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Auger, P, Devinney, TM, Dowling, G et al. (1 more author) (2016) Inertia and Discounting in the Selection of Socially Responsible Investments: An Experimental Investigation. *Annals in Social Responsibility*, 2 (1). ISSN 2056-3515

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**INERTIA AND DISCOUNTING IN THE SELECTION OF SOCIALLY
RESPONSIBLE INVESTMENTS: AN EXPERIMENTAL INVESTIGATION**

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INERTIA AND DISCOUNTING IN THE SELECTION OF SOCIALLY RESPONSIBLE INVESTMENTS: AN EXPERIMENTAL INVESTIGATION

ABSTRACT

Socially responsible investment funds (SRIs) have grown dramatically as an investment alternative in most of the developed world. This study uses a structured experimental approach to determine if the decision-making process of investors to invest in SRIs is consistent with the process used for conventional investments. Our theoretical framework draws on two widely studied concepts in the decision-making and investment literature, namely, inertia and discounting. We find that inertia plays a significant role in the selection of SRI funds and that investors systemically discount the value of SRIs. Our results suggest that SRIs need to be designed to cater to the risk/return profiles of investors and that these investors need to be better informed about the performance of SRIs versus conventional investments to reduce their systematic discounting.

Keywords: choice experiments, inertia, retirement plans, socially responsible investment

INTRODUCTION

Corporate social responsibility (CSR) is growing in importance and generating a rich literature in a variety of management disciplines. Within this tradition scholars focus on how different stakeholders (e.g., customers, employees, investors, etc.) are involved in the development of CSR initiatives or affected by their implementation. As a key stakeholder investors have been receiving increasing attention, in particular because of the rapid growth of socially responsible investment funds (SRIs). For example, several studies have reported that the size of the SRI pool could be in the trillions of US dollars with a large proportion of these funds being channeled through retirement plans (e.g., Boersch [2010]). Because many managers want their company's stock to be included in SRIs, this can have a significant effect on the adoption of CSR practices by corporations.

According to Carter and Huby [2005], the main actors in the CSR-SRI scheme are individual investors, businesses, and fund managers. Basically, fund managers use the financial resources of investors to impact on the CSR practices of organizations by investing in organizations with "better" CSR practices or foregoing companies with poor CSR practices (Rosen, Sandler, and Shani [1991]). Yet despite the growth of SRIs, there has been little research on how investors choose to invest (or not) in socially responsible investments. This is a significant gap in the literature given the potential impact of SRIs on the CSR practices of organizations. Using a "follow-the-money" logic the funds channeled through SRIs may be one of the most powerful motivating factors to influence the decisions of senior managers with respect to the adoption of CSR practices. We attempt to begin to address this gap in the literature by focusing on the decision-making model of individual investors with regards to SRIs. This is a

sensible focus since the success or failure of SRIs in many countries ultimately comes down to the decisions of individual investors, particularly when dealing with self-managed pension funds.

From a theoretical perspective, we would expect individuals who choose to invest in SRIs to use a different, or modified, decision-making process than they would for conventional investments. These differences would be driven primarily by non-financial factors that are viewed as critical in the design of SRIs. For example, investors who choose to invest in SRIs may be willing to sacrifice part of their investment returns (or pay a premium for a SRI) or select SRIs that do not fit (from a risk/return perspective) into their current portfolio. We draw extensively from the finance, decision-making, and consumer behavior literatures and focus our attention on two research questions:

1. Do investors select SRIs in a manner that is different from their choices for conventional investments?
2. Do investors allocate a higher proportion of funds to SRIs as to their conventional investments with identical risk/return profiles?

The first question deals with how investors select socially responsible investments. Our focus here is on whether they follow a different approach to the allocation of funds to SRIs and conventional investments. Our theoretical framework is based on the concept of inertia, which predicts that individuals will maintain consistency in the risk/return profile of all their investments over time. Hence, deviations from inertia would strongly suggest that investors select SRIs differently than conventional investments. However, we posit that the forces of inertia (and the importance of the portfolio) have a stronger impact on the decision-making process for SRIs than their non-financial aspects (i.e., CSR). Hence, we propose that individuals use the same basic decision-making process for SRIs as to conventional investments.

The second question focuses on the amounts that investors allocate to SRIs relative to conventional investments that have a similar risk/return profile. All else being equal, SRIs should yield additional utility to investors who value the CSR practices of organizations. Hence, those investors should be willing to allocate greater amounts to SRIs than to conventional investments with a similar risk/return profile. However, we propose that because of investor uncertainty relating to the expected returns on SRI stocks they are not only unwilling to allocate more to SRIs (or pay a premium for SRIs) but systematically discount SRIs, so that they allocate a relatively smaller proportion of their investment to SRIs when compared to similar conventional investments.

