



**An Investigation into the Psychology of Socially Responsible
Investment Decisions**

By

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Abstract

The Forum for Sustainable and Responsible Investment (US SIF) defines socially responsible investing (SRI) as an investment discipline that considers environmental, social and corporate governance criteria to generate long-term, competitive financial returns and positive societal impact (US SIF, 2016a). In contrast, conventional investing strategies aim to generate long-term competitive financial returns but do not consider societal impact.

Recent trend reports estimate that the total value of US-domiciled assets under management using SRI strategies is \$8.72 trillion (US SIF, 2016a), while in Europe it is more than €10 trillion (Eurosif, 2016). Consequently, the importance of SRI is considerable to both academics and practitioners, as is the influence that this form of investing can have on the practices of major corporations.

This dissertation analyses whether behavioural economic theory and theory relating to psychological biases can potentially be utilised in the promotion of SRI to increase the quantity of capital being invested through SRI strategies. The analysis finds that the way SRI decisions are framed can significantly affect the propensity with which investors choose to invest through SRI strategies and that the promoters of SRI, can potentially utilise framing and choice architecture to increase the prevalence of this form of investing. This important finding enhances the current academic and practitioner literature relating to SRI, whilst also adding additional depth to the literature pertaining to behavioural economics.

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Introduction

Introduction to SRI

Socially responsible investing (SRI)¹ is any umbrella term used to describe investment strategies that consider both financial return and social good². SRI strategies enable investors to focus their investment into companies which have good ESG practices, such as highly sustainable business practices (positive investment screening), whilst also enabling investors to avoid investing in companies which do not (negative investment screening). Therefore, SRI promotes corporate practices other than profit maximization through capital investment. This investment typically takes the form of the purchase of company equity (buying shares in a company), or through the purchase of company debt (bond purchases), either by private individuals (directly or through pooled investment vehicles such as mutual funds) or by institutions such as banks and insurance companies.

Over the last 30 years there has been a dramatic increase in the prevalence of SRI and the amount of capital invested through SRI strategies. Recent trend reports estimate that the total value of US-domiciled assets under management using SRI strategies to be approximately \$8.72 trillion, a growth of more than 135% in assets under management since 2012 (US SIF, 2016a), whilst in Europe it is more than €10 trillion (Eurosif, 2016). Consequently, the importance of SRI is considerable, as is the influence that this form of investing can have on the practices of major corporations.

However, despite the importance of SRI, little is known about the influences behind SRI decisions, and how more individuals can be encouraged to choose to invest through SRI mandates. This research aims to investigate these important issues by analysing whether behavioural economic theory and framing can be used to encourage individuals to invest through SRI strategies.

If more investors can be encouraged to invest through SRI strategies, it is likely to result in increases in positive, corporate practices, such as positive sustainability practices, through the following three mechanisms:

¹SRI is also known as ethical investing. The two terms are used largely interchangeably currently in the investment industry.

²This is currently no consensus on a unified definition of SRI.

1.

Increased SRI will increase capital flows into companies with good Environmental, Social and Governance (ESG) practises. It should enable such firms to secure more investment and lower financing costs (equity and debt)³. Therefore, the promotion of SRI should increase the relative financing costs of firms with poor ESG practices, such as poor sustainability practices, creating competitive disadvantages and promoting positive copycat behaviours by those firms. This will result in a general increase in the level of good ESG corporate practices performed by corporations (El Ghouli et al. 2011; Cheng et al. 2014).

2.

Through increased direct share ownership and indirect investment (through pooled investment vehicles such as mutual funds), SRI can affect corporate ESG practices through shareholder activism. This may take the form of individual socially responsible investors or SRI fund managers (managers of pooled investment vehicles) proposing new shareholder resolutions which support good ESG practices, such as good sustainability practices. Or, by either form of investor voting (or proxy voting) on other shareholder and management resolutions which support certain actions, such as good sustainability practices. Therefore, increasing the amount of capital invested through SRI strategies has the potential to contribute towards increased positive shareholder activism and a resulting change in corporate behaviour (Morgan et al. 2011; US SIF 2016b).

3.

Investment managers using SRI strategies, such as the managers of SRI mutual funds, often pursue direct engagement strategies with corporate management on ESG issues. Therefore, if more capital is invested through SRI strategies, investment managers will have more direct persuasive influence over company boards and this should in turn encourage better corporate ESG behaviours, such as good sustainability practices (US SIF, 2016b).

³ Throughout this dissertation it is assumed that increased positive ESG practices by corporations, such as increased positive sustainability practices, is a good use of corporate resources. It is accepted that this is contentious and that there are differing views as to whether better ESG practices lead to better corporate financial performance (profit maximisation) and differing views as to whether corporations should have other objectives than to profit maximise, such as environmental and social objectives (Friedman, 1970; Royal, Academy of Sciences, 2017; Hausman and Welch, 2010).

Introduction to Behavioural Economics, Framing and Choice Architecture

Behavioural economics is a school of economics that incorporates insights from other social sciences, especially psychology, to enrich the standard economic model (Thaler, 2016). In the standard economic model, economic actors (people) act rationally at all times and make decisions on the basis of optimal economic outcomes. Behavioural economists refer to the people described within conventional economic models as “Econs”, to emphasise the assertion that they only exist within economic theory and are not representative of real individuals.

Behavioural economics states that people do not always act rationally and instead they often use heuristics or mental shortcuts to make judgements, leading to psychosocial biases, which affect the economic decisions people make. There is considerable evidence for the existence of many biases and the affects they can have on decision making (Thaler, 2016). A central theme of behavioural economics is that if people made rational choices, people choices would satisfy some elementary requirements of consistency but that they do not, because of the imperfections of human perception and decision making. Behavioural economists assert that the psychological principles that govern the perception of decision problems and the evaluation of probabilities and outcomes, produce predictable shifts of preference, when the same problem is framed in different ways and that reversals of preference can be demonstrated in choices, including economic choices, such as investment decisions (Tversky and Kahneman, 1981)⁴.

⁴It must be acknowledged that there is not a clear distinction between behavioural economics and social psychology and therefore throughout this dissertation, where theories are described as behavioural economic theories they could accurately also be described as theories of social psychology.

Primary Research Question

This research aims to establish whether investment scenarios can be framed to encourage (nudge) private investors to invest through SRI strategies⁵. The work uses 6 established psychological biases within the analysis. The following section provides a literature review pertaining to SRI research and research relating to each of six biases utilised in this study⁶.

⁵This research emanates from the libertarian paternalism school of thought and the central theme of this school's philosophy is that people, due to our limited cognitive abilities and willpower, will not always act in our own best interests or the best interests of our society, and that beneficial changes in behaviour can be achieved by minimally invasive practices that nudge people to make certain decisions. This approach emphasises the use of choice architecture, which is the design of the environments in which specific choices take place, to encourage individuals to make better decisions (Thaler, 1985).

⁶ A premise behind the research described in this dissertation, is that increased socially responsible investing is a beneficial outcome for individuals and society, in general. It is acknowledged that this premise is contentious (Thaler, 1985).

Literature review

The Performance of Socially Responsible Investments and Barriers to Socially Responsible Investing

Much of the academic research relating to SRI has focused on establishing whether the practice of incorporating ESG factors into investment strategy affects an investor's risk-adjusted performance (financial return considering the risk taken). Several theories have been put forward to explain why the incorporation of ESG factors within investment strategies should damage the financial return investors receive. These include the theory that the benefits of actions that move a company towards better levels of social responsibility do not match the financial costs of delivering these actions and that, therefore, investors who focus on investing in socially responsible companies are likely to achieve worse financial returns (Rudd, 1981; Grossman & Sharpe, 1986; Barnea and Rubin, 2010).

Conversely, there are also many theoretical arguments as to why the incorporation of ESG factors within investment strategies should improve an investor's financial returns. One such argument is that investors underestimate the probability that bad news will be released about non-socially responsible companies and that they are, therefore, often overpriced and likely to underperform financially relative to more socially responsible firms (Moskowitz, 1972; Hamilton, Jo and Statman, 1993).

In general, analysis of the performance of SRI strategies has found that they do not lead to statistically significant underperformance on a risk-adjusted basis (Renneboog et al. 2008b; Renneboog et al. 2008a; Friede et al. 2015), and in contrast there is considerable evidence that some SRI screening techniques lead to outperformance. For example, Derwall et al. (2005) find that investing in a portfolio of the shares of companies with good environmental credentials leads to better than average financial returns, while Edmans (2011) finds evidence that investing in the shares of companies with highly satisfied employees also leads to better returns.

However, despite the academic research to the contrary, one of the major barriers to more individuals investing in a socially responsible manner is the widely held myth that socially responsible investing leads to worse financial performance (RBC Global Asset Management, 2005; Nicklin, 2012; Patel, 2015). Other reasons include: a need to increase the

supply of SRI investment propositions; a lack of expertise among finance professionals, particularly intermediaries such as financial advisors; a failure by the investment industry to engage effectively with retail clients when disseminating information about SRI, and a lack of understanding within the finance industry in relation to the psychology behind peoples choices to invest, or not invest, through SRI strategies (Nicklin, 2012; US SIF, 2016a, Corley, 2017).

This research aims to help to address the latter barrier by analysing whether choice architecture can be used to increase the propensity with which people choose to invest through SRI strategies⁷. The following section of this literature review discusses research which has analysed the characteristics and psychology behind SRI decisions.

The Motives, Characteristics and Psychology Behind SRI Decisions

There has been a small number of academic studies that have analysed the motives, characteristics and psychology of socially responsible investors. Significant studies include Anand & Cowton (1993), Lewis & Mackenzie (2000), Lewis (2001), Webley et al. (2001), Beal et al. (2005), Williams (2007) and Bauer & Smeets (2015) and Riedl and Smeets, (2017). These studies have made several important discoveries.

For example, Beal et al. (2005), find that most SRI investors invest in a socially responsible manner to bring about social change, but that they do so believing that there is a potential trade-off between financial and psychological returns. They conclude that socially responsible investors receive psychological returns from investing through SRI strategies and that these psychological returns lead to an increase in their happiness.

