KU LEUVEN
HOGESCHOOL-UNIVERSITEIT BRUSSEL
FACULTY OF ECONOMICS & BUSINESS

Internally Organised Master's Thesis

Examining the choice environment to promote sustainable investment fund decisions

Veerle MONKERHEY

Master's Thesis Submitted for the Degree of
Master of Science in International Business Economics and Management

Supervisor: Christel CLAEYS

Co-supervisor: Tine FASEUR

Academic Year: 2013–2014

Defended in: September 2014

FACULTYOF ECONOMICS & BUSINESS - CAMPUS BRUSSELS (HUBRUSSEL)
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Master's Thesis Summary

EXAMINING THE CHOICE ENVIRONMENT TO PROMOTE SUSTAINABLE INVESTMENT FUND DECISIONS

Veerle MONKERHEY

Summary

1. Problem definition and research question

Sustainable investing is growing rapidly, however, the retail market is visibly lagging behind the institutional market. As a contribution to bridging the gap, this research investigated how financial providers (banks) could promote sustainable investment products in an optimal way to the retail investor. Departing from a Behavioural Economics (BE) perspective, the aim of this thesis was to examine how the choice environment can enable this. This research question has been addressed in two steps. Firstly, the empirical research investigated the existence of a halo bias provoking a negative influence on the perception of a sustainable fund (based on the theory of "sustainability liability" of Luchs et al. (2010) and Paliwal (2012)). Secondly, it was tested if, according to the technique of counter-explaining, providing information on sustainable investing would be able to mitigate this bias.

2. Research Method

Based on existing academic literature and conform previous BE research, a between-groups experiment was designed. A web-based questionnaire was distributed among Flemish retail investors, who were randomly assigned to one of three conditions. The research design enabled to examine direct and indirect effects, as well as moderators able to influence both effects. The results of the experiment were statistically tested on causality by the use of SPSS. Both multivariate as univariate analyses were used, as well as bootstrapping by use of Hayes' PROCESS macro.

3. Findings and conclusions

The results of the empirical experiment showed that respondents perceived a sustainable fund as more negatively than a conventional fund as a result of their perception on the return of the fund. This effect of the strong halo bias however was significantly mitigated when information was provided. No significant result was found that after the provision of information a sustainable fund was also perceived as better than a conventional fund. The moderators were not found to influence the halo bias nor the debiasing effect. The confirmation of a sustainability liability with regard to sustainable investment products is of main importance for sustainable investment providers. The fact that information can remedy this negative influence of sustainability is equally important. However, further research is necessary to explore how sustainable investment products can be perceived as more positive than conventional funds.

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List of abbreviations

ANOVA	Analysis of Variance
BE	Behavioural Economics
BEAMA	Belgian Asset Management Association
BELSIF	Belgian Forum for Sustainable and Socially Sustainable Investing
BF	Behavioural Finance
CI	Confidence Interval
CNG	Compressed Natural Gas
CSR	Corporate Social Responsibility
DV	Dependent Variable
ESG	Environmental, Social and Governance
IV	Independent Variable
MANOVA	Multivariate Analysis of Variance
SRI	Sustainable and Responsible Investing

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Finally, I would like to thank my family and friends who supported me during my studies and this thesis, especially my parents.

Introduction

In modern days, consumers are bombarded with "sustainability". Food is organic, energy is green, even fashion is eco. The financial world could not stay behind and also sustainable investing has been fully integrated into the banking sector. However, while organic food and green energy and even eco fashion has been easily embraced by households, sustainable investment products are still rather unknown or misunderstood. The contradiction of sustainable investing being a well-developed part of the financial sector and households remaining ignorant towards these products is caused by the gap between the institutional and retail market. While 31% of all invested assets in Europe are retail, only 6% of all sustainable products is directed towards the private investor (Eurosif, 2012).

Although Belgium being one of the more developed sustainable retail markets from Europe, almost half of the retail investors is not aware what sustainable investing is about. Of those that show a certain knowledge on the issue, only the minority actually invests in a sustainable product (Vanden Houte, 2014). To address this still existing gap between institutional and retail market and extend the retail market for sustainable investment products, it is important to understand the market and how consumers behave in it. Most research on sustainable investment has been focusing on the former, which has resulted in extensive literature on the evolution and performance of sustainable investment products. Less research has taken into account consumer behaviour from the retail investor. Those particular studies mainly focus on socio-economic characteristics or personality traits typical to the sustainable retail investor. However, this neglects the important contribution that behavioural economics (BE) can deliver to marketing. BE, an academic field which combines economics with psychology, has studied how people use to deviate from rational decision making. People for example use shortcuts (rules of thumb) when making complex decisions and are easily influenced by factors specific to the external environment, such as the amount of alternatives. The context in which decisions are made has been named the choice environment (Thaler & Sunstein, 2008).

The goal of this thesis is to define how providers (in this study: banks) can construct an optimal choice environment to promote sustainable investment funds. Following the mainstream of sustainable consumer goods, banks might be tempted to improve their green or ethical image. However, previous research has discovered a so called "sustainability liability", a situation in which defining a good as sustainable can actually result in a more negative perception of the good (Luchs et al., 2010). Based on a study of Paliwal (2012), we conduct an empirical research to test if sustainable investment products suffer from this sustainability liability due to a halo bias. With the aim of constructing an optimal choice environment, the research also investigated which changes could be made to remove this liability, with special focus on the provision of information. The questionnaire based experiment was conducted among Flemish retail investors.

With the examination of the retail investor's behaviour towards sustainable investing, this study tries to contribute to BE literature which has focused extensively on investor's behaviour and also somewhat on sustainable consumption but has rarely combined both. The first part of the thesis addresses this issue by examining literature. In the first chapter, literature on sustainable investing is surveyed. The second chapter provides an introduction to BE. The third chapter builds further on the second by applying the introduced concepts to the specific situation of sustainable investing. This results in defining several hypotheses. The second part presents an overview of the research methodology. In the third part, the empirical findings of the tested hypotheses are reported. In the fourth part, those results and the limitations of the research are further discussed. Also some indications for further research are made.

PART I: LITERATURE REVIEW

The literature review of this thesis consists of three chapters. Firstly, an introduction on sustainable investing as well as on behavioural economics (BE) is provided. Afterwards, both main topics of this thesis are combined to examine the behavioural decision making process of a sustainable retail investor.

1. Sustainable investing

This chapter evaluates shortly literature on the topic of sustainable investing. Firstly, the history and evolution are briefly summarized, with a focus on Belgium. Also the different concepts by which sustainable investing has been known are clarified, as well as the differences in criteria that are applied. Afterwards, the performance of sustainable investments is compared to the performance of conventional investments. Also some motives for the limited size of retail market are provided.

1.1. What's in a name?

1.1.1. Origin and evolution in Belgium

The practice of sustainable investing originates from religious organizations which used ethical screening to avoid investing in products not aligning with their moral values. The first sustainable investment fund was launched in 1928. When the awareness for environmental, social en political issues increased, so did the interest in sustainable investing. In 1990, the first retail index fund was launched (Eurosif, 2012). The two following decades showed a rapid growth in the SRI industry. This was not any different for Belgium. With it first green investment fund dating from 1991, Belgium witnessed an increase from 0.48 million in 1992 to 11 billion[1] in 2012 (MIRA, 2012). However, after 2011 the number of sustainable investment products decreased slightly. Also the sustainable mutual funds lost a significant part of their market place: in 2011, 6.76% of all Belgian funds were sustainable, which decreased to 3.95% in the first quarter of 2014 (BEAMA, 2014). Still, Belgium's SRI market is one of Europe's strongest, with 10.4% of all European sustainable funds being Belgian (KPMG, 2013). Belgium has also a strong sustainable retail sector compared to other European countries: 23% of all retail assets are sustainable investments, compared to the European average of 6% (Eurosif, 2012). In 2013, Belgium's sustainable retail market was reported to have 204 sustainable retail funds (Vigeo, 2013). However, the institutional market continues prevailing. The importance of sustainable investing has also been represented by several initiatives to stimulate a further growth. Forum Ethibel is one of the most prominent players in this field and tried to address the problem of the information overload by designing an Ethibel-label (Forum Ethibel, 2014). Also Belsif, the Belgian Forum for Sustainable and Socially Sustainable Investing (comparable to Eurosif), as well as Beama, the Belgian Asset Management Association, and Fairfin contribute by providing research, statistics or promotion to banks and broad public.

1.1.2. The concept of sustainable investing defined

Sustainable investing did not only evolve historically, but also conceptually it has faced many changes. This resulted in a long list of different terms. Although many of those are commonly used as synonyms, several distinctions can be drawn. For example, according to Eurosif (2011) responsible investing focuses on the institutional market, while socially responsible investing is more directed towards the retail market. Sustainable and responsible investing is in this case used as a generic or umbrella term (Zarbafi, 2011). However, Krosinsky and Robins (2008) interpret

[1] Numbers differ according to the use of different screening methods

socially responsible investment as the predecessor of the term sustainable and responsible investment. They separate responsible investing, social investing and sustainable investing as three different categories. While social investing is mostly related to ethical investing, both responsible investing and sustainable investing focus on integrating environmental, social and governmental (ESG) factors. The existence of different terms can also be explained geographically. For example, ethical investing was frequently used as term in the United Kingdom while socially responsible investment was preferred in the United States (Michelson et al., 2004). In this thesis we will use sustainable investing as synonym for sustainable and responsible investing. Although also socially responsible investing is abbreviated as SRI, our use of the abbreviation SRI refers to sustainable and responsible investing. A general definition to describe sustainable investing is as "an approach to investment that explicitly acknowledges the relevance to the investor of environmental, social and governance factors, and of the long-term health and stability of the market as a whole" (UNPRI, 2014, para 1).

1.1.3. Investing strategies

The heterogeneity of vocabulary is closely linked to the different strategies that can be used to define a financial product as sustainable. Because of the constant evolution in methods and different organizations employing different approaches, there is no common standard to identify a sustainable investment product. Eurosif (2012) for example identifies seven different strategies that asset managers can use to apply sustainability and responsibility into their investment decisions. Some of those strategies are norms-based screening (investments are screened on their compliance with international standards and norms), best-in-class selection (investments selected based on being best-performing within a certain category) or exclusions of holding (excluding investments specific to a certain sector or country). Another classification was established by KPMG& ALFI (2013), which divides sustainable financial products according to the three ESG criteria and adds two cross-sectoral categories (ethics being one of those). Also "generations" have been commonly used to classify between sustainable investments. The first generation uses negative criteria to exclude companies from certain sectors such as weapons and tobaccos. The second generation is based on positive criteria, such as companies who are known for fair labour conditions or eco-friendly production methods. The third generation is somewhat broader and focuses on ecological, social and economic criteria at once. This is similar to the fourth generation, however, this generation uses more profound and more qualitative evaluation techniques and research (Mira, 2013).

1.2. Performance and the small market issue

One of the most discussed topics related to SRI is its performance compared to conventional investing. Two opposite perspectives are prevalent in literature. On the one hand, shrinking the amount of potential investments and thus limiting the choice possibilities would, from a rational perspective, lead to an underperformance. On the other hand, companies which follow the ESG criteria are considered to be well-managed, innovative companies that are able to deliver long-term performance (Keefe, 2007). This has often been related to a company adopting Corporate Social Responsibility (CSR). Proponents of CSR namely claim that CSR principles increase a company's credibility, enhance its competitiveness and limit possible liability compensations (Maignan et al., 2002; via Managi, Okimoto and Matsuda, 2012). Investing in this kind of companies would consequently result in an optimal return. Several studies have confirmed this positive turn. As Jacobs, De Moor en Van Liedekerke (2011) point out, a study of UNEP Financial Initiative and Mercer (2007) demonstrated that only three out of 20 studies showed a negative return for sustainable investment products.

Several of the studies focused specifically on the performance of funds. Most resulted in a neutral finding on the correlation between ESG factors and performance, with sustainable funds performing

as good as conventional funds. Some ethical funds (e.g. in Australia) were registered as underperforming, with performance catching up after some years. The relationship was also laid with the intensity of screening. For example, funds with criteria screening on community relations resulted in a higher performance, while funds screening on labour relations or environmental criteria were found to have an opposite outcome. Also in Belgium, a study revealed no empirical evidence that SRI funds under or outperformed Belgian conventional funds (Van Liedekerke, De Moor, & Van Walleghem, 2007).

As most research confirm that the performance of SRI funds does not differ from conventional funds, the question that logically follows is then why the retail market remains so small. This issue can be addressed from the supply side as well as from the demand side. From the supply side, investment institutions have been found to value ESG issues less than their clients. This can be explained by formal procedures constraints, informal duties and trying to act in the best financial interest of their beneficiaries. Financial beliefs instead of ethical beliefs prevail. This underestimation of the importance of ESG issues has consequently led to an underestimation of the potential market for SRI products. SRI has been considered by most providers as a specific product to only attract a small niche of the market (Jansson & Biel, 2011).

From the demand side, research has mostly investigated ethical, green and socially sustainable investing from a sociological perspective, trying to understand what motives a sustainable investor uses. Mackenzie and Lewis (2000) noticed that ethical investing can be seen as part of the lifestyle those investors have chosen for. A subgroup of the sustainable investors was also willing to give up optimal financial performance as a trade-off for their moral values (Berry & Yueng, 2013). Hofmann, Meier-Pesti and Kirchler's (2007) overview on ethical investors' characteristics emphasized this role of ethical and environmental values. Those were represented by other ethical behaviour such as donating to charities. Also age and gender can play a role, with evidence pointing towards women investing more easily in ethical funds and younger and better educated investors exposing a certain preference towards ethical investments (although this has been contested by other studies). Hofmann, Meier-Pesti and Kirchler's study confirmed that investment decisions were influenced by moral considerations.

An important consequence from the lack of homogeneity with regard to concepts and strategies is the complexity for the (retail) investor. The investor who decides to make an educated decision needs to evaluate each fund and its strategy separately. Some SRI products are also very similar to conventional products because of a screening method applying only few criteria. Investors who do not ought this satisfying, might not understand it is because of the screening method and that it is not automatically inherent for SRI. In general, the many different names and huge amount of information on sustainable investing, is highly confusing for a retail investor (Nilsson, Siegl, & Korling, 2010). In a consumer study in the United Kingdom, 32% of investors mentioned "confusion because of the available information" as a barrier to invest in SRI. Also the fact that there is not enough information on how SRI makes a difference, or that they to do not know where to find information on products, is mentioned as hindering a possible sustainable investment (EIRIS, 2009).

Besides the complexity of information, another sensitive area are the doubts among investors about the return of SRI investments. Even among those that already invest in a sustainable product, almost half expressed their concern of underperformance (MacKenzie & Lewis, 2000).This doubt is also present among the Belgian investor. Almost 40% believe that SRI products underperform, while 25% reports to have no idea at all. Almost half of those investors also claim that, if the return would be equal to a conventional fund, they would be convinced to invest in SRI. However, 29% requires a higher return than from a conventional fund to make the step. In general, only 7% of the Belgian investors indicated that they had the intention to invest in a

sustainable product in that same year, while 30% stated they had clearly no interest in doing so (Vanden Houte, 2014).

To conclude, the rapid growth of SRI, as demonstrated in Belgium, proves its current importance. However, its evolution has also been marked by a heterogeneity in concepts and strategies. Previous research has proposed several reasons on why SRI has not been accepted more generally by the retail investor, despite its positive results on performance. One of the reasons is exactly this complexity of information, but also doubts about a positive performance of SRI are prevalent among retail investors. Another important issue is the lack of interest by providers, for whom ESG factors often are not of any relevance. In this thesis, we will not analyze the abovementioned motives which prevent retail investors to invest in SRI in depth, but focus on this issue from a Behavioural Economics perspective.

2. Behavioural Economics

To contemplate a background theory on the choice environment for SRI requires us to have an understanding of the concept of Behavioural Economics. This chapter investigates shortly the expanse of literature covering this broad topic. It firstly explores the evolution of this academic field. Secondly, the major elements are drawn out. Additionally, some points of criticism are presented.

2.1. Evolution

Behavioural Economics can be described as "the combination of psychology and economics that investigates what happens in markets in which some of the agents display human limitations and complications" (Mullainathan & Thaler, 2000, p.1). The key concept in this definition is "human limitations", which goes straight against the (neo)classical idea of rationality and logical positivism. The neoclassical "Standard Model" is a model of decision making which requires pure rational behaviour (Wilkinson & Klaes, 2012). This model has been supported by innumerable economists up till the 21st century (Morçöl, 2007). However, this neoclassical view of the *homo economicus* has always been accompanied by psychological insights. "The Theory of Moral Sentiments" from Adam Smith (1759), which discussed the role of emotions in decision-making, is one example of the early works on this topic.