To test our hypotheses, we administer a discrete choice experiment to a sample of over 700 pension fund investors from the general population in Australia. This experiment requires individuals to allocate funds to different investments for a defined-contribution retirement plan. We used retirement plans as the context because these plans are now one of the major sources of funds for SRIs and defined-contribution plans are the most common type of retirement plan on a global basis (and are legally required in Australia). For its part, a choice experiment allows us to force respondents to make trade-offs among different investment options and thus, we argue, better approximate their actual investment decisions.

The next section reviews the relevant literature and develops our hypotheses. We then describe our methodology including our sample, experiments, and data collection processes. We then discuss our data analysis methods and results. We conclude with a discussion of our results and their significance for theory development and management practice.

LITERATURE REVIEW

Retirement Savings Behavior and Socially Responsible Investments

The popularity of SRIs is well established in most major markets. It is estimated that such portfolios account for between 12 and 20 percent of funds under professional management; which potentially amounts to trillions of US dollars (Boersch [2010] , Steurer, Margula, and Martinuzzi [2008] , Voorhes [2010]). For example, Allianz Global Investors reported that SRIs in Europe totaled approximately 2.7 trillion Euros in 2007, representing approximately 17.6 percent of the European asset management industry (Boersch [2010]). Another study by the European Commission estimated that SRIs accounted for between 10 and 15 percent of funds under professional management across the EU (Steurer, Margula, and Martinuzzi [2008]).

One of the major drivers in the growth of SRIs globally has been the rapid growth of pension fund assets. For example, Boersch [2010] reported that the OECD estimated that approximately 60 percent of all institutional investor assets (over \$60 trillion globally) are retirement related. Pension funds play an important role in socially responsible investing since they are often viewed as the ideal mechanism by which funds can be channeled into SRIs. In general, investment strategies for pension funds tend to be long term, which fits with the longer-term objectives of SRIs. As Boersch [2010, p. 7] suggested, “pension funds are often thought to be the natural supporters of SRI strategies” due to their size, investment horizon, and diversification.

Pension plans have undergone a massive transformation in the last decade with a shift from defined benefit plans to defined contribution plans (Benartzi and Thaler [2001]). A defined benefit plan promises a benefit determined by a formula that typically includes a salary history and length of employment (Benartzi and Thaler [2007]). The key aspect of a defined benefit plan

is that the employee does not need to manage his/her retirement plan nor make any decisions about how to invest his/her retirement money.

On the other hand, a defined contribution plan specifies how much goes into an employee's retirement account but transfers most of the decision-making authority about how to invest from the employer to the employee (Armour and Daly [2008]). Here the fund offers employees a portfolio of investment options and the employee then becomes responsible for choosing the mix of his/her investments. Hence, much of the risk associated with retirement planning and investment moves from the employer to the employee. In some countries (e.g., the United States), employees determine both the level of contribution (if any) and how these funds are invested. In other countries (e.g., Australia), employers are required to contribute a percentage of gross salary to a pension plan and the employees are individually responsible for deciding how to invest these funds.

One of the challenges of these investment decisions for individual investors is the sheer complexity of the decision-making process, which is often exacerbated by their financial illiteracy (Benartzi and Thaler [2007] , Howlett, Kees, and Kemp [2008]). One part of the complexity involves predicting how long the person expects to live after retirement and their monetary needs (Hershfield et al. [2011]). These needs condition the timing, choice and level of investments from the massive number of options available, some of which are extremely complex financial instruments. Basically, individuals need to decide how best to invest their pension savings to derive the maximum long-term benefit.

Several studies have found that individuals will tend to revert to simple allocation strategies when faced with such complex allocation decisions (e.g., Benartzi and Thaler [2001]). Hence, a number of retirement plans now offer investors a menu of options that categorize

allocation bundles by risk preference (Armour and Daly [2008]). The goal is to simplify the decision-making process so that investors can make better decisions. However, researchers in behavioral finance, economics, marketing and psychology have uncovered a variety of biases and factors that influence the choice of investment options (Lynch [2011]). These may lead to sub-optimal decision-making and thus play a critical role in the investment process. We focus our attention on two of these factors, inertia and discounting, that are especially relevant to the context of pension plan investment and SRIs.

Inertia and the Status Quo Bias

One of the most important behavioral concepts influencing investment choice in pension plans is the concept of inertia or the related concept of the status quo bias (Goldstein, Johnson, and Sharpe [2008] , Knoll [2010] , Madrian and Shea [2001] , Thaler and Benartzi [2004]). Inertia refers “to the overall level of investment risk that the decision-maker has had a tendency to select in the past” (Dulebohn and Murray [2007], p. 551). In other words, inertia suggests that investors maintain consistency in the risk level of their investments over time and when considering new investments. There is a strong theoretical argument and a significant amount of empirical evidence to support the notion of inertia when it comes to investing, especially for investments in pension funds.

Three explanations for inertia are especially relevant to the context of this study: 1) reduction in cognitive effort, 2) psychological commitment, and 3) cognitive misperceptions.