In addition, Williams (2007) finds little evidence from a large cross-country study of 5 countries (Australia, Canada, Germany, the UK and the USA), of any demographic bias towards SRI, but does find that SRI is driven by investor attitudes toward the social aims of firms, rather than by financial returns. Williams (2007), also finds that the market context and regularity environment of a nations investment market, may indirectly affect investors decisions to invest through SRI strategies.

⁷It is acknowledged that this research does not aim to discover solutions to the other major barriers to increasing SRI. Possible solutions to the other major barriers are addressed in the author's previous work in this area (Analysis Paper and Strategic Action Plan).

Finally, Bauer & Smeets (2015), find that half of the Dutch investors surveyed in their study, do not exclusively invest through SRI and that investors are more likely to invest a higher proportion of their investable capital through SRI strategies, if they have a strong social identification with this form of investing⁸. The more investors identify themselves as socially responsible investors (psychologically), the higher the percentage of their capital they allocate to SRI strategies.

The Use of Framing and SRI Decisions

In addition, to the studies of the motives, characteristics and psychology of socially responsible investors, there are also a small number of studies that have analysed how framing can affect an individual's decision in relation to SRI. For example, Glac (2009) shows, through a survey of 121 US university students, how different descriptions (framing) of SRI scenarios can affect the likelihood that an individual will choose SRI. The survey reveals that the framing of an investing situation influences the likelihood of engagement with SRI, and how much potential financial return individuals are willing to sacrifice when choosing socially responsible over conventional investments. The key finding of the study is that investors, who are presented with expressive decision frames in relation to potential investment scenarios, are more likely to invest socially responsibly than investors who are presented with financial decision frames⁹. Glac (2009), also finds that investors who are presented with expressive decision frames are willing to sacrifice more returns when making a socially responsible investment choice, than investors who are presented with financial decision frames.

In addition, Barreda-Tarrazona et al. (2011) find that, although individuals' criteria for investments are essentially guided by returns and diversification, participants invest significantly more through SRI strategies, when they are given more information on the nature of the strategies, such as their screening practices (what kinds of investments are included and excluded). They conclude that the more information investors have about the socially responsible nature of a potential SRI investment strategy, the more likely investors are to invest capital through the strategy¹⁰.

⁸This behaviour is likely to be a result of the performance myth that SRI strategies underperform and is also an example of the behavioural economic theory of Mental Accounting in practice. Mental accounting is the theory that individuals can separate their capital (or expenditure) into different categories/accounts and have different views and psychological references points for each category, resulting in limited fungibility between the accounts (Thaler, 1985).

⁹Expressive decision frames are frames in which the decision to invest in SRI is presented as a potential expression of moral choice, while financial decision frames are frames in which the SRI decision is framed as being primarily a financial one.

¹⁰This study supports the theory that a lack of information in relation to SRI vehicles is a major barrier to this

Finally, Glac (2012) finds, from a survey of 365 US residents, that it is not only important to frame SRI decisions around the potential ESG and corporate social responsibility (CSR) benefits of this form of investing, but also to adjust to a broader narrative and present SRI strategies historical financial performance to potential investors. Glac (2012) finds that by doing so, investors no longer view their potential social criteria for investing, and financial criteria for investing, as being mutually exclusive, and are more likely to invest through SRI strategies.

In summary, research to date has identified several barriers to more individuals investing through SRI strategies and indicates that many SRI investors only invest part of their investible capital in a socially responsible manner. Research has also indicated that SRI investors can receive psychological benefits from this form of investing and that investors are more likely to invest a higher proportion of their investable capital through SRI strategies if they have a strong social identification with this form of investing.

Importantly, there is also a small body of literature which has established that the way in which an SRI decision is framed can significantly affect the likelihood of a potential investor investing through an SRI strategy. This body of literature is limited in its scope and consequently provides limited insight in the potential use of choice architecture within SRI decisions. The research presented in this dissertation aims to comprehensively build on these studies and further analyse whether decision architecture can be utilised to encourage SRI¹¹.

The following section provides a brief literature review relating to each of the biases used in this work.

This study supports the theory that a lack of information in relation to SRI vehicles is a major barrier to this form of investment and that if information was more readily available, more investors would choose to invest through SRI mandates.

¹¹There is also a body of research which analyses whether behavioural economic theory can be used to influence environmental policy and environmental decisions (Shogren and Taylor, 2008; Royal, Academy of Sciences, 2017; Kahneman, Knetsch and Thaler, 1991). While, this literature is not reviewed in this dissertation, its existence demonstrates that framing and choice architecture, are being utilised in similar fields to encourage positive behavioural change. This is in keeping with the libertarian paternalism school of thought (Kahneman, Knetsch and Thaler, 1991).

Behavioural Economic Theories and the Six Biases Used in This Study

Social Norms Bias

A social norm is an act whose utility to the agent performing it depends in some way on the beliefs or actions of other members of the community (Akerlof, 1980). Studies have found that individuals' decisions can be affected by the perceived social norms of their community and that the perceived social norms of an individual's community can bias their decision making (Hong and Kacperczyk, 2009).

There is an established body of research that indicates that social norms play an important role in influencing individual behaviour, including economic decisions such as investment decisions (Hong and Kacperczyk, 2009). One of the first pieces of research to establish this connection is Becker, (1957), which established a Model of Discrimination. In this model, Becker (1957) demonstrates that people discriminate in the economic market place because of social norms, and that discrimination by any group reduces their own real incomes as well as those of the group which is discriminated against. For example, Becker (1957) indicates that employers (agents) who decide not to interact with types of people because of social, discriminatory, norms (racial minority potential employees for example) lose out financially (Hong and Kacperczyk, 2009).

Since Becker (1957), there has been several other analyses that have looked at the relationship between social norms and economic decisions. For example, Akerlof, (1980) finds that models of social customs are found to be inherently multi-equilibrial, and that even social customs which are disadvantageous to the individual may nevertheless persist without erosion if individuals are sanctioned by loss of reputation for disobedience of the custom (not following the social norm). Akerlof (1980), provides the example of such a social custom as being the persistence of a fair (rather than a market-clearing) wage and suggests that the market wide support of this social norm partly explains the involuntary unemployment within an economy.

In addition, Hong, Kubik and Stein, (2004) find that an individual's level of stock market participation is influenced by social interaction and that investors find investing in the stock market more attractive when more of their peers participate. Whilst, Hong, Kubik and Stein, (2005), find that mutual fund managers (professional investors) are more likely to buy (or sell) a stock in any quarter if other managers in the same city are buying (or selling) that

same stock. They interpret the evidence in terms of an epidemic model in which professional investors spread information about stocks to one another by word of mouth, resulting in the investment decision becoming a social norm.

Finally, Shang and Croson, (2009) find that social norms and knowledge of charitable contributions made by others can significantly affect an individual's charitable, voluntary, provision of public goods. They find that this affect is most pronounced in relation to the donations of new members of a charitable organisation and that the availability of social information (the giving habits of others) can increase charitable contributions by up to 12%.

Status Quo Bias

People have an irrational disposition towards the default option and a status quo bias when asked to make decisions. For example, researchers have found that people are more likely to become members of occupational pension schemes when the default option is to be a member, as opposed to when the default option is not to join (Madrian and Shea, 2001).

There is an established body of research that indicates that status quo biases can play an important role in influencing individual behaviour. For example, Samuelson and Zeckhauser, (1988), state that most real decisions, unlike those of economics texts, have a status quo alternative. That is, doing nothing or maintaining one's current or previous decision, and through a series of decision-making experiments, they demonstrate that individuals disproportionately stick with the status quo. These experiments include data on the selections of health plans and retirement programs by university faculty members, which reveal that the status quo bias is substantial in important real decisions. One explanation they provide for this bias is that status quo inertia may be a function of the presence of uncertainty in the decision-making setting. In the classic search problem, for example, they state that the set of possible choice alternatives is unknown before the fact (alternatives must be discovered) and therefore that an individual, for example, may well stick with a low-paying job if the process of searching for a better one is slow, uncertain, and/or costly¹².

¹²It has been suggested that the status quo bias may be a function (result) of loss aversion and that individuals may choose to remain with the status quo because of their aversion to the potential losses that could result from proactively choosing not to do so. Through this theory, the status quo bias can be viewed as a natural consequence of the asymmetry of people's feelings towards losses relative to gains (the disadvantages of a change looms larger than its advantages) (Kahneman, Knetsch and Thaler, 1991).

In addition, Madrian and Shea, (2001), analyse the impact of automatic enrolment on 401(k) savings behaviours (occupational pension scheme enrolment). They have two key findings. Firstly, 401(k) participation rates are significantly higher under automatic enrolment than when the default option is for an individual not to be a member of a pension scheme. Secondly, a substantial fraction of 401(k) participants, hired under automatic enrolment, retain both the default contribution rate and fund allocation even though few employees hired before automatic enrolment picked this outcome. They assert that the “default” behaviour appears to result from participant inertia and from employee perceptions of the default as investment advice.

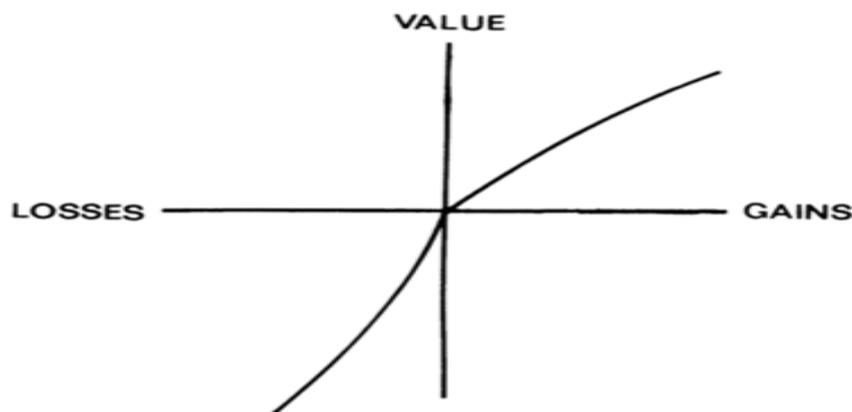
Finally, in contrast, Goldstein et al., (2008), investigate the status quo effect on the area of manufacturing and service design. They emphasise that due to the status quo bias, most individuals will select the default product or service offered by a company and assert that companies pay inadequate attention to designing the default versions of their products or service, and that this oversight can cost companies dearly. Goldstein et al., (2008), emphasise that with the help of default taxonomies and decision tools, senior managers can select default settings for virtually any product or service that will provide the most benefit for all stakeholders, and that choosing the right default can enhance customer satisfaction and increase profits, while reducing risks for both the company and customers.