Nevertheless, the science of economics prevailed over the, at that time new, academic discipline of psychology. Therefore, it took until mid 20th century for BE to truly surge. Herbert Simon announced in 1955 that he would try to "replace the global rationality of economic man with a kind of rational behaviour that is compatible with the access to information and the computational capacities that are actually possessed by ... man" (Simon, 1955, p.99). In 1975, Simon introduced the idea of bounded rationality, referring to cognitive limitations of decision makers (Wilkinson & Klaes, 2012). This bounded rationality results in a "satisficing" way of making decisions. Instead of analyzing all possible alternatives, as neoclassical decision making theories imply, humans rather form an idea (an aspiration) about what they want. Once they discover an alternative close enough to this idea, this idea would be picked out and the search would be stopped (Simon,1987).

Although Simon already discussed the human cognitive restrictions, the real birth of BE has often been marked by the publishing of two papers in the late 1970s. The first was written by two psychologists, Kahneman and Tversky, and introduced the Prospect Theory. This theory described how people make decisions in situations of uncertainty. The results showed a clear deviation from the Expected Utility theory, which was the neoclassical model of decision making under risk in which people were expected to behave in a complete rational way (Barberis, 2013). Five years earlier, they had already published a paper focusing on shortcuts and biases of intuitive thinking when making judgments. The second paper, written by the economist Richard Thaler (1980), presented the concept of mental accounting. This concept focuses on the way people think about money. The way money is received namely modifies one's treatment of it (cf. infra).

Since these works, hundreds of experiments have been conducted to provide a better understanding of deviations of the Standard Model (Wilkinson & Klaes, 2012). The aforementioned pioneers were able to not only create a new respectable academic field but also to make the theories accessible to a broader public by publishing bestsellers such as "Thinking Fast and Slow" (Kahneman, 2011) and "Nudge: Improving decisions about health, wealth and happiness" (Thaler & Sunstein, 2008). A more recent, although highly influential, behavioural economist is Dan Ariely, who also brought three bestsellers[2] on the market (Chapman & Pike, 2013). Behavioural Economics

[2]Predictably Irrational (2008), The upside of irrationality (2010), The (honest) truth about dishonesty (2012)

is now widely used in sociology, political science, law (Gilovich and Griffin, 2002), as well as in marketing.

2.2. Principles

Literature on BE, more specifically in the field of Behavioural Decision Theory (BDT), can be divided into two categories: judgement and choice. The former focuses on how people estimate probabilities. The latter takes a look at what influences people to select between several actions. Both categories are interrelated: in the process of making a choice, judgements need to be made (Camerer & Loewenstein, 2004). Both categories will be shortly presented. The provided examples are directed towards investors and investment products. In the next part (3. Behavioural decision making process for sustainable retail investment funds), these concepts will be applied more specifically to the subject of this present study, namely SRI products.

2.2.1. Judgement

2.2.1.1. Heuristics and biases program

Kahneman and Tversky (1974) introduced the concept of "heuristics". They started from the perspective that people base their decisions upon beliefs. Beliefs can be defined as "an idea, concept or value that an individual holds, with some probability, to be true" (MacFadyen, 2006, p.185). It is in the process of forming beliefs that people use heuristic principles. These principles, more commonly referred to as "rules of thumb" or "shortcuts", are used to make complex tasks easier. The three heuristics presented in this original paper were the representativeness, availability and anchoring heuristic. Those showed that people judge probabilities on basis of respectively similarity, ease of recalling a similar situation and a starting point (Kahneman & Tversky). Many other heuristics have been identified since. Important here is that a heuristic can be a good thing. Since it is a shortcut, it can be used when information is complex, insufficient or time is short. However, it can also easily lead to wrong results or to so called "biases": discrepancies between intuition and the correct answer (Wilkinson & Klaes, 2012; Chapman & Pike, 2013). The list of behavioural biases is extensive.[3] The heuristics and biases program, which identifies and discusses both, has been the primary focus for a vast part of the BE literature (Chapman & Pike).

2.2.1.2. Heuristics and biases in Behavioural Finance

In Behavioural Finance (BF), a sub discipline of BE, the heuristics and biases have been investigated as deviations from rational behaviour in financial markets (Hens & Rieger, 2010). Some typical investor biases will be listed now. An often mentioned bias is the overconfidence bias. This occurs because people tend to estimate probabilities too high. When someone thinks that he is "99% sure", the relevant probability is usually only 85%. Similar to this is the problem of optimism: people overestimate their own skills, while underestimating the impact of outside factors. Also the hindsight bias has been frequently mentioned in BF. This bias results in overestimating the probability of an event when this event occurred recently (Kahneman & Riepe, 1998). Also the aforementioned anchoring bias can influence financial decisions. It causes investors to rely too much on past prices in the stock market, while in fact there is a very small correlation between past and present prices (Shiller, 1998).

Another heuristic that is usually used by investors is the 1/*n* rule, specified as "naive diversification". This heuristic provokes that, when investors are making their portfolio choice, they simply add one of each alternative or category (Benartzi & Thaler, 2001). Also loss aversion can

[3] An overview of heuristics and biases can be find in Gilovich & Griffin (2002).

influence a financial decision. Kahneman and Tversky (1979) namely discovered that the dissatisfaction of losing is higher than the satisfaction of gaining. This results in the fact that investors hang on to their losing investments too long, while winning investments might be even sold too early (Peteros & Maleyeff, 2013). Another often mentioned heuristic in financial decision making, focusing on households, is mental accounting. Thaler (1999, p. 183) defined mental accounting as "the set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities". Individuals mentally classify their money in a certain category, with money in one category not having the same value as money from another value. Also Chater et al. (2010) directed their research towards the retail investor, more specifically the biases they are vulnerable to. The results showed that besides the extreme aversion they have against uncertainty, they were also highly averse against complex products and sensitive to confusion in the presence of complex information.

2.2.2. Choice

While judgments depend on beliefs, choices depend on preferences. Standard preference theory beliefs that consumers know what they like and they will make choices based on these underlying preferences. Again, BE has proven that in real life, people often violate this standard, economic, theory. Decision makers have found to be highly influenced by the context in which alternatives are presented to them. This constructive view of decision making states that people do not have pre-defined preferences but they construct preferences at the moment of making the choice (Gregory, Lichtenstein, & Slovic, 1993). This means that the presentation of the choices will determine which preferences will be "revealed". Thaler and Sunstein (2008) use the concept of "choice architecture" to indicate that the context in which people make decisions has been constructed. They state that there is no such thing as a neutral design of a choice environment. The choice architect can influence the decision maker by designing a choice environment that exploits the existence of biases, or by designing one that tries to mitigate those biases (Jolls & Sunstein, 2006). Less research has been done with regard to the latter (Lilienfeld, Ammirati, & Landfield, 2009).

2.2.2.1. Exploiting biases

One of the most cited theories on how a change in choice environment can influence the decision maker is framing. Kahneman and Tversky (1981) showed with their famous Asian Disease experiment[4] that describing a decision problem in an alternative way provokes different preferences. Their experiment proposes a context of risk (one option is for sure, the other one includes a risk), although the framing effect can also occur when no risk is involved. A well-known research of Levin and Gaeth (1988) demonstrated that labelling beef as 75% lean resulted in a better rating of the beef than when the label mentioned 25% fat. Also the anchoring effect, mentioned before in the context of judgement, can be placed in this constructive view on decision making. The anchoring effect proves the reference-dependence of decision makers: depending on a random number given, people value a product differently. A typical experiment to proof reference-dependence is the following: subjects are asked to think of the last two digits of their social security number and then answer the question if they would pay a given amount for a certain bottle of wine. Those with a higher number were willing to pay more (Ariely, Loewenstein, & Prelec, 2003).

[4]Respondents are presented an imaginary situation of the outbreak of an Asian disease, which is expected to kill 600 people. There are two possible solutions: (1) If adopting program A, 200 people will be saved. (2) If adopting program B, there is 1/3 probability that 600 people will be saved, and 2/3 probability that nobody will be saved. In this positive framing ('lives saved'), 78% of the respondents chose the risk averse option. However, when formulating the two solutions differently, namely: (1) If adopting program C, 400 people will die. (2) If adopting program D, there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die; respondents reacted in this negative framing ('people dying') in a risk seeking manner.

Decision makers are also influenced by the availability of other options. This is called the context effect: "the relative value of an option depends not only on characteristics of that option but also on the characteristics of other options in the choice set" (Gregory, Lichtenstein, & Slovic, 1993). Related to this is the influence of the number of alternatives. The Standard Model would predict that the more choices are offered, the better this is for the decision maker. However, research has shown that too much choice might actually demotivate consumers. Changing the available number of items can thus modify a consumer's choice (Iyengar & Lepper, 2000). The influential characteristic of the number of alternatives brings us to another context effect: the categorization of alternatives. Considering the abovementioned 1/n heuristic in mind, this influence is easily deducted: since people are known to pick one of each, for example when building their investment portfolio, the way several alternatives are categorized will make a difference (Benartzi & Thaler, 2001). As Johnsson et al. (2012) conclude: when favourite investment options are split into various categories and disfavoured options categorized in one, the investor will be nudged towards the favourite options. Also the way alternatives or attributes are put in order can modify one's choice (Lynch & Ariely, 2000). Several other influencing factors have been discussed in BE literature, as for example the use of default options (Thaler & Sunstein, 2008).

2.2.2.2. Mitigating biases

When the choice environment is designed in a manner that it tries to mitigate possible biases, this process is called the *debiasing* of the decision making process. Changes in the choice environment to overcome biases have been categorized by Larrick (2004) into motivational, cognitive and technical strategies. Motivational strategies are for example providing incentives (mentioned by Thaler & Sunstein (2008) as an effective method to nudge) or holding people accountable for their decision. The latter improves decision making by causing greater effort and use of information or by stimulating self-criticism. As cognitive strategies Larrick mentions the "consider the opposite" technique and training. Provoking decision makers to consider the opposite is a useful technique to overcome biases since it directs attention to a point of view that would not have been considered by themselves (Lilienfeld, Ammirati, & Landfield, 2009). Training people in logical and economic principles as well as to how to solve probability problems more correctly has also been proposed to help replace people's inferior strategies by better strategies. The third category, technological strategies, is more complex, based on statistical models or decision analysis, and more difficult to adopt.

2.3. Criticism

When the idea of systematic biases was introduced by Kahneman and Tversky in 1974, it was criticized as an "unfairly negative view of the mind" (Kahneman, n.d.). Gilovich and Griffin (2002) called this the "We Cannot Be That Dumb" Critique. Kahneman and Frederick (2002) saw a way to solve this controversy using the perspective of the dual-process model. System 1 is an automatic and effortless intuitive process, while system 2 is a slower and deliberate process. Judgments can be made by using one of these systems or a mixture of both. When only system 1 is used, there is a very high chance that biases will occur. However, system 2 is sometimes able to prevent those (Kahneman).

Currently, the principles of BE are accepted more easily, but another kind of critique has surged. Especially since the "nudge" theory of Thaler and Sunstein (2008), BE has been embraced by policymakers. The philosophy behind the nudge theory is that people are guided towards making choices in their best interests, but they are free to behave differently. This has been entitled as "libertarian paternalism" (Goodwin, 2012). Practically, it implies that choice environments are designed in a way that they influence people's behaviour to make better decisions for themselves (Thaler & Sunstein). This is not by everyone accepted as an appropriate policy instrument. Goodwin (p.89) calls it "exploiting the imperfections in human judgement and decision-making"

with the objective of the choice architect to apply his own judgement of what he thinks that should be done. This can be seen as an undermining of someone's control over his ability to choose. Goodwin mentions as another problem the fact that influencing someone's behaviour in this way, is not provoking any substantive change. Small nudges are not sufficient to tackle big problems. Besides this, since people are vulnerable to nudges they can also easily be nudged in another direction.

In this chapter, an introduction was provided to the broad and heterogeneous subject of Behavioural decision making. Because of the empirical nature of this study with focus on the specific subject of sustainable retail investors, this topic was only touched upon briefly. Heuristics and biases were presented with examples of Behavioural Finance. Several methods of designing a choice environment were discussed as well. The concepts will be used in the next chapter.

3. Behavioural decision making for sustainable retail investment funds

This chapter explores the possibility to embed the aforementioned concepts of BE in the context of sustainable investing. Firstly, the rational decision making process of a retail investor is examined. Afterwards, the biases and variables in the choice environment which can provoke a sustainable investor to deviate from this rational decision maker are examined. The existing research guides us towards several hypotheses.

3.1. (Rational) Decision making process

A popular model for a general decision making process is the five-stage decision process. This was introduced by John Dewey in 1910. The five stages are: problem recognition, information search, evaluation of alternatives, purchase decision and outcomes (sometimes called the post-purchase behaviour) (Bruner, Pomazal, 1988; Engel et al.,1991). To our best knowledge, no research has applied this model on the specific situation of the sustainable retail investor. Also with regard to (conventional) retail investors, few research has been done (Capon, Fitzsimons & Prince, 1995; Awan & Arshad, 2012). In the next paragraph, we will outline the decision making process for retail investors as Chater et al. (2010) have described it.

Retail investors go through six different stages: assessing their personal balance sheet; determining their preferences, including risk aversion and investment horizon; determining the optimal allocation across asset classes; picking individual securities; undertaking a transaction; reviewing the decisions and monitoring the portfolio. These six stages of Chater et al. (2010) can be fit into Dewey's five stage model (1910). Assessing their personal balance sheet can be seen as the first stage, namely the problem recognition. It is the moment at which the future investor takes a look at his financial assets to decide if and how much he can invest. Determining preferences can be compared to the information search. Chater et al. focus in this stage on the risk part of different investment products. Research has shown that not only risk but also return is of main importance, besides other factors such as the management fee and reputation of the fund (Capon, Fitzsimons & Prince, 1995; Nilsson, Siegl & Korling, 2001). Determining the optimal allocation, together with the individual securities picking, can be considered as the stage in which alternatives are evaluated. In investment terms, this is called the "strategic asset allocation". Undertaking a transaction would then be equal to the fourth stage, the purchasing decision. Reviewing and monitoring is post-purchase behaviour.

Five stage decision process	**Decision process of a retail investor**
Problem recognition	Assessing personal balance
Information search	Determining preferences
Evaluation alternatives	Determining optimal allocation Picking individual securities
Purchase decision	Undertaking transaction *
Post-purchase	Reviewing decisions

* Main focus of this research

Table 1. *General decision making process compared to the decision process of a retail investor*

A retail investor goes several times through this decision process. He namely has to choose between several retail investment products: bonds, stocks and shares, personal pensions, funds (e.g. investment funds, mutual funds, exchange traded funds), structured products and life insurance products. He also has to decide where he wants to make his purchase, namely directly with the provider (bank, insurance company, employer, state, …) or through a third party (Chater et al., 2010).

In this present study, we focus on the retail investor who will invest in funds provided by a bank. Our attention goes to the fourth stage of the decision process, namely the moment at which the investor makes his choice between several funds. In the context of a bank, those funds are presented to him by a financial advisor. Based on the investor's (risk) profile, the advisor will make a pre-selection of four or five funds of which an information sheet with basic information will be laid out (N. Laperre, personal communication, November 1, 2013). Due to the limitations of our empirical study, the presence of a financial advisor will not further be taken into account.

3.2. BE principles applied

The aforementioned decision-making process is based on the presumption of complete rationality. BDT proved that this process would show certain flaws due to the bounded rationality of humans. Investment funds are considered as a complex product by most (retail) investors (Chater et al., 2010). The lack of standardization for SRI products even augments this complexity (Nilsson, Siegl, & Korling, 2010). Due to this complex nature and overload of information, the assumption can be made that investors will use heuristics during the choice process of SRI funds. This also implies that biases will be likely to appear.

Up to this date, we are only aware of very few studies that investigated the heuristic processing of a sustainable investor. Research of Glac (2012) investigated in an empirical way if sustainable investors make use of mental framing (cf. mental accounting). Departing from the idea that the way investing is mentally categorized by the individual is able to influence the investment choice, Glac confirmed that people who see investing as an expressing of their beliefs, add more SRI to their portfolio. With this, the author found an explanation for why some people care about CSR but do not invest in SRI. The reason is that they do not see investing as a way of expressing this belief. The way people develop the mental framing of investing is influenced by individuals' moral identity, as those with a strong moral identity will more likely connect their beliefs to investment decision.

Instead of investigating sustainable investing departing from typical investor's biases, as in abovementioned study, this thesis will focus on biases likely to appear during sustainable consumption. A significant amount of research has tried to understand consumer behaviour with regard to sustainable purchases (mostly green products) (e.g. Akehurst, Afonso & Gonçalves, 2012; Cotte & Trudel, Griskevicius et al., 2010; Lewis & McKenzie, 2000; Orten & Atik, 2009; Young et al., 2010). However, few studies have focused on this subject from a BE perspective. In those studies, one particular bias has been found to make a significant influence when consumers are choosing between sustainable and conventional alternatives, namely the halo bias (e.g. Luchs et al., 2010; Paliwal, 2012; Wiedmann et al., 2014).

