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SOCIOECONOMICAL AND BEHAVIORAL FACTORS EFFECTING SUSTAINABLE INVESTMENT BEHAVIOR

Bachelor's thesis
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I hereby declare that I have compiled the thesis independently
and all works, important standpoints and data by other authors
have been properly referenced and the same paper
has not been previously presented for grading.
The document length is 8 407 words from the introduction to the end of conclusion.

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ABSTRACT

This thesis is examining the differences between values and factor effecting investment decision between sustainable investors and traditional investors. In order to investigate this, I have created a survey to gather the needed data for this research. The survey received 128 responses and these responses were used as a sample. I created 3 hypotheses based on previous literature and common sense. The data and hypotheses were tested and examined by logit binary regression. The result showed that people who has earlier invested sustainably are considering sustainability of the investment as a more important factor when they are choosing investment. Results showed good signs on the relationship between age, income level, different factors effecting investing decision and the tendency to invest sustainably. Even though this research did not support strongly any of the hypotheses, the results showed support to examine this subject further. One of the hypotheses dealing with income level of participant showed strong significance, but the results were opposite to the hypothesis. This research did show significant result on some of the factors and showed results which supported that more in depth research should be made covering the subject.

Keywords: Sustainable investing, Behavioral finance, Investors' values

INTRODUCTION

The world is changing rapidly towards a greener way of living. In order to maintain the current level of living standard we have to manage our global portfolio of assets including nature more sustainably. Companies have been heavily affected by this change and in the recent years they have been shaping their way of doing business to more sustainable way. With this change also investing and asset management have been shifting to a new era, where sustainablity have become one of the key elements. Sustainable investing takes in account environmental, social and governance factors in to considerations when making an investment. These are also called ESG factors. (Robeco, 2021) . The investors' interest towards sustainable investments have been growing rapidly in recent years and the supply of sustainable investment opportunities have maintained the demands pace. This new way to invest may have also effected the investors' behaviour. The sustainable investing is create also other values for the investors than only the short-term profits from the growth and dividends. This will force the investors to also consider about the overall value of the investment and which investing style or what investment will create the most total value for them. This is not as simple as calculating the profit value for individual investors, because every investor is an individual and people have different set of values so the value of sustainability will be different for every individual.

This thesis will examine the socio-economical and behavioral factors of individual and compare these between sustainable investors and non-sustainable investors. This specific topic have not been studied a lot before, but there have been conducted multiple studies related to sustainable investing and also about factors effecting people's investment decision. This study will combine these two areas of earlier studies and tries two provide new information on the values and effecting factors of sustainable investors and non-sustainable investors.

Based on previous literature from the areas mentioned earlier I have formed and tested three hypotheses. The hypotheses were, H1: Individuals who consider return of the investment as a less important factor are more likely to invest sustainably H2: People with higher income are less likely

to invested in sustainable investments. And H3: Younger people are more likely to invested sustainably.

Data for this study was gathered by online questionnaire. The questionnaire was distributed through social media channels and it received 128 answers. The questionnaire had two parts and 20 questions. Twelve of these 20 questions were measuring importance of individual factors effecting participants investment decision.

The data was studied using logistic regression analysis. Logistic regression analysis examines how independent variables used in the regression are explaining the dependent variable. Dependent variable used was whether participant has invested sustainably. Independent variables used in the regression were, age, gender, income level, education, research time and effecting factors.

In the following I will go through the structure of this thesis. The first chapter will review the theoritical backround of this subject and will point out the necessary things from previous studies. The theoritical backround will go through the different factors and their effects on investing behavior, and also sustainable investing and related things to it. At the end of theoritical backround I will point out the hypotheses of this thesis and the previous literature related to them. Second chapter will explain the methods used in this thesis and will review the data gathered from the questionnaire. After explaining the used methodology, I will go through the results from the regression. This part is called empirical results in the table of contents. Lastly I will discuss about the results and give suggestions for future researches in the conclusion.

1. Theoretical background

1.1. Sustainable investing

Krstic 2014, defines socially responsible investing (SRI) which is also known as sustainable investing to be an investing strategy where the investment meets certain social goals and also increases the financial income. (Kristic, 2014) The definitions of sustainable investing are differing. For example, Robeco's definition of sustainable investing is "a strategy where investor has three different factors which to consider while making investment. These factors are environmental, social and governance (ESG)" (Robeco, 2021). Robeco is a large asset management firm.

Krstic 2014, notices that responsible investors are individual, but also nowadays institutional investors are investing by using SRI standards. In fact, the institutional investors are now the largest and fastest growing group of SRI investors. (Kristic, 2014)

The increasing popularity towards the SRI have risen question about the performance of the investment. Multiple research studies have been conducted to study the different factors effecting investments performance. According to study conducted by Yue et al. 2020 the result suggested that the sustainable investing is offering less risky investment opportunities to investors than conventional investments. The research did not show any evidence that sustainable investing would offer better financial returns than the conventional investing. (Yue et al. 2020). Similar studies have showed different result. Researchers found similar result showing that the investing to companies which have a higher score on sustainability could help investors to better avoid extreme losses. Differing from the similar study the researchers found that by investing in companies with a higher sustainability score would result on higher returns. (Duran-Santomil et al. 2019) According to research conducted by Kempf and Osthoff 2007, investing only by using high sustainability scores will result to unusually high returns. (Kempf, Osthoff 2007)
The research results are showing different results on the performance of sustainable investing, but all the results are agreeing that the sustainable investing is showing signs to be less sensitive to risk than the conventional funds.

In Global sustainable investment alliance's (Gsia) 2018 report, they are reviewing the assets under management in major countries or continents. These were Europe, United States, Australia/New Zealand, Canada and Japan. Sustainably invested assets under management in these areas were over 55 trillion USD in 2018. Sustainable investing is rapidly gaining more interest from investors, as we can see from the development of the asset under management which were only a little bit over 41 trillion USD in the year 2016.