First, individuals may limit the number of options under consideration to reduce the cognitive effort required to make a decision. That is, individuals maintain consistency with past decisions because it allows them to build on their past experience. Thus, decisions are made more quickly and more easily (Luce [1998]).

A related explanation is the presence of uncertainty (Samuelson and Zeckhauser [1988]). Inertia allows investors to reduce the uncertainty associated with their investment decisions by selecting investments they better understand given that they have some experience with similar investments. Second, individuals may have a psychological commitment to these investments due to sunk costs, regret avoidance, or cognitive dissonance. Hence, individuals may be reluctant to switch investments or invest in a new option for fear of undermining their current investment decisions.

Finally, there is a possibility for cognitive misperceptions. The most common form of cognitive misperception for financial investment is loss aversion. Individuals tend to weight potential losses more than potential gains when deciding on investment options. In fact, Tversky and Kahneman [1991] found that many individuals weight potential losses twice as much as potential gains. Hence, the potential losses associated with the selection of a new type of investment are weighted more heavily than its potential gains.

For its part, the empirical evidence to support the existence of inertia in pension plan investment is extensive. Samuelson and Zeckhauser [1988] studied the allocations to pension plans by members of the Teachers Insurance and Annuity Association (TIAA). Their analyses included about 850,000 participants over a 5-year period. Participants could change their allocations once per year between two investment funds at no charge. Their results showed that there were no significant changes to allocations between the two funds despite large variations in the rate of return between the funds. That is, individuals did not change their allocations to maximize returns but simply maintained their initial allocations. They also reported on research conducted by the TIAA that found that only 28 percent of individuals had ever changed their

allocation, 20 percent of which had only changed once. This was equivalent to only 2.5 percent of participants making changes to their allocation per year.

Ameriks and Zeldes [2004] confirmed these results in an analysis of the frequency of changes to asset allocation in the same TIAA database a few years after Samuelson and Zeckhauser. They found that 73 percent of a random sample of participants made no changes over a ten-year period, while another 14 percent made only one change. In other words, despite considerable change in financial markets, about 87 percent made one or fewer changes in allocation over a ten-year period. Agnew, Balduzzi, and Sunden [2003] uncovered similar results in a study of almost 7,000 401(k) accounts over a 5-year period. Eighty-eight percent of participants did not make any trades over the year and an additional 6 percent made only one trade. Overall, “the average number of trades per year was 0.26, or one trade every 3.85 years” (Agnew, Balduzzi, and Sunden [2003], p. 200). Finally, Huberman and Jiang [2006] examining over 570,000 individuals investing in over 600 plans concluded that individuals did not modify their initial allocations even when more investment choices became available. This last result is especially relevant to the context of this study.

Our first hypothesis builds on the aforementioned literature and focuses on how individuals allocate funds to socially responsible investments as opposed to how much they allocate to SRIs (our second hypothesis). As mentioned in the introduction, SRIs are different from conventional investments in that they include non-financial firm characteristics. Hence, investors are expected to take these non-financial characteristics into consideration when deciding to invest in a SRI. The implications are then that investors will use a different, or modified, decision-making process when they evaluate SRIs. Under those conditions, it is reasonable to expect that inertia will have a much weaker impact on investor decisions since SRI criteria will enter the decision

calculus, making it a more cognitively active decision. Hence, a weaker role of inertia in the decision to invest in SRIs versus conventional investments would support the notion that investors use different decision-making processes to evaluate SRIs.

Our basic thesis is that the decision-making will not significantly differ for SRIs so that investors will treat SRIs similarly to a conventional investment. Hence, we propose that individuals will maintain consistency with their current investment choices (in terms of risk/return profile) when given the option to invest in SRIs. In effect, we posit that inertia will play a dominant role in the decision-making process about SRIs. Therefore,

Hypothesis 1: Individuals will exhibit inertia when allocating funds to SRIs by maintaining a similar risk/return profile to their current investments.

Valuation and Discounting

Our second hypothesis deals with the amount investors are willing to allocate to socially responsible investments when compared to conventional investments. Several factors affect this allocation decision such as: the risk/return profile of the investment (i.e., the anticipated return), the time horizon (e.g., short-term or long-term), the number and types of options available, and the characteristics of the investor.

One of the main determinants of how much individuals allocate to specific investments is the amount the investor expects to earn on his/her investment. There is considerable debate on how the returns of SRIs differ from the returns of conventional investments. One argument posits that SRIs will have smaller short-term returns since CSR is inherently costly at the outset (Derwall, Koedijk, and Ter Horst [2010] , Geczy, Stambaugh, and Levin [2005]). In other words, organizations are required to expend significant resources to implement CSR strategies which reduces their short-term profitability and hence the return for their shareholders. Derwall,

Koedijk, and Ter Horst [2010, p. 9] further argue that “much of the economic value that CSR creates, if any, is often intangible and likely to materialize slowly”. Hence, it is possible that investors systematically discount the potential returns of SRIs due to the additional costs involved or the uncertainty of returns to the implementation of CSR strategies.