Loss Aversion Bias

Decisions that could make things worse weigh more heavily, psychologically, on people than decisions that can make things better and similarly losses, such as financial losses, are felt more significantly than corresponding gains. This psychological bias can lead to loss averse behaviour and people making decisions, irrationally, to avoid potential losses (Kahneman et al. (1991).

The loss aversion bias is a central cornerstone of Prospect theory. Prospect theory was first introduced by Kahneman and Tversky, (1979), and is a theory relating to individuals’ choices among risky prospects. Kahneman and Tversky, (1979) find that loss averse behaviour leads to inconsistent preferences when the similar choices are presented in different forms and state that, in decisions, individuals assign value to gains and losses rather than to final assets.

Figure 1: Kahneman and Tversky's, (1979) Hypothetical Value Function



Kahneman and Tversky, (1979) state that the value function of a gain and loss decision is normally concave for gains, commonly convex for losses, and is generally steeper for losses than for gains (Figure 1). A central conclusion of prospect theory is that people make decisions relative to a neutral reference point (as opposed to a state of wealth or welfare), and that changes that make things worse (losses) loom larger than improvements or gains (psychologically) (Kahneman, Knetsch and Thaler, 1991)¹³. Kahneman et al. (1991) estimate the ratio to be approximately 2:1, meaning that losses are felt twice as significantly as corresponding gains (Kahneman, Knetsch and Thaler, 1991).

For example, Tversky and Kahneman, (1981) analyse the theory of the loss aversion by demonstrating that changes in the way decisions are framed can reverse people's decisions and that, through framing, decision shifts can be predictable. They demonstrate this with respect to choices relating to monetary outcomes and in questions pertaining to the loss of human lives. For example, they presented a group of university students with the following problems. Their responses illustrate the effect of framing.

Problem 1:

¹³This is known as reference dependence and is another cornerstone of Prospect theory. It is the assertion that people think about their decisions relative to a reference point (baseline) as opposed to in absolute terms and therefore that each decision is made in reference to the change it will make to an individual's status quo (Kahneman and Tversky, 1979; Tversky and Kahneman, 1992).

Imagine that the US is preparing for the outbreak of an unusual Asian disease expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that exact scientific estimate of the consequences of the programs are as follows:

If Program A is adopted, 200 people will be saved.

If Program B is adopted, there is $1/3$ probability that 600 people will be saved, and $2/3$ probability that no people will be saved.

Which of the two programs would you favour?

When asked to respond to Problem 1, most respondents chose Program A (72%) which is the risk adverse answer. These respondents found the prospect of certainly saving 200 lives more attractive than the risky prospect of an equal expected value, that is, a one-in-three chance of saving 600 lives.

However, a different group of respondents were given the cover story of Problem 1, with a different formulation of the alternative programs. This was defined as Problem 2 and is as follows:

Problem 2

If Program C is adopted 400 people will die

If Program D is adopted there is $1/3$ probability that nobody will die, and $2/3$ probability that 600 people will die.

Which of the two programs would you favour?

When presented with Problem 2, most respondents chose Program D (78%) which is the risk-taking option because to most respondents, the certain death (loss) of 400 people is less acceptable than the two-in-three chance that 600 will die.

Tversky and Kahneman, (1981) assert that the preferences of respondents to Problems 1 and 2 illustrate a common pattern: responses to decisions framed in terms of gains are often

risk averse, while responses to decisions framed in terms of losses are often risk taking, even when the options are mathematically identical. For example, the only difference between Problems 1 and 2, is that the outcomes are framed in Problem 1 so that the reference point is the number of lives saved (gain), while in Problem 2 the outcomes are framed so the reference point is the number of lives lost.

Following the work of Tversky and Kahneman, (1981) there have been several significant studies that demonstrate the existence of the loss aversion bias in a variety of areas. For example, Odean, (1998) analyses the trading records for 10,000 investment accounts at a large discount brokerage house in the US and finds that investors tend to hold losing investments too long and sell winning investments too soon, thus demonstrating a strong preference for realising winners rather than losers. The study finds that this behaviour is not justified by subsequent portfolio performance and Odean, (1998) asserts that this behaviour is explained by investors loss aversion or unwillingness to realise losses¹⁴.

Finally, Genesove and Mayer's (2001) analyses of the US housing market shows that loss aversion determines seller behaviour in the residential real estate market. Data from a boom-bust cycle in downtown Boston from 1990–1997 shows that sellers subject to potential losses, set higher asking prices of 25–35% relative to sellers not subject to losses and attained higher selling prices because of their unwillingness to crystalize large losses.

Identified Life versus Statistical Life Bias

Identified lives are those belonging to specific people who are identified, while statistical lives are those belonging to unidentifiable people who will be affected by a decision. Researchers have found that people are disproportionately compelled to act to save or positively affect identified lives, relative to statistical lives (Schelling, 1964; Russell, 2013).

Schelling, (1968) introduced the notion of identified lives and statistical lives, and asserts that, if a six-year-old girl with brown hair is identified as needing thousands of dollars for an operation that will prolong her life for a period of months, there will be no shortage of potential donors to help pay for the treatment. However, in contrast, if it was reported that if an

¹⁴In the content of investing in the stock market the unwillingness of investors to release losses on an investment is known as the disposition affect (Odean, 1998).

additional tax was required to maintain hospital facilities to avoid a small increase in preventable deaths, people would not be as inclined to pay because the lives saved would not be identifiable for them (Schelling, 1964; Russell, 2013). Since Schelling, (1968), there has been several authors who have studied and discussed the identified life vs statistical life bias.

For example, Cohen, Daniels and Eyal, (2015), provide a detailed, interdisciplinary, analysis of the effects of this bias on decision making in a variety of different areas including US Civil Litigation Law, Environmental Law, the global Fight against HIV/AIDS, health expenditure and other government expenditure. To illustrate its real-world impact, they provide the example of the Chilean governments rescue efforts of 33 copper miners who were trapped underground in 2010. They explain that because the men's personal stories were featured on TV screens for weeks all around the world, the Chilean public and political desire to save them lead to between US\$10–20 million being spent on their successful rescue. An amount that would have been unlikely to have been spent had the men remained unidentified and certainly more than the expenditure that the Chilean public health service could normally spend on saving 33 lives.

In addition, Cohen, Daniels and Eyal, (2015), also assert that this bias is often used in the marketing campaigns of organisations and possibly most notably those in the charity sector. They assert that fundraisers for charities know that telling a story about a specific person in need is more likely to produce a donation than citing statistics about many people are in comparable need¹⁵.

The Authority Bias

The authority bias is the tendency of individuals to attach greater accuracy to the opinions of figures they perceive as being in authority (unrelated to context) and the propensity of individuals to be irrationally influenced by the opinions of people that are perceived to have authority (Milgram, 1963).

An early study of the influence of the authority bias on decision making is Milgram, (1963). This well-known study analyses destructive obedience in the laboratory. The paper reports the results of an experiment in which a naive sample of participants were ordered to

¹⁵ Consistent with this assertion, charities such as Oxfam and Greenpeace regularly feature case studies within their marketing campaigns including those on their websites and within their marketing literature.

administer increasingly more severe electric shocks to a victim if he answered questions incorrectly. The victim was a confederate of the experiment and was not genuinely being shocked, although the participants believed the victim to also be a participant chosen through the drawing of straws (this process was fixed so the confederate was always the victim).

Punishment was administered by means of a shock generator, with 30 graded switches ranging from 15 volts (slight shock) to 450 volts (danger/severe shock). The participants were told by the administrator to ask a series of questions of the victim and shock the victim in increasingly large amounts if they failed to answer a question correctly. The primary dependent variable in the study was the maximum shock the participant was willing to administer before they refused to continue further.

Of the 40 participants, 26 obeyed the experimental commands fully, and administered the highest shock on the generator, while 14 broke off the experiment at some point after the victim protested and refused to provide further answers. All the participants administered a shock to the victim of 300 volts or more. The procedure created extreme levels of nervous tension in many of the participants. The analysis's principle finding was that the participants were extremely obedient to the perceived authority of the administrator, despite the tension and discomfort they suffered in being so¹⁶.

Milgram, (1974) theorises that the behaviour of the participants in Milgram (1963), can be explained by people having two states of behaviour when they are in a social situation. The first, the autonomous state, in which people direct their own actions and take responsibility for the results of those actions, and the second, the agentic state, in which people allow others to direct their actions and then pass off the responsibility for the consequences to the person giving the orders. Milgram, (1974), asserts that it is when people are in the latter psychological state that they are highly susceptible to authority bias.

Since Milgram, (1974), there have been many studies that have analysed and discussed the effect of the authority bias on decision making. For example, Brief *et al.*, (2000) investigated the effects of business justifications by authority figures (organizational superiors) for prejudice in the form of modern racism. They find that, where organisational superiors

¹⁶It is acknowledged that the authority affect may be a function of the social norms bias, where the social norm is to be irrationally influenced by figures in perceived authority.

provide business justifications, many employees are obedient and discriminate against racial minorities in hiring situations, but where the justifications are not provided they are not.

