Similar as if with derivatives investing into **cryptocurrencies** the risks might be too hard to bear concerning if the investor was not already prepared to act a certain way if e.g., part of the portfolio plunges ½ in value. Whereas potential losses for a derivative in theory are limitless, potential loss for a cryptocurrency investor could be 100 %, and if compared to e.g., the stock market (Helsinki for example), the 100 % fluctuation might happen during a single day. However, if one is interested in the area, has a given amount of earlier knowledge or understanding towards virtual currencies, the possibility of investing in them is not impossible and in a positive case also beneficial. Even if there are endless number of examples of how someone has made a fortune by investing into a type of meme virtual coin, a beginner crypto investor might benefit better by investing into one or several of the largest cryptocurrencies. For example, a monthly saving plan like presented could work since it still carries similar fundamentals such as stock investing instead of speculating with a single coin. By fundamentals meaning that diversification, type of "value assets" (e.g., Ethereum or Bitcoin) are

possible to purchase with smaller risk if compared to the highest movers. Finally, the target group's investor might not benefit from speculating with highly volatile cryptocurrencies. He or she might benefit from dividing part of their financing assets into diversified crypto portfolio and saving over time – while still learning more about the field.

Active mutual funds might be the most popular option in general. Active mutual funds are also usually a suitable option to save money. For example, if comparing an active mutual fund to a money market account the demarcation is clear – the profits are far better than only saving money in an account. Furthermore, for most the opt of fund manager is beneficiary: there is already an investor (fund manager) investing in favor of an individual. In addition, e.g., stock market funds usually giving a relatively good return. However, usually short-term trading losses to long-term growth when compounding of interests are calculated into the equation. Therefore, like illustrated in prior the expenses of an actively traded fund might exceed the benefit of investing into one. In a long-term scale e.g., a 2 % per cent expense could eat a huge part of one's profits. Still, the investing is easy-going, concerning a growth fund the taxation is directed to the investor only when selling their shares and eventually one does not have to follow the markets as enthusiastically as if investing into e.g., stocks or cryptocurrencies. **Index (passive) funds** in turn are a difficult instrument with the intention that the expenses are usually low or nonexistent and the profit targets the reference index of a certain index, for example OMX25 (ex. HEX25). For a long-term investor, index funds are a great option. However, still selling or buying a share takes a few days and the reaction time to uncertainties is not as fast as it could be. Passive funds might be more popular if they were marketed similarly to if active funds were. Regarding the target group, an active fund could be an option, however, in the long-term cost-efficiency wins over short-term profits implying that the passive fund would be chosen over the active fund.

Exchange traded funds are mostly passive and cost-efficient. The reach of ETFs is very broad and as the name shows, these instruments are traded in the stock market. Starting investors might not know as much about ETFs since they occur as more complex instruments than e.g., an active fund. However, the ownership is clearer, the reaction time is fast, and the costs are low. Along with the fact that selection of instruments is wide – therefore even if history is not a guarantee of the future, the best performing ETFs are easy to obtain. For example, S&P 500 or Nasdaq 100 are such indices which would work for a beginner and for a professional as well. In addition, with ETFs the investor has a chance to go after higher profits with a synthetic instrument, by e.g., leveraging from an index. However, the risk factor regarding the reference group might be too high. All in all, ETFs are very

good option concerning long-term saving since the profit is usually comparable to the reference index (e.g., Nasdaq 100), the costs will not be a problem in the long-term and finally the diversification most likely (as if with mutual funds) is regulated so that there must be a certain amount of diversification. Concerning the examples presented in the earlier chapter by investing 100 €'s per month the end value of different investments in theory could be:

Table 20. Alternative end values. (Author of the thesis, 2022).