By absolute value most of the assets invested sustainably are from Europe and United States. Europe in differing from rest of the reviewed countries/continents by being only one where the relative value of assets managed under sustainably compared to total managed assets have decreased. Europe is still managing almost half of the assets invested sustainably in between these countries. Europe's share of the assets invested sustainably have decreased from 53% to 46% between 2016-2018. From the rest of the countries Japan has shown high growth by increasing its share almost at four times as much as in 2016. The shares in other countries have remained around the same value over the three-year period. Canada and Australia/New Zealand have majority of total managed assets invested sustainably. (Gsia, 2018)

1.1.1 Sustainable investing methods and strategies

According to Global sustainable investment alliance 2018 there are seven different strategies to invest sustainably. These strategies were published in 2012 and have later on been recognized as global standards. All of the strategies have different criteria for the investment but are all related to sustainable investing. These strategies are called negative/exclusionary screening, ESG integration, positive/best-in-class screening, norms-based screening, sustainability themed investing, impact/community investing and corporate engagement and shareholder action.

The negative/exclusionary screening as a investing strategy means that the investment cannot be made to a certain sectors where companies practice business which does not meet the environmental, social and governance (ESG) investing criteria. (Gsia, 2018) One of the world's leading asset management companies JPMorgan defines the common sectors which does not meet ESG criteria to include sectors like alcohol, tobacco, fossil fuels and gambling. (J.P. Morgan, 2021)

In ESG integration strategy the investors or asset managers take ESG factors which are environmental, social and governance factor into considerations when making analysis of an

investment. The idea is to consider what are the potential risks and opportunities that ESG factors are possibly creating for the company in the future. The financial analysis and investment decision is made based on both financial and ESG factors. (Eurosif, 2021)

Positive/best-in-class screening as a strategy means that the investments are made based on ESG rating. In this strategy the target company where the investment is placed should have a positive ESG rating. (Gsia, 2018). According MSCI 2021, which is one of the ESG rating providers, defines ESG rating to provide information about the company's ability to handle environmental, social and governance risks compared to their peers. (MSCI, 2021)

Norms-base screening investing strategy means that investments are made by the standard norms of society. These norms are defined by global organizations like United Nations and UNICEF (Gsia, 2018) This strategy has been challenged by researchers for it relation to sustainability. (Scholtens, 2014)

Sustainability themed investing means that the investments are targeted to sustainably related companies, projects or sectors. (Gsia, 2018) Brunia et al. 2002 found that there are similarities between themed funds and funds that are not investing responsibly. These funds are investing to companies acting sustainably but the relation between sustainability and responsibility is not very clear in this strategy. (Brunia et al. 2002)

Impact/community investing is similar to negative/exclusionary screening but, according O'Donohoe et al. 2010, what is differentiating impact investing from socially responsible investing (SRI) is that while socially responsible investing is concentrating on making investments that does not harm the social environment but still creates financial benefits for the investors. Impact investing is also considering environmental, social and governance factor as SRI while making investments, but the aim is not just to make sure that the investment does not cause harm to the social environment but the investment should have positive impact to the social environment and also create financial value for the investor. (O'Donohoe et al. 2010)

Corporate engagement and shareholder action are more of a way to impact the company's behavior through the use of shareholder power. This could mean discussing with the management of the company or voting in the shareholders meeting etc. (Gsia, 2018) This strategy is also conversional

about its sustainability and responsibility. The sustainability of the investment is heavily effected by the shareholders goals and values. (Scholtens, 2014)

The assets invested sustainably have divided very unevenly between these strategies. Over 35 trillion of 55 trillion USD have been invested in negative/exclusionary screening and ESG integration. The most popular investing strategy from these is negative/exclusionary screening. Over 19 trillion have been invested by using this strategy. On the other side smallest strategies by assets under management where impact/community investing, sustainability themed investing and positive/best in class screening only held combined 3.3 trillion assets under management. The growth of these strategies indicates that the balance between assets divided into these strategies will be more balanced in the future if the ongoing trend will maintain. The three smallest strategies had relatively the largest growth between years 2016-2018. The largest individual growth happened to sustainability themed investing which assets under management grew by 741.5 billion which was 269% growth. Only strategy with negative growth rate was norms-based screening which assets under management decreased by 24% between years 2016-2018. (Gsia, 2018)

The rapid growth and increasing popularity towards sustainable and responsible investing have created a new opportunity for asset management firms offering services for investors. For example, JPMorgan 2021, offers 13 different sustainable investment funds which are divided to four strategies. These strategies are exclusion, positive tilt, thematic and best in class. 11 of the 13 funds have been created after the year 2015. The newest is created in 2021 and the oldest one is from year 2012. (JP Morgan, 2021) From this alone it is clear that asset management firms have started to create new services for this growing demand of sustainability.

As my research is conducted by gathering data from Finnish investors it is important to acknowledge that also Finnish asset management firms provide opportunities to invest sustainably. Nordea which is the largest bank in Nordic countries is one of the Finnish asset management providers. Nordea is currently offering nine different sustainable funds for its clients. The number has not increased recently as much as in JPMorgan's case, but five of the nine funds have been created 2014 or after that. Nordea's funds have been also awarded multiple times to be the best in Europe. (Nordea, 2021) This shows that there are definitely lot of knowledge and drivers in Nordic countries towards providing more sustainable solutions.

1.2. Factors effecting investment decision

According to Uslu Divanoglu and Bagci 2018, people's financial behavior is emotive behavior. Investors are affected by physical factors, such as emotions, other people opinions etc. (Uslu Divanoglu, Bagci 2018) There have been also theories which indicates that investors behavior is rational. This theory suggest that investors are gathering new information and by that new knowledge and beliefs they are making investment decisions. (Keswani et al. 2019) (17)

According Uslu Divanoglu's and Bagci's 2018 research the most important factor for investment preference for investors is rate of return followed by risk level of the investment. (Uslu Divanoglu, Bagci 2018). Sahi et al. 2013 conducted a research where they studied psychological biases that investors have. They found out totally 19 behavioral tendencies, which way investors are acting. One of the tendencies consider socially responsible investing. People tend to prefer socially responsible companies over their peers which are not acting socially responsible. Some of the investor's priorities the responsibly of the investment at the highest level of priorities. (Sahi et al. 2013) This phenomenon has been noticed also in other researches. Barber et al. 2019, found that investors are willing to accept lower rate of return from impact funds than from the traditional funds. (Barber et al. 2019) This tendency was noticed in all invest methods, but it was the most common in equity investments.