Finally, Morck, (2008) analyses the effects of authority bias on corporate governance behaviour and asserts that many corporate governance disasters could be averted if directors were less subservient to their superiors within organisations and asked 'hard' questions, demanded clear answers, and blew whistles. Through experimental work, Morck, (2008), shows this predisposition can be disrupted by dissenting peers and conflicting authorities and concludes that independent directors, chairs, and committees excluding CEOs might induce greater rationality and more considered ethics in corporate governance.

The Anchoring Affect Bias

The anchoring effect is the disproportionate influence on decision makers to make judgments that are biased toward an initially presented value (Tversky & Kahneman, 1975; Russell, 2013). Researchers have found that individuals irrationally make decisions, and provide responses around a reference point, or anchor, if they are provided with one (Tversky & Kahneman, 1975).

The notion of anchoring in decision making was first introduced by Slovic, (1967) who studied the effect of anchors on university students' perception of the perceived payoffs and risks when gambling (Chapman *et al.*, 1999; Furnham and Boo, 2011). However, the term, anchoring affect, was first used and defined by Kahneman and Tversky, (1974), who studied the responses of a group of college students, who were asked to provide an estimation for the percentage of African countries in the United Nations, with reference to a range of randomly generated numbers. They asked participants to consider whether the actual answer was higher or lower than the reference value presented before the absolute judgment was made. They found that the absolute judgement was significantly influenced by the randomly selected percentage (anchor). For example, the median estimates of the percentage of African countries in the United Nations were 25% and 45% for groups that received 10% and 65%, respectively, as starting points.

Interestingly, Tversky and Kahneman, (1974) also show that Anchoring not only occurs when the starting point is given to the subject, but also when subjects base their estimates on the result of some incomplete computation. To illustrate this, they study intuitive numerical

estimations and asked two groups of high school students to estimate, within five seconds, a numerical expression that was written on a blackboard. One group estimated the product of:

$$8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$$

while another group estimated the product of:

$$1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$$

They found that to rapidly answer the questions, many participants performed a few steps of computation and estimated the product by extrapolation and that, because adjustments are typically insufficient, this procedure lead to underestimation. Furthermore, because the result of the first few steps of multiplication (performed from left to right) is higher in the descending sequence than in the ascending sequence, the former expression was judged larger than the latter. The median estimate for the ascending sequence was 512, while the median estimate for the descending sequence was 2,250. The correct answer is 40,320.

Since Tversky and Kahneman, (1974), there have been a number of significant studies that have demonstrated the existence of an anchoring bias. For example, McElroy and Dowd, (2007) analysed the influence of anchors on the judgment of 197 US college students. They asked a proportion of the participants whether the length of the Mississippi river is more or less than 200 miles and the remaining participants whether the length of the Mississippi river is more or less than 20,000 miles. They then asked all the participants to estimate the exact length of the Mississippi river and found that participant's responses were significantly affected by the original anchor they received.

In Summary, this research aims to establish through the framing of SRI scenario's and the nudging of individuals decisions, utilising the six psychological biases reviewed in this section, whether private investors can be encouraged to invest through SRI strategies. This research aims to comprehensively build on the limited number of studies that have been performed within this specific area (choice framing and SRI decision making), while also adding additional depth to the large body of literature that pertains to wider behavioural economics research. The following section describes the Hypotheses tested in this analysis and the research methodology used to test the Hypotheses.

Hypotheses and Research Methodology

Hypotheses

There are two hypotheses tested in this analysis, Hypothesis 1, and 2. They are defined below:

Hypothesis 1: The likelihood of potential investors investing through SRI strategies can be increased, if investment decisions are framed to encourage them to do so.

Hypothesis 2: Investors can be encouraged to invest a higher percentage of their capital through SRI strategies, if investment decisions are framed to encourage them to do so.

Research Methodology

From an epistemological perspective this analysis follows a deductive research approach and is designed to test the validity of Hypotheses 1 and 2, which are preconceived theories. In addition, theories relating to the psychological biases used in this study are pre-existing¹⁷. From an ontological perspective, this research is grounded in positivist thinking and the research methodology is designed to test whether the hypotheses, can be positively affirmed and generalised, through a scientific, empirical, objective, analysis of the results (Comte, 1975; Macionis, 2012). The methodology used in this research is a between groups experimental design. This experiment uses two distinct structured surveys, one survey for each of the two groups of subjects. The first survey contains impended biases that are designed to encourage SRI, while the second survey does not. Therefore, the presence or absence of the biases which are designed to encourage SRI, constitute the intendent variable within the experiment (Hall, 1998).

The surveys are designed to generate primary data. However, the design of the surveys and the research methodology, in general, is informed by secondary data and specifically by a review of the literature in this area of academia¹⁸. In keeping with the research methodology typically used in behavioural economics research, structured surveys were provided to a large sample to enable the production of quantitative data, which could be used in statistical analysis. The surveys focus on providing participants with scenarios based on potential SRI decisions. Other research methods such as semi-structured surveys that allow for open ended questions

¹⁷This is the first paper to use these biases within the context of SRI decision making.

¹⁸Behavioural economics studies and psychology studies, including those reviewed in this dissertation.

and interviews, which would also produce qualitative data, were considered for use in this analysis but rejected because the testing of Hypotheses 1 and 2 can be most effectively achieved through the statistical analysis of quantitative data¹⁹.

Two surveys were distributed to 250 US students each. The results from the surveys are presented in Table 1, within the Results and Implications section below. The surveys were conducted online, and the data was collected by ResearchNow, who are a well-respected, third-party specialist research company, with a history of working with Cambridge University faculty and students. A third-party company was used to ensure that there was minimum bias in the sample selection. A sample of US students was chosen because US students are a sample group type, used regularly within behavioural economics and psychology research²⁰ and are a sample group type accepted as valid within this area of academia.

The two surveys taken by the participants are presented in full in the Appendix (Survey 1 and 2). Each survey contains 16 questions, 4 preliminary questions and 12 questions that relate to the 6 investment scenarios. The preliminary questions in both surveys asked the participants sex and age. In addition, after being presented with brief, neutral descriptions of SRI and conventional investing, the respondents to both surveys were then asked the following questions to ascertain how they felt about SRI, before they worked through the scenario questions:

On a scale of 0-100, with 0 being very unlikely and 100 being very likely, if you had \$60,000 of disposable capital which you were intending to invest now, how likely would you be to invest some or all of the capital through socially responsible investing strategies?

What percentage of the \$60,000 do you think you would invest through socially responsible investing strategies, if any?

The participants, who were presented with Survey 1, were then presented with the 6 investment scenarios which were framed to encourage SRI and asked two questions in relation to each scenario. The first question related to the likelihood of them investing some or all of the capital available to them, according to the information provided in the scenario, through SRI strategies. The second question related to what percentage of the capital available to them, according to the information provided in the scenario, they would invest through SRI strategies

¹⁹Additional research which uses other methodologies to explore this area may provide additional insights, for example interviews with potential SRI investors, who are presented with SRI scenarios, that are framed differently. However, using numerous research methodologies was beyond the scope of this work and therefore only the most applicable methodology was used.

²⁰For example, Glac (2009), Slovic, (1967) and McElroy and Dowd, (2007).

(if any)²¹. Each scenario was framed to utilise one of the 6 biases used in this work, to encourage SRI. The participants who were presented with Survey 2 were presented with six similar scenarios and asked the same questions; however, the scenarios presented in Survey 2 are not framed to encourage SRI²².

For example, participants answering Survey 1 were given the below investment scenario which is framed to encourage SRI by presenting it as a social norm:

You inherit \$400,000 dollars from a long-lost aunt and decide to invest \$300,000 of your inheritance. When reading about socially responsible investing you discover that it is becoming quite popular and that a recent survey indicated that around 80% of US university students indicated that they would invest some or all of their investible capital (if they had any), through socially responsible investing strategies.

While, participants answering Survey 2 were given the below investment scenario which is not framed to encourage SRI and does not present SRI as a social norm:

You inherit \$400,000 dollars from a long-lost aunt and decide to invest \$300,000 of your inheritance. When reading about socially responsible investing you discover that it is very niche and that a recent survey indicated that only around 10% of US university students indicated that they would invest some or all of their investible capital (if they had any), through socially responsible investing strategies.

Participants answering Surveys 1 and 2 were then asked the following questions after reading the respective scenarios.

Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$300,000 you have inherited, through socially responsible investing strategies?

What percentage of the \$300,000 do you think you would invest through socially responsible investing strategies, if any?

Surveys 1 and 2 are designed to provide three variable types for analysis and they are as follows:

²¹It was important in the design of the survey questions that other potential psychological biases did not influence the responses, and as such the author took great care to ensure that the investment scenarios were written in such a manner that other potential biases would not affect the analysis.

²²The values of potential investible capital within the investment scenarios range between \$10,000 and \$300,000 dollars. The amounts chosen were selected to ensure that they were enough to be of significance but not so much to be unrealistic (Kahneman and Tversky, 1979). It is acknowledged that the fact that different investment scenarios presented different investable amounts, may have slightly affected the findings but importantly the corresponding investment scenarios always presented the same amounts of potentially investible capital. For example, the loss aversion scenario (Investment Scenario's 3) in both Survey 1 and Survey 2, presented \$100,000 as the investible amount.

Variable (1)

The mean (average) response of the participants to being asked to state the likelihood that they would invest through an SRI strategy with 0 being highly unlikely and 100 being highly likely.

Variable (2)

The mean response of the participants to being asked to state what percentage of their capital they would invest through SRI strategies (if any), with 0 being 0% and 100 being 100%.

Variable (3)

Variable 1 * Variable 2 = Variable (3), which is the weighted SRI commitment (WSRIC)

The survey design allows for Variables 1, 2 and 3, to be compared between the respondents' preliminary responses and their responses to each investment scenario. In addition, it allows for comparisons between Variables 1, 2 and 3 from the responses to the Survey 1 and Survey 2 investment scenario questions.