Instrument	Example	Monthly	Terms	Years	Interest rate	Expense rate	Total expens	Current value	Profit
Money market account	Fixed deposit account	100	120	10	0,1%	0,00%	0 €	12 030 €	30 €
Stocks	Fractional stock portfolio (converted to €)	100	120	10	19,0%	0,01%	5 €	34 842 €	21 810 €
Cryptocurrencies	Portfolio w/ monthly saving	100	120	10	57,3%	0,11%	600 €	562 174 €	549 574 €
Active fund	Luxembourg Selection Active Solar	100	120	10	9,8%	1,80%	1 826 €	18 460 €	4 634 €
Passive fund	Handelsbanken USA Index	100	120	10	16,1%	0,20%	59 €	29 415 €	17 356 €
ETF	Invesco EQQQ Nasdaq-100 UCITS	100	120	10	21,4%	0,30%	422 €	40 660 €	28 660 €

The return rates are based on previous calculations (e.g., **table 14**) and historical development of assets published e.g., on **Morningstar's** and/or **Nordnet's** sites. The illustration above is theoretical and based on different estimations of earlier return development. However, e.g., last ten years of return in cryptocurrency markets would be higher than 57 % per year, thus being still conservative estimation. However, during the ten-year period the fluctuation would have chased most of the investors away since the value has dropped circa zero in between today and ten years ago, therefore, it is possible but theoretical.

Furthermore, fixed deposit accounts value would be circa the same as in the start. Still, inflation is not calculated in this example, therefore, it is possible that the buying power of the saved sum does not correspond with the future sum. Investing into the example stocks the previous development in average could be 19 per cent therefore averaging very good profits, well over 20 000 €'s in ten years – however, more realistic view especially for a beginner could be a lot less (e.g., largest companies in HEL exchange ergo OMXH25 averaged circa 12,5 per cent in the last twenty years) (Heikkilä, 2019). The cryptocurrency-sector has gotten tremendous amount of volume in the last ten years, like earlier discussed the heightened volume on the other hand decreases the growth speed, therefore, the profit expectation could be less too. Active funds yet again are often well-managed with high costs – the cost-efficiency only can be seen in the long-term. Also, the fees are not as visible as e.g., transaction

fees when purchasing stocks which makes them harder to spot, however, still after ten years the investor could have a decent 18,5 thousand Euros in savings. Whereas passive (ergo index fund in this case) thrives without the costs making space for the compound interest to compound profits building estimated 30 thousand Euros in savings. If one invested into an ETF with similar profit expectation as the passive fund, ETF's fees would exceed the passive funds fees, thus, leaving less equity at the end. Finally, the example ETF could of have possibly compounded up to 40 000 with nearly 30 thousand Euros of profit. However, the illustration is an estimation, and the historical development never equals to a guarantee of the future. Still, with consistency, cost-efficiency and decent profits investing to an ETF is very good long-term decision.

Eventually what could fit the target group the best? It is assumed that the reader has already if none, but for one a little knowledge to support their decision-making. For example, even if their investment strategy and plan was not as goal directed as the ones' viewed in this thesis, it is to their benefit that they would have the opportunity to get familiar with other alternatives as well. For instance, adjusting their mindset towards other instruments e.g., from a high costing and low return instruments to more cost-efficient and profitable investments. Moreover, the purpose and core of this thesis is also to lower the barrier and in fact offer a point of view which would not discriminate any instrument, instead think and see the bonuses and minuses of different instruments regarding a person within the frames of reference.

Thereby, as a summary of the chapter: reference group's investor should first adjust their ability and level of risk-taking. To correspond with the goal-oriented viewpoint, the risk-taking level corresponds with the expectation of high profits (relatively high risks too). Secondly, they could inspect these options presented and think which one seems the most calling for them. The point is to back the decision-making with multilateral thinking, the choice is for oneself to make. Thirdly is decision-making, and for that this thesis could offer separate conclusions based on the target group. Thus, if assumed that financing funds are e.g., 100 € per month: investing into an ETF every month, benefiting from the compound interest over time, whilst still being the most cost-effective as possible, with a time window of at least fourteen years. According to the best scenario presented in this thesis, he or she would have invested a hundred Euros every month for fourteen years with the past return rate the end value of investments could be nearly fifty thousand Euros:

Table 21. Result, ETF. (Author of the thesis, 2022).