Three other tendencies that I will point out was tendency to invest familiar instruments, tendency to rely on family and friends and tendency follow trends. Investor feel more secure by investing to instruments that are familiar to them. This could mean that the investor has earlier experience with the industry or the company. This tendency has investors often to underestimate the risk that the instrument might have. The tendency to rely on family and friends are often connected to the tendency to invest in instruments that are familiar to the investors. Investors are often trusting to the opinion of their closest relatives of friends. Investors also want to justify their investment by getting an approval from their closest friends or relatives.

Last tendency that I am going to cover is tendency to follow trends. In this tendency investors are investing in industries or companies that have performed well in the past. These investors are

relying on that the trend will continue, because the company and its management have done good decisions in the past and will do good decisions also in the future. (Sahi et al. 2013) This is related also to sustainable investing, because it is a trending subject in investing at the moment.

Mak and Ip 2017, discussed about the key attributes affecting investors decision making. They divided these attributes in to three categories. These were psychological factors, demographic factors and sociological factors. All factors had different attributes which are affecting investors decision making. Psychological attribute affecting decision making was earlier investment experience. (Mak, Ip 2017) Investors with longer experience tend to make more riskier investment than the investors with less experience. (Corter, Chen 2006)

Demographic attributes affecting decision making were investors age and gender. (Mak, Ip 2017) Earlier researchers have noticed gender to be one factor affecting investors risk tolerance. Female investors are less risk tolerant than their male counterparts. (Agnew et al. 2008) Fellner and Maciejovsky 2007, also discovered that female investors are not as risk averse than male investors, but they also discovered that male investors are making more trades compared to female investors. (Fellner, Maciejovsky 2007)

Last factor group affecting investors behavior was sociological attributes. These consisted education, income and marital status. (Mak, Ip 2017) The marital status as an affecting attribute is controversial. There has been research where they did not find any significant relationship between marital status and stock market investment. In the same research they found that investors with higher income are trading more often than the investors with lower income. The research also showed that there is not a significant relationship between investors profession and the stock market participation, but it did not study the relationship between education and the stock market participation. (Rizvi, Fatima 2015)

Investors socio-economical background have been also studied to have an effect on persons tendency to invest sustainably. Paetzold and Butch 2014, conducted a research studying the sustainable investing behavior of wealthy private investors. According their study private wealthy investors have interest towards sustainable investing, but they have certain problems that keep them away from investing to these sustainable instruments. They found that wealthy private investors are considering sustainable investing instruments as a high volatility and short-term investments. (Paetzold, Butch 2014). According to Dortfleigner and Nguyen 2016, education, age

and gender have also an effect on persons attitude towards sustainable investing. They investigated the proportion of sustainable investments that investors want to hold in their portfolio. The results showed that highly educated women and younger generation considered the importance of sustainable investments to be higher. (Dortfleigner, Nguyen 2016).

Nagy and Obernberger 1994, conducted a research about factors influencing individual investors behavior. They conducted a survey with 134 individual investors. The survey consisted 34 variables that affect investors decision making and the investors taking the survey had to rate these variables on how important they are to them. Participant had a three-level grading scale from one to three where one represented the most influential factors and three represented the factor which does not have influence on decision making. The research showed that the most influential factors are corporate's expected earnings, diversification need and feelings towards firm and it products. The corporate's expected earnings had the strongest influence of all factors. 46.6% of the participants ranked that to be significant factor when making investment decision. And only 3.8% of the participant ranked the expected earning to have no influence in their decision making. (Nagy, Obernberger 1994)

Similar research was conducted by Al-Tamimi 2006 studying the factors influencing investors behavior in United Arabic emirates UAE. The researches did have some different variables, but overall, they had mostly the same variables which made the both researches easily comparable.

The research showed similar results by having corporate's expected earnings as the most influential factor. The factors influencing investor behavior in UAE showed that the financial information and expected profits gained from the investment were influencing more than in the Nagy's and Obernberg's research. (Al-Tamimi, 2006) As earlier mentioned Nagy and Obernberger 1994 found that most influential factor was about expected earnings, diversification and feelings towards company (Nagy, Obernberger 1994) Three of the four most influential factors for UAE investor where corporate's expected earnings, getting rich quickly and past performance of the stock. All of these are related to the performance and possibility of high profits from the company. (Al-Tamimi, 2006) The most notable difference was in diversification. Nagy's and Obernberger's research found that the diversification needs were the second most influential factor for the investors, but in the other research conducted among UAE investors only 9.3% of the investors mentioned diversification needs to be significant factor.

Sustainability and responsibility of the company was not really a significant factor in either of the researches. Neither of the researches did not have sustainability or responsibility as a variable, so it is questionable which of the variables are dealing with either sustainability or responsibility.

Nagy and Obernberger 1994, had three variables than can be considered to be related to either sustainability or responsibility. These are environmental record, reputation of the firm and perceived ethics of the company. From these the reputation of the firm was the most influential and the environmental record had the least influence on the decision making. Reputation of the firm was the sixth most influential factor from all of the 34 factors. So, this can be considered to influence a lot on the decision making. On the other hand, the reputation of the firm is the least related to sustainability or responsibility from these three factors. Company can have a good reputation even if it does not follow the sustainability factors. These factors are influencing to the company's reputation. (Perez del Bosque, 2009)

Two other factors can be considered to be directly linked to either sustainability or responsibility or both. Company's ethics was ranked at the 15th so it was not really significantly influential, but it clearly has some kind of influence on the decision-making progress. Environmental record was ranked 32nd in the scale of most significant factors for the investors. Only 6 participants said that the environmental record had a significant effect on their decision-making progress. 80 participants said that the environmental record did not have an influence at all in their decision-making progress. (Nagy, Obernberger 1994)

Al-Tamimi's 2006, research had also three variables considering sustainability and responsibility. These were company's reputation, perceived ethics of the company and an increase in company's involvement in solving community problems. The result from these were similar with the Nagy's and Obernberger's research. All of the variables were ranked between 12 and 20 of the 34 variables. The reputation of the firm was also the most influential factor from these three in this research. All of the sustainability/responsibility related factors from this study could be considered at least having minor influence, as the increase in company's involvement of solving community problems which was the least significant factor was rated as significant by 24.4% of the participants. (Al-Tamimi, 2006)
Researches have also found that ethical investors are differing from these typical investors by not having profit maximation as their number one priority. (Beal, Goyen 1998)

1.3. Hypotheses

The purpose of this study is to investigate difference between the importance of SRI-factors and other different factors which are having an effect to people's decision making when they are choosing investment. The paper will study the importance differences between these factors in two groups, investors who have invested sustainably and investors that have not. The study has also a purpose to investigate the intendency to invest sustainably between different age groups and income groups.