Results and Implications

Overview of Findings

Table 1 shows that 23.60% of the respondents to Survey 1 were male and 76.40% were female. It also shows that 19.20% of the respondents to Survey 2 were male and 80.80% were female. Therefore, most respondents to both surveys were female and a slightly higher percentage of respondents to Survey 1 were female than Survey 2. There is no evidence from the existing literature in this area that the gender of potential investors is a significant factor within the SRI decision making process and therefore the fact that most respondents were female is not viewed as being a significant influence on the results. The mean age of respondents to Survey 1 was 22.06 and for Survey 2 it was 22.43. The mean age was therefore similar for both samples. There is no evidence from the existing literature in this area that the age of potential investors is a significant factor within the SRI decision making process.

The results from the preliminary questions indicate that there was very little difference between the preliminary preferences of the respondents to Survey 1 and 2, with respect to SRI. This is extremely significant because it indicates that the respondents to Survey 1 and Survey 2, felt the same about SRI before they were presented with the respective investment scenarios in the two Surveys. Variables (1), (2) and (3) are all similar for both sets of respondents and results from the paired sample T-tests between the means of the respondents to the preliminary likeliness and percentage SRI questions, show that the T-statistics are not statistically, significantly different. As do the T-tests relating to the mean WSCRI's.

Table 1 also shows that results from the investment scenario-based questions, and in contrast, those results indicate that there was a difference between the preferences of the respondents to Survey 1 and Survey 2, with respect to SRI when they answered all the questions relating to the investment scenarios. Importantly, variables (1), (2) and (3) are higher for the respondents of Survey 1 than those of Survey 2, with respect to all the investment scenario questions. This indicates that the respondents to Survey 1, who were presented with investment scenarios framed to encourage SRI, had a higher preference for SRI than the respondents to Survey 2 who were presented with similar investment scenarios that were not framed to encourage SRI. T-tests between the means of the responses to the investment scenario likeliness and percentage SRI questions show that the means are statistically, significantly different. As do the T-tests relating to all the mean WSCRI's. This shows that the respondents to Survey 1's

investment scenario questions had statistically, significantly higher preferences to SRI than those of Survey 2.

These important findings are consistent with behavioural economic theory and indicate that both Hypothesis 1 and 2 are valid:

Hypothesis 1: The likelihood of potential investors investing through SRI strategies can be increased, if investment decisions are framed to encourage them to do so.

Hypothesis 2: Investors can be encouraged to invest a higher percentage of their capital through SRI strategies, if investment decisions are framed to encourage them to do so.

Table 1: Results of Study

| | % Male/Female | \bar{x} Age | |
|-------------|---|--|-----------------------------------|
| Survey 1 | 23.60/76.40 | 22.06 | |
| Survey 2 | 19.20/80.80 | 22.43 | |
| | \bar{x} Preliminary SRI Likeliness | \bar{x} Preliminary SRI Percentage of Capital | \bar{x} WSRIC |
| Survey 1 | 58.80 | 47.25 | 32.15 |
| Survey 2 | 58.80 | 47.78 | 32.28 |
| Difference | 0.00 | -0.53 | -0.13 |
| T-Statistic | 0.00 | -0.25 | -0.06 |
| | \bar{x} Social Norm SRI Likeliness | \bar{x} Social Norm SRI Percentage of Capital | \bar{x} WSRIC |
| Survey 1 | 62.37 | 55.38 | 39.11 |
| Survey 2 | 52.29 | 45.31 | 29.05 |
| Difference | 10.08 | 10.07 | 10.06 |
| T-Statistic | 4.41*** | 4.43*** | 4.37*** |
| | \bar{x} Status Quo SRI Likeliness | \bar{x} Status Quo SRI Percentage of Capital | \bar{x} WSRIC |
| Survey 1 | 58.42 | 49.78 | 33.19 |
| Survey 2 | 47.80 | 42.74 | 25.21 |
| Difference | 10.61 | 7.04 | 7.98 |
| T-Statistic | 4.62*** | 3.07*** | 3.60*** |
| | \bar{x} Loss Aversion SRI Likeliness | \bar{x} Loss Aversion SRI Percentage of Capital | \bar{x} WSRIC |
| Survey 1 | 59.99 | 54.47 | 37.58 |
| Survey 2 | 50.27 | 43.13 | 28.03 |
| Difference | 9.72 | 11.34 | 9.54 |
| T-Statistic | 3.80*** | 4.55*** | 3.76*** |
| | \bar{x} Identified Life SRI Likeliness | \bar{x} Identified Life SRI Percentage of Capital | \bar{x} WSRIC |
| Survey 1 | 64.92 | 57.30 | 41.95 |
| Survey 2 | 56.87 | 50.27 | 36.29 |
| Difference | 8.06 | 7.03 | 5.66 |
| T-Statistic | 3.14*** | 2.81*** | 2.08** |
| | \bar{x} Authority Bias SRI Likeliness | \bar{x} Authority Bias SRI Percentage of Capital | \bar{x} WSRIC |
| Survey 1 | 62.74 | 56.36 | 39.81 |
| Survey 2 | 50.13 | 43.90 | 27.51 |
| Difference | 12.61 | 12.46 | 12.30 |
| T-Statistic | 5.19*** | 5.37*** | 5.22*** |
| | \bar{x} Anchoring Affect SRI Likeliness | \bar{x} Anchoring Affect SRI Percentage of Capital | \bar{x} WSRIC |
| Survey 1 | 57.57 | 53.16 | 35.39 |
| Survey 2 | 50.17 | 43.74 | 26.77 |
| Difference | 7.40 | 9.42 | 8.61 |
| T-Statistic | 3.09*** | 4.12*** | 3.71*** |

Table 1 shows the percentage of males and females who participated in the study by either responding to Survey 1 or 2. It also shows the mean (average) age of the participants. In addition, it shows the respondents stated mean likeliness that they would invest through SRI strategies, the mean percentage of capital which they stated that they would invest through SRI strategies and the mean WSRIC, with respect to the preliminary questions and the questions relating to each of the investment scenarios. Finally, Table 1 shows T-statistics from paired two sample mean tests. These tests establish whether there was a statically significant difference between the means of the respondents with respect to their answers to the likeliness questions, the capital percentage questions and their WSRIC's. Where the T-statistics are statistically significant they are in bold. ** denotes significance at the 5% level of significance and *** at the 1% level of significance.

Discussion of the Findings Relating to Each Bias

The Social Norms Bias

Survey 1, Investment Scenario 1, is framed so that SRI is presented as a social norm. Survey 2, Investment Scenario 1, is framed so that SRI is presented as not being a social norm. The results indicate that the participants who were presented with Survey 1, Investment Scenario 1, had a higher preference for SRI, than those presented with Survey 2, Investment Scenario 1. This indicates that presenting SRI as a social norm can significantly increase the preference of potential investors for this form of investing. One implication of this finding is that the promoters of SRI should present it as a social norm to increase the amount of capital invested through SRI strategies. For example, promotional literature should emphasise the dramatic growth of SRI over recent years and provide examples of investors who are demographically similar, to the promoters target demographic markets.

The Status Quo Bias

Survey 1, Investment Scenario 2, is framed so that SRI is presented as the default option with respect to the participants contributions into their new company retirement plan. In contrast, in Survey 2, Investment Scenario 2, conventional investing is presented as the default option. The results indicate that the participants who were presented with Survey 1, Investment Scenario 2, had a higher preference for SRI, than those presented with Survey 2, Investment Scenario 2.

These findings indicate that if companies set new pension schemes up or change current schemes so that new members default investment options for their contributions are for the contributions to be invested through SRI strategies, then this would significantly increase the amount of capital being invested through SRI strategies. Promoters of SRI should therefore encourage companies to do so. This is extremely important because the amount of capital invested through company pension schemes globally is considerable. A recent study found that it is more than £16tn (Towers Watson, 2017). Therefore, potential new capital flows into SRI strategies could be significant. In addition, making the default investment strategies for pension schemes SRI strategies, would be a fantastic opportunity to introduce people to SRI and socially responsible thinking.

More occupational pension schemes are likely to make SRI strategies the default option if pension trustees are given suitable training relating to SRI, and government bodies encourage pension trustees to make SRI the default option. For example, in the UK the regulatory body responsible for occupational pension schemes is the Pension Regulator and the major pension trustee training provider is the Pension Management Institute. If these two bodies started to actively encourage pension trustees to make SRI strategies the default options for occupational pension schemes, it would have a profound effect on the amount of capital being invested through SRI strategies in the UK.

The Loss Aversion Bias

Survey 1, Investment Scenario 3, is framed so that the SRI strategy is presented as providing a screening gain to the potential investor, “you will gain the ability to avoid investing in companies that produce armaments”, while in Survey 2, Investment Scenario 3, the SRI strategy is presented as providing a screening loss to the potential investor, “you will lose the ability to invest in companies that produce armaments”. The results indicate that the participants who were presented with Survey 1, Investment Scenario 3, had a higher preference for SRI than those presented with Survey 2, Investment Scenario 3. This finding indicates that the promoters of SRI should frame descriptions of SRI screening techniques so that they are presented as techniques that provide gains in investment choice such as gaining that ability to avoid certain sectors, as opposed to presenting them as techniques that result in a loss of investment choice, as is often the case²³. This is particularly relevant with respect to investment company’s descriptions of negative screening techniques, many of which could be more effectively worded, so they present the screening out of specific sectors as being an extra valuable gain to the SRI investor, not offered through conventional investing strategies. Doing so may help potential SRI investors move away from the perception that negative screening

²³Loss aversion theory states that individuals make choices to avoid potential losses to an irrational extent. The findings indicate that potential SRI investors were less enthusiastic with respect to SRI, when they perceived it as being associated with loss and this is consistent with loss aversion theory. However, it is acknowledged that loss aversion theory also stipulates that individuals when faced with a loss often demonstrate risk seeking behaviour. Survey 1 and 2, Investment Scenario 3 descriptions, were therefore designed to ensure that neither investment choice (SRI or conventional) were presented as being riskier or as providing higher risk/reward potential. However, it is acknowledged that this facet of loss aversion (risk seeking behaviour) may have affected the findings, although there is no evidence that it did so.

techniques result in a loss of potential investment choice and a consequential loss in investment performance²⁴.