3.2.1. The halo bias

3.2.1.2. Definition

The halo bias (or the halo effect) was first named in Thorndike's article "A Consistent Error in Psychological Ratings" (1920). He defined it as "a process of cognitive bias that leads individuals to ascribe particular traits to others based upon some observed characteristic"(p.25). This indicated that people are not able to separate different characteristics but instead correlate them to make an

overall judgment. Later research related the halo effect to the people's preference to have a consistent belief system. Thus when a first impression has been good, the preference for consistency leads to an overall positive assessment (Grcic, 2008).

Aforementioned theories result in two different perspectives on the halo effect. The "general impression halo" states that the general impression influences the evaluation of individual attributes. The "interdimensional similarity halo" on the other hand posits that one dominant individual trait affects the other attributes. This happens for example when a consumer only knows the price of a product and so assumes that, since the price is high, the quality must be good as well (or vice versa) (Erickson & Johansson, 1985). This implies that price influences the perception of quality when price is the only known attribute. The interdimensional similarity halo effect thus states that one attribute affects other attributes when those are unknown (Boatwright, Kalra, & Zhang, 2008). However, the halo effect can be so strong that it modifies the evaluation of an attribute even when there is information foreseen to evaluate that attribute separately. Nisbett & Wilson (1997) defined this as "the strong interpretation of the halo effect".

Although the halo effect is particularly known in performance evaluations, several studies have been done by marketing researchers with regard to the bias in product evaluations. As one attribute affects the other attributes, the halo effect can distort the result of multi-attribute ratings. This way, multi-attribute rating models can result in misleading conclusions (Leuthesser, Kohli, & Harich, 1994; Neil, Beckwith & Lehmann, 1975). However, the bias can also be a useful marketing tool. It namely helps to understand the prediction of preference and to identify marketing opportunities (James & Carter, 1978). Research has already proven that the halo effect influences the consumer's view on a product due to the perception of the brand (Park et al., 2011; Rajput, Dillon, 2013) or the country-of-origin (Bhaskaran, 2005). The CSR halo (Cho & Kim, 2012; Klein & Dawar, 2003; Smith, Read & López-Rodriguez, 2010) and health halo (Chandon & Wansink, 2007) have also shown how people let their view on respectively CSR contributions of firms or the healthy image of restaurants influence other attributes and thus the general evaluation of the product.

3.2.1.2. The halo bias in sustainable decision making

Previous research on the halo effect with regard to sustainable (or green) products resulted in two opposite outcomes. Especially experiments for green marketing have shown that a sustainability label (or eco or organic label) can provoke a positive halo effect towards the product. For example, labelling wine or coffee as organic resulted in rating its attributes such as taste more positively than when rating the exact same wine or coffee that had been presented as conventional. Also the willingness to pay and to recommend it to others increased (Sörqvist et al., 2013; Wiedmann et al., 2014). In another research, women who were asked to rate clothing rated clothes with a sustainability label as more beautiful, more original and more extraordinary (Seine, 2012). Also Luchs et al. (2010) linked the halo bias towards a positive evaluation of a sustainable product.

Nevertheless, presenting a product as sustainable has also been found to provoke a negative result. This is what Luchs et al. (2010) called the "sustainability liability". They linked this to beliefs about trade-off[5] as well as to the conflict between ethicality and strength[6]. Paliwal (2012) however did connect the sustainability liability to the halo effect. In a same manner in which a positive attitude towards one attribute is translated into a positive evaluation of the product as a whole, rating one attribute poorly will result in the negative rating of other attributes and the product

[5] Beliefs about trade-offs imply that the presence of a desirable attribute can negatively influence other attributes. Due to budgetary and manufacturing constraints from producers, consumers might imply that a product superior on one attribute, automatically must be inferior on others.

[6] Ethicality is linked to gentleness, while it is negatively associated to strength. Luchs et al. their experiments showed that when strength-related attributes were valued more for a product (e.g. detergent compared to baby shampoo), the consumer's preference would be bigger for a less sustainable brand.

itself. Sustainability can lead to this "reverse" halo effect when sustainability is considered to be a negative characteristic of that attribute. Paliwal's experiment tested the perception of drivers towards cars with compressed natural gas (CNG), an alternative fuel. Due to a lack of knowledge and the doubt that sustainable products can be functionally strong, alternative fuels may be wrongly expected to provide less energy. When these expectations are strong enough, they can lead to biased judgements of the actual performance of products. Paliwal was able to proof this with an experiment in which 10 drivers were asked to each drive three cars: a petrol car, a CNG car and a petrol car which had been made to look like a CNG car. Although the functional attributes of the car were the same as from a car with petrol fuel, drivers rated the driving experience for CNG cars worse. The halo bias became even more salient when drivers would also rate the driving experience as worse for the simulated CNG car. This shows a clear negative impact of people's perception on a sustainable product.

3.2.1.2. The halo bias and sustainable investing

The idea of a (reverse) halo effect[7] convoking a sustainability liability is of main importance for choice architects who want to promote sustainable products. Based on the mechanism of inference, which implies that when consumers have limited information at the moment of decision making they will use information they obtained from similar situations or products (Chandon & Wansink, 2007; Smith, Read, & López-Rodríguez, 2010), we estimate that sustainability in the case of SRI products will result into a liability. As sustainable financial products are rather unknown (cf. supra), people are expected to rely for their decision making on known products in the same category. In this case, that would be sustainable consumer goods. Those consumer goods are known to be rather expensive, as several research confirm. A OECD report (2008) stated that sustainable products come with a "price premium". Awad (2011) mentioned that green causes are associated with an increase in costs. A research on organic food showed that 80% of its respondents think it is "too expensive" (Brennan & Kuri, 2002). A survey amongst Flemish youngsters evinced that 74% find financial reasons to be the decisive factor in the buying process of sustainable products (Vlaamse Jeugdraad, 2011). Results of a survey of The Guardian (2010) showed that over 80% of the respondents feel that environmentally friendly and ethical products are more expensive.

The general assumption can thus be made that from a financial perspective, people regard sustainability rather negatively. Once this aspect is used in the decision making process of SRI products, the (interdimensional similarity) halo bias then predicts that this negative rating of one characteristic will result in a negative perception of other attributes. This can also occur even when those other attributes are represented. The way the other attributes are evaluated will result in an general impression of the product. Besides the result of the halo bias on the attitude towards a product, we are also interested in the investor's actual behaviour. As sustainable consumption has been marked by a clear attitude-behaviour gap[8] (Vanhonacker & Verbeke, 2009; Young et al., 2010), it is important to investigate both separately. With intention being considered as "a proximal precursor of action" (Ziegelmann et al., 2007, p.97), we state the following:

> *Hypothesis 1:* Defining an investment fund as sustainable (vs. conventional) results in a more negative rating of the attributes risk and return (about which information is foreseen). This more negative rating of the attributes will in turn result in (a) a more negative general attitude and (b) a lower intention towards (investing in) the SRI fund.

[7] Throughout this thesis, we will not distinguish the "reverse" halo effect from the "normal" halo effect
[8] For example, Hughner et al. (2007) showed that between 46 an 67% of the consumers have a favourable attitude towards organic food but only 4 to 10% is translated into actual purchases.

3.2.1.2. Factors influencing the effect of the halo bias

The degree of a (halo) bias depends on several factors. Conforming BE literature, we can conclude that a bias will be less likely to appear when the decision maker applies a rational thinking process. Some factors that increase or decrease the chance on a more rational decision process are for example the complexity of the task, time pressure, knowledge on the subject, experience, ... (Shen, Richards, & Olson, 2005). Circumstances that can influence the halo effect in particular are for example the evaluator's familiarity or perceived importance of the product, the importance of the attributes, personal characteristics etc. (Beckwith, Kassarjian, & Lehmann, 1978). Based on this, we expect three factors to influence the halo bias in the specific case of sustainable investment funds.

Issue involvement

Involvement is the perceived personal relevance of a certain object, situation or action (Celsi & Olson, 1988). Consumer research has linked a higher involvement to a greater motivation to spend more time and exert more energy when analyzing information (Celsi & Olson; Petty & Cacioppo, 1979, Maheswaran & Meyers-Levy, 1990). This implies that consumers who are highly involved make decisions following a systematic (rational) strategy, contrary to low involved consumers who apply a heuristic processing method (Chaiken, 1980). High involvement results thus in a less biased decision making. This also confirms that the relative importance of an object can influence the halo bias (Beckwith, Kassarjian, & Lehmann, 1978). Besides the fact that high involved investors might be less vulnerable to the halo bias when evaluating SRI funds, studies on the purchasing process of sustainable goods have also shown the positive influence of social consciousness or pro-environmental attitudes (Ogle, Hyllegard, & Dunbar, 2004; Schwepker & Cornwell, 1991). The same result has been found by Lewis and Webley (1994) with regard to SRI. People who exhibit green attitudes are found to be more enthusiastic for green ethical investments (Lewis and MacKenzie, 2000). We then state the following:

> *Hypothesis 2a*: High involvement reduces the influence of the halo effect on the attributes risk and return which in turn results in (a) a more positive attitude and (b) a higher intention towards (investing in) the SRI fund.

Prior experience

Another variable that can influence the degree of a bias is prior experience. We will link prior experience with the concept of familiarity. For example, (brand) familiarity has been defined as "the number of ... direct or indirect experiences that have been accrued by the consumer" (Park & Stoel, 2005, p.150). Due to this similarity, we will consider influences caused by familiarity as equal to influences by experience. Familiarity has been found to cause more positive attitudes towards a product (Soberman & Parker, 2004). Also James & Carter (1978) found a positive correlation between familiarity and preference. However, in the same study, they did not find any correlation between familiarity and halo. Nevertheless, since several studies on consumer research do confirm the positive connection between previous experience and purchase intention (Park & Stoel, 2005), the following is hypothesized:

> *Hypothesis 2b*: Prior experience (vs. no prior experience) reduces the influence of the halo effect on the attributes risk and return which in turn results in (a) a more positive attitude and (b) a higher intention towards (investing in) the SRI fund.

Attribute importance

The importance of an attribute for the evaluator is believed to negatively influence the halo bias (Beckwith & Lehmann, 1975). This effect is similar to the effect of issue involvement: the more important something is, the more rational the decision process becomes and the less chance there is for biases to appear. However, an important attribute can also be expected to increase an already existing halo effect: if the halo bias is influencing an important attribute, there is an increased chance this attribute will influence the overall impression (Beckwith, Kassarjian, & Lehmann, 1978).

> *Hypothesis 2c*: High importance (vs. low importance) of the attributes risk and return reduces the influence of the halo effect on those same attributes. High importance of the attributes risk and return increases the influence of the attributes on (a) the general attitude and (b) intention.

3.2.2. A change in choice environment: providing information

Besides biases can also the choice environment affect the decision making process. Since we expect the halo bias to influence the choice towards SRI funds in a negative manner, the choice environment should be designed in a way it helps this negative influence to disappear. This implies that instead of exploiting the existence of biases, as many designs of choice environment propose, this particular choice environment should be one that mitigates the unwanted bias. We described earlier that the halo bias can influence the decision making on SRI products as retail investors might be tempted to extend the negative association they see between daily sustainable products and finance to sustainable financial products. As demonstrated before (see 1.2. Performance), this is not a correct representation of reality. The debiasing strategy of "consider the opposite", also called the "counter-explanation" strategy, has already proven its effectiveness to mitigate the overconfidence bias, the hindsight bias, explanation bias, confirmation bias and other related biases (Hirt & Markman, 1995; Lilienfeld, Ammirati & Landfield, 2009). In a study on health halo biases, the "consider the opposite" strategy also proved to mitigate the halo bias (Chandon & Wansink, 2007). In this present study, this strategy will be used to focus the investor's attention towards evidence on the true performance of SRI funds. We state the following:

> *Hypothesis 3:* Providing information about SRI (vs. no information) will no longer result in developing an attitude and intention towards (investing in) the SRI fund as a result of the effect of the attributes risk and return. Providing information will thus result a more positive attitude and higher intention towards (investing in) the SRI fund.

We expect the provision of information to debias the halo effect completely. Considering consumer surveys (cf. supra) in which respondents stated the importance of information to make their decision on SRI, we claim that providing information will result in respondents preferring sustainable funds over conventional funds. We then hypothesize:

> *Hypothesis 4*: The SRI fund with information provided on SRI (vs. a conventional fund) is rated more positively.

3.2.1.2. Factors influencing the effect of information provision

We expect the same factors that increased or decreased the halo bias, to provoke a difference in effect of information provision. This seems logical: when a factor already decreased the halo bias, it will not allow a debiasing effect of information (as no debiasing is needed). Only attribute importance is no longer considered. This factor is not of any importance without the attributes

themselves, which are, according to hypothesis 3, no longer mediating the effect on attitude and intention

Issue involvement

As the high involvement group is hypothesized to not be influenced by the halo effect, we expect that the mitigating function of information does not have any effect at all on this group. The low involvement group, however, is expected to be influenced by information provision.

> *Hypothesis 5a*: High involvement (vs. low involvement) decreases the influence of information provision.

Prior experience

Also the group that has invested in sustainable products once before, is expected to not be influenced by the halo bias. Also, information might not be very influential on them since they supposedly are already aware of more details about SRI.

> *Hypothesis 5b*: Prior experience (vs. no prior experience) decreases the influence of information provision.

3.3.1. Overview of hypotheses

	Halo bias
H1	Defining an investment fund as sustainable (vs. conventional) results in a more negative rating of the attributes risk and return (about which information is foreseen). This more negative rating of the attributes will in turn result in (a) a more negative general attitude and (b) a lower intention towards (investing in) the SRI fund.
H2a	High involvement (vs. low involvement) reduces the influence of the halo effect which results in a more positive attitude and a higher intention towards (investing in) the SRI fund.
H2b	Prior experience (vs. no prior experience) reduces the influence of the halo effect which results in (a) a more positive attitude and (b) a higher intention towards (investing in) the SRI fund.
H2c	High importance (vs. low importance) of the attributes risk and return reduces the influence of the halo effect on those same attributes. High importance of the attributes risk and return increases the influence of the attributes on (a) the general attitude and (b) intention.
	Information provision
H3	Providing information about SRI (vs. no information) will no longer result in developing an attitude and intention towards (investing in) the SRI fund as a result of the effect of the attributes risk and return. Providing information will thus result a more positive attitude and higher intention towards (investing in) the SRI fund.
H4	The SRI fund with information provided on SRI (vs. a conventional fund) is rated more positively.
H5a	High involvement (vs. low involvement) decreases the influence of information provision.
H5b	Prior experience (vs. no prior experience) decreases the influence of information provision.

Table 2. *Overview of the hypotheses*

The purpose of this chapter was to combine the topics from chapter 1 and chapter 2. First the decision making process of a retail investor was shortly discussed. Afterwards, we applied the BE principles on this decision making in order to estimate the deviations that might occur. Literature on biases towards sustainable goods pointed us to the theory on sustainability liability, which can be provoked by a halo bias. To design an optimal choice environment, the debiasing method of counter explanation was proposed. Both theories were defined in several hypotheses. These were presented in table 2.

PART II: RESEARCH METHOD

1.Research design

A quantitative, experimental, between-subjects approach was used. Data was obtained via questionnaires. The experimental design was built around one independent variable (IV), namely the presentation of four investment funds. This IV consisted of three conditions (levels). The first level of the IV presented the funds as four conventional funds. For the second level, two funds were presented as "sustainable investment funds". In the third level, those two SRI funds were presented together with information on what an SRI fund is and with the message that SRI funds perform as good as conventional funds.

The effect of the different conditions of the IV was tested on two dependent variables (DV), attitude and intention. The role of two different mediators, risk and return, on these DVs was tested. The design also included three moderators, which could influence the main effect or/as well as the indirect effect. Those moderators were involvement, prior experience and attribute importance. Figure 1 visualizes the relations between different variables.