Interestingly, the empirical evidence to date does not support the notion that SRIs underperform relative to conventional investments. In fact, most studies that investigated the returns of SRIs versus conventional investments have found no significant differences in return between the two. For example, Bauer, Koedijk, and Otten [2005] found no evidence of a statistically significant difference between SRIs and conventional mutual funds returns for German, US, and UK funds. In similar research, Bauer, Otten, and Tourani Rad [2006] and Bauer, Derwall, and Otten [2007] found no differences in return for funds in Australia and Canada, respectively. However, the critical factor affecting the decisions of investors is the perception of, or uncertainty about, lower returns (not whether or not those lower returns eventuate).

One factor that is related to the risk/return profile of an investment is its time horizon, namely, the time required to reach the expected payoff or return. This is potentially an important criterion for the selection of SRIs as the CSR strategies that underlie SRIs are often long-term in nature and promoted as such (Boersch [2010]). Hence, there would appear to be a logical fit between the long-term focus of pension fund investments and SRIs. Unfortunately, the limited empirical evidence suggests that investors in pension plans still give precedence to short-term financial returns (McDonald, Vieceli, and Darbyshire [2003]). This would suggest that the potential long-term benefits of SRIs (i.e., their higher long-term returns) would not be as influential in the decision-making process of investors as expected.

What the previous paragraphs highlight is the additional complexity associated with the evaluation of a SRI. That is, there are a variety of additional factors that potentially affect the perceptions of investors with respect to SRIs. However, if two investment choices have very similar investment characteristics (e.g., risk/return profile, time horizon, etc.) with the exception that one is a conventional investment and the other is a SRI then it would be logical to expect that investors would either allocate more to the SRI or be willing to pay a slight premium for it. This should be the case since the SRI offers the additional benefit of social responsibility over its conventional counterpart. The underlying assumptions here are that investors: 1) value the social responsibility aspects of the SRI and 2) value the financial characteristics of SRIs in a similar fashion to conventional investments.

We believe that assumption 2 is especially problematic. That is, we concur with Derwall, Koedijk, and Ter Horst [2010] and Geczy, Stambaugh, and Levin [2005] in that uncertainty about the future benefits of SRI and the potential for additional up-front costs to implement CSR initiatives will imply that investors will logically and systematically discount SRIs. In effect, we propose that investors will attach a negative connotation to SRIs and discount them relative to conventional investments. Hence, we propose the following hypothesis:

Hypothesis 2: Individuals will discount SRIs by allocating a lower percentage of funds to a SRI than to a conventional investment with a similar risk/return profile.

METHODS AND DATA

Sample

The sample for this study was drawn from the general Australian population. We selected Australia as a study location since retirement plans (known as superannuation plans) are mandatory for all employees. Under Australian law, all employers must allocate a minimum of 9

percent of an employee's gross income to a superannuation plan of the employee's choosing. As a result, the vast majority of working-age Australians is familiar with defined contribution retirement plans and has had significant experience in making decisions about the allocation of their retirement funds to a variety of investment options available (the law has now been in existence for over 20 years). We sampled based on a variety of criteria that would ensure variance on a number of demographic characteristics that form an important component of our study. We present the demographic characteristics of our sample in Table 1 and offer a brief description in the next paragraph.

Our final sample consists of 704 individuals who are almost evenly split between male and female (51 percent male and 49 percent female). All participants had at least one superannuation account, which was a requirement to participate in the study. It is possible, and relatively common, for individuals to have more than one superannuation account, as employers often have preferred providers but the individuals can easily opt out of this. As such, individuals often simply choose to utilize a different superannuation provider when they change jobs. Almost 35 percent of our sample had more than one superannuation account. Our sample was also purposely stratified among five age groups – 20-30, 31-40, 41-50, 51-60, and over 60 (but excluding retirees) – thereby enabling us to make valid comparisons based on the age of the investor. We also have a relatively even spread among six income categories with slightly more participants in the \$40,000-\$59,999 income category, which is the median income group for Australia. The mean balance of an individual's superannuation account is \$200,000-\$250,000, with less than 5 percent having a balance above \$1 million. This is above the average for Australia as a whole, where the average balance is between \$50,000 and \$100,000 for males and less than \$50,000 for females. The majority of our participants are employed on a full-time basis

(about 58 percent) with others being employed on a part-time basis, self-employed, or in another employment situation (e.g., unemployed, casual, etc.). We collected data on-line with the use of a market research panel, enabling us to effectively screen for our selection criteria and collect data efficiently. Overall, our sample is likely to me more active superannuation investors.