The Identified Life versus Statistical Life Bias

In both Survey 1 and Survey 2, in Investment Scenario 4, the SRI strategy is presented as being a strategy that allows the investor to avoid investment in tobacco producing companies. However, in Survey 1, Investment Scenario 4, the potential SRI plan's, marketing literature, provides information relating to three people who have died from tobacco related illnesses, Robert, Jane and Simon (identified lives). While in Survey 2, Investment Scenario 4, the potential SRI plan's marketing literature provides information on the approximate number of people who currently die from tobacco related illnesses in the US each year (480,000²⁵, statistical lives). The results indicate that the participants who were presented with Survey 1, Investment Scenario 4, had a higher preference for SRI, than those presented with Survey 2, Investment Scenario 4. This finding indicates that promoters of SRI should use identified lives as examples within their marketing literature, in a similar manner to the promoters of many charity campaigns, and that doing so could drastically increase the amount of capital being committed to SRI strategies (Cohen, Daniels and Eyal, 2015).

For example, the promotional literature for an SRI mutual fund that screens out investment in the gambling sector, could provide information on organisations which help to combat gambling addiction and feature their case studies on people who have been negatively affected by gambling addiction (identified lives). Currently, SRI promotional literature is typically quite practical and not emotive²⁶. In addition, the promoters of SRI could present examples of current SRI investors to potential investors because they may identify with the examples provided. This strategy is used by lottery companies who often provide examples of recent winners to encourage the purchase of tickets.

²⁴ As outlined in the Literature Review, there is little evidence that investing through SRI strategies leads to worse financial performance.

²⁵ (U.S. Department of Health and Human Services, 2014).

²⁶ Consistent with behavioural economic theory, the findings of this study show that the presentation of identified lives is more impactful than that of statistical lives, however currently promotional SRI literature doesn't typically include either identified or statistical lives examples and the inclusion of information relating to either would likely improve the impact of the current literature.

The Authority Bias:

In Survey 1, Investment Scenario 5, the authority figure who is the professional investment manager, states that investing through an SRI strategy is a good idea based on the client's financial objectives, while in Survey 2, Investment Scenario 5, the professional investment manager states that investing through a conventional strategy is a good idea based on the client's financial objectives. The results indicate that the participants who were presented with Survey 1, Investment Scenario 5, had a higher preference for SRI, than those presented with Survey 2, Investment Scenario 5. The results indicate that the promotion of SRI by investment managers could have a significant effect on the amount of capital which is invested through SRI strategies²⁷. While this may seem intuitive, it is a very important finding because one of the major barriers to more capital being invested through SRI strategies is that many retail investment advisors do not encourage SRI (Nicklin, 2012).

This finding clearly establishes that investors decisions can be significantly influenced by the advice they receive from investment professionals, even when the advice is not substantiated with any reasoning or evidence. It is therefore important that more advisors are encouraged to promote SRI. This is likely to happen if advisors, many of whom still believe in the SRI poor performance myth, receive more training relating to SRI, and if government bodies encourage advisors to participate in training. For example, in the UK the regulatory body responsible for the quality of the advice provided by financial advisors to retail clients is the Financial Conduct Authority (FCA). The FCA could insist that advisors acquire qualifications in SRI and that all advisors offer SRI solutions to their clients²⁸.

The Anchoring Bias:

In Survey 1, Investment Scenario 6, the participants are initially presented with the performance of a market index which has underperformed a potential SRI strategy over the past 5 years, while in Survey 2, Investment Scenario 6, the participants are initially presented

²⁷This work assumes that professional investment advisors are legitimate authority figures within the content of SRI decisions. Brief *et al.*, (2000) find that individuals react differently to legitimate authority figures than authority figures who are perceived to be illegitimate and that the authority bias is far stronger when authority figures are perceived to be legitimate.

²⁸For advisors to acquire qualifications in SRI, the major qualification providers such as the Chartered Institute of Insurance and the Chartered Institute of Securities and Investment, will need to develop and offer suitable exams.

with the performance of a market index which has outperformed a potential SRI strategy over the past 5 years²⁹.

In both scenarios, the market index is not presented as an investment option. In addition, in both scenarios, the participants are then presented with two investment options which are an SRI and a conventional investment strategy and historic performance information relating to each strategy. Crucially, in both scenarios the SRI strategy is presented as having underperformed the conventional strategy by 3% over a 5-year period (35% and 38%, respectively). Therefore, in real terms, the participants were given the same choice between two investment plans, with the same performance differentials. However, the results show that the participants who were presented with Survey 1, Investment Scenario 6, had a higher preference for the SRI strategy, than those presented with Survey 2, Investment Scenario 6.

This indicates that the respondents to both Survey 1 and 2, anchored the performance of the potential SRI strategy against the performance of the respective market index, which was presented to them first in the investment scenarios. This happened even though investing in the index was not presented as an option for them and even though there was no information provided to suggest that the index represented an accurate benchmark, for the potential SRI investment strategy³⁰. Importantly, the results indicate that the participants did not anchor the performance of the SRI strategy against the performance of the conventional investment strategy (which they could choose), because the performance of the conventional strategy was presented second.

One implication of this finding is that the promoters of SRI should ensure that, if possible and reasonable, the performance of an SRI investment strategy is initially shown against a benchmark that the SRI strategy has beaten³¹. This finding is especially relevant

²⁹ The reported performance of the of market indices is not accurate and the returns presented were selected solely to enable the testing of the anchoring bias within this analysis.

³⁰ For example, in Survey 1, Investment Scenario 6, participants were initially presented with the performance of the Dow Jones Sustainability North America stock market index but there was no information provided on whether this was an accurate benchmark for the SRI strategy. In fact, it is likely that the Dow Jones Sustainability North America stock market index, which is an equity only index (company shares), is not an accurate benchmark for a medium risk SRI strategy, such as the one presented in the scenarios, because a medium risk strategy is likely to include investing in several asset classes (such as company shares and bonds).

³¹ It is acknowledged that this tactic would be easier to implement for retail investment managers, than institutional mutual fund managers, many of whom have one regulatory stipulated benchmark that they must use in their fund factsheets. However, even mutual fund managers can include beaten benchmarks first in their other marketing literature.

because as identified earlier in this dissertation one of the major barriers to people investing through SRI strategies is the belief that they result in poor financial performance³².

In Summary, the results presented in Table 1 clearly indicate that behavioural economic theory and theory relating to psychological biases, can potentially be utilised in the promotion of SRI, to increase the quantity of capital being invested through SRI strategies. This important finding enhances the current academic and practitioner literature relating to SRI, whilst also adding additional depth to the literature pertaining to behavioural economics.

³²Interestingly, there is also considerable scope for the anchoring bias to potentially be used to increase the percentage of capital pension investors invest through SRI strategies, when they have chosen to invest through such a strategy within their pensions/retirement plans, if the promoters of SRI strategies provide examples of potential contribution rates which are high. By doing so it is likely that investors will anchor their contribution rates around the high example rates. The effectiveness of this technique is demonstrated by Madrian and Shea, (2001) who show that in general, pension contributions rates can be increased by providing high contribution rate examples. Their study did not have a focus on SRI.

Critical Analysis and Limitations of This Study

Critical Analysis of the Methodology Used in this Work

The findings of this analysis clearly show that framing and choice architecture using six known psychological biases can potentially be utilised in the promotion of SRI to increase the amount of capital that is invested through SRI strategies. However, the methodology utilised may not have enabled the effective analysis of the potential influence of each bias independently.

Despite each investment scenario in Survey 1 using a different bias, the fact that all the biases were used in one survey means that it is likely that the way the initial investment scenarios were framed, effected the respondent's answers to the questions relating to the subsequent scenarios, and that the framing of the initial questions primed the responses to the later questions³³. For example, it is likely that the responses to the questions relating to Investment Scenario 3 in Survey 1 (the Loss Aversion Bias scenario), were affected by the framing of the preceding two scenarios (Investment Scenario 1 and 2, Social Norms and Status Quo Bias Scenarios, respectively).

Therefore, while the findings show that a combination of biases can be used effectively by the promoters of SRI to increase the amount of capital invested through SRI strategies, further analysis is required, in which the influence of each bias is tested independently, to establish which of the biases used, if any, are particularly influential³⁴. This could, for example, take the form of separate surveys, each relating to one of the biases. Analysis of this nature was beyond the scope of this work but would constitute interesting future research³⁵. In addition, there is scope for further work which tests whether other known biases can be used within

³³To mitigate the effect of priming, respondents were asked to answer the investment scenario questions based solely on the information within the specific investment scenario, the questions related to.

³⁴The author's original methodological design included the randomisation of the order in which the investment scenarios were presented to the participants, to allow for findings from the first questions answered to be used as a control response and for the effects of any priming to be analysed. However, ResearchNow were unable to enable the randomisation of the order of the investment scenarios.

³⁵While it would be interesting to establish which biases are particularly influential, the promoters of SRI can use a combination of the biases within their promotions.

investment scenario framing to encourage SRI, such as the Signalling Bias³⁶ and the Availability Bias³⁷ (Kuran and Sustein, 2016; Riedl and Smeets, 2017)³⁸.

It is also acknowledged that because both Surveys 1 and 2, are clearly focused on SRI, that the respondents to both surveys may have indicated that they had a higher enthusiasm for SRI than would otherwise be the case. For example, this may have happened as a result of the More Exposure affect, which stipulates that people have a tendency to express an undue liking for something merely because of familiarity with the subject (Zajonc, 1968), and/or the Observer effect (also known as the Hawthorne effect) which stipulates that participants in studies often modify their behaviour in response to their knowing that they are being studied (Henry A. Landsberger, 1959). However, while affects such as those mentioned may have increased the participants general enthusiasm for SRI, they should have affected the responses to both Survey 1 and Survey 2 in a similar manner and therefore not affected the analysis of the contrasts between the responses to the two surveys or the validity of the findings of this work.