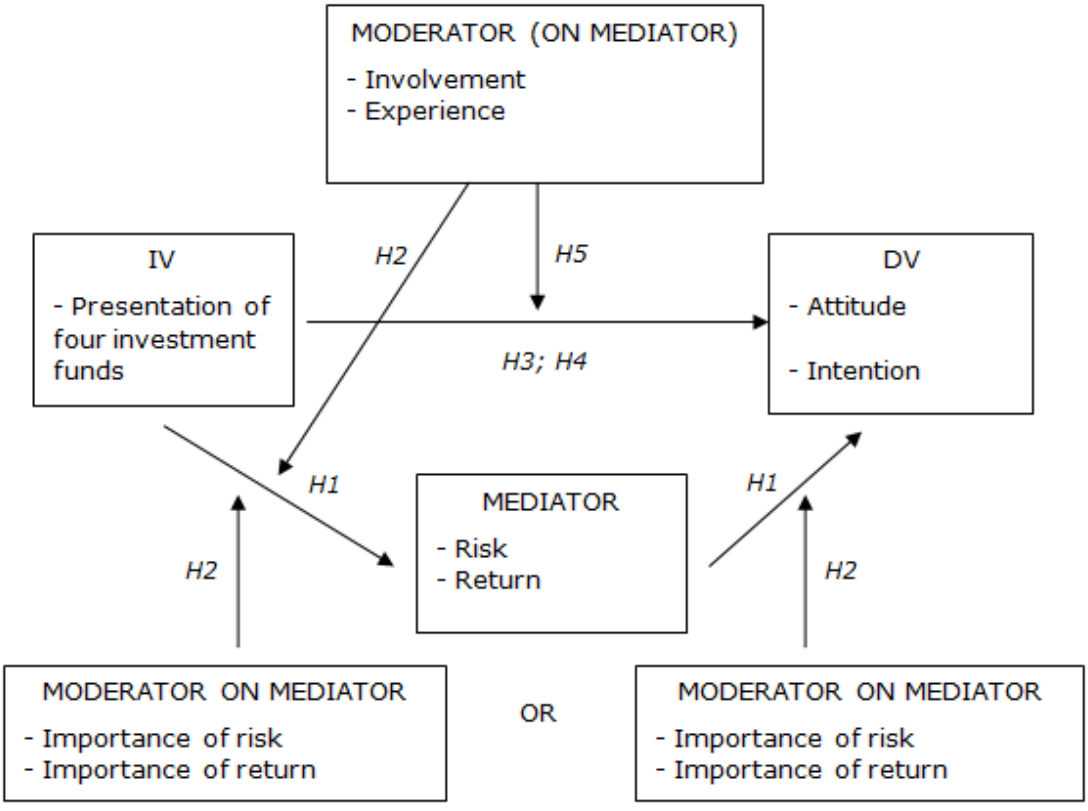


Figure 1. *Research design*

Studying the causality between the IV and the DV is possible because of the experimental manipulation of the IV. Several aspects inherent to an experimental design need to be kept in mind, such as the control of variance, reliability and validity. The objective of the research is to discover the (systematic) **variance** between the means of the different levels and to limit

unwanted variances. An example of the latter is an extraneous variance: other variables, besides the IV, that might influence the DV. In this research, the impact of those variables is decreased in two ways. Firstly by assigning respondents to the three levels of the IV in a random way. Secondly by statistically controlling secondary variables, namely the moderators. This way, the variables are no longer extraneous but control variables. A second unwanted variance is the error variance, provoked by random fluctuations in the experiment such as individual differences in intelligence, interests etc. between respondents. This variance has been tried to be minimized by giving clear instructions to respondents, as well as by developing the measuring instrument as reliable as possible (Broota, 1989).

The **reliability** of a research design refers to the fact that a repeated use of the measurement instrument (for example by other researchers) would lead to the same results. To be sure of the reliability, a test-retest should be done (Taylor, Sinha & Ghoshal, 2006). This is however not a feasible option for this research. The research is considered **valid** when the outcome really answers the research questions. Internal validity applies when the DV was truly influenced by the manipulation of the IV and the unwanted variables. The extraneous and error variance are a direct threat to internal validity. Edmonds & Kennedy (2013) listed several other threats, for example special treatment: when a particular group receives special attention, variances between groups could be due to this extra attention. To prevent that in the third experimental group the sustainable funds would be preferred simply because there were extra lines with information given, the length of information was controlled to be the same over all four funds in the three different conditions. A second type of validity is external validity, which refers to the generalization to the whole population. For research to be externally valid, it is important that the sample is representative to the population (cf. infra - 2.2. Sample).

2. Procedure

The primary data needed for the research design was received by use of a web based questionnaire (Qualtrics). The development of this questionnaire as well as the data collection itself and sampling are discussed here.

2.1. Questionnaire development

The questionnaire was pilot tested on a small group of five adults to prevent the use of unclear questions and possible overlooked issues. Four of these five participants had knowledge of or experience with investing. Their age ranged between 21 and 56 years. The common remark was the length of the questionnaire, mainly due to the time needed to read through and evaluate the several funds. This resulted in the decision to limit the experiment from five to four funds. Besides a semantic remark on the use of the word "investment", the questions themselves were found to be clearly formulated and understandable.

The questionnaire was established in Dutch and comprised three modules. The first part started with an introductory message in which respondents received the same information of the mail/message in which they were asked to participate. This included the subject of the study (to avoid mentioning the real research objectives, the subject was said to be "offering of financial products"), the anonymous aspect and the expected time they would need (max. 15 minutes). They were also warned that returning to a previous page was not possible. The first question served to separate the target group, people with a certain knowledge or experience in investing, from those who had no interest in investing at all. Respondents who answered positively on the question 'Have you already invested once?' or who indicated that although not having experience they were interested in it were assigned to the experiment. After answering questions about their knowledge on investing and investing funds, Qualtrics assigned them randomly to one of the three experimental groups. In all of the three groups, the respondent was asked to imagine a situation in

which he wanted to invest €5000 and decided to do this in investment funds of his proper bank. The task description tried to create a realistic image of the situation. As Chater et al. (2010) stated, this is necessary since the research focuses on context-dependent decision-making variables. A fixed amount of money was given to prevent that respondents would each imagine another amount, since studies have shown that when the value of a mutual fund purchase increases, investors are supposed to behave in a more rational way (Capon, Fitzsimons and Weingarten, 1994). Nonetheless, this does not avoid that for every respondent this amount will receive another personal value depending on the salary and savings.

Participants subsequently were presented with four investment funds (from A to D). This number was chosen to keep the experiment as close as possible to the real-world situation. Financial advisors namely generally present four or five alternatives to an investor (cf. infra). Since real investment fund information sheets consist of several pages, it was necessary to use a strongly summarized version. The four funds had the same basic structure (figure 2) in which some general information (e.g. region, sectors), the risk factor (two funds of factor 5 and two funds of factor 6) and return of 1, 3 and 5 years were presented. With regard to regions, each fund represented a different geographical region, namely Europe, North-America, South-East Asia and the world. We chose to only mention the sector general sector and no company names to prevent a representativeness bias towards known or favourite companies. The data presented for risk and return were numbers used from existing investment fund information sheets[9]. The four funds were presented on the same page and appeared in a random order for every respondent.

The manipulation of the investment funds was represented in the questionnaire as following: For two of the four funds, the East-Asian fund and the Global fund, respondents in the second experimental group would read as a first sentence of the general information: "This is a sustainable fund" (in Dutch "d*uurzaam fonds*"). The third experimental group would also read this sentence, as well as the following message: "The companies have been thoroughly scanned for criteria on responsibility towards environment, social rights, human rights and social corporate responsibility. There is no investing in companies from the tobacco and weapon industry. Research has already proven that the return of sustainable funds does not significantly differ from conventional funds." The first two sentences indicated on purpose a positive screening on criteria (including those companies that...) as well as a negative screening (excluding those companies that...). The mixture of a positive with negative message was chosen to avoid possible framing effects.

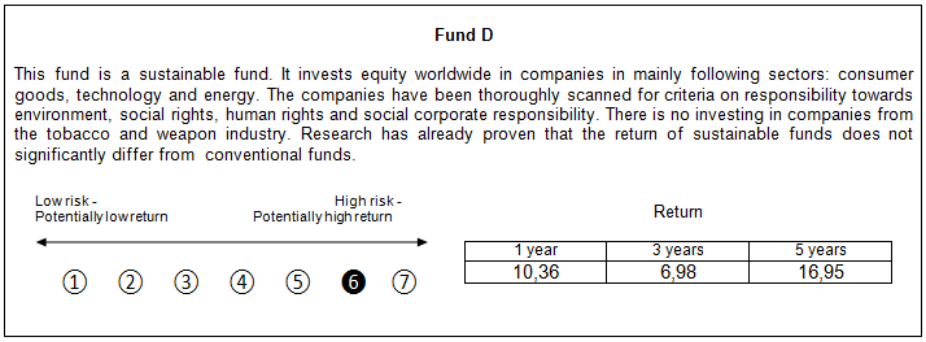


Figure 2. *Example of the presentation of a fund (fund D from the third experimental group)*

After the presentation of the four funds, the first module of the questionnaire ended with a question on the importance of the attributes. The second part of the questionnaire consisted of two questions to measure the respondent's involvement with the sustainability issue. In the third module, participants were asked to provide demographic information. The whole questionnaire can be found in appendix A (Dutch) and B (English).

[9] Retrieved from the ING, Morningstar and Triodos

2.2. Data collection and sampling

The data collection happened between March and June 2014. The used sampling strategy was the snowball method, a non-probability sampling method: respondents are not chosen in a completely random way. This means that not every member of the target population has an equal chance to be represented in the sample (Harris, 2003). The main disadvantage of this method is that it might create a bias: the questionnaire will only reach certain population groups and will exclude significant others (Wegner, 2008). The external validation is low. To start the snowball method, possible respondents received an e-mail or a message via another social media tool, with the question to fill in the questionnaire by clicking on the link. They were also asked to forward the message. To help the snowball effect move into the right direction of our target group (people with a certain knowledge or experience in investing), mails got sent to presidents of leisure investment clubs in Flanders with the request to forward the link to their members. The link was also posted on Belgian investment forums. All respondents received the message that participating was anonymously and no financial or other incentives were provided.

Among the total number of people (N = 232) who received the questionnaire in their mailbox and opened the link, 69% completed it. Of this total sample (N = 164), 119 participants were assigned to the experiment based on their investment experience (N = 103) or interest in investing (N = 16). The respondents without any knowledge on investing (N = 45) are not further considered in this research. Within the final sample of 119 respondents, 75% of the investors were men. Respondents rated their knowledge on investing as average (M = 4.33) while their knowledge with regard to investment funds was somewhat lower (M = 3.79). Age ranged from 20 to 79 with an average age of 45. Respondents were highly educated with 76% holding a bachelor degree or higher, while 8% were still students. The main percentage of respondents (66%) were part of the middle income group (between €1500 and €3500). A small part (15%) indicated not being receiving income at the moment. A bias due to the snowball method can be observed geographically: 59% of the respondents indicated West-Flanders as the region where they currently live.

3. Measurement

Using the right measures is of main importance to guarantee the reliability and validity of the research. We will now list the measures of the dependent variables, the mediators and the moderators.

3.1. Dependent variables

Both DV's were assessed by the use of a single-item measure. Although discussion exists about the low reliability of this type of measures, it is sufficient when the measure is adequately narrow and unambiguous to respondents. The pre-test proved this was the case. Single-item measures are usually also preferred by respondents who perceive multiple items as redundant (Park, Park, Dubinsky, 2011). Due to the magnitude of the exercise, it was important to keep the rest of the questionnaire as short as possible, which led to the use of this kind of measures.

Attitude– One's attitude can be measured by "a procedure which locates the subject on a bipolar affective or evaluative dimension" (Fishbein & Ajzen, 1975). The investor's attitude towards the funds was assessed by the statement "My general rating of this fund is good". The 7-point scale ranged from 1 (completely disagree) to 7 (completely agree).

Intention - To measure intention, the person has to be linked to a behaviour (Fishbein & Ajzen, 1975). The same 7-point scale was used, with the statement now being "it is quite likely that I will add this fund to my portfolio".

3.2. Mediators

The two mediators, risk and return, were assessed via two statements: "this fund has a high risk" and "this fund has a high return". Responses ranged from 1 (completely disagree) to 7 (completely agree).

3.3. Moderators

Involvement - The moderator involvement was assessed by using a twelve 7-point scale based on the work of Michalos et al. (2009). Response alternatives ranged from 1 ("not applicable at all") to 7 ("completely applicable"). The original "Sustainable Development Favourable Behaviours Index" consisted of 15 items. Two items were left out: "I do not use chemical fertilizers or pesticides on my own lawn" because it was not applicable to people without a garden and "I vote in municipal elections" as voting is obligatory for the Belgian respondents. A factor analysis yielded four factors which explained 59.8% of the variance. To continue with only one factor, six items remained (factor loading > .50)[10] (Appendix C). The internal consistency of these six items was measured using the Cronbach's Alpha. It showed an acceptable correlation (α = .719). The sum of the scores of the six items was computed and used as a measure of involvement.

Experience – The previous use of a SRI product has been measured in two different ways. First, one item of the twelve-item scale to measure sustainability asked if the respondent invests in sustainable investments. Secondly, based on a question of a consumer survey of The Guardian (2010), the respondents were asked to indicate if they think about the environmental and ethical impact when making certain types of purchases. One of the items was financial products and services. The answers were recoded to 1 for those who answered to think about either environmental or ethical impact and 0 for those who think about neither. As this second measure is more direct than the 7-point scale of one item, we will use this measure as moderator.

Attribute importance - The importance of the attributes risk and return and the presentation of information were measured by use of a single-item measure, asking the respondents how important each characteristic was during the decision making. Responses were made on a scale ranging from 1 (not important at all) to 7 (highly important). For each attribute a median split created two categories (0 = low importance, 1 = high importance). For both attributes the median was 6.

4. Analysis

The different hypotheses require different analyses. All will be conducted by use of SPSS.

4.1. Direct effect

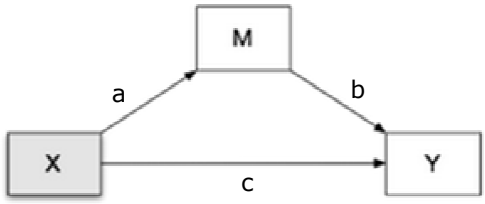
To test the main effect between the nominal IV and two interval DV, the Multivariate Analysis of Variance (MANOVA) test will be used. Although the two DVs could be measured separately via two univariate ANOVA tests, this is not a recommended procedure (Janssens et al., 2008). Conducting MANOVA via SPSS will also show the univariate results for the DVs separately anyway. For the multivariate outcome, the test Hotelling's Trace will be used as this one is recommended when the IV consists of two factors (Mayers, 2013). Several assumptions needed to be controlled in order to confirm the use of a MANOVA: the DV is interval or ratio and the IV categorical, observations are independent, there are no significant outliers and there is normal distribution and homogeneity of variances (Laerd, 2014). Although there is discussion concerning the use of a Likert scale as an

[10] According to Janssens, Wijnen, De Pelsmacker and Van Kenhove (2008), a factor loading is significant when higher than .50 in case the sample size is N = 120.

interval variable, it is acceptable (Jamieson, 2004). The IV is categorical. Participants were randomly assigned to a condition and to one condition only so observations are independent. Both DVs were tested on outliers by the use of a boxplot[11]. Since the MANOVA test is a parametric test, normal distribution is required. This was not confirmed: the Kolgomorov-Smirov test was significant (p< .01) thus rejecting the null hypothesis for normal distribution and also the graphic inspection of the histogram with a normal distribution curve indicated a deviation of the normal distribution. As a large enough sample size (> 30 or 40) suffices to offset any violation of the normality assumption (Ghasemi & Zahediasl, 2012), we do not consider the lack of normal distribution as a problem. The variables are considered as homogeneous as the Levene's test was not significant (p> .05).

4.2. Mediating effect

To test the indirect effect from the IV on the DVs, i.e. the effect of IV on DV through a mediator, model 4 from Hayes' PROCESS macro was used. This test requires the IV to be either dichotomous or at least interval and DVs as well as mediators to be continuous (Hayes, 2012). In this experiment, only two of the three levels of the IV are used per test, which leaves the IV to be dichotomous (to prevent errors during the test the two levels were coded as 0 and 1). The Likert scales of the DVs as well as of the mediators will be considered again as a continuous variable. Figure 3 gives a detailed view on the total, direct and indirect effect when including a mediator. The indirect effect is represented by two coefficients of the so called "paths" a and b. Although the models provides both paths separately, Hayes (2012) recommends to draw conclusions about the mediating effect based on the significance of the product of both paths instead of analyzing the significance of a and b separately. The indirect effect is represented by an estimate of the effect (a direction and magnitude) and a bootstrapped confidence interval (CI). If 0 lies outside the CI, the null hypothesis of no indirect effect is rejected (Preacher, Rucker, & Hayes, 2007). Throughout the analyses a 95% CI is used, thus indicating a significance level of p = .05. All the tests use bootstrap with 5000 resamples. The use of bootstrapping has the advantage that it is a non-parametric method and thus does not require a normal distribution. It is also useful for studies with smaller sample sizes (MacKinnon et al., 2002).