The hypotheses are formed using former literature which have been covered earlier in this research and common sense. Sustainable investing has been trending subject for a while now and there have been made many researches covering different aspects of sustainable investing. The importance of factors effecting people's decision making have been studied before, but most of the studies are conducted long time ago. This study will provide newer data on that subject and it will also be made on the point of view of sustainable investing. There have been also conducted studies, but not many on wealthy investors behavior in sustainable investing, but the data from these studies are also old. For this aspect this study will also provide newer data on that subject.
Three hypotheses have been created to follow the aim of this study.

H1: Individuals who consider return of the investment as a less important factor are more likely to invest sustainably

H2: People with higher income are less likely invested in sustainable investments.

H3: Younger people are more likely invested sustainably.

First hypothesis has been created based on previous literature of Barber et al. 2019 who found that investors who have invested sustainably using impact investing as strategy are willing to accept lower rate of return in order to invest according their strategy. (Barber et al. 2019)
Second hypothesis have been created based on earlier study of Paetzold and Butch 2014 and also on authors interest and common sense. Paetzold and Butch 2014 found that wealthy investors are not investing to sustainable investment because the wealthy investor are considering sustainable investments as high volatility and short-term investment. (Paetzold & Butch 2014) My common sense says that people with higher income are more often investors which is why I think that they

would be also invested to this growing trend of investing. Based on this the hypothesis was created to see if the finding of Paetzold and Butch 2014 is still relevant seven years later. Third hypothesis was also created based on authors common sense and previous literature. Younger generation seems to be more concerned about global warming and the future of this planet. This suggest that younger generation would be more likely to invest sustainably because of this. Dortfleigner and Nguyen 2016 found in their study that younger generation thinks that the proportion of sustainable investment should be higher than older generations which also supports this hypothesis. (Dortfleigner & Nguyen 2016)

2. Data & Methodology

Questionnaire was used as research method. Survey as a research method is a good way to gather large sample size in a short period of time. Non-probability was used as a sampling method. Idea was to gather as many and as different answer as possible. The questionnaire included same questions for all participant. The authors aim was to conduct an easy and convenient survey for the responders in order to have maximum amount of answers. The questionnaire was held between 29.3.2021-7.4.2021. It contained 20 question which some were compulsory and some optional to answer. Most of the questions were multiple choice question were responders had to choose their answer from either given options or grading scale of 1 to 10. The survey included one open question were responder could write the answer in their own words, this question was optional to answer, and it did not receive answers that would be important for this study. The survey had a question which could be considered as a sensitive or personal information, so the survey was conducted to gather data anonymously. The survey was set in online by creating online questionnaire in Google Forms. It was distributed by social media for example in LinkedIn and Facebook. The questionnaire received total of 128 answers.

The research studies the factors effecting people's investment choice, the difference between sustainable and traditional investors effecting factors and the differences between different socio-economic groups tendencies to invest sustainably. The sample was expected to have data from different age groups, both sustainable and traditional investors preferences, different socioeconomical groups and time spend on research before making investment.

The survey received answers from both investors and people who have not invested into financial instruments. Most of the responders had invested to financial instrument. The distribution between sustainable investors and traditional investors was almost even. This gives good sample size for both type of investors and because of that the results should be well comparable. The responders age varied from 18 to 83, but most of the participants were between ages of 23 and 26. The age distribution is still wide and quite well distributed to also older audience, that the research will provide results that are describing all age groups preferences.

2.1. Variables

The questionnaire was separated into two parts. First part included eight question. From these the first four questions measured socio-economic factors of the respondent. The questions asked about the responders age, gender, education level and income level. Answers from these questions was used as an independent variable. Other four question from the first part measured the participants investing tendencies. The questions asked if the person has invested, if the person have invested into sustainable instruments, which sustainable instrument the respondent had invested and how much do they do research before choosing investment. From these questions I was able to identify the dependent variable whether the respondent has invested sustainably or not.

Second part of the questionnaire contained 12 questions which all were different factors effecting investors decision making while choosing an investment. The factors were chosen from earlier studies and two factors were added in order to measure the importance of sustainability of the investment and impact of the investment to the participants, when choosing an investment. respondents were advised to rank all of the factors individually in scale of 1 to 10 on how important that factors are to them when choosing an investment. Last question was an open question where responders could write factors that they feel were missing from the list of factors and rank their importance in the same scale as in the other questions. This question did not receive any answer that would have importance in this study. Overall the data will contain 11 factors that will be studied in the regression.

The dependent variable of this research was if person have invested in sustainable investment instruments. This was measured with simple yes or no question. To specify the investment behavior there was formed a question to specify into which sustainable investment instruments the investor had invested in. 48% of all responders had invested into sustainable investment instruments. 12 of the 128 responders had not invested to any financial instrument, so by calculating that margin 54% of all investors had invested to sustainable instruments.

Most popular way to invest in sustainable instrument was through ETF's or funds. 71% of the responders that had invested in sustainable instruments answered that they had invested sustainably through ETF's or funds. Investing into sustainable instrument through stocks was also popular option for investors. 50% of responders who had invested sustainably had done it through stocks. Other ways were not as popular as there two. 3% of the investors invested in sustainable

investments answer to do it by investing to bonds. These percentages for other options were 5% for investing to sustainable projects and 10% for investing to sustainable properties.

The independent variables in this research were the socioeconomical factors as age, gender, income level and level of education. Other independent variable was time spent on research and factors effecting people's decision when choosing investment. In the questionnaire there were given 11 factors which all of the responders had to rate independently on scale 1 to 10. From all of the factors return of the investment was selected most times as 10 which means extremely important factor. 33% of the responders rated the return of the investment to have a value of 10. Second most extreme importance values got diversification of portfolio. Overall the answers were divided quite even inside the factors.