In addition, it must be acknowledged that each Survey only had 250 responses and therefore that the findings reported in this work are based on the analyses of the repossess of limited sample sizes. While 250 respondents constitute a large sample size for an experiment of this nature and many seminal studies within behavioural economics have used similar or smaller sample sizes including many of those reviewed in this dissertation³⁹ similar analysis involving larger sample sizes would help demonstrate that the findings of this work can be generalised.

Also, while the use of structured surveys was considered the most appropriate methodology for the analysis reported in this work, additional analysis which produces qualitative data could provide additional insights into the effect of choice architecture and framing on SRI decisions. For example, semi-structured surveys, interviews and focus groups could all potentially be used to discover information about the effects of framing within SRI

³⁶It is highly likely that the framing of investment scenarios using the signalling bias, by indicating that participants who choose to invest through SRI strategies, would be able to signal this choice to others, would result in a high proportion of potential investors choosing SRI strategies. Riedl and Smeets, (2017) find a major reason for investors choosing SRI strategies is the potential for them to signal their choice to others

³⁷The availability bias is the tendency of individuals to overweight information which is more available to their memory, such as recently obtained information or information which is emotive (Kuran and Sunstein, 2016)

³⁸Despite the author's best efforts, it must be acknowledged that there is the potential that biases other than those intentionality used in this work, may have affected the findings. However, the author does not believe that the principle findings of this work were affected by biases other than those intentionally used.

³⁹ For example, Kahneman and Tversky, (1979) and Tversky and Kahneman, (1981).

decisions and whether the effects of framing influence investor preferences on a conscious or unconscious level. This additional analysis was beyond the scope of this work but would constitute interesting future analysis.

Critical Analysis of Behavioural Economic Studies in General Including this Work

It must also be acknowledged that there is a body of literature that is critical of behavioural economic studies as a field of academic research, in general. Critiques include the assertion that small nudges may not be as effective as more traditional, interventionist, government and corporate actions with respect to changing individual decision making (Levitt and List, 2008; Berg and Gigerenzer, 2010; Philip, 2014; Saint-Paul, 2011; Philip, 2014; Harford, 2014; Adams, 2014; Economics Online, 2017). For example, it has been argued that raising petrol prices through increased taxation may be a more effective mechanism by which governments can lower petrol consumption than nudging people towards using less fuel through an environmental campaign which utilises behavioural economic theory.

Similarly, within the content of this work, it could be argued that SRI firms could lower the costs of SRI strategies, so they are less expensive than conventional strategies and that doing so, may be more effective at increasing individual's propensity to invest through SRI strategies than the mechanisms outlined in this work. However, it must also be noted that the mechanisms presented in this work are not intended to be implemented in isolation and that it is acknowledged that other mechanisms are also likely to be effective in increasing SRI⁴⁰.

Finally, a great proportion of behavioural economic theory has derived from controlled scenario and lab experiments and a resulting, further criticism of behavioural economic theory, is that some of the theory, may not be generalisable. For example, where nudges are likely to be subject to more interference in real world conditions (Levitt and List, 2008; Berg and Gigerenzer, 2010; Philip, 2014; Saint-Paul, 2011; Philip, 2014; Harford, 2014; Adams, 2014; Economics Online, 2017)⁴¹. Until the findings of the study reported in this dissertation are tested in real world situations, this critique may be valid with respect to the analysis reported. It would therefore be valuable, from the perspective of academic rigour, for the findings in this study to be tested in real world situations and for the results from such implementations to be

⁴⁰The mechanisms presented in this work are likely to be cheaper to implement than fee reductions.

⁴¹Despite this criticism this is considerable real-world evidence for the successful implementation of behavioural economics in many areas. For example, Shang and Croson, (2009), Madrian and Shea, (2001), Genesove and Mayer, (2001).

analysed. For example, it would be extremely interesting to analyse whether making SRI strategies the default option for contributions into real company pension schemes increases the proportion of capital invested through such strategies⁴².

In summary, this work presents important findings with respect to the potential use of choice architecture and framing by the promoters of SRI. However, it is important to note that there are limitations to this study and that further analysis would aid in establishing the validity of the findings reported, and aid in establishing whether the findings can be generalised. The following section provides conclusions in relation to this study⁴³.

⁴²There is also literature that critiques theory relating to individual biases and experiments which have been performed within the area of behavioural economics, as opposed to proving more general critiques of this area of academia. For example, Iyengar and Lepper, (2000) and Moore and Healy, (2008).

⁴³The findings of this study are consistent with the theory pertaining to the behavioural biases used in this work. These theories have been utilised in many, real world scenarios and therefore the expectation is that further analysis will prove the findings of this study to be valid and generalizable.

Conclusions

Summary of Findings

This dissertation analysed whether behavioural economic theory and theory relating to psychological biases can be effectively utilised in the promotion of SRI to increase the quantity of capital being invested through SRI strategies. The findings from the analysis clearly show that the way SRI decisions are framed can significantly affect the propensity with which investors choose to invest through SRI strategies and that the promoters of SRI can potentially utilise framing and choice architecture to increase the prevalence of SRI. This important finding enhances the current academic and practitioner literature relating to SRI, while also adding additional depth to the literature pertaining to behavioural economics. Table 2 below presents a summary of this works findings.

Table 2: Summary of Findings and Implications

| Bias | Finding | Example Implication |
|--|--|--|
| The Social Norms Bias | Presenting SRI as a social norm could significantly increase the preference of investors for SRI strategies. | SRI promotional literature should emphasise the dramatic growth of SRI over recent years. |
| The Status Quo Bias | Making SRI the default option for occupational pension scheme contributions could significantly increase the amount of capital invested through SRI strategies. | Companies should be encouraged to make the default investment option for company pension scheme contributions, investment through SRI strategies. Regularity bodies such as the Pension Regulator in the UK should encourage this. |
| The Loss Aversion Bias | Presenting SRI strategies as providing gains in investment choice, should encourage more SRI. | Promoters of SRI should present SRI screening techniques, as techniques that provide gains in investment choice, such as the choice to avoid investment in certain sectors. |
| The Identified Life vs Statistical Life Bias | Presenting SRI strategies in combination with examples of identified lives potentially affected by such strategies, should encourage SRI. | Promoters of SRI should use identified lives examples within their marketing literature, in a similar manner to the promoters of many charity campaigns. |
| The Authority Bias | The promotion of SRI by authority figures such as investment managers should encourage more SRI. | Retail investment managers and financial advisors should be encouraged to promote SRI by their professional membership bodies such as the CISI in the UK and mandated, so they must at least offer SRI strategies as an option to their clients. Regularity bodies such as the FCA in the UK could make this mandatory |
| The Anchoring Bias | Where the performance of an SRI strategy is initially presented against the performance of a benchmark it has outperformed, it is likely to increase investors' enthusiasm for the strategy. | Promoters of SRI should ensure that the performance of an SRI investment strategy is initially shown against a benchmark that the SRI strategy being promoted has outperformed, if it is fair and not misleading to do so. |

Table 2 Shows a Summary of the findings of the analysis reported in this dissertation as well as examples of some of the primary implications.

Summary of Implications.

Work of this nature has the potential to revolutionise the way SRI is currently promoted and encourage the introduction of behavioural economic theory and psychology into the promotion of SRI. For this to be achieved there is a requirement for additional research in this field and for this research to be disseminated to the investment industry through industry publications and presentations at industry events. It would be beneficial if finance industry regulatory bodies, (such as the FCA in the UK), worked with other government bodies that have expertise in the use of psychology (such as the behavioural insight team in the UK⁴⁴) and academics to produce more research in this area and disseminate the findings of the research to the investment industry. In the UK collaborations of this nature are feasible because the UK government is committed to encouraging SRI (Corley, 2017; H M Government, 2016).

Importantly, if this dissemination is successful, in time SRI could be more effectively promoted and consequentially as aforementioned, this should lead to: increased capital flows into companies with good ESG practises; increased positive shareholder activism, and increased SRI investment manager direct persuasive influence over company boards. In turn, this should encourage better corporate ESG behaviours such as good sustainability practices (US SIF, 2016b; Morgan et al. 2011; US SIF 2016b; El Ghouli et al. 2011; Cheng et al. 2014).

Future Research

This work presents important findings with respect to the potential use of choice architecture and framing by the promoters of SRI strategies, such as companies who manage SRI mutual funds. However, this area of research would benefit from additional studies. For example: analysis that focuses on specific biases; work that uses other biases, and research that uses different research methodologies (interviews and focus groups)⁴⁵. Additional research has the potential to further enhance our knowledge of the use of choice architecture within this area. In addition, the dissemination of additional studies to the promoters of SRI may aid in encouraging their utilisation of framing within their promotions.

⁴⁴In the US the equivalent government bodies are the Securities and Exchange Commission (SEC) and the Social and Behavioural Sciences Team (SBST).

⁴⁵It is acknowledged that this work focuses on the use of framing to increase the amount of capital invested in SRI strategies, through the encouragement of private individuals and that this work does not provide solutions to the other major barriers to more SRI investment, such as a need to increase the supply of SRI investment propositions. The author addressed potential solutions to several of the other barriers in his Strategic Action Plan.