INSERT TABLE 1 ABOUT HERE

Experimental Methodology

We use a variant of a discrete choice experiment (Louviere, Flynn, and Carson [2010] , Louviere, Hensher, and Swait [2000] , Louviere and Woodworth [1983]) as our primary experimental methodology. This approach was ideally suited to study investment decisions since it allowed us to systematically vary the options available to investors and force trade-offs among the various investment options. Our experiment included eleven investment options that were systematically varied on four characteristics: 1) investment strategy, 2) performance objective, 3) risk profile, and 4) investment payoff. Briefly, the investment strategy describes the basic components and objectives of the investment option. For example, an investment may include mostly shares in foreign companies with a strategy for long-term growth. The performance objective refers to the expected annual return of the investment after inflation. The return is based on the historical performance of the investment option and ranges from 1 percent per annum to 5 percent per annum. The risk profile describes the likelihood that an investment option will have a negative annual return. It is also based on historical performance of the option and is presented as the percentage of years for which the return has been negative. The risk profile ranges from 0 percent to 36 percent. Finally, the investment payoff characterizes the time

period that is best for the investment option. That is, it describes how long investors should hold the investment to reach the expected benefits and ranges from 1 to 2 years to more than 10 years.

We selected the investment options based on the options available at some of the largest superannuation funds in Australia. This ensures that the participants in the study are familiar with the terminology used as the criteria described above are commonly seen, and listed, in the investment options that they would experience with their own superannuation providers. We designed the different investment portfolios to obtain (in terms of the four characteristics) a broad range of investment options that would cater to the majority of investors. We include the descriptions of each investment option supplied to participants as well as the definitions of the option characteristics in the Appendix. We created an additional nine investment options that we labeled as socially responsible. These socially responsible options were identical to the conventional options in terms of the four grouping characteristics, but were labeled as being part of a socially responsible group of investments and described as meeting specific SRI criteria. We did not create socially responsible options for Cash and Emerging Markets since a grouping of socially responsible Cash was not sensible (i.e., it does not exist) and to maintain a balance in our design (the two extreme investment options served as anchors).

Each respondent was required to allocate funds across eleven sets (i.e., superannuation contracts) of five investment options. We systematically varied the five investment options seen in each of the eleven sets based on an experimental design so that each option appeared the same number of times and we gathered enough information to be able to model the ordinal preference profile of each individual. We selected five options per set since previous research showed that investors typically allocate funds to between three and four investment options irrespective of the number of options available (Benartzi and Thaler [2007] , Huberman and Jiang [2006]). Hence,

we reduced the complexity of the decision-making while maintaining the ability to force meaningful tradeoffs among the investment options. For each of the eleven sets of investment options, respondents were required to allocate their funds across the five available options. Basically, respondents could allocate between 0 percent and 100 percent to each option. We ensured that the allocations totaled 100 percent and did not allow respondents to continue until the allocations were done correctly.

We also designed our allocation experiment so as to introduce SRI alternatives among the eleven sets but not in a way that appeared artificial. Our objective was to be subtle about the availability of socially responsible options so as not to bring undue attention to the primary purpose of our research. In essence this forced us to use a between subjects design to assess the impact of SRIs. Each individual was allocated to one of six possible scenarios. The control scenario included only 11 conventional investment funds. In the other five scenarios one of the conventional investments was replaced with a SRI fund with identical characteristics in terms of investment strategy, performance objective, risk profile, and investment payoff with the additional proviso relating to the socially responsible criteria used for the selection of the investments. This design enabled us to isolate the effect of the SRI designation on the allocation decision. The criteria for the SRI given to the respondents are as follows:

The criteria for selecting investments for this grouping include Social Accountability 8000, International Labour Organization core labour standards, the ISO 14001 environmental management standard and CERES principles for environmental awareness and accountability, the UN Global Compact & OECD Guidelines for Multinational Enterprises, the Global Reporting Initiatives for sustainability reporting, and the World Business Council for Sustainable Development

Respondents also had to complete two additional sections besides the allocation experiment. First, they were asked to allocate their primary superannuation funds into the same categories as the allocation experiment; thus giving us a matched picture of their current investments. In the same section, they also had to answer a series of questions about their current superannuation provider including their level of satisfaction. Finally, they were asked to answer a series of socio-demographic questions including gender, age, income, marital status, and education.

INSERT TABLE 2 ABOUT HERE

Analyses and Results

Our first hypothesis states that individuals will exhibit inertia when allocating funds to socially responsible investments by maintaining a similar risk/return profile to their current investments. We tested our hypotheses using a series of regression analyses. Specifically, we developed 20 regression models (11 for conventional investments and 9 for SRIs) with allocations to each investment option from our experiment as the dependent variable and the individual's current investment allocations as the independent variables.¹ We present the results of the analyses in Table 2 for conventional investments and Tables 3 and 4 for SRIs.