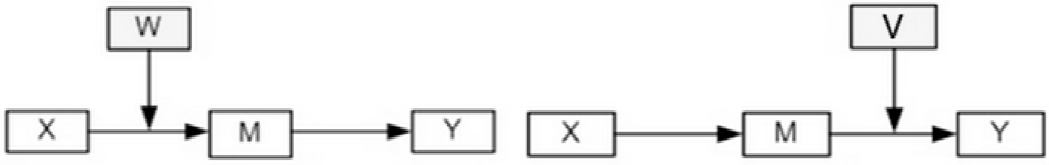
Source: IDRE
Figure 3. *Mediation (with paths) - PROCESS model 4*

4.3. Moderating effect

To test if the main effect from the IV on the DVs is moderated by other variables, two different tests can be used: the MANOVA test can be conducted with the moderator added as a second IV, or model 1 of the PROCESS macro can be used, in which the moderator is added as variable M. The preference is given to model 1 of the PROCESS macro, as the bootstrapping method is less exigent about normality and is recommended for small samples (when moderating, the sample is divided into smaller groups). It also accepts a continuous moderator, which prevents the data loss of a median split. Also in this model, the presence of a moderating effect will become clear from the interaction effect between the two IVs.

[11] Two outliers were found for the attitude on the Global fund from the condition with information provided.

To know if a moderator is influencing the indirect effect, two different tests can be conducted. The moderated mediation can namely find place between the IV and the mediator or it can occur between the mediator and the DV (figure 4). For the former, PROCESS model 8 can be used, the latter requires the use of model 14. The moderator needs to be dichotomous or at least at interval level (Hayes, 2012). Depending of the moderator, we will use it on dichotomous level or on interval level (scores of the Likert scale). Also these models make use of the aforementioned bootstrapping technique.



Source: IDRE

Figure 4. *Moderated mediation – comparison between PROCESS model 8 (L) and model 14 (R)*

PART III: RESULTS

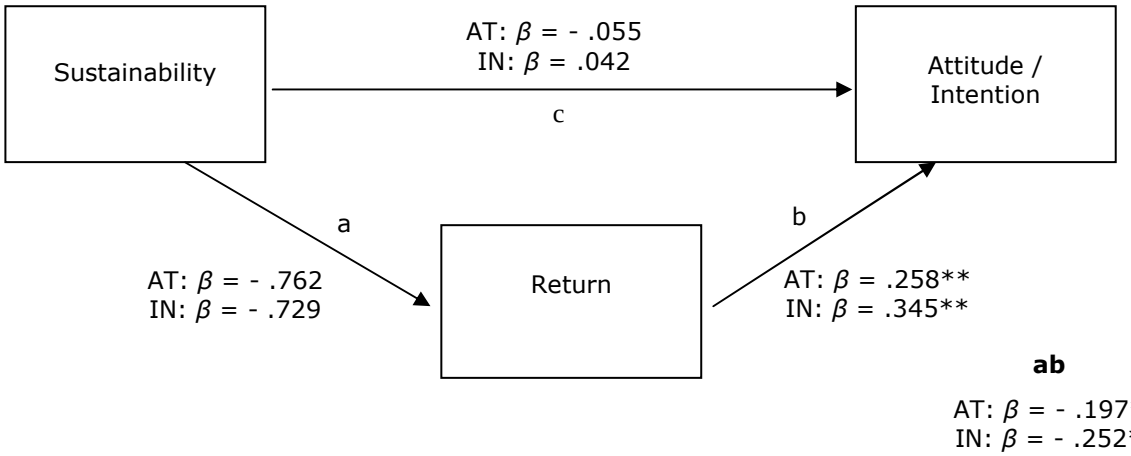
The research method and respondents introduced in the previous chapter were used to conduct the empirical experiment. First, the hypotheses concerning the halo bias will be tested. This includes the indirect effect and the moderators on the indirect effect. Secondly, the hypotheses indicating a possible effect by providing information will be tested. The main effect, indirect effect and effect of moderators are examined.

1.The halo bias

> *Hypothesis 1*: Defining an investment fund as sustainable (vs. conventional) results in a more negative rating of the attributes risk and return (about which information is foreseen). This more negative rating of the attributes will in turn result in (a) a more negative general attitude and (b) a lower intention towards (investing in) the SRI fund.

We hypothesized that, with the halo bias influencing the other attributes, the attitude and intention towards the fund would be negatively affect. Testing the indirect effect of sustainability on attitude via the attribute risk and return, Model 4 from the PROCESS macro did not reveal a significant indirect effect for the East-Asian Fund. The influence of the mediator risk as well as of the mediator return did create a significant direct effect from defining a fund as sustainable on the DV attitude ($p < .05$). Including the attribute risk or the attribute return to the analysis resulted namely in a more positive attitude towards SRI funds (risk: effect = .569; return: effect = .550). With regard to the indirect effect on the DV intention, no significant result, nor direct or indirect, has been revealed. Results do not confirm the existence of an indirect effect as hypothesized. The direct effect that appeared after including mediators in the model was not in line with our hypothesis of the halo bias, nor of a more negative attitude.

For the Global fund, Model 4 from the PROCESS macro revealed the attribute return as a significant mediator to provoke an indirect effect of the IV on the DV attitude (effect = - .197, 95% IC = [-.531, - .022]). This effect was negative, thus implying that defining a fund as sustainable affects the subjects rating of the attribute return, which in turn leads to a more negative attitude towards the fund. The direct effect was not significant (p = .879), which indicated a full mediation effect. Applying the model for the DV intention resulted in the same: return was again indicated as a significant, negatively directed mediator (effect = - .248, 95% IC = [. -651, . – 001]) with no significant direct effect (p = .840). We can notice that the indirect effect on intention occurred with a bigger magnitude than on attitude. Thus, defining the fund as sustainable provoked respondents to rate the fund 0.197 "units" more negatively as a result of their perception of return, while their intention to invest in the fund lowered with 0.248 "units". The direct and indirect effects on both DVs are represented in figure 5. Although the indirect effect is divided in two coefficients with each its own significance, Hayes (2012) recommends to only make conclusions about the indirect effect based on the total indirect effect (ab). Applying model 4 from the PROCESS macro to test the mediating role of risk did not result in any significant result, neither on attitude as on risk. Hypothesis 1 can thus partially (only for return) be accepted for the Global fund.



Note: AT refers to Attitude, IN refers to Intention

Figure 5: *Return as a mediator between responsibility and attitude/intention (Global Fund)*

> *Hypothesis 2a*: High involvement (vs. low involvement) reduces the influence of the halo effect which results in (a) a more positive attitude and (b) a higher intention towards (investing in) the SRI fund.

Issue involvement was expected to moderate the mediation effect of return (since risk showed no significant mediating effect) on attitude and intention. The interaction with involvement would provoke that low involved subjects would show a more negative attitude (intention) while higher involved subjects show a more positive attitude (intention) when a fund is defined as sustainable. Model 8 from Process provides the results for the interaction between sustainability and issue involvement. For the Global fund, no significant results were revealed for attitude or intention (p = .731)[12].

Testing hypothesis 1 revealed only an indirect effect for the Global fund and no direct effect between the IV and the two DVs attitude and intention. However, the lack of a significant direct effect does not exclude the possibility of a main interaction effect. For the East-Asian fund a direct effect was found when including mediators. For both funds, the interaction of issue involvement on the direct effect was tested. For the East-Asian fund, model 1 from Process did not show any significant outcome, nor for the interaction of sustainability with issue involvement on attitude (p = .500), nor on intention (p = .757). Also for the Global fund no significant interaction effect was found, nor on attitude (p = .286), nor on intention (p = .158). Hypothesis 2a is rejected.

> *Hypothesis 2b*: Prior experience (vs. no prior experience) reduces the influence of the halo effect which results in (a) a more positive attitude and (b) a higher intention towards (investing in) the SRI fund.

Again we will firstly measure the moderating effect of prior experience on the mediating effect of return. Our hypothesis implied that those with no experience would show a more negative attitude and lower intention while those with experience would be more positive and have a higher intention. Model 8 from the PROCESS macro revealed no significant interaction effect between responsibility and experience that moderated the mediation effect of return on attitude or intention

[12] As the interaction is measured between sustainability and involvement for the first path of the indirect effect, both DVs have the same coefficient and significance

(p = .941). There is no significant difference between the mediating effect of return on attitude and intention for subjects who had no previous experience as for those who did.

Also the interaction effect of prior experience on attitude and intention is measured. For the East-Asian fund, model 1 of PROCESS does not reveal any moderating effect of prior experience on attitude (p = .660) or intention (p = .578). The same lack of significance applies on attitude (p = .724) and intention (p = .937) towards the Global fund. The lack of a direct effect can thus not be explained by an interaction effect with prior experience. In general we can state that hypothesis 2b is not supported.

> *Hypothesis 2c*: High importance (vs. low importance) of the attributes risk and return reduces the influence of the halo effect on those same attributes. High importance of the attributes risk and return increases the influence of the attributes on (a) the general attitude and (b) intention.

In the first part of the hypothesis we imply that the mediation of return on attitude is different for the two levels of the moderator "attribute importance". Using model 8 from the PROCESS macro with the dichotomous variable "importance of return" as W value revealed no evidence of moderation of the indirect effect by attribute importance: the interaction between sustainability and the attribute importance is not significant (p = .316).

The second part of the hypothesis implies that the effect of the mediator return on attitude is moderated by the importance of return, while the effect of sustainability on the mediator is not moderated. The interaction between sustainability and attribute importance was indeed not significant, which leaves the possibility open for a significant interaction between the mediator return and attribute importance. The results of the test, conducted using model 14 of the PROCESS macro with the dichotomous variable of importance of return as V value, however showed no significant result (p = .131). Also this model thus revealed an absence of a moderation of attribute importance on the significant indirect effect of sustainability on attitude or intention. Hypothesis 2c is rejected.

	East-Asian fund		**Global fund**	
Interaction effect on indirect effect	Attitude	Intention	Attitude	Intention
Sustainable x Involvement	/	/	.150	.150
Sustainable x Experience	/	/	-.071	-.071
Sustainable x Attribute Importance	/	/	.851	.851
Attribute x Attribute Importance	/	/	-.291	-.291
Interaction effect on direct effect				
Sustainable x Involvement	.198	.127	.417	.601
Sustainable x Experience	.280	.489	.299	.073

*p< .05 **p< .01

***Table 3**. Coefficients of interaction effects for IV sustainability.*

2. Information

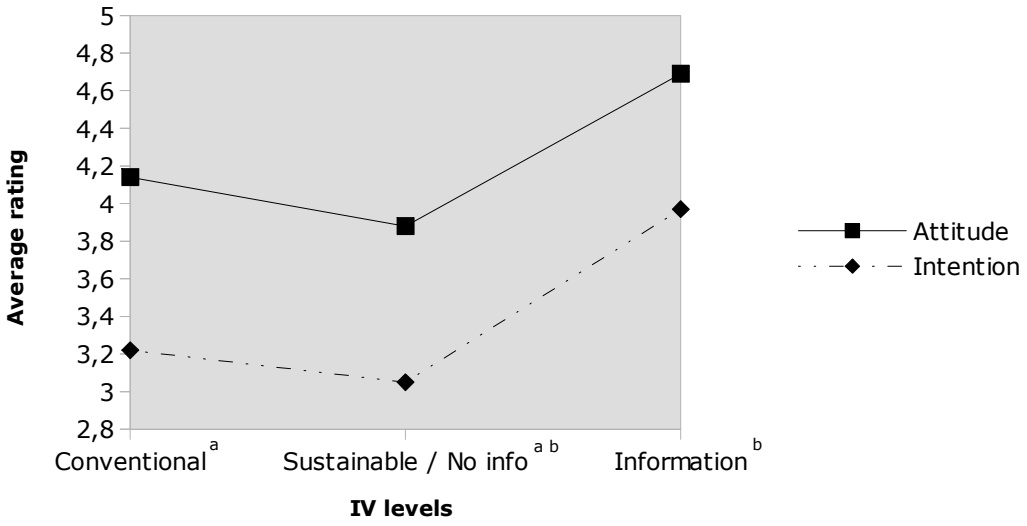
> *Hypothesis 3*: Providing information about SRI (vs. no information) will no longer result in developing an attitude and intention towards (investing in) the SRI fund as a result of the effect of the attributes risk and return. Providing information will thus result a more positive attitude and higher intention towards (investing in) the SRI fund.

PROCESS Model 4 was again used to test if the mediation effect of return was no longer present. The results for the East-Asian fund showed no significant results at all, nor direct nor indirect. The results from the Global Fund showed that, nor as a result of return or risk, there is a significant indirect effect from information on attitude or intention. While there is no indirect effect, this time the test conducted confirms a significant direct effect and this for all four cases (return/risk, attitude/intention) ($p < .05$).

As this direct effect might be influenced by both attributes, it is important to also test the direct effect without including other variables as mediators. The MANOVA test that was conducted with this goal, revealed no significant result for the provision of information on attitude or intention towards (investing in) the SRI East-Asian fund (*HT* = .022, *p* = .427). The MANOVA test conducted for the Global fund indicated significant differences between the subjects who had received information and those who did not on the combined DVs (*HT* = .099, *p*<.05; attitude: *F* (1,80) = 6.74; *p*< .05; *F* (1,80) = 6.15; *p*< .05).The directional effect was as expected with respondents rating a sustainable fund more positively when information was provided (attitude: *M*= 4.69 , *SD* = 1.00; intention: *M*= 3.97, *SD* = 1.60) than when no information was given (attitude: *M*= 3.88, *SD* = 1.70; intention: *M*= 3.05, *SD* = 1.77). Again, the results confirmed the attitude-behaviour gap with a lower intention than attitude. We can conclude that, for the Global fund, results were consisted with hypothesis 3.

> *Hypothesis 4*: The SRI fund with information provided on SRI (vs. a conventional fund) is rated more positively.

To analyse this hypothesis, level 1 of the IV (the presentation of four conventional funds) is compared to level 3 of the IV (two of the four funds are presented as sustainable with provision of information). The MANOVA test was conducted. Again, the East-Asian fund showed no significant result (*HT* = .007, *p* =.771). The result for the Global fund was slightly not significant(*HT*= .060, *p* =.117).The univariate analyses showed almost significant results for the effect of defining a fund as sustainable and providing information compared to a conventional fund on attitude (*F* (1, 76) = 3.50, *p* = .065) and on intention (*F* (1, 76) = 3.68, *p* = .053). The means followed the predicted direction with the average attitude and intention in the information condition (attitude: *M*= 4.69, *SD* = 1.004 ; intention: *M* = 3.97, *SD* = 1.597) being slightly higher than those in the conventional fund (attitude: *M* = 4.14, *SD* = 1.549; intention: *M* = 3.22, *SD* = 1.766). However, because of the non-significant result, we cannot confirm hypothesis 4.



Note: [a] marks IV levels with significant indirect effect, [b] marks IV levels with significant direct effect

Figure 6. *Average attitude and intention for the three conditions*

> *Hypothesis 5a*: High involvement (vs. low involvement) decreases the influence of information provision.

Using model 1 from PROCESS, the outcome for the East-Asian fund was not significant for attitude (p = .798) neither for intention (p = .779). Also for the Global fund, both results for attitude (p = .670) and intention (p = .641) were insignificant. Although insignificant, the negative directional effect was as expected (see figure 4), implying a lower effect of information on attitude and intention when the issue involvement was higher. The lack of significant results prevents us to compare the average attitude and intention of the high involvement group with the low involvement group. Hypothesis 4a was rejected.

Prior experience

> *Hypothesis 5b*: Prior experience (vs. no prior experience) decreases the influence of information provision.

Model 1 from PROCESS revealed no significant result for the interaction between prior experience and information on the attitude (p = .660) and intention (p = .578) towards (investing in) the East-Asian fund. Results for the Global fund also showed no significant interaction effect on attitude (p = .724) and intention (p = .937)

	East-Asian fund		**Global fund**	
Interaction effect on direct effect	Attitude	Intention	Attitude	Intention
Information x Involvement	.0833	.118	-.162	-.209
Information x Experience	.280	.489	.299	.073

*p< .05 **p< .01

Figure 4. *Coefficients for interaction effects of IV information*

PART IV: DISCUSSION

1. Interpretation results

This quantitative experimental research tested the existence of a halo effect with regard to sustainability as well as the debiasing power of information. With regard to the halo effect, a significant result was found for the mediating role of return on the attitude towards a sustainable fund. The negative coefficient implies that a sustainable investment fund was regarded as more negatively compared to a conventional fund, a process that occurred as a result of the perception on return. The negative influence from defining a fund as sustainable is consistent with Paliwal's research on the halo bias provoking a sustainability liability.