The questionnaire's socioeconomical factors were age, gender, income and education. Age of the responders varied from 18 to 83. The questionnaire was distributed mainly through authors social media, and because of that the large proportion of the responders were younger people. 24% of the respondents were 24 years old, which was the largest age group answering to this survey. Overall 48.5% of the respondents were between ages of 23 to 25. The research reached out also older audience, while 26.5% of the responders were older than 40-years-old. The survey got more attention from male audience. 60% of the respondents identified as a male.

The sample could be considered as highly educated. Respondents with bachelor's or a master's degree formed a vast majority of the respondents. 51% of the respondents had a bachelor's degree or equal and 40% of the respondents had a master's degree or equal. Other levels of education were represented as much as these two. As the survey got many answers from younger audience, so there could be respondents that are still studying which would raise their level of education in the future.

Responders personal income from last year varied widely and all except 0€ received multiple answers. Most common income for last year was 10 000 - 24 999€ which received 32% of the answers. Second biggest groups were 1 - 9 999€ with 18.8% and 50 000 - 99 999€ with 18%.

The questionnaire also asked respondents to estimate their time spend on research before choosing where they invest. Overall result showed that 39% of the responders are spending one to two hours to research before making investment. This was the most popular answer. Every fourth responder

answered that they spend less than an hour on research. This means that over 50% of the responders are spending maximum of 2 hours on research.

2.2. Descriptive statistics

This study will use the logit binary regression as a study method. Below in table 2.3.1 will be shown the descriptive statistics for the variables gathered from the questionnaire. The dependent variable of the study has been placed at the top of the table.

The Dependent variable for this study was whether person have invested or not. Mean for this variable was 0.484 which means that almost half of the respondent has invested in sustainable investment instruments. This gives good sample size for both investor types.

Age mean is 32.89, but the median is only 25. This means that half of the respondents were 25 or younger, this means that the sample is relatively young. The youngest responder was 18 years old and the oldest was 83 years old as indicated in the table. This shows that the age is still varying between all age groups. Gender mean is 0.602 which in this case means that 60% of the responders were males. Both genders have been represented well in this study.

This data had many dummy variables. Education was one of them. Education had five different variables. The means for these were, 0.0156 for lower secondary school, 0.0391 for upper secondary school, 0.508 for bachelor's degree or equal, 0.398 for master's degree or equal and 0.0312 for higher than master's degree. This shows that 90% of the responders were either having bachelor's or master's degree. These were by far the two biggest groups.

Income was also used as a dummy variable. Means for these were, 0.195 for 0-9 999€, 0.320 for 10 000-24 999€, 0.141 for 25 000-49 999€, 0.180 for 50 000-99 999€, 0.0859 for 100 000-150 000 and 0.0703 for more than a 150 000€. This shows that most of the responders did earn less than 25 000€ last year. As the sample size was relatively young this makes sense.

The mean for participation in financial markets was 0.906. This means that over 90% of the responders have invested into financial instruments. The questionnaire had a question about the ways that responders are using to invest sustainably. This was also used as a dummy variable. The

means for these were, 0.344 for Fund and ETFs, 0.242 for stocks, 0.016 for bonds, 0.047 for property and 0.023 for project. From this we can see that funds and ETFs were the most popular way to invest sustainably. Stocks were another way which could be considered as a popular way to invest sustainably.

Time spent on research was also used as a dummy variable. It had 5 different choices, which were less than a hour which had mean of 0.250, for 1-2 hours the mean was 0.391, for 3-5 hours the mean was 0.195. Two others and their means were, 5-10 hours with mean of 0.0781 and over 10 hours with mean of 0.0859. This indicates that this sample is not using lot of time on research before making investment decision. Over 50% of the responders used two hours or less on research.

Rest of the independent variables were factors which are having an effect on investment decision. There were total of 11 factors which were ranked individually from 1 to 10 by how important that factor is to responder when she or he is choosing investment. From the factors, factor 1 which was return of the investment had the largest mean value of 8.56. It was the only factor which had mean starting with 8 and median of 9. Factors five, seven and nine were important to this study as they were factors considering the SRI. Factor 5 was the sustainability of investment. It receives mean of 6.57 and the median was 7. Factor 7 was the impact of the investment. The meaning of the impact of investment was that that the how important is that the investment is creating positive value for society. This factor had mean of 6.36 and median was 7. Factor 9 was the ethics of the investment this had a mean of 6.89 and median was 8. Comparing to other factors these factors did not receive high importance. All factors received mean value over 5 which means that all factors were considered as effecting factors.

Table 2.3.1
Descriptive statistics

Variable	**Mean**	**Median**	**S.D.**	**Min**	**Max**
Have invested sustainably	0.484	0.00	0.502	0.00	1.00
Age	32.89	25.00	13.75	18.00	83.00
Gender	0.602	1.00	0.492	0.00	1.00
Dummy Education					
Lower secondary	0.016	0.00	0.125	0.00	1.00
Higher secondary	0.039	0.00	0.195	0.00	1.00
Bachelor's or equal	0.508	1.00	0.502	0.00	1.00
Master's or equal	0.398	0.00	0.492	0.00	1.00
Higher than master's	0.031	0.00	0.175	0.00	1.00
Dummy income					
0-9 999€	0.195	0.00	0.398	0.00	1.00
10 000- 24 999€	0.320	0.00	0.468	0.00	1.00
25 000-49 999€	0.141	0.00	0.349	0.00	1.00
50 000-99 999€	0.180	0.00	0.385	0.00	1.00
100 000-150 000€	0.086	0.00	0.281	0.00	1.00
More than 150 000€	0.070	0.00	0.257	0.00	1.00
Have invested	0.906	1.00	0.293	0.00	1.00
Dummy sustainable investment type					
Fund or ETF	0.344	0.00	0.477	0.00	1.00
Stocks	0.242	0.00	0.430	0.00	1.00
Bonds	0.016	0.00	0.125	0.00	1.00
Property	0.047	0.00	0.212	0.00	1.00
Project	0.023	0.00	0.152	0.00	1.00
Dummy research time					
Less than hour	0.250	0.00	0.435	0.00	1.00
1-2 hours	0.391	0.00	0.490	0.00	1.00
3-5 hours	0.195	0.00	0.398	0.00	1.00
5-10 hours	0.078	0.00	0.269	0.00	1.00
Over 10 hours	0.085	0.00	0.281	0.00	1.00
Factor_1	8.56	9.00	1.49	1.00	10.0
Factor_2	7.19	8.00	1.96	1.00	10.0
Factor_3	5.47	5.50	2.60	1.00	10.0
Factor_4	6.59	7.00	2.24	1.00	10.0
Factor_5	6.57	7.00	2.40	1.00	10.0
Factor_6	7.35	8.00	1.77	1.00	10.0
Factor_7	6.36	7.00	2.35	1.00	10.0
Factor_8	7.37	8.00	2.09	1.00	10.0
Factor_9	6.89	8.00	2.42	1.00	10.0
Factor_10	7.45	8.00	2.21	1.00	10.0
Factor_11	5.36	5.00	2.12	1.00	10.0