INSERT TABLE 3 ABOUT HERE

The results show strong support for hypothesis 1. Specifically, the patterns in the tables are similar and in support of inertia. For example, the strongest predictor for the allocation of cash in our experiment for conventional investment (see Table 2) is the current allocation to Cash ($\beta=0.347$, $p<0.001$). Furthermore, all other coefficients for the allocation to Cash are either negative and significant or non-significant. This pattern is repeated across most of the investment option allocations for conventional investments. In some cases, more than one of the current allocations is positively related to the experimental allocation. For the Local Shares allocation, current allocation to Local Shares ($\beta=0.323$, $p<0.001$), Growth ($\beta=0.056$, $p<0.001$), and High Growth ($\beta=0.043$, $p<0.01$) are positively related to the allocation to Local Shares. However, all three current allocations are clustered around a similar risk/return profile, which clearly supports a level of consistency by individuals with respect to investment choices. That is, clustering around the focal investment indicates that individuals are selecting investment options that are closely related (in terms of risk/return profile) to their current investments, thereby demonstrating a high level of consistency (i.e., inertia) in their investment approach.

The results for SRIs (see Table 3) are similar but not as clear as for conventional investments. For example, Fixed Interest ($\beta=0.108$, $p<0.05$) and Listed Property ($\beta=0.184$, $p<0.001$) have positive and significant coefficients only with their respective focal investment; with all other coefficients either being negative or non-significant. For most other SRIs, the coefficient is positive and significant with slightly less clustering than for conventional investments. For example, the allocation of the Capital Preservation SRI is positively and significantly related to the current allocation to Capital Preservation ($\beta=0.230$, $p<0.001$) but also to current allocation to Cash ($\beta=0.299$, $p<0.001$) and to the current allocation to a Balanced Fund ($\beta=0.109$, $p<0.05$).

INSERT TABLE 4 ABOUT HERE

We include an additional table, Table 4, to more clearly illustrate the presence of inertia in the SRI decision-making process. To do this, we simply took the ratio of each parameter to the parameter of the focal investment and subtracted one. As a result, the values for the focal investments are set to zero making it easier to interpret the results of our analyses. Negative values indicate weaker associations between current investment allocations and the allocation to the focal SRI while positive values indicate stronger associations. For example, the values for the Fixed Investment SRI are all negative with the exception of the focal investment option (set to zero). This same pattern can be seen for the Property, International Shares, Local Shares, and High Growth investment options. In fact, the only option that differs markedly from this pattern is the Balanced investment portfolio, which has several positive values. However, all of the positive values are for current allocations with lower risk profiles.

Overall, our analyses for SRIs reveal slightly more dispersion from the focal investment than in the case of conventional investments. This is to be expected since SRIs are essentially new investment options being presented to the respondents. Nonetheless, the results strongly support the notion of inertia even when it comes to investment in SRIs. In general, the best predictors of investment into a specific SRI is a current allocation that is either identical in risk/return profile or that is slightly less risky than the SRI under consideration. As a result, our analyses show very strong support for hypothesis 1 and the existence of inertia when investing in SRIs.

INSERT FIGURE 1 ABOUT HERE

Our second hypothesis stated that individuals would systematically discount SRIs compared to conventional investments with a similar risk/return profile. To test this hypothesis we needed to adjust for the fact that each investment option would be appearing against four other options in 11 different sets. One way to test this would be to compare the mean allocations to SRIs versus conventional investments for each matched set. That is, look at the allocation when the only difference between the two sets is that one of the options is a SRI. However, this would be a cumbersome process requiring a total of 45 comparisons (5 for each of 9 investment options). A more efficient way is to utilize the characteristics of our experimental design and conduct a single analysis for each option (as opposed to 5). This is possible since the conditional likelihood of any allocation to an investment depends on the alternative options available. Hence, if 5 investment options appear, a random allocation would ensure that each received 20 percent of the funds available. In reality, this will not be true since individuals will have preferences for different options and this will be individual specific. Hence, what we did is estimate the conditional likelihood that an individual would allocate to a specific investment relative to a random allocation. This allowed us to compare how that conditional likelihood differed between comparable conventional and SRI investments. If individuals treated the investment similarly we would expect there to be no difference as the probability of the allocation of a dollar of investment would be identical.

We present the results in graphical form in Figure 1 since that highlights the differences between conventional investments and SRIs much more clearly. What we see is rather stark and

in strong support of hypothesis 2 (all the differences are significant at $p < 0.001$). First, individuals are clearly discounting SRIs. On average each of the 9 intermediate investment options has a conditional probability of having a dollar allocated to it of 0.88 while comparable SRI funds have only a 0.76 chance of an allocation. Second, as expected, individuals' optimal risk-return preference is in the intermediate range (around the Balanced portfolio). However, for the SRI funds there is a lower level of risk tolerance. Indeed, the three lower risk-return alternatives – Fixed Interest, Capital Preservation and Stable Investment – have only a 0.08 difference in investment allocation likelihood. However, the four highest risk alternatives – International/Australian Shares, Growth and High Growth – have a 0.14 difference in investment allocation likelihood. Hence, individuals not only discount SRIs but increase their level of discounting as the risk associated with the SRIs increase.