The halo effect was strong enough to influence another attribute that was presented by objective information, namely the results of past performance of that fund. Although the respondent had the possibility to objectively analyze the quality of the fund, the negative perception of sustainability was persistent to enough to influence his view on this perception which in turn influenced his general attitude towards the fund. This same process influenced the respondent's intention to invest in a SRI fund. Since the effect on intention was stronger (with intention being "the precursor of action" (cf.supra)), we can confirm the existence of an attitude-behaviour gap.

Not only the perception on return but also on risk was tested for a mediating role. Results showed that the fund was not evaluated more negatively as an effect of the perception of risk. The fact that only return revealed a mediating role is in line with our assumption that the negative influence from defining a fund as sustainable is inferred from a negative view on the financial aspect of sustainable (consumer) goods. For this type of products, it is namely the price that makes a difference, not the risk.

The indirect effects were controlled on the influence of third variables, since interaction effects can change the direction or magnitude of an effect. First, involvement in sustainable issues and prior experience were controlled. For involvement, no significant result was revealed, thus nor the low involved respondents nor the high involved respondents perceived the sustainable fund as more negative than the other. The same insignificant result was found for prior experience. However, an observation with regard to the sample size needs to be made. Especially for the interaction with the prior experience variable, a too small sample size of the respondents with prior experience obliges us to treat any result cautiously. That respondents with prior experience are so low in number is in line with results of Belgian consumer surveys, indicating a low percentage of investors investing in SRI products.

With regard to issue involvement, a possible explanation for the insignificant interaction with sustainability can be found in the aforementioned literature on mental frames (Glac, 2012). This theory stated that even when an investor is ethically or sustainably motivated, this does not necessarily translate into investment in SRI. If the investor sees investing as an action which is merely financial instead of an action to express beliefs and convictions, the SRI product will not be considered.

Besides these two variables, also the variable of attribute importance was tested as a moderator that might influence the indirect effect. As literature on the halo bias demonstrated, the degree of an IV influencing an attribute depends on how important that attribute is. Also the magnitude with which the attribute will consequently affect the DV depends on this importance. Depending on which moderating effect would be significant, we expected that when return was highly important, the halo bias would be smaller in magnitude or that when return was highly important, the halo bias on return would be projected more towards the general attitude. However, none of both effects was found to be significant. This might have been caused by the high importance that was

allocated to return by almost all respondents (with around 80% of all respondents rating return as somewhat important or more).

With regard to the debiasing power of information, the previous significant mediating role of return was no longer significant after providing information. Return caused thus no longer the negative influence from sustainability on attitude or intention. This confirms the mitigation of the halo bias. This also resulted in a positive influence of the information on attitude, as well as on intention. Respondents who had received information about SRI, rated the SRI fund significantly higher than the respondents to whom the fund was simply defined as sustainable. Important for the debiasing technique of counter-explanation, which was confirmed with the significant results, is the type of information presented. This method namely states that the effect of a bias can be mitigated when people are pointed towards proof on the opposite of the idea that provoked this bias. As we assumed that investors, inferring this idea from more expensive sustainable goods, would not believe in a positive return of SRI products, specific information on this aspect was provided.

While we assumed the higher rating of the SRI fund when providing information to be even higher than the rating of a conventional fund, there was no significant result to proof this. The average rating of a sustainable fund when presenting information was thus as high as the average rating of a conventional fund. Apparently, although several consumer surveys indicate information as an important variable to make the step to invest in sustainable products, information is not as much of the magical tool as might have been expected.

When testing this result from information provision on attitude and return for interaction effects with issue involvement and prior experience, again no significant result was found. This was not surprising. Our hypothesis was based on the result of these interactions on the halo bias, namely that a highly involved group and group with experience would not be influenced by the halo bias. As a result, this group would also not experience any mitigating effect of information. As no difference in magnitude of the halo bias on these separate groups was found, a difference in magnitude in effect of information could not be expected either.

One important issue that has been ignored in this interpretation, is the difference between the results of the East-Asian and Global fund. Abovementioned results are based on the Global fund, as the East-Asian fund was only significant on one aspect (the direct effect when return and risk were added in the model as a mediator). One reason for this noteworthy difference might be the so called "home country bias". This bias implies that investors prefer to invest in stocks and companies closer to home (Bailey, Kumar, & Ng, 2011; Bauer, Otten, & Rad, 2006). With respect to sustainable funds, there was only the choice between an East-Asian fund and a Global fund. Although the Global fund is not specifically applied to the home market, at least the home market makes part of it. East-Asia however might have been harder to identify with, or people might not feel secure about the economy or its companies. People might also have preferred the diversity of an international fund than the specificity of a far-away market.

2. Limitations and further research

This study has several limitations that are suggestive for further research. One of the biggest limitations was the sample size. Especially for measuring moderators which consisted of a minority group, this caused limited analysis possibilities. However, while the sample was small, it had the plus point that it consisted of real retail investors, unlike many other experiments of BE which make use of student samples. Still, it has to be kept in mind that external validity and thus generalization, as an inherent characteristic of experiments, is rather low. Another important limitation of this study is that the financial advisor has not been taken into account. Although respondents were asked to imagine a situation in which the financial advisor of their bank was presenting several funds to them, there was no actual interaction. This is however a highly

influential aspect during the decision making process: 80% of the investments are made together with an advisor, 60% of the retail investors state that the final choice was influenced by this advice (Chater et al., 2010). Further research could examine the choice environment in the context of this financial advice.

As a third, the financial product that was focused upon in this experiment were mutual funds. Respondents indicated a lower knowledge towards this specific product than to investing in general. Other studies also indicated that mutual funds are not the most common investment product (Chater et al., 2010). Future research on SRI could take into account the different types of products. Also sustainable saving accounts might be an important financial product to examine, as this affects more people than an investment product. A fourth limitation is the limited list of moderators. This research included three different moderators which were, based on previous research about cognitive biases, assumed to change the direction or magnitude of the hypothesized effect. However, other non measured variables are able to modify the tested effects. Demographic variables, for example, were not considered in this research design.

Another limitation is that only one kind of information was provided. The criteria were formulated in a positive and negative way and the remark that research has proven that performance of sustainable funds does not differ from the performance of conventional goods is given. This experiment thus did not enable to examine if other information would have exactly the same mitigating effect (simply because of the fact that information on SRI is provided) or if the content is important. With the focus on mitigating the halo bias provoked by a negative financial perception, information about the performance was provided. However, with the results of a consumer survey indicating that "not enough info on how they make a difference" is the highest key barrier to translate interest in SRI into action (EIRIS, 2009), information could also target this topic instead of performance. As this research did not result in the respondents preferring the sustainable fund over the conventional fund, further research could examine if different information could provoke not only a mitigation of the bias but also a more positive attitude.

Conclusion

The purpose of this thesis was to investigate the choice environment of sustainable investment funds, with the aim at designing a choice environment able to promote sustainable and responsible investing (SRI). Secondary data with regard to SRI and Behavioural Economics (BE) was reviewed. In addition, a between-subjects experiment was conducted, based on primary data.

The thesis began by introducing sustainable investing and analyzing its performance compared to conventional investment products, a sensitive area for the retail investor. Afterwards, the **literature** on BE exposed the non-rational approaches humans take towards decision processes. These shortcuts, biases and changes in the choice environment were in turn applied to the decision making process of sustainable retail investors. Deriving information from research on sustainable consumer goods, the literature review exposed the possibility of sustainability provoking a negative perception of the particular product (the "sustainability liability"). According to Paliwal (2012), this negative effect was caused by the halo effect. Based on this research and the fact that consumers regard sustainable goods negatively from a financial perspective, the assumption was made that the financially negative perception of sustainability would result in a negative perception of a sustainable fund. With the aforementioned aim of developing a choice environment in which sustainable funds are positively perceived by the retail investor, this study also focused on how to mitigate this possible bias. For this, the counter-explanation technique was used.

The literature provided a basis for the empirical, between-groups **experiment**. Using the snowball sampling method, Flemish retail investors were invited to participate in a web based questionnaire. The questionnaire allowed to randomly assign the respondents to one of the three experimental conditions. The respondents were asked to evaluate four funds, of which two of the four were defined as sustainable in two experimental groups. One of the two groups also received information on SRI. The research design then enabled the investigation of three effects. Firstly, the indirect effect of the halo bias influencing other attributes (risk and return) which in turn would influence the general attitude towards the fund was hypothesized. Secondly, variables with the possibility of moderating this effect were added to the model (issue involvement, prior experience, attribute importance). Thirdly, the direct effect (after mitigating the halo bias) of information provision on the attitude was included in the research design to be tested. The effect of the moderators issue involvement and prior experience was also tested on this direct effect. Due to the often mentioned attitude-behaviour gap, the effect of the independent variables was measured on the respondent's intention towards investing in the fund.

The **results** of the experiment indicated a significant indication of the existence of a strong halo effect. When a fund was defined as sustainable, the respondent evaluated the fund as less desirable than a conventional fund as a result of how the attribute return was perceived. When information was presented explaining which criteria were utilized to define the SRI fund and that the performance of sustainable funds does not differ from conventional funds, the significant indirect effect of using return to evaluate the fund disappeared. This resulted in a significant more positive attitude towards the SRI fund and a higher intention towards investing in it. This increased positive attitude however was not strong enough to result in a better evaluation than the conventional fund. When information was provided, respondents rated the sustainable fund equally good as conventional funds. The hypotheses on moderating effects were rejected.

Several **limitations** were mentioned with regard to this research. The small sample size obliged us to treat several results with caution. Furthermore, the presence of a financial advisor was not considered in this research, although this advice has proven to be highly influential in the decision making process of a retail investor. This thesis was also limited to one particular financial product, namely mutual funds. Moreover, further research could consider other sustainable financial products such as sustainable saving accounts. In addition, more research is needed to understand

the precise impact of the information provided. Several types of content as well as other ways of framing this content could result in other outcomes. Since our research did not result in sustainable funds being evaluated more positively than conventional funds, further research could examine other changes in the choice environment.

Reference list

Akehurst, G., Afonso, C., & Martins Gonçalves, H. (2012). Re-examining green purchase behaviour and the green consumer profile: new evidences. *Management Decision, 50*(5), 972-988. doi:10.1108/00251741211227726

Awad, T.A. (2011). Environmental segmentation alternatives: buyers' profiles and implications. *Journal of Islamic Marketing, 2*(1), 55-73. doi:10.1108/17590831111115240

Awan, H.M., & Arshad, S. (2012). Factors valued by investors while investing in mutual funds – A behavioral context. *Interdisciplinary journal of contemporary research in business, 4*(1), 503-514. Retrieved from http://ijcrb.webs.com

Bailey, W., Kumar, A., & Ng, D. (2011). Behavioral biases of mutual fund investors. *Journal of Financial Economics, 102*, 1-27. doi: 10.1016/j.jfineco.2011.05.002

Barberis, N.C. (2013). Thirty years of prospect theory in economics: a review and assessment. *Journal of Economic Perspectives, 27*(1), 173-196. Retrieved from http://faculty.som.yale.edu/nicholasbarberis/jep_2013.pdf

Bauer, R., Otten, R., & Rad, A.T. (2006). Ethical investing in Australia: Is there a financial penalty? *Pacific-Basin Finance Journal, 14*, 33-48. doi: 10.1016/j.pacfin.2004.12.004

Beckwith, N.E., & Lehmann, D.R. (1975). The importance of halo effects in multi-attribute attitude models, 12(3), 265-275. Retrieved from http://www.jstor.org

Beckwith, N.E., Kassarijan, H.H., & Lehmann, D.R. (1978). Halo effects in marketing research: Review and prognosis, *Advances in Consumer Research, 5*, 465-467. Retrieved from www.acrwebsite.org

Benartzi, S., & Thaler, R. (2007). Heuristics and biases in retirement savings behavior, *The Journal of Economic Perspectives, 21*(3), 81-104. Retrieved from http://jstor.org.

Berry, R.H., Young, F. (2013). Are investors willing to sacrifice cash for morality? *Journal of Business Ethics, 117*, 477-492. doi: 10.1007/s10551-012-1529-6

Bettman, J.R., Frances Luce, M., & Payne, J.W. (1998). Constructive consumer choice processes. *The Journal of Consumer Research, 25*(3), 187-217. Retrieved from http://www.jstor.org

Bhaskaran, S. (2005). *Marketing Venison Products: Trademark and country-or-origin influences and effects*. Retrieved from http://rirdc.com.au

Boatwright, P., Kalra, A., & Zhang, W. (2008). Research Note: Should consumers use the halo to form product evaluations? *Management Science, 54*(1), 217-223. Retrieved from http://www.jstor.org

Brennan, C..S., & Kuri, V. (2002). Relationship between sensory attributes, hidden attributes and price in influencing consumer perception of organic foods. *UK Organic Research 2002: Proceedings of the COR Conference,* 65-68. Retrieved from http://orgprints.org

Capon, N., Fitzsimons, G. J., & Prince, R.A.. (1996). An individual level analysis of the mutual fund investment decision. *Journal of Financial Services Research, 10*(1), 55-92. Retrieved from http://link.springer.com

Capon, N., Fitzsimons, G. J., & Weingarten, R. (1994). Affluent investors and mutual fund purchases. *International Journal of Bank Marketing, 12*(3), 17-25. doi:10.1108/02652329410055178

Celsi, R. L., & Olson, J. C. (1988). The role of involvement in attention and comprehension processes. *Journal of Consumer Research, 15*(2), 210-224. Retrieved from http://jstor.org

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology, 39*(5), 752-766. Retrieved from http://psycnet.apa.org

Chandon, P., & Wansink, B. (2007). The biasing health halos of fast-food restaurant health claims: lower calorie estimates and higher side-dish consumption intentions. *Journal of Consumer Research, 34*(3), 301-314. Retrieved from http://econpapers.org

Chapman, K., & Pike, L. E. (2013). Literature of behavioral economics, Part 1: Introduction and Books. Behavioral & Social Sciences Librarian, 32(4), 205-223. doi: 10.1080/01639269.2013.837799

Chater, N., Huck, S., & Inderst, R. (2010). *Consumer decision-making in retail investment services: a behavioural economics perspective*. Retrieved from http://ec.europa.eu/consumers/archive/strategy/docs/final_report_en.pdf

Cho, S., & Yong-Chan, K. (2012). Corporate social responsibility (CSR) as a halo effect in issue management: public response to negative news about pro-social local private companies, *Asian Journal of Communication, 22*(4), 375-385. doi: 10.1080/01292986.2012.681666

Cotte, J., & Trudel, R. (2009). *Socially conscious consumerism: A systematic review of the body of knowledge*. Retrieved from http://nbs.net

Erickson, G. M., & Johansson, J. K. (1985). The role of price in multi-attribute product evaluations. *Journal of Consumer Research, 12*(2), 195-199. Retrieved from http://jstor.org

European Sustainable Investment Forum. (2011). *Corporate pension funds & sustainable investment study*. Retrieved from http://www.eurosif.org/publication/download/corporate-pension-funds-and-sustainable-investment/

Experts in Responsible Investment Solutions. (2009). What's needed to mainstream green and ethical finance? [PowerPoint slides]. Retrieved from http://www.eiris.org/media/press-release/ethical-banking-big-opportunity-britains-retail-banks-eiris-survey-reveals/

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research.* Retrieved from http://people.umass.edu/aizen/f&a1975.html

Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: a guide for non-statisticians. *International Journal of Endocrinology and Metabolism, 10*(2), 486-489. doi: 10.5812/ijem.3505

Gilovich, T., & Griffin, D. (2002). Introduction – Heuristics and Biases,: Then and now. In T. Gilovich, D. Griffin, & D. Kahneman (eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 1-18). Retrieved from http://assets.cambridge.org/97805217/92608/sample/9780521792608ws.pdf

Glac, K. (2012). The impact and source of mental frames in socially responsible investing. Journal of Behavioral Finance, 13(3), 184-198. doi: 10.1080/15427560.2012.707716

Goodwin, T. (2012). Why we should reject 'nudge'. *Politics, 32*(2), 85-92. doi: 10.1111/j.1467-9256.2012.01430

Grcic, J. (2008). The halo effect fallacy. *Electronic Journal for Philosophy*, 1-6. Retrieved from http://e-logos.vse.cz

Gregory, F., Lichtenstein, S, & Slovic, P. (1993). Valuing environmental resources: A constructive approach. *Journal of Risk and Uncertainty, 7*(2), 177-197. Retrieved from http://springer.com

Griskevicius, V., Tybur, J.M., & Van den Bergh, B. (2010). Going green to be seen: status, reputation, and conspicuous conservation. *Journal of Personality and Social Psychology, 98*(3), 392-404. doi: 10.1037/a0017346

Harris, R.J. (2003). Traditional nomothetic approaches. In S.F. Davis (ed.), *Handbook of Research Methods in Experiment Psychology* (pp. 41-64). Retrieved from http://books.google.com

Hayes, A.F. (2012).*PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling.* Retrieved from http://www.afhayes.com/public/process2012.pdf

Hirt, E. R., & Markman, K. D. (1995). Multiple explanation: a consider-an-alternative strategy for debiasing. *Journal of Personality and Social Psychology, 69*(6), 1069-1086. Retrieved from http://psycnet.apa.org

Hofmann, E., Meier-Pesti, K., & Kirchler, E. (2007). The decision process for ethical investment. Journal of Financial Services Marketing, 12(1), 4-16. Received from http://www.palgrave-journals.com

Hughner, R.S., McDonagh P., Prothero A., Shultz C.J., & Stanton J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour, 6*, 94–110. doi: 10.1002/cb.210

Institute for Digital Research and Education. (n.d.). *SPSS Statistical Computing Workshop: Moderation and Mediation using the Process Macro*. Retrieved from http://www.ats.ucla.edu/stat/spss/seminars/process_macro/process_training.htm

Iyengar, S.S., & Lepper, M.R. (2000). When choice is demotivating: can one desire too much of a good thing. *Journal of Personality and Social Psychology, 79*(6), 995-1006. doi: 10.1037//0022-3514.79.6.995

Jacobs, D., De Moor, L., & Van Liedekerke, L. (2011). *Ethisch investeren in België: een vergelijkende studie van de criteria en de in-house screening* [Research paper]. Retrieved from http://lirias.hubrussel.be

James, W.L, & Carter, F.S. (1978). Halo effects and location preferences. *Advances in Consumer Research, 5*, 474-476. Retrieved from http://www.acrwebsite.org

Jamieson, S. (2004). Likert scales: how to (ab)use them. *Medical education, 38*, 1212-1218. doi: 10.1111/j.1365-2929.2004.02012.x

Janssens, W., Wijnen, K., De Pelsmacker, P., & Van Kenhove, P. (2008). *Marketing research with SPSS.* Essex: Pearson.