Source: Author's calculations

2.3. Regression analysis

Cross-sectional regression will be used in this study. It examines the relationship between dependent variable and independent variables, which means that in this case the regression will study which of the independent variables are having an effect to responder's tendency to participate on sustainable investing. Cross-sectional study will be used because the data was gathered in short period of time which favors the cross-sectional study over longitudinal study.

The dependent variable of this study is whether the person have invested sustainably or not. The independent variables in this study will be age, gender, education, income level, time spent on research and factors having an effect on person's investing decision. The independent variables are both socio-economical and behavioral.

In order to have more significant sample sizes I have combined groups for some variables. Education have been divided in to two groups. Edu_1 have all responders that have bachelor's degree or lower. Edu_2 have responders that have master's degree or higher. Income level have been also divided in to two groups. Income_1 have all responders from range of 0€ to 49 999€. Income_2 have all responders that earned 50 000€ or more last year. Last dummy variable that have been changed in order to have larger variables is research time. Last three groups from that have been combined, so the new variables are re_time_1 as a less than one hour, re_time_2 as a one to two hours and re_time_3 three hours or more.

The regression model that will be used is logit binary model, this model will be good to use because the dependent variable has only two values, so it is not continuous. Logit binary model is also good to use when there are independent variables coded as dummy variables.

3. Empirical results

In this research I have been created five models, which all represents the result of logistic regression. I have also created 11 additional models for each different factor having an effect to investment decision. The additional models which had significance are presented in the third appendix.

Dependent variable for all the models is whether respondent have invested sustainably or not. This dependent variable is a dummy variable, which has value of one if responder have invested sustainably and value of zero if not. Age is an independent variable which has a value from responder's age, so the value increases with higher age. Gender is also a dummy variable where female answers have value of zero and male answers have a value of one. Education and income level of respondent have been both divided in to two groups. In education the groups are bachelor's degree or lower and master's degree or higher. In income level the variable is based on last year's income where groups are lower than 50 000€ and higher than 50 000€. These variables are also dummy variables, and in the models one of the groups is used as a reference category to the another one. Research time is also divided into groups and these groups are formed into dummy variables. This variable is divided into three groups which are less than hour, one to two hours and three hours or more. Rest of the independent variables are factors which are having an effect to investment decision and these variables have value between 1 and 10. The value increases if the factor is more important to the responder. The adjusted R squared is negative in models 1, 2 and 5 which means that variables that are put into these models do not explain the dependent variable. This will be taken into considerations when conclusion is made. ***, ** and * are representing the significance level at levels 0.01, 0.05 and 0.1 or as it will be stated in the thesis 1%, 5% and 10%.

In the first model the independent variables were age and gender. These variables were used in all five models and also in all 11 additional models. Gender did not show effect at any statistically significant level in any model. Age did not show significance in model 1, 3, 4 and 5, but in the second model the age did show significant at level of 10 % where income level was added to the model. The coefficient was negative which indicates that when age is increasing the probability to invest sustainably decreases. The adjusted R squared of this model was negative which means that the variables did not explain the dependent variable.

The second model contained both independent variables from first model and income level 2 was added as independent variable. Income 1 was used as reference category for all models containing income level. The effect of income was significant in level of 10% in model two and it remained the significance in model 3, 4 and 5 also. The effect of higher income level is positive in tendency to invest sustainably which can be seen from positive coefficient in all models. Adjusted R squared for this model -2.2% which is closer to zero than in the previous model, which indicates that added variables did increase the explanatory power of this model. The value is still negative, so it could not be said that the variables are increasing the explanatory power in this model. In model three the education was added as independent. The existing variables from model two was also included in model three. *Edu 2* was added as independent variable and *Edu_1* was used as a reference category. Effect of education showed significance at level of 1% and remained this level through all remaining models. Higher level of education was used as an independent variable in all models and the coefficient was negative in all of these models the result showed, that the probability to invest sustainably decreases when level of education is increasing. This was the first model that had positive adjusted R squared, the significance of added variable is increasing it to positive.

In model four research time one and two were added as independent variables. Research time three was used as reference value. Research variables were used in all of the remaining models as previously stated. This model had adjusted R squared value still positive which indicates that variables in this model are explaining the dependent variable a little. The value is lower than in the previous model, so the explanatory power is not as high. The effect of research time was not significant at any level in any models.

In the last model all factors effecting investment decision was added as independent variables. From all factors only two showed significance. These were *factor 3* and *factor 5*. Both variables showed significance at level of 5%. Meaning of factor three was the importance of suggestions from close friends or relatives. *Factor 5* measured the importance of sustainability of the investment when choosing investment. The adjusted R squared drop to negative in the last model.

There was also made 11 additional models in order to examine the effect of each factor individually. The other independent variables used in these models were the socioeconomical variables, which were age, gender, income level and education level. Dependent factor remained the same for all the model being whether responder have invested sustainably or not. All additional models showed positive value for adjusted R squared, which means that added variables are

increasing the explanatory power of the models. Factors three and five showed significance at level of 5%. Effect of education was significant at level of 1% in all additional models and effect of income was showed significance on level of 10%.

Adjusted models which factors showed significance are presented in the third appendix of this thesis.