DISCUSSION AND CONCLUSION

We set out to investigate the decision-making process of investors with respect to socially responsible investments. The amount of funds invested in SRIs has grown dramatically in the last few years implying that investors may now be able to influence managerial decisions with respect to social issues (i.e., CSR) via this route. Our research was driven by two questions: 1) Do investors select SRIs in a manner that is different from their choices for conventional investments? and 2) Do investors allocate a higher proportion of funds to SRIs as they do to conventional investments with similar risk/return profiles?

For our first question, our experiment clearly supports the notion of inertia when it comes to investing in SRIs. Individuals maintain a level of consistency in the risk/return profile of their investment choices when selecting a new investment option, even when it is a SRI. These results

are consistent with the existing literature on conventional investments and strongly suggest that individuals utilize similar decision rules and processes when deciding to invest (or not) in SRIs.

There are several theoretical and managerial implications for these results but two seem especially relevant. First, our results lend further support for the concept of inertia in the selection of new investment options. There are several possible explanations for this result but a reduction in cognitive effort and a psychological commitment are the most likely. That is, individuals select new investments that are similar to existing investments to reduce cognitive effort and speed up their decision-making process. We also believe that our results are fairly conservative when it comes to inertia. We agree with Samuelson and Zeckhauser [1988, p. 9] who proposed that “controlled experiments provide fewer reasons for the expression of the status quo than do real-world decisions”. Hence, it is not only possible, but highly likely, that inertia would play an even greater role for actual investment choices.

Second, our results are especially relevant for managers of mutual funds and other investment vehicles. Basically, we show that investors are willing to consider investing in SRIs but only if those investments fit within their overall investment strategy. Managers of mutual funds should, therefore, design their SRIs to appeal to a variety of investment objectives. The challenge of offering a variety of choices when it comes to SRIs is that choice tends to increase the complexity of the decision-making process. We dealt with this issue experimentally by limiting the number of investment options to five for each set of investment contracts. Interestingly, our respondents invested in slightly more than 3 options (3.3) for each set of investment contract, which is consistent with previous research (Benartzi and Thaler [2001] , Huberman and Jiang [2006]). Hence, managers of mutual funds face a complicated trade-off

between the overall appeal of their investment options and the number of options investors typically select.

Our second question focused specifically on the amounts of funds investors are willing to allocate to SRIs versus conventional investments. We find strong support of hypothesis 2 with the implication that individuals systematically seem to discount SRI portfolios. This is especially interesting in light of the empirical evidence showing that SRIs do not underperform financially relative to conventional investments (e.g., Bauer, Derwall, and Otten [2007] , Bauer, Otten, and Tourani Rad [2006]). Hence, our respondents were either unaware of those results (a very likely scenario) or were aware and simply did not believe that SRIs perform equally well compared to conventional investments. What is clear from our findings is that individuals believe that there are additional costs associated with the implementation of CSR and that the benefits of CSR will not compensate fully for these additional costs within the SRI's time horizon. In effect, our results suggest that there is a negative connotation (from an investment perspective) associated with SRIs and/or that investors focus more on short-term returns than long-term returns when it comes to investment in retirement plans. There is a some empirical evidence to support the latter (e.g., McDonald, Vieceli, and Darbyshire [2003]). What makes our findings even more stunning is that the SRI and conventional options (for each of the 9 options) we utilized were identical except that the SRI options were labeled as such. Hence, our respondents were discounting SRIs despite the fact that they were given identical information about the financial characteristics of the two groups of investments.

Furthermore, we show that the level of discounting of SRIs increases as the risk of the investment increases. Although we did not hypothesize this effect it nonetheless reveals a very important contribution of our work especially in light of our discussion on the challenges of

designing attractive SRIs. This relationship between risk and discounting strongly hints that fund managers would benefit by concentrating their effort on less risky SRIs. This relationship is also consistent with the early work of Rosen, Sandler, and Shani [1991] who found socially responsible investors to be more risk averse than other investors.

Like all research, our research suffers from a number of weaknesses that limit the generalizability of our results. First, our sample was limited to Australian respondents. As discussed previously, we believe that Australia offered an excellent location for a study on pension plan investment given the mandatory requirements that all employees must participate in a retirement plan. However, it limits the generalizability of our findings to countries that have similar practices. An interesting extension of our research could focus on a country (e.g., the USA) where contributions to pension plans are voluntary. This would introduce the additional complexity associated with the decision on the amount contributed to the pension plan and force an additional trade-off with potential current spending.

Second, our experiments are meant to approximate the decision-making process of investors. As mentioned earlier, we believe that our experiments offer a conservative test of inertia and, to a certain extent, discounting given that no money is involved. Furthermore, the consistency of our findings with previous empirical work on conventional investments gives us some confidence with respect to the validity of our work. Nonetheless, a study of actual investment behavior would be highly desirable.