<i>Fourteen years constantly saving 100€/month</i>										
Broker	Instrument	Investment/month	Terms	Years	Interest rate	Expense-%	Total expenses	Current value	Possible profit	
Nordnet	Invesco EQQQ Nasdaq-100 UCITS	100	168	14	13,5%	0,3%	675 €	48 658 €	31 858 €	

On the other hand, with a little more risk the investor could share their monthly financing funds to separate part and invest the biggest share to the instrument above and share the rest to riskier instruments. For example, allocating the first 50 €'s (50 %) to the ETF investing to e.g., either Nasdaq 100 above or e.g., S&P 500, allocating 45 % ergo 45 €'s to purchasing fractional stocks without commission and eventually 5 € or 5 % to a diversified cryptocurrency portfolio:

Table 22. Result, ETF, stocks and cryptocurrencies. (Author of the thesis, 2022).

Type	Instrument	Investment/month	Terms	Years	Rate	Expense	Expense total	Current value	Possible profit	
ETF	Invesco EQQQ Nasdaq-100 UCITS	50	168	14	13,5%	0,3%	675 €	23 991 €	15 591 €	
Stocks	Fractional stock portfolio (converted to €)	45	168	14	12,5%	0,02%	5 €	20 311 €	12 751 €	
Cryptocurrencies	Portfolio w/ monthly saving	5	168	14	57,3%	2,00%	840 €	264 079 €	262 399 €	
								308 382 €	290 742 €	
ETF	Invesco EQQQ Nasdaq-100 UCITS	50	36	3	13,5%	0,3%	345 €	1 859 €	59 €	
Stocks	Fractional stock portfolio (converted to €)	45	36	3	12,5%	0,26%	5 €	1 948 €	328 €	
Cryptocurrencies	Portfolio w/ monthly saving	5	36	3	57,3%	2,00%	180 €	277 €	-83 €	
								4 084 €	304 €	
ETF	Invesco EQQQ Nasdaq-100 UCITS	50	72	6	13,5%	0,3%	435 €	5 066 €	1 466 €	
Stocks	Fractional stock portfolio (converted to €)	45	72	6	12,5%	0,10%	5 €	4 785 €	1 545 €	
Cryptocurrencies	Portfolio w/ monthly saving	5	72	6	57,3%	2,00%	360 €	2 545 €	1 825 €	
								12 397 €	4 837 €	

As an observation, under the first chart there is the events of the first 3 and 6 years of investing (with same return) showing an example how the compound interest starts to affect the amount of equity over time, therefore implying that the time in hand is the key for everything. Even though dividing the funds to different investments brings also better profits but also covers uncertain events there are few obstacles to cover. For instance, both crypto's and fractional shares are complex investment instruments, e.g., required tax information regarding for example sales profit etc. Is visible for the tax administration without a self-given notice. Moreover, the fluctuation makes this kind of investment very difficult: for example, there might be a full year where the whole e.g., crypto or stock portfolio is down by multiple digits.

Thus, as a tentative result the target group's investor could benefit if they choose a single ETF with broad diversification, low fees and at least tolerable or high return rate. Overtime, if it seems, that he or she is willing to take the risk, they could expand their portfolio's reach to more volatile assets such as in the table 22, however, obstacles such as security, taxation and e.g., multiple brokerages might look dubious. Finally, if one already has assimilated how even a small sum becomes high due to the compound interest, taking more risk might be preferable.

8 CONCLUSION

For an outsider investing might seem like a certain inclusive professional who takes years of education, certain employment and lots of starting equity. To a certain degree that could be true and there are a lot of styles and strategies, also instruments and other objects, which are not for everyone. Although being economically frugal and organized, not to mention financially goal-oriented and secure, are qualities for everyone. Few of the barriers in front of becoming wealthy are the lack of understandable knowledge, distance between people making simple realizations difficult and attitudes amongst all. The purpose of this thesis was to just serve the kind of awareness which could bring and offer such mental assets of which an individual could benefit and the literature, examples, and observations for their part are meant to contribute to fulfill that goal.

Generally, it shows that already a lot of Finnish people are e.g., owning stocks or shares of mutual funds and all in all possess the acquirements to continue so. However, according to the investing behavior is still quite safe from a risk-taking point of view. Therefore, it could refer to the fact that most likely investing is still seen as too big of a risk to take or there is not enough information on different instruments and assets for the ordinary person to benefit from. Decision-making is restricted when enough information is not available or gotten. Still, a change of culture and behavior is seen in the rise of investors (e.g., households owning shares) in unison with more positive attitudes from the legislators (stock savings account for example). In conclusion one could think that the subject of this thesis is topical because of the continuously growing trend regarding investing.