Table 3.1 Regression model

	Model 1			Model 2			Model 3			Model 4			Model 5		
Variables	Coef	St.Error	p-value/***	Coef	St.Error	p/***	Coef	St.Error	p/***	Coef	St.Error	p/***	Coef	St.Error	p/***
Age	−0,009	(0.013)		−0,049	(0.027)	*	−0,019	(0.028)		−0,022	(0.029)		−0.021	(0.031)	
Gender	0,080	(0.363)		0,024	(0.367)		−0,166	(0.387)		−0,242	(0.396)		−0.305	(0.530)	
Income_2				1,371	(0.768)	*	1,438	(0.789)	*	1,546	(0.809)	*	1,588	(0.862)	*
Edu_2							−1,437	(0.513)	***	−1,546	(0.526)	***	−1.723	(0.598)	***
Re_time_1										−0,584	(0.502)		−0.293	(0.563)	
Re_time_2										−0,499	(0.448)		−0.347	(0.501)	
Factor_1													−0.190	(0.152)	
Factor_2													0.062	(0.117)	
Factor_3													−0.187	(0.094)	**
Factor_4													−0.035	(0.109)	
Factor_5													0,345	(0.148)	**
Factor_6													0,082	(0.134)	
Factor_7													−0.091	(0.163)	
Factor_8													0,129	(0.125)	
Factor_9													−0.168	(0.164)	
Factor_10													0,097	(0.112)	
Factor_11													0,027	(0.104)	
N	128			128			128			128			128		
Adj. R2	-3.1%			-2,2%			1,6 %			0,3 %			-3,3%		

Source: Author’s calculations

CONCLUSION

In this chapter I will compare the results from regression model to earlier studies mentioned in theoretical background of this thesis. Results will be also compared to the hypotheses and I will discuss about hypotheses based on results. This chapter will show the contribution of this study and will also give suggestions for further study on this topic.

The data used for the study was gathered with questionnaire and received answers from 128 individuals. The data was examined with cross-sectional regression analysis in order to found out which factors are having an effect to the dependent variable. Dependent variable in this study was whether person have invested sustainably. In the regression 5 models were created to examine the factors effect. There was also created 11 additional model.

First hypothesis indicated that individuals who consider return of the investment as a less important factor are more likely to invest sustainably. This hypothesis was supported by previous study of Barber et al. 2019, they found in their research that people are willing to accept lower rate of return from impact funds compared mutual funds. (Barber et al. 2019) As stated previously in the thesis, there have been mixed result about the returns of sustainable investment, because of this the returns of sustainable investment have not been taken into consideration while making this hypothesis. The first hypothesis was rejected, as it was not supported in any models.

Second hypothesis indicated that people with higher income are less likely invested sustainably. Income variable showed significant effect at level of 10% in all model which it was added. The coefficient in this was positive, which indicated that people with higher income were more likely invested sustainably. These results showed opposite results compared to the hypothesis. Previous study of Paetzold and Butch 2014 supported this hypothesis, stating that high volatility and short-term investing is acting as a barrier which are keeping these wealthier investors away from sustainable investing. The study also mentioned that wealthy investors are showing their interest toward sustainable investing. (Paetzold, Butch 2014). Based on results the wealthy investors interest have grown into actions.

Third hypothesis suggested that younger people are more likely to invest sustainably. This hypothesis was based on common sense and previous literature. Younger generation have raised importance of sustainability and have also made actions regarding this issue. From this reason it could be assumed that younger generation is more likely to also invest sustainably. Previous literature also supported this hypothesis. Dortfleigner and Nguyen 2016, found that especially young females are consider sustainability more important. (Dortfleigner and Nguyen 2016). Age as a variable was included in all five models and also in 11 additional models. Age did show significant effect at level of 10% in model two. The significance did not appear in any other models. Based on results from model two the results are supporting the hypothesis, but because it was the only model that showed significance and the level of significance was low, it can be stated that the support was weak.

There was not formed hypothesis considering education, but it was added as socio-economical factor to the models. Effect of education was significant at level of 1% in all model where it was included. Previous study from Rizvi, Fatima 2015 did not found relationship between education and stock market participation (Rizvi, Fatima 2015). This research did not study stock market participation, but the participation in sustainable investing. The result strongly indicates that lower education increases the tendency to participate in sustainable investing.

Three independent variables considering sustainable investing was created for the regression. These were sustainability of the investment, impact of the investment and ethics of the investment. Sustainability of the investment was only one of these that showed significant effect in the results. It showed significance at level of 5%. This effect was positively related to the dependent variable. The two other variables did not show significant effect. The coefficient of these two variables was negatively related to the dependent variable, which did raise questions when studying the results.

The results of this study were not as significant as I would hope for, but it still showed promising results for further study. The purpose of this study was met in certain level, but I would suggest studying this topic further as the results showed promising results and the topic is currently very rapidly growing area of the investing.
For further research in this topic I would suggest studying the different strategies of sustainable investing based on the results of the importance of impact of the investment and ethics of the investment. As mentioned earlier the result did not show significance on these two factors, but the

coefficient suggested that they had negative relation with the dependent variable. I would recommend to study further which are the reasons why investors are investing in sustainable investments. For example, are they trying to create positive impact to society with their investment or are they just trying to minimize the negative effect? Also as stated before sustainable investing has been trending subject for last years, and as we know the stock are rising and falling from demand and supply, there is also a chance that people are investing sustainably in hope for larger profits because of the high demand. I would also study this further as my study shows that respondents are not considering ethics and impact as a important factor. I would also suggest dividing investors based on the proportions of their portfolio that have invested sustainably in order to create more specific groups. Sample size of this research was small, and the age distribution was too heavily divided to young people. I would also suggest including investors experience to the study. Education level of the participant showed strong relation to the dependent variable in all models of this research. The purpose of this theses was to examine how values and effecting factors of sustainable investor is differentiating from non-sustainable investors values and factors. To gather the needed data for this research, a questionnaire was created. It contained 20 questions, which examined the socio-economical and the behavioral factors of the respondent and also the importance of their effecting factors. The questionnaire gathered total of 128 responses which was used as a data for this research. As a dependent variable the research used whether person has or has not invested sustainably.