Janssons, M., & Biel, A. (2011). Motives to engage in sustainable investment: A comparison between institutional and private investors. *Sustainable Development, 19*(2), 135-142. Retrieved from http://onlinelibrary.wiley.com

Kahneman, D, & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263-292. Retrieved from http://www.jstor.org

Kahneman, D. (n.d.). *Daniel Kahneman – Biographical*. Retrieved from http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2002/kahneman-bio.html

Keefe, J.F. (2007). *From SRI to Sustainable Investing.* Retrieved from http://archives.greenmoneyjournal.com/article.mpl?newsletterid=41&articleid=544

Krosinsky, C., & Robins, N. (2008). *Sustainable investing: The art of long-term performance*. Retrieved from http://books.google.com

Laerd. (n.d.) *One-way ANOVA in SPSS*. Retrieved from https://statistics.laerd.com/spss-tutorials/one-way-anova-using-spss-statistics.php

Larrick, R.P. (2004). Debiasing. In D. J. Koehler & N. Harvey (Eds.), *Blackwell Handbook of Judgment and Decision Making* (pp. 316-337). doi: 10.1002/9780470752937.ch16

Levin, I. P., & Gaeth, G. J. (1988). How Consumers are Affected by the Framing of Attribute Information Before and After Consuming the Product, *Journal of Consumer Research, 15*(3), 374-378. Retrieved from http://jstor.org

Lewis, A., Mackenzie, C. (2000). Morals, money, ethical investing and economic psychology. *Human Relations, 53*(2), 179-191. Retrieved from http://hum.sagepub.com

Lilienfeld, S.O., Ammirati, R., & Landfield, K. (2009). Giving debiasing away: Can psychological research on correcting cognitive errors promote human welfare? *Perspectives on Psychological Science, 4*(4), 390-398. doi:10.1111/j.1475-6924.2009.01144.x

Luchs, M.G., Naylor, R.W., Irwin, J.R., & Raghunathan, R. (2010). The sustainability liability: Potential negative effects of ethicality on product preference. *Journal of Marketing*, 74, 18-31. doi: dx.doi.org/10.1509/jmkg.74.5.18

Lynch, J, & Ariely, D. (2000). Wine online: Search costs affect competition on price, quality, and distribution. *Marketing Science, 9*(1); 83–103. Retrieved from http://people.duke.edu/~dandan/Papers/Other/wine.pdf

MacFadyen, A.J. (2006). Beliefs in behavioral and neoclassical economics. In M. Altman (ed.), Handbook of contemporary behavioral economics (pp.183-201). Retrieved from http://books.google.com

MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S.G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83-104. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2819363/

Maheswaran, D., & Meyers-Levy, J. (1990). The influence of message framing and issue involvement. *Journal of Marketing Research, 17*, 361-367. Retrieved from http://www.carlsonschool.umn.edu/assets/71691.pdf

Managi, S., Okimoto, T., & Matsuda, A. (2012). Do socially responsible investment indexes outperform conventional indexes? *Applied Financial Economics, 22*, 1511-1527. doi: 10.1080/09603107.2012.665593

Mayers, A. (2013). *Introduction to statistics and SPSS in psychology*. Retrieved from http://www.pearsonhighered.com/assets/hip/gb/uploads/Mayers_IntroStatsSPSS_Ch14.pdf

Michalos, A.C., Creech, H., McDonald, C., & Kahlke, M.H. (2009). *Measuring knowledge, attitudes and behaviours towards sustainable development: two exploratory studies*. Retrieved from http://www.iisd.org

Michelson, G., Wailes, N., van der Laan, S., & Frost, G. (2004). Ethical investment processes and outcomes. *Journal of Business Ethics, 52*(1), 1-10. Retrieved from http://www.jstor.org

Milieurapport Vlaanderen. (2013). *Duurzaam sparen en beleggen in België: actualisatie tot 2012*. Retrieved from http://forumethibel.org/content/mira_raadplegen.html

Muijs, D. (2011). Doing quantitative research in education with SPSS (2nd ed.). Retrieved from books.google.com

Mullainathan, S., & Thaler, R.H. (2000). *Behavioral Economics* [working paper]. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=245828

Nilsson, J., Jansson, J., Isberg, S., & Nordvall, A. (2002). *Determinants of customer satisfaction with socially responsible investments: Do ethical and environmental factors impact customer satisfaction with SRI profiled mutual funds?* [working paper]. Retrieved from http://econpapers.repec.org/paper/hhbsicgwp/2011_5f002.htm

Nilsson, J., Siegl, S., & Korling, F. (2010). The complex decision making environment of socially responsible mutual fund investors: introducing a disclosure framework focusing on information quality. *Journal of Financial Services Marketing, 15*, 5–18. doi:10.1057/fsm.2010.5

Nisbett, R.E., & Wilson, T.D. (1977). The halo effect: evidence for unconscious alteration of judgments. *Journal of Personality and Social Psychology, 35*(4), 250-256. Retrieved from http://psycnet.apa.org

Ogle, J.P., Hyllegard, K.H., & Dunbar, B.H. (2004). Predicting patronage behaviors in a sustainable retail environment: adding retail characteristics and consumer lifestyle orientation to the belief-attitude-behavior intention model. *Environment and Behavior, 36*(5), 717-741. doi: 10.1177/0013916504265442

Orten, T., & Atik, D. (2009). Environmentally friendly consumption preferences: Understanding the impact of consumption routines. *Advances in Consumer Research, 36*, 822-823. Retrieved from http://www.acrwebsite.org

Paliwal, P. (2012). Consumer behaviour towards alternative energy products: a study. *International Journal of Consumer Studies, 36*(2), 283-243. doi: 10.1111/j.1470-6431.2011.01089.x

Park, J.Y., Park, K., & Dubinsky, A.J. (2011). Impact of retailer image on private brand attitude: Halo effect and summary construct. *Australian Journal of Psychology, 63*, 173-184. doi:10.1111/j.1742-9536.2011.00015.x

Park, J., & Stoel, L. (2005). Effect of brand familiarity, experience and information on online apparel purchase. *International Journal of Retail & Distribution Management, 33*(2), 148-160. doi: 10.1108/09590550510581476

Peteros, R., & Maleyeff, J. (2013). Application of behavioural finance concepts to investment decision-making: suggestions for improving investment education courses. *International Journal of Management, 30*(10), 249-261. Retrieved from http://ebscohost.com

Petty, R.E., & Cacioppo, J.T. (1979). Issue involvement can increase or decrease persuasion by enhancing message-relevant cognitive responses. *Journal of Personality and Social Psychology, 37*(10), 1915-1926. Retrieved from http://psycnet.apa.org

Preacher, K.J., Rucker, D.D., & Hayes, A.F. (2007). Addressing moderated mediation hypotheses: theory, methods and prescriptions. *Multivariate Behavioral Research, 42*(1), 185-227. Retrieved from https://kuscholarworks.ku.edu/dspace/bitstream/1808/1658/1/preacher_rucker_hayes_2007.pdf

Rizzi, J.V. (2008). Behavioral bias of the financial crisis. *Journal of Applied Finance*, *18*(2), 84-96. Retrieved from http://www.joerizzi.com

Scholtens, B. (2005). What drives socially responsible investment? The case of the Netherlands. *Sustainable Development, 13*(2), 129-137. doi: 10.1002/sd.252

Schwepker, C.H., & Cornwell, T.B. (1991). An examination of ecologically concerned consumers and their intention to purchase ecologically packaged products. *Journal of Public Policy & Marketing, 10*(2), 77-101. Retrieved from http://www.jstor.org

Shen, D., & Richards, J. (2005). The effects of consumer involvement and training on heuristics and biases. *Journal of Academy of Business and Economics, 5*(1). http://www.freepatentsonline.com/article/Journal-Academy-Business-Economics/149213870.html

Smith, N.C., & Read, D. (2010). *Consumer perceptions of corporate social responsibility: the CSR halo effect*. Retrieved from http://www.insead.edu/facultyresearch/research/doc.cfm?did=43990

Soberman, D. A., & Parker, P. M. (2004). Private labels: Psychological versioning of typical consumer products. *International Journal of Industrial Organization, 22*, 849–861. Retrieved from http://www.elsevier.org

Sörqvist, P., Hedblom, D., Holmgren, M., Haga, A., Langeborg, L., et al. (2013). doi: 10.1371/journal.pone.0080719

Swait, J., & Adamowicz, W. (2001). Choice environment, market complexity, and consumer behavior: A theoretical and empirical approach for incorporating decision complexity into models

of consumer choice. *Organizational Behavior and Human Decision Processes, 86*(2), 141-167. doi:10.1006/obhd.2000.2941

Taylor, B., Sinha, G., & Ghoshal, T. (2006). *Research methodology: A guide for researchers in management and social sciences*. Retrieved from http://books.google.com

Thaler, R., & Sunstein, C.R. (2009). *Nudge: Improving decisions about health, wealth, and happiness*. New York: Penguin Books.

The Guardian. (2010). *Consumer attitudes and perceptions on sustainability*. Retrieved from http://image.guardian.co.uk/sys-files/Guardian/documents/2010/06/11/GSiJun2010.pdf

Thorndike, E.L. (1920). A consistent error in psychological ratings, *Journal of Applied Psychology*, *4*(1), 25-29. Retrieved from http://connection.ebscohost.com

United Nations Environment Programme Finance Initiative and Mercer. (2007). *Demystifying responsible investment performance: a review of key academic and broker research on ESG factors*. Retrieved from www.unepfi.org

United Nations Principles for Responsible Investment. (2014). *What is responsible investment?* Retrieved from www.unpri.org

Van Liedekerke, L., De Moor, L., & Van Walleghem, D. (2007). Risk-Return of Belgian SRI funds. *Tijdschrift voor Economie en Management, 12*, 673-685. Retrieved from http://www.econ.kuleuven.be

Vanden Houte, P. (2014). *Ethisch beleggen is OK voor Belgische belegger… als het rendeert*. Retrieved from www.ing.be

Vanhonacker, F., & Verbeke, W. (2009). Buying higher welfare poultry products? Profiling Flemish consumers who do and do not. *Poultry Science, 88*, 2702-2711. doi: 10.3382/ps.2009-00259

Wegner, T. (2007). *Applied business statistics: methods and excel-based applications* (2nd ed). Retrieved from books.google.be

Wiedmann, K-P., Hennigs, N., Behrens, S.H., & Klarmann, C. (2014). Tasting green: an experimental design for investigating consumer perception of organic wine. *British Food Journal, 116*(2), 197-211. Doi: 10.1108/BFJ-04-2012-0090

Wilkinson, N., & Klaes, M. (2012). *An introduction to behavioral economics* (2nd ed). Retrieved from http://google.books.com

Young, W., Hwang, K., McDonald, S., & Oates, C.J. (2010). Sustainable consumption: green consumer behavior when purchasing products. *Sustainable Development, 18*, 20-31. doi: 10.1002/sd.394

Zarbafi, E.M. (2011). *Responsible investment and the claim of corporate change: A sensemaking perspective on how institutional investors may drive corporate social responsibility*. Retrieved from http://springer.com

Ziegalmann, J.P., Luszczynska, A., Lippke, S., & Schwarzer, R. (2007). Are goal intentions or implementation intentions better predictors of health behavior? A longitudinal study in orthopedic rehabilitation. *Rehabilitation Psychology, 52*(1), 97-102. Retrieved from http://userpage.fu-berlin.de/~health/hapa/ziegelmann2007.pdf

Appendix

Appendix A. Questionnaire (in Dutch)
(Questionnaire established for Condition 1 (conventional funds))

Beste

In het kader van mijn masterthesis doe ik een onderzoek naar de aanbieding van financiële producten.
Uw deelname aan deze enquête betekent alvast een grote steun voor mij. Daarom wil ik u dan ook vragen om deze enquête zo accuraat en volledig mogelijk in te vullen.
Dit duurt max. 15 minuten en uw antwoorden zijn anoniem.

Onderaan de pagina's ziet u uw vooruitgang in het onderzoek. Er kan niet naar een vorige pagina teruggekeerd worden.

Alvast hartelijk bedankt!

0% 100%

>>

Survey Powered By Qualtrics

Eerst en vooral wordt in deze enquête gepeild naar uw ervaring met financiële producten (beleggingen), waarna hierover enkele specifieke vragen gesteld worden.
Daarna volgen nog enkele algemene vragen.

Hebt u ooit al eens belegd? (via een bank, het internet, in beleggingsfondsen, aandelen, obligaties, ..)

- Ja
- Nee, maar ik ben er wel in geïnteresseerd
- Nee en ik heb hier ook geen interesse voor

0% 100%

>>

Survey Powered By Qualtrics

Werkt u in de financiële sector?

- ○ Ja
- ○ Nee

Gelieve aan te duiden wat op u van toepassing is:

	Helemaal niet akkoord	Niet akkoord	Eerder niet akkoord	Noch akkoord, nog niet akkoord	Eerder akkoord	Akkoord	Helemaal akkoord
Ik heb een grote kennis over beleggen in het algemeen	○	○	○	○	○	○	○
Ik heb een grote kennis over beleggingsfondsen	○	○	○	○	○	○	○

0% 100%

>>

Survey Powered By Qualtrics

Gelieve u zich de volgende situatie voor te stellen:

U wilt € 5000 beleggen en beslist om dit in beleggingsfondsen van uw bank te doen. Uw beleggingsadviseur heeft reeds een voorselectie gemaakt en stelt u een beleggingsportefeuille van vier verschillende fondsen voor: Fonds A, B, C en D.
U mag veronderstellen dat voor alle fondsen de kosten gelijklopend zijn en deze allemaal zonder kapitaalsgarantie zijn. Dit betekent ook dat zowel in- als uitstappen op elk moment mogelijk is.

Op deze pagina wordt u gevraagd deze fondsen te beoordelen. U krijgt eerst over elk fonds wat (vereenvoudigde) informatie waarna u uw meningen kunt weergeven over bepaalde stellingen.

Deze oefening is het belangrijkste alsook meest intensieve onderdeel van deze enquête.

Fonds A

Dit fonds belegt in aandelen van Europese bedrijven (leden van de vroegere EMU) in vnl. volgende sectoren: industrie, financiën en luxeconsumentengoederen. De balansen van bedrijven in de regio zijn algemeen genomen heel gezond en bovendien kunnen veel van de bedrijven die hun hoofdkwartier in Europa hebben voordeel halen uit hun wereldwijde blootstelling aan langetermijntrends op vlak van groei.