Moreover, there are endless number of alternatives and options available where to invest. This is a factor which might make the decision-making harder as well. Clearly each one of them has good and bad in them. Nevertheless, as the research's task is to be open and offer comprehensive information, broad knowledge and research of alternative investments helps the reader to adjust their personal readiness towards an instrument one desires. It seems that alternative instruments differ from each other greatly, one is volatile, and another again is less profitable, one requires a lot of professional-like information, and another enables a less experienced investor to reach for success too. All things considered, one should adjust their personal level of risk-taking and profit expectations, allocate assets for financing funds (the amount one is ready to risk), and strategize with a chosen instrument.

Exchange traded funds as an investment for the person within the target group seems rational. Even if the investor was a beginner, the fundamentals of an ETF are quite like a combination of regular mutual funds and/or a stock. The target group's level of information, age, and risk-taking preference could meet with the ETF instruments described in this thesis. Compared to e.g., an active mutual fund or to a passive index fund, ETF would work in an analogous way. Compared to a stock portfolio, ETF is already diversified and purchased similarly. Not to mention that the return rates for some of the best ETFs are worth the risk. Tolerable or high return, however, the keys for a successful investment are long-term saving, cost-efficiency, and effectful diversification. Without a given amount of prior experience it could be a challenging task. In the best-case scenario ETF-investor has these three advantages all at the same time.

The reliability of the thesis is trustworthy if the habit of measuring is repeated within the same time including the financial environment where the thesis is written. However, difficulties could arise if the measuring period were changed to an alternative perspective – history is never a guarantee of the future. The validity of the thesis is based on literature, articles and blogs written concerning topical areas. The empiric part of the thesis is based on past events and equations of expected return or costs for example – therefore, they are valid and could be repeated. However, estimation de facto differs from occurrences that actually took place.

Given the circumstances, investing in an exchange traded fund is a rational investment for a long-term investor (beginner or more experienced too). This does not exclude other instruments, rather it gives more valid ground for decision-making. As illustrated, one could divide the number of financial funds and allocate them to multiple assets. However, at the start it could be more difficult, volatile, and therefore riskier to conclude. The continuing research concerning this thesis would consider the

differences in taxation between the described investment alternatives and which kind of effects the given taxation processes would have towards a private person or a company.

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LIST OF TERMS

Arbitrage = Situation where profit is gained without a risk. E.g., when two assets are in different values in separate markets.

Bear = Is when the markets are down.

Book-entry account = an account which holds and manages securities such as stocks. For a Finnish person to purchase e.g., ETFs, one must open a book-entry account.

Bull = Is when the markets are on the rise.

Counterparty risk = The opposing party of a given agreement does not fulfill its obligations for some reason.

Collateral = An insurance for a loan. E.g., using a house as a collateral for a loan for the house.

Credit risk = the loaner loses interest and capital since the loaning party does not fulfill their obligations.

Current account = In private person context is a deposit account.

Currency risk = For example a foreign currency collapses against domestic currency before or during a certain transaction leading to loss of capital.

Diversification = Optimizing the risk and profit of one's portfolio by purchasing a given amount of assets to diversify the risk.

Economic stimulus = Monetary and fiscal policy related actions to revive the recessive or downswing economy conducted often by central banks such as the Central bank of Europe.

Effective markets = A finance hypothesis which states that when the markets are effective, every new essential information is shown in the prices of securities. Meaning that the market prices are close to real market prices ergo an investor cannot constantly beat the markets.

Great Recession = Global recession that took place in 2007-2009. One of the major reasons for the recession started in the US as the real estate market went into a crisis.

Hyperinflation = Situation where the monthly inflation is uncontrollably high. Hypothetically the value of the currency must decrease at least 50 % to be calculated as hyperinflation.

Inflation = Refers to situation where the buying power and the value of a given currency decreases, but the prices of services and commodities increases. Therefore, during an inflation the value of the currency is less than prior to the inflation.

Liquidity risk = Refers to a situation where e.g., a security cannot be traded without effecting the market price. For example, a common bank would face a liquidity risk if all of its customers were to withdraw their deposits at the same time – there would not be enough capital to generate.