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APPENDICES

Appendix 1. Variable explanations

Variable	Explanation
Dependent variable	
Sus_inv	Have sustainable investments, 0=No, 1=Yes
Independent variables	
Age	Age
Gender	Gender, 0=Female,1=Male
Edu_1	Highest achieved degree 1=Bachelor's degree or lower, 0=Something else
Edu_2	Highest achieved degree 1=Master's degree or higher, 0=Something else
Income_1	Last years income 1=0-49 999€, 0=Something else
Income_2	Last years income 1=50 000€ or more, 0=Something else
Re_time_1	Estimate time spend on research before choosing investment. 1=Less than hour, 0=Something else
Re_time_2	Estimate time spend on research before choosing investment. 1=1-2 hours, 0=Something else
Re_time_3	Estimate time spend on research before choosing investment. 1=3-hours or more, 0=Something else
Factor_1	Importance of return of investment when choosing investment. 1=No importance, 10=Extreme importance
Factor_2	Importance of familiarity of investment when choosing investment. 1=No importance, 10=Extreme importance

Factor_3	Importance of suggestion from family or close friends when choosing investment. 1=No importance, 10=Extreme importance
Factor_4	Importance of information from different media when choosing investment. 1=No importance, 10=Extreme importance
Factor_5	Importance of sustainability of investment when choosing investment. 1=No importance, 10=Extreme importance
Factor_6	Importance of investment's past performance/trend when choosing investment. 1=No importance, 10=Extreme importance
Factor_7	Importance of the investment's impact to society when choosing investment. 1=No importance, 10=Extreme importance
Factor_8	Importance of the information from financial statements when choosing investment. 1=No importance, 10=Extreme importance
Factor_9	Importance of the investments ethics when choosing investment. 1=No importance, 10=Extreme importance
Factor_10	Importance of the impact on diversification of responders portfolio when choosing investment. 1=No importance, 10=Extreme importance
Factor_11	Importance of the low risk level of the investment when choosing investment. 1=No importance, 10=Extreme important.

Appendix 2. Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1.Sus_inv	1																	
2.Age	-0,06	1,00																
3.Gender	0,16	-0,0496	1,00															
4.Edu_2	-0,24	0,59	-0,1639	1,00														
5.Income_2	0,04	0,84	0,00	0,49	1,00													
6.Re_time_1	-0,05	0,04	0,03	-0,0273	0,01	1,00												
7.Re_time_2	-0,01	-0,1117	-0,1334	-0,1127	-0,027	-0,4623	1,00											
8.Factor_1	-0,04	0,11	0,12	-0,06	0,17	-0,1217	-0,0337	1,00										
9.Factor_2	0,11	0,13	0,18	0,0755	0,14	0,0278	0,0277	-0,05	1,00									
10.Factor_3	-0,16	0,06	-0,20	0,00	0,04	-0,10	0,11	-0,1501	0,08	1,00								
11.Factor_4	-0,08	0,23	-0,0266	0,07	0,26	-0,0647	-0,10	-0,19	0,09	0,28	1,00							
12.Factor_5	0,17	0,27	-0,1532	0,12	0,23	0,07	-0,0705	-0,0597	0,06	0,08	-0,1634	1,00						
13.Factor_6	0,04	0,08	-0,0731	0,11	0,15	-0,09	-0,05	-0,21	0,33	0,15	-0,09	0,03	1,00					
14.Factor_7	0,02	0,34	-0,1752	0,20	0,28	-0,12	-0,0477	-0,0425	0,02	-0,12	-0,1128	0,70	0,03	1,00				
15.Factor_8	0,14	0,21	-0,0098	0,10	0,22	0,1973	-0,0875	-0,34	0,16	-0,1263	-0,15	0,18	0,19	0,22	1,00			
16.Factor_9	0,01	-0,31	-0,3152	0,25	-0,25	-0,09	0,0767	-0,0309	0,05	-0,14	0,0999	0,71	0,13	-0,78	0,12	1,00		
17.Factor_10	0,11	0,0577	-0,3352	0,09	0,0086	0,2395	0,15	-0,09	-0,10	0,0311	-0,022	0,01	-0,29	0,1023	-0,20	0,08	-1,00	
18.Factor_11	-0,04	0,11	-0,3147	0,08	0,06	0,07	0,08	-0,1717	-0,0221	0,28	0,03	0,08	-0,0046	0,12	-0,1029	0,17	-0,0159	1,00

Appendix 3. Additional models of regression with significance

	Model 3			Model 5		
Variables	Coef	St.Error	p/***	Coef	St.Error	p/***
Age	−0.016	(0.029)		−0.028	(0.029)	
Gender	−0.355	(0.408)		−0.052	(0.398)	
Income_2	1,475	(0.795)	*	1,431	(0.781	*
Edu_2	−1.579	(0.531)	***	−1.413	(0.523)	***
Suggested by friend/family	−0.157	(0.077)	**			
Sustainability of investment				0,175	(0.086)	**
N	128			128		
Adj. R2	2,9 %			2,9 %		

Source: Author's calculations

Appendix 4. Survey questions

Question 1. Age of the participant
(Open question)

Question 2. What is your gender?
(Female, Male, Other, Prefer not to say)

Question 3. Education of the participant
(Lower secondary school, Upper secondary school, Bachelor’s degree or equal, Master’s degree or equal, Higher than master’s degree, Prefer not to answer)

Question 4. Which of these describes your personal income last year?
(0€, 1-9 999€, 10 000-24 999€, 25 000-49 999€, 50 000-99 999, 100 000-150 000, More than 150 000€, Prefer not to answer)

Question 5. Have you invested in financial instruments?
(Yes, No)

Question 6. Have you invested in sustainable investment intruments?
(Yes, No)

Question 7. If you answered "yes" to the previous question. In what type(s) of impact/sustainable investment instruments have you invested in?
(Fund/ETF, Bond, Stock, Property, Project)

Question 8. How many hours on estimate do you spent time on research before choosing investment?
(Less than hour, 1-2 hours, 3-5 hours, 5-10 hours, over 10 hours)

From the following questions rank each factor from scale 1 to 10 by how important that factor is to you when choosing investment. (If you haven't invested estimate the importance)

Question 9. Return of the investment
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 10. Familiarity of the investment
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 11. Suggested by close friend or family member
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 12. Information from different media
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 13. Sustainability of the investment
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 14. Past performance/Trend
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 15. Impact i.e. investment creating positive value for society
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 16. Information from financial statements
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 17. Ethics of the investment
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 18. Diversification of your portfolio
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

Question 19. Low risk of the investment
(No importance 1 2 3 4 5 6 7 8 9 10 Extreme importance)

If you did not find all of your factors, please add them to this and rank the importance on scale of 1 to 10 (1 - no importance, 10 - extreme importance)

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