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Appendix

| Section (not shown to participants) | Survey 1 | Survey 2 |
|-------------------------------------|---|---|
| | <p data-bbox="499 274 636 298">Introduction</p> <p data-bbox="499 334 1157 574">The Forum for Sustainable and Responsible Investment defines socially responsible investing (SRI) as an investment discipline that considers environmental, social and corporate governance criteria to generate long-term, competitive financial returns and positive societal impact. In contrast, conventional investing strategies aim to generate long-term competitive financial returns but do not consider societal impact.</p> <p data-bbox="499 610 1157 812">In this survey you will be asked to answer 4 preliminary questions. You will then be presented with 6 hypothetical investment scenarios and asked 2 questions in relation to how you would react to each scenario. Please view each scenario independently and answer the questions relating to each scenario, based solely on the information presented in the scenario.</p> | <p data-bbox="1203 274 1339 298">Introduction</p> <p data-bbox="1203 334 1860 574">The Forum for Sustainable and Responsible Investment defines socially responsible investing (SRI) as an investment discipline that considers environmental, social and corporate governance criteria to generate long-term, competitive financial returns and positive societal impact. In contrast, conventional investing strategies aim to generate long-term competitive financial returns but do not consider societal impact.</p> <p data-bbox="1203 610 1860 812">In this survey you will be asked to answer 4 preliminary questions. You will then be presented with 6 hypothetical investment scenarios and asked 2 questions in relation to how you would react to each scenario. Please view each scenario independently and answer the questions relating to each scenario, based solely on the information presented in the scenario.</p> |
| Preliminary Questions | Q1) Are you male or female? | Q1) Are you male or female? |
| | <p data-bbox="499 863 548 888">Q3)</p> <p data-bbox="499 924 1157 1058">On a scale of 0-100, with 0 being very unlikely and 100 being very likely, if you had \$60,000 of disposable capital which you were intending to invest now, how likely would you be to invest some or all of the capital through socially responsible investing strategies?</p> | <p data-bbox="1203 863 1251 888">Q3)</p> <p data-bbox="1203 924 1860 1058">On a scale of 0-100, with 0 being very unlikely and 100 being very likely, if you had \$60,000 of disposable capital which you were intending to invest now, how likely would you be to invest some or all of the capital through socially responsible investing strategies?</p> |
| | <p data-bbox="499 1073 548 1097">Q4)</p> <p data-bbox="499 1133 1157 1187">What percentage of the \$60,000 do you think you would invest through socially responsible investing strategies, if any?</p> | <p data-bbox="1203 1073 1251 1097">Q4)</p> <p data-bbox="1203 1133 1860 1187">What percentage of the \$60,000 do you think you would invest through socially responsible investing strategies, if any?</p> |
| Social Norms | <p data-bbox="499 1196 737 1221">Investment Scenario 1</p> <p data-bbox="499 1256 1157 1391">You inherit \$400,000 dollars from a long-lost aunt and decide to invest \$300,000 of your inheritance. When reading about socially responsible investing you discover that it is becoming quite popular and that a recent survey indicated that around 80% of US university students indicated that they would invest</p> | <p data-bbox="1203 1196 1440 1221">Investment Scenario 1</p> <p data-bbox="1203 1256 1860 1391">You inherit \$400,000 dollars from a long-lost aunt and decide to invest \$300,000 of your inheritance. When reading about socially responsible investing you discover that it is very niche and that a recent survey indicated that only around 10% of US university students indicated that they would invest some or all</p> |

| | | |
|------------|--|--|
| | some or all of their investible capital (if they had any), through socially responsible investing strategies. | of their investible capital (if they had any), through socially responsible investing strategies. |
| | Q5) Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$300,000 you have inherited, through socially responsible investing strategies? | Q5) Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some of the \$300,000 you have inherited through socially responsible investing strategies? |
| | Q6) What percentage of the \$300,000 do you think you would invest through socially responsible investing strategies, if any? | Q6) What percentage of the \$300,000 do you think you would invest through socially responsible investing strategies, if any? |
| Status Quo | Investment Scenario 2 You start a new job with a large corporation. The human resources department provide you with information in relation to your contributions into your company retirement plan. They explain that the default option for all new members of the retirement plan is for all of their retirement plan contributions to be invested through socially responsible investing strategies and that this will happen automatically to your contributions. However, they also explain that you have the option of not agreeing to the default option and that you can instead select your own investments which can include investing some or all of your retirement plan contributions through conventional investing strategies. In your first year of employment you intend to contribute \$10,000 into your retirement plan. | Investment Scenario 2 You start a new job with a large corporation. The human resources department provide you with information in relation to your contributions into your company retirement plan. They explain that the default option for all new members of the retirement plan is for all of their retirement plan contributions to be invested through conventional investing strategies and that this will happen automatically to your contributions. However, they also explain that you have the option of not agreeing to the default option and that you can instead select your own investments which can include investing some or all of your retirement plan contributions through socially responsible investing strategies. In your first year of employment you intend to contribute \$10,000 into your retirement plan. |
| | Q7) Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of your retirement plan contributions through socially responsible investing strategies? | Q7) Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of your retirement plan contributions through socially responsible investing strategies? |
| | Q8) What percentage of your pension contributions do you think you would invest through socially responsible investing strategies, if any? | Q8) What percentage of your retirement plan contributions do you think you would invest through socially responsible investing strategies, if any? |

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| Loss Aversion | <p>Investment Scenario 3</p> <p>You have saved \$100,000 which you would like to invest. You read about socially responsible investing and discover that if you invest through a socially responsible investing strategy, you will gain the ability to avoid investing in companies that produce armaments.</p> | <p>Investment Scenario 3</p> <p>You have saved \$100,000 which you would like to invest. You read about socially responsible investing and discover that if you invest through a socially responsible investing strategy, you will lose the ability to invest in companies that produce armaments.</p> |
| | <p>Q9)</p> <p>Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$100,000 you have saved, through socially responsible investing strategies?</p> | <p>Q9)</p> <p>Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$100,000 you have saved, through socially responsible investing strategies?</p> |
| | <p>Q10)</p> <p>What percentage of the \$100,000 do you think you would invest through socially responsible investing strategies, if any?</p> | <p>Q10)</p> <p>What percentage of the \$100,000 do you think you would invest through socially responsible investing strategies, if any?</p> |
| Identified Lives versus Statistical Lives | <p>Investment Scenario 4</p> <p>You win \$250,000 in a local state lottery and decide to invest \$160,000 of your winnings through a new personal retirement plan. The plan allows for two potential investment strategies. The first is a socially responsible investing strategy and the second a conventional investing strategy. The socially responsible investing strategy does not invest in companies that produce cigarettes, while the conventional strategy may invest in cigarette producing companies.</p> <p>The retirement plan's socially responsible investing strategy literature provides information about 3 people who have died from cigarette smoking related illnesses. Robert who was a university student in Florida and who was studying towards becoming an architect before dying at the age of 22 from lung cancer. Jane who was an 83-year-old retired mother of 4 and grandmother of 6 from New York State who died from heart disease and Simon who was a 40-year-old engineer and military veteran, who lived with his 3 young children in California before dying of throat cancer.</p> | <p>Investment Scenario 4</p> <p>You win \$250,000 in a local state lottery and decide to invest \$160,000 of your winnings through a new personal retirement plan. The plan allows for two potential investment strategies. The first is a socially responsible investing strategy and the second a conventional investing strategy. The socially responsible investing strategy does not invest in companies that produce cigarettes, while the conventional strategy may invest in cigarette producing companies.</p> <p>The retirement plan's socially responsible investing strategy literature, states that cigarette smoking is responsible for more than 480,000 deaths per year in the United States.</p> |
| | <p>Q11)</p> <p>Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very</p> | <p>Q11)</p> <p>Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very</p> |

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| | likely, would you be to invest some or all of the \$160,000 you have won, through the socially responsible investing strategy? | likely, would you be to invest some or all of the \$160,000 you have won, through the socially responsible investing strategy? |
| | Q12) What percentage of the \$160,000 do you think you would invest through the socially responsible investing strategy, if any? | Q12) What percentage of the \$160,000 do you think you would invest through the socially responsible investing strategy, if any? |
| Authority Bias | Investment Scenario 5 You have recently sold a property you rented out and have received \$200,000 from the sale. You intend to invest this money through either a socially responsible investing or conventional investing strategy. You have a meeting with a professional investment manager and she informs you that investing through a socially responsible investing strategy would be a good plan for you based on your financial aims. | Investment Scenario 5 You have recently sold a property you rented out and have received \$200,000 from the sale. You intend to invest this money through either a socially responsible investing or conventional investing strategy. You have a meeting with a professional investment manager and she informs you that investing through a conventional investing strategy would be a good plan for you based on your financial aims. |
| | Q13) Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$200,000 through a socially responsible investing strategy? | Q13) Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$200,000 through a socially responsible investing strategy? |
| | Q14) What percentage of the \$200,000 do you think you would invest through a socially responsible investing strategy if any? | Q14) What percentage of the \$200,000 do you think you would invest through a socially responsible investing strategy, if any? |
| Anchoring Affect | Investment Scenario 6 You have inherited \$250,000 from a grandparent who passed away. You decide to invest half of the capital (\$125,000) but are unsure whether to invest through a medium risk socially responsible investing strategy or a medium risk conventional investing strategy. You read that the socially responsible investing strategy you are considering has existed for 5 years. During this time a benchmark index called the Dow Jones Sustainability North America stock market index, made a return of 28%. This is a stock market index which is based on the price of 40 large US companies which are sustainability leaders. You also read that over the same period, the socially responsible investing strategy you are considering made a | Investment Scenario 6 You have inherited \$250,000 from a grandparent who passed away. You decide to invest half of the capital (\$125,000) but are unsure whether to invest through a medium risk socially responsible investing strategy or a medium risk conventional investing strategy. You read that the socially responsible investing strategy you are considering has existed for 5 years. During this time a benchmark index called the Dow Jones Industrial Average stock market index, made a return of 37%. This is a stock market index which is based on the price of 30 large US companies. You also read that over the same period, the socially responsible investing strategy you are considering |

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| | return of 35% and the conventional investing strategy that you are considering made a return of 38%. | made a return of 35% and the conventional investing strategy that you are considering made a return of 38%. |
| | <p>Q15)</p> <p>Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$125,000 you have inherited, through the socially responsible investing strategy?</p> | <p>Q15)</p> <p>Based solely on the information in this scenario, how likely on a scale of 0-100, with 0 being very unlikely and 100 being very likely, would you be to invest some or all of the \$125,000 you have inherited, through the socially responsible investing strategy?</p> |
| | <p>Q16)</p> <p>What percentage of the \$125,000 do you think you would invest through the socially responsible investing strategy, if any?</p> | <p>Q16)</p> <p>What percentage of the \$125,000 that you have available to invest do you think you would invest through socially responsible investing strategies, if any?</p> |