NAV (ETFs) = Refers to the value of the ETF when all the ETFs assets are calculated together minus its liabilities then divided by the amount of shares.

Portfolio = Collection of securities and assets etc. Portfolio holds the investments one has.

Profit tax = Taxation of the profit made from an investment.

Recession = Declining economy.

Security = In the current context security refers to commercial papers such as stocks.

Stagnation = Is a long-term situation where the economic growth stops or is very slow.




Trading = Buying and selling securities through an online trading platform.

Transfer tax = A certain percentage one must often pay while purchasing a real estate. E.g., a housing company's stock is 2 % from the contact price whereas the transfer tax amount for a real estate is usually 4 %.

Upswing = Improving economy.

BOOK-ENTRY ACCOUNT & SECURITIES CUSTODY

Book-entry account = Stock portfolio is an account which's purpose is to manage and hold electronic securities. As an investor buys e.g., a stock, he or she does not possess a physical document of ownership, instead a digital entry of ownership marked into the book-entry account.

How to open:  Choosing one's own service provider (e.g., eToro, Osuuspankki, Nordnet)
 Identification with one's web bank ID
 Online trading platforms such as Nordnet demands separate accounts: the book-entry account and money account

1. Once on an online trading platform (e.g., Osuuspankki) -> choosing an investors service package,
2. Choosing fitting package regarding one's individual investor (and risk) profile,
3. Book-entry account with security custody opened.



Might have a fee to open the account and a fee to for the holding of assets, however, regarding special customer ships or certain platforms (Nordnet, eToro), the entry fee of a book-entry account and the custody expense is free of charge.

Adjusting one's risk profile

Risk	Target (example)	Profit expectation	Possible loss
Very low	Deposit/money market	0-2%	Very low if at all *
Low	Debentures, interest funds	1-3%	5-10%
Average	High risk interest funds	3-5%	10-20%
Tolerable	Diversified fund or portfolio	5-10%	20-50%
High	Singular stock or cryptocurrency etc.	>10%	>50%

(* credit institutions bankruptcy, withdraws before due date, inflation, and the surplus over deposit protection for example)

- The chart is directional. Its purpose is to construct a clearer picture of the possible profits and losses.
- For example, an interest fund might go higher or even a diversified portfolio can decrease more than 50% in value.
- The purpose for the reader is to find out and select the risk profile they would settle, especially in matter of losses.

Risk	Target (example)	Profit expectation	Possible loss
1000€ investment			
Very low	Deposit/money market	1% -> 10€ profit	1010€*
Low	Debentures, interest funds	2,5% -> 25€ profit	Loss 80€ Av. 8% = 920€
Average	High risk interest funds	4% -> 40€ profit	Loss 150€ Av. 15% = 850€
Tolerable	Diversified fund or portfolio	8% -> 80€ profit	Loss 350€ Av. 35% = 650€
High	Singular stock or cryptocurrency etc.	15% -> 150€ profit	Loss 500€ 50% = 500€

- The chart illustrates the vague numbers of the possible outcomes to give perspective for the investor to adjust their investments accordingly.
- The investor does not have to purchase a singular stock or solely invest into a money market account rather the investor can e.g., point ½ of their assets to an ETF fund which invests into the stock market, ¼ to a low profit interest fund to balance the fluctuation of values and e.g., leave the rest ¼ to a deposit account as an emergency fund.

APPENDIX 4

One and nine month volatility-% in HEL exchange

Company	1	9
Neste Corporation	42,66	33,18
Anora Group	19,74	22,33
EQ	55,84	39,39
Harvia	70,31	47,54
Incap	55,28	48,35
Tokmanni	30,07	26,2
Qt Group	65,18	55,43
Nordea	30,92	24,21
UPM Kymmene	31,69	22,27
Metsä Board A	25,87	25,57
Kojamo	23,02	19,46
Sampo	26,05	18,12
Portfolio av.	39,7	31,8
Profit exp. (e.g.)	20	15

Example portfolio's possible profit fluctuation (in between of) (=profit exp. - volatility & profit exp. + volatility)

	lowest	highest
1 month	-19,7	59,7
9 month	-16,8	46,8