Rendement

Op 1 jaar	Op 3 jaar	Op 5 jaar
17,81	9,11	15,19

	helemaal niet akkoord	niet akkoord	eerder niet akkoord	noch akkoord, nog niet akkoord	eerder akkoord	akkoord	helemaal akkoord
Mijn algemene beoordeling van het fonds is goed	○	○	○	○	○	○	○
Mijn beoordeling over de gegeven informatie over het fonds is goed	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog risico	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog rendement	○	○	○	○	○	○	○
Het is heel waarschijnlijk dat ik dit fonds zou opnemen in mijn portefeuille	○	○	○	○	○	○	○

Fonds B

Het fonds belegt aandelen in Noord-Amerika in bedrijven in vnl. volgende sectoren: basisproducten, financiën en gezondheidszorg. Dit fonds streeft een vermogenswinst op lange termijn na door te beleggen in aandelen van ondernemingen in de VS met een maximaal marktkapitalisatieniveau van USD 1 miljard ten tijde van de verkrijging, waarbij deze limiet te allen tijde wordt geacht behouden te blijven.

Rendement

Op 1 jaar	Op 3 jaar	Op 5 jaar
9,89	8,83	17,74

	helemaal niet akkoord	niet akkoord	eerder niet akkoord	noch akkoord, nog niet akkoord	eerder akkoord	akkoord	helemaal akkoord
Mijn algemene beoordeling van het fonds is goed	○	○	○	○	○	○	○
Mijn beoordeling over de gegeven informatie over het fonds is goed	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog risico	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog rendement	○	○	○	○	○	○	○
Het is heel waarschijnlijk dat ik dit fonds zou opnemen in mijn portefeuille	○	○	○	○	○	○	○

Fonds C

Het fonds belegt aandelen in bedrijven in Zuidoost-Azië in vnl. volgende sectoren: consumptiegoederen, technologie en gezondheidszorg. De beleggingsdoelstelling van het fonds is het streven naar een bovengemiddelde dividenduitkering uit een portefeuille met Aziatische aandelen met een focus op waarde en kapitaalgroei op lange termijn.

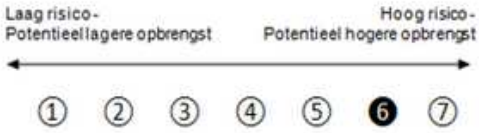
Rendement

Op 1 jaar	Op 3 jaar	Op 5 jaar
3,13	11,11	22,22

	helemaal niet akkoord	niet akkoord	eerder niet akkoord	noch akkoord, nog niet akkoord	eerder akkoord	akkoord	helemaal akkoord
Mijn algemene beoordeling van het fonds is goed	○	○	○	○	○	○	○
Mijn beoordeling over de gegeven informatie over het fonds is goed	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog risico	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog rendement	○	○	○	○	○	○	○
Het is heel waarschijnlijk dat ik dit fonds zou opnemen in mijn portefeuille	○	○	○	○	○	○	○

Fonds D

Het fonds belegt wereldwijd aandelen in bedrijven in vnl. volgende sectoren: consumptiegoederen, technologie en energie. Het beoogt een rendement op lange termijn te behalen door te allen tijde ten minste twee derde van zijn nettovermogen in een geconcentreerde portefeuille van ondernemingen in internationale markten te beleggen. Het fonds belegt in ondernemingen van alle marktkapitalisaties.



Rendement

Op 1 jaar	Op 3 jaar	Op 5 jaar
35,8	22,57	10,0

	helemaal niet akkoord	niet akkoord	eerder niet akkoord	noch akkoord, nog niet akkoord	eerder akkoord	akkoord	helemaal akkoord
Mijn algemene beoordeling van het fonds is goed	○	○	○	○	○	○	○
Mijn beoordeling over de gegeven informatie over het fonds is goed	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog risico	○	○	○	○	○	○	○
Dit fonds gaat gepaard met een hoog rendement	○	○	○	○	○	○	○
Het is heel waarschijnlijk dat ik dit fonds zou opnemen in mijn portefeuille	○	○	○	○	○	○	○

0% 100%

>>

Hoe belangrijk vond u de volgende kenmerken bij het maken van uw keuze?

	Helemaal niet belangrijk	Heel onbelangrijk	Eerder onbelangrijk	Noch onbelangrijk, noch belangrijk	Eerder belangrijk	Heel belangrijk	Ontzettend belangrijk
Algemene informatie (= tekst)	○	○	○	○	○	○	○
Risico	○	○	○	○	○	○	○
Rendement	○	○	○	○	○	○	○

0% 100%

>>

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Op deze en volgende pagina worden enkele algemene vragen gesteld.

Gelieve aan te duiden wat voor u persoonlijk van toepassing is

	Helemaal niet op mij van toepassing	Niet op mij van toepassing	Eerder niet op mij van toepassing	Noch niet, noch wel op mij van toepassing	Eerder op mij van toepassing	Op mij van toepassing	Helemaal op mij van toepassing
Ik wandel of ga met de fiets in plaats van met de wagen.	○	○	○	○	○	○	○
Ik investeer in beleggingen die maatschappelijk verantwoord zijn.	○	○	○	○	○	○	○
Thuis probeer ik zoveel mogelijk te recycleren.	○	○	○	○	○	○	○
Ik probeer te verzekeren dat er gelijkheid tussen mannen en vrouwen is, zowel thuis, op het werk als in organisaties waarin ik vrijwilliger ben.	○	○	○	○	○	○	○
Ik nam deel aan een cursus over duurzame ontwikkeling.	○	○	○	○	○	○	○
Ik spreek met anderen over hoe ze mensen kunnen helpen die in armoede leven.	○	○	○	○	○	○	○
Bij mij thuis zijn huishoudelijke taken eerlijk verdeeld tussen de gezinsleden, onafhankelijk van geslacht.	○	○	○	○	○	○	○
Thuis heb ik een compostsysteem.	○	○	○	○	○	○	○
Ik probeer het kopen van producten van bedrijven die een slechte reputatie hebben op het vlak van maatschappelijk verantwoord ondernemen te vermijden.	○	○	○	○	○	○	○
Ik heb mijn lampen vervangen door milieuvriendelijke lampen.	○	○	○	○	○	○	○
Ik heb mijn persoonlijke levensstijl aangepast om zo afval te vermijden.	○	○	○	○	○	○	○
Ik doe vrijwilligerswerk bij lokale organisaties.	○	○	○	○	○	○	○

Bij het kopen van onderstaande goederen, denkt u dan na over de ecologische en sociale impact van volgende items?

	Ja, de ecologische impact	Ja, de sociale impact	Nee, geen van beide
Voedsel	☐	☐	☐
Kledij	☐	☐	☐
Technologie	☐	☐	☐
Financiële producten en diensten	☐	☐	☐
Transport	☐	☐	☐
Huishoudtoestellen	☐	☐	☐

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Wat is uw leeftijd?

Wat is uw geslacht?

○ Mannelijk ○ Vrouwelijk

Wat is uw nationaliteit?

○ Belg ○ Andere

In welke provincie (of regio) bent u woonachtig?

○ West-Vlaanderen	○ Limburg	○ Namen
○ Oost-Vlaanderen	○ Henegouwen	○ Luxemburg
○ Antwerpen	○ Waals-Brabant	○ Brussel
○ Vlaams-Brabant	○ Luik	○ Ik woon in het buitenland

Wat is uw hoogste graad van onderwijs?

○ Minder dan middelbaar onderwijs
○ Middelbaar onderwijs
○ Bachelor
○ Master
○ Hoger dan master

U bent momenteel

- Student
- Werkende
- Andere

Hoeveel bedraagt uw (netto) maandelijks inkomen?

- Minder dan € 1500
- Tussen € 1500 en € 3500
- Meer dan € 3500
- Niet van toepassing

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We danken u voor uw tijd om dit onderzoek uit te voeren.
Uw antwoord is geregistreerd.

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Appendix B. Questionnaire (in English)
(Questionnaire established for Condition 1 (conventional funds))

Dear

For my master thesis I am doing research about the proposal of financial products. Your participation in this questionnaire is a big support to me. For this reason I would also like to ask you to fill in this questionnaire as accurate and complete as possible.
This takes max. 15 minutes and your answers are anonymous.

Beneath the pages you can follow your progress in the research. It is not possible to go back to a previous page.

Thank you in advance.

1)In this questionnaire you will first be asked about your experience with financial products (investments), after which some specific questions will be asked.
Afterwards some general questions will be asked.

Have you ever invested? (via a bank, the internet, in investment funds, equity, bonds,...)
Yes – No, but I am interested in it – No and I have no interest in it

2) Do you work in the financial sector?
Yes – No

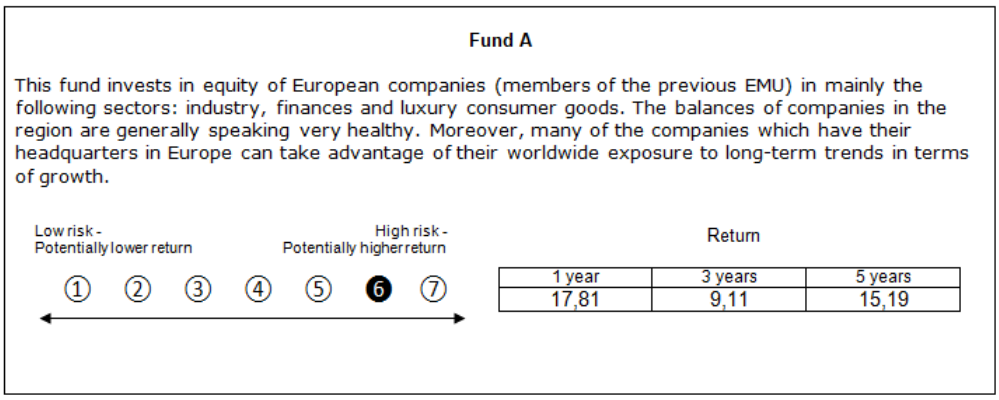
Please indicate what applies to you:
(on a scale from 1- completely disagree to 7 - completely agree)

I have a good knowledge of investing in general
I have a good knowledge of investment funds

3) **You want to invest €5000 en decides to do this in investment funds from your bank. Your investment advisor has already made a preselection and proposes you an investment portfolio of four different funds: Fund A, B, C and D.**
You may suppose that for all the funds the costs are equal and that they are all without capital guarantee. This means as well that 'get in and get out' is possible at any time.

On this page you are asked to rate these funds. You will receive some (simplified) information after which you can display your opinion about specific statements.

This exercise is the most important as well as the most intensive part of this questionnaire.

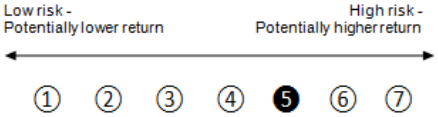


(on a scale from 1- completely disagree to 7 - completely agree)

My general rating of the fund is good
My rating of the given information about the fund is good
This fund has a high risk
This fund has a high return
It is quite likely that I would add this fund to my portfolio

Fund B

The fund invests equity in Northern America in companies in mainly following sectors: basic products, finance and health care. This fund strives for long-term wealth gains by investing in equity from enterprises in the U.S. with a maximal level of market capitalisation of USD 1 billion at the time of acquisition. This limit is tried to be preserved at all times.



Return

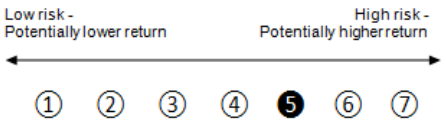
1 year	3 years	5 years
9,89	8,83	17,74

(on a scale from 1- completely disagree to 7 - completely agree)

My general rating of the fund is good
My rating of the given information about the fund is good
This fund has a high risk
This fund has a high return
It is quite likely that I would add this fund to my portfolio

Fund C

This fund invests equity in companies in South East Asia in mainly following sectors: consumer goods, technology and health care. The investment goal of the fund is to strive for a dividend payment above average from a portfolio of Asian equity with the focus on long-term value and capital growth.

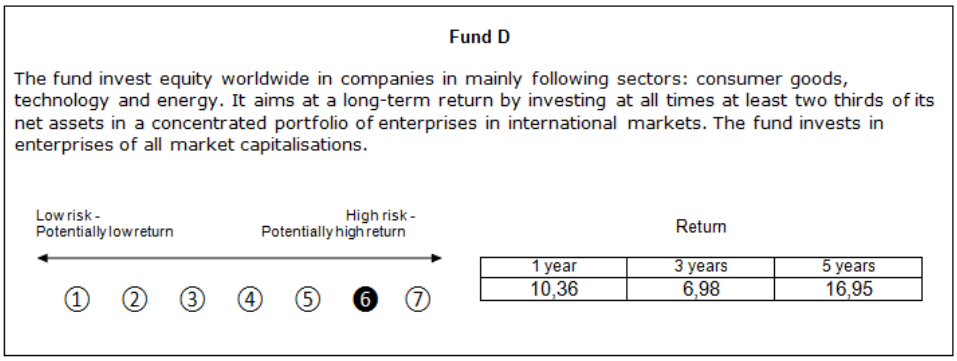


Return

1 year	3 years	5 years
3,13	11,11	22,22

(on a scale from 1- completely disagree to 7 - completely agree)

My general rating of the fund is good
My rating of the given information about the fund is good
This fund has a high risk
This fund has a high return
It is quite likely that I would add this fund to my portfolio



(on a scale from 1- completely disagree to 7 - completely agree)

My general rating of the fund is good
My rating of the given information about the fund is good
This fund has a high risk
This fund has a high return
It is quite likely that I would add this fund to my portfolio

4) How important were following characteristics when making your choices?
(on a scale of 1 - not important at all to 7 - enormously important)

General information (= text)
Risk
Return

5) On this and next page some general questions will be asked

Please indicate what applies to you:
(on a scale of 1 – not applicable at all to 7 – very applicable)

I walk or bike to places instead of going by car.
I invest my savings in funds that are ethically responsible.
At home I try to recycle as much as I can.
I try to ensure that there is gender equity in my home, my work and my volunteer environments.
I have taken a course in which sustainable development was discussed.
I talk to others about how to help people living in poverty.
I often look for signs of ecosystem deterioration.
The household tasks in my home are equally shared among family membersregardless of gender.
I try to avoid purchasing goods from companies with poor track records oncorporate social responsibility.
I have changed to environmentallyfriendly light bulbs.
I have changed my personal lifestyle to reduce waste.
I volunteer to work with local charities.

Do you think about the environmental and ethical impacts when making the following type of purchases?

Yes I think about the environmental impact - Yes I think about the ethical impact - No I think about neither

Groceries
Clothing
Consumer
Technology
Financial services
Transport Utilities
Household appliances

6) What is your age?
(open answer)

What is your gender?
Male – female

What is nationality?
Belgian – other (*open answer*)

In which province (or region) are you currently living?
West-Flanders - East-Flanders - Antwerp – Vlaams-Brabant - Limburg - Henegouwen - Waals-Brabant - Luik - Namen - Luxemburg - Brussels - I live abroad

What is your highest educational degree?
Less than secondary education – Secondary education – Bachelor – Master – Higher than master

You are currently:
Working – Studying – Other

Your monthly income is (net):
Less than €1500 – Between €1500 and €3500 – More than €3500

Appendix C. Varimax rotation on sustainability issue involvement (for three levels of IV)

	Component			
	1	2	3	4
Ik wandel of ga met de fiets in plaats van met de wagen.	,758			
Ik heb mijn persoonlijke levensstijl aangepast om zo afval te vermijden.	,721			
Ik probeer het kopen van producten van bedrijven die een slechte reputatie hebben op het vlak van maatschappelijk verantwoord ondernemen te vermijden.	,572			
Ik investeer in beleggingen die maatschappelijk verantwoord zijn.	,565	,		
Thuis probeer ik zoveel mogelijk te recycleren.	,538			
Ik spreek met anderen over hoe ze mensen kunnen helpen die in armoede leven.		,845		
Ik nam deel aan een cursus over duurzame ontwikkeling.		,638		
Ik doe vrijwilligerswerk bij lokale organisaties.		,621		
Bij mij thuis zijn huishoudelijke taken eerlijk verdeeld tussen de gezinsleden, onafhankelijk van geslacht.			,767	
Ik probeer te verzekeren dat er gelijkheid tussen mannen en vrouwen is, zowel thuis, op het werk als in organisaties waarin ik vrijwilliger ben.			,560	
Ik heb mijn lampen vervangen door milieuvriendelijke lampen.	,514		,525	
Thuis heb ik een compostsysteem.				,809

Note: only those higher than .50 are represented

Appendix D. Means and Standard Deviations for three conditions on attitude and intention (both funds)

Independent variable		**Attitude**		**Intention**	
Global fund	N	Mean	SD	Mean	SD
Conventional	37	4.14	1.55	3.22	1.77
Sustainable	43	3.88[a]	1.69	3.05 [b]	1.77
Information	39	4.69[a]	1.00	3.97[b]	1.60
East Asian fund					
Conventional	37	4.11	1.22	3.32	1.796
Sustainability	43	4.65	1.232	3.88	1.636
Information	39	4.31	1.796	3.51	1.554

Note: Numbers with the same letter are significant to each other($p < .05$)

Table x. *Means and Standard Deviations for three conditions on attitude and intention (both funds)*