Third, we did not specifically study different types of SRIs but only generic SRIs. It would be interesting to also examine potential differences between SRIs that focus on different aspects of CSR. It would be relatively simple to design an experiment where different categories of SRIs (e.g., with a focus on the environment, or labor issues, or human rights) are compared to each

other as well as to conventional investments. An extension of that would be to study the decision-making of investors in organizations that have been specifically excluded from SRIs due to an ethical transgression. In that case, theory would predict that individuals would discount those investments much more extensively due to the negativity effect and the potential that such activity has to the material performance of the firm. Hence, this would also reveal not only the benefits of doing 'good' but also the costs associated with doing 'bad'.

Our study has shed additional insights into the decision-making of investors with respect to SRIs. We show that inertia and discounting play important roles in the selection of and level of investment into SRIs. This is mostly consistent with previous research on conventional investments but also reveals some differences about how investors make decisions about SRIs. However, ours is but one study in a complex and rich field leaving much scope for additional research.

Table 1
Respondent Demographics (N=704)

Characteristic	Number	Percent of Total
Gender		
Female	344	48.9%
Male	360	51.1%
Age group		
20-30	165	23.4%
31-40	166	23.6%
41-50	157	22.3%
51-60	135	19.2%
> 60	81	11.5%
Highest level of education attained		
High school or less	185	26.3%
Attended college or university	225	32.0%
University degree	216	30.7%
Postgraduate degree	78	11.0%
Annual income		
Below \$20,000	75	10.7%
\$20,000 - \$39,999	137	19.5%
\$40,000 - \$59,999	193	27.4%
\$60,000 - \$79,999	134	19.7%
\$80,000 - \$99,999	81	11.5%
\$100,000 or above	79	11.2%
Employment status		
Employed full-time	407	57.8%
Employed part-time	100	14.2%
Self-employed	64	9.1%
Other	133	18.9%
Number of superannuation accounts		
1	458	65.1%
2	186	26.4%
> 2	59	8.5%

Table 2

Allocations to Conventional Investments Against Current Allocations

Current allocation	Cash	Fixed	Capital	Stable	Property	Balanced	Intl. Shares	Local Shares	Growth	High Growth	Emerging markets
Cash	.347***	-.034	.026	.062***	-.064***	-.119***	-.130***	-.139***	-.164***	-.145***	-.102***
Fixed interest	.006	.084*	.063***	.022	.010	-.016	-.029	-.075***	-.044**	-.018	-.007
Capital preservation	-.042***	-.070	.049***	.061***	.017	.062***	-.023	-.022	-.033*	-.061***	-.066***
Stable Listed	-.098***	-.147***	.034*	.075***	.061***	.058***	.008	-.002	-.026	-.035*	.013
properties	-.072***	-.146***	.003	-.011	.100***	.026	.045**	.006	-.001	-.029*	.041**
Balanced	-.130***	-.166***	-.020	.047**	-.007	.274***	-.007	.018	-.012	-.072***	-.072***
Intl shares	-.093***	-.038	-.039**	-.019	.068***	.025	.148***	.011	-.006	.022	-.001
Local shares	-.117***	-.183***	-.115***	-.099***	-.073***	-.036**	-.050***	.323***	.094***	.138***	.075***
Growth	-.137***	-.179***	-.028	-.058***	.016	.039**	.061***	.056***	.186***	.026	-.009
High growth	-.131***	-.157***	-.066***	-.097***	-.057***	-.066***	.025	.043**	.169***	.195***	.126***
Emerging markets	.000	-.012	.006	-.009	.025	-.031*	.025	-.029*	-.017	.007	.047***
R ²	.266	.108	.032	.046	.036	.121	.056	.152	.120	.105	.052

* p < 0.05; ** p < 0.01; *** p < 0.001

Table 3

Allocations to Socially Responsible Investments Against Current Allocations

Current allocation	Fixed	Capital	Stable	Property	Balanced	Intl Shares	Local Shares	Growth	High Growth
Cash	-.023	.248***	.299***	-.175***	.055	-.027	-.017	-.148**	.111*
Fixed interest	.108*	-.009	.031	-.007	.057	-.016	.182***	-.107**	-.074
Capital preservation	-.094	.232***	.043	.042	.043	.032	.079	.074	.072
Stable	-.159***	.072	.230***	-.006	.098	-.021	.003	-.016	.056
Listed properties	-.295***	.000	-.018	.184***	.096	-.033	.066	.005	.001
Balanced	-.118***	.109*	.130**	.091	.012	.173***	.131**	.073	.009
International shares	-.078	-.031	.099*	-.083	-.067	.395***	-.048	.155***	-.097*
Local shares	-.185***	-.057	-.063	-.076	-.023	-.121**	.252***	-.127**	-.054
Growth	-.188***	-.055	-.018	-.065	-.050	-.003	.091*	-.058	.153***
High growth	-.175***	-.082	-.053	-.125**	.003	.023	-.009	.214***	.329***
Emerging markets	-.041	-.003	.027	.033	-.100*	.010	.015	-.050	.048
R ²	.108	.142	.139	.107	.044	.190	.105	.145	.158

* p < 0.05; ** p < 0.01; *** p < 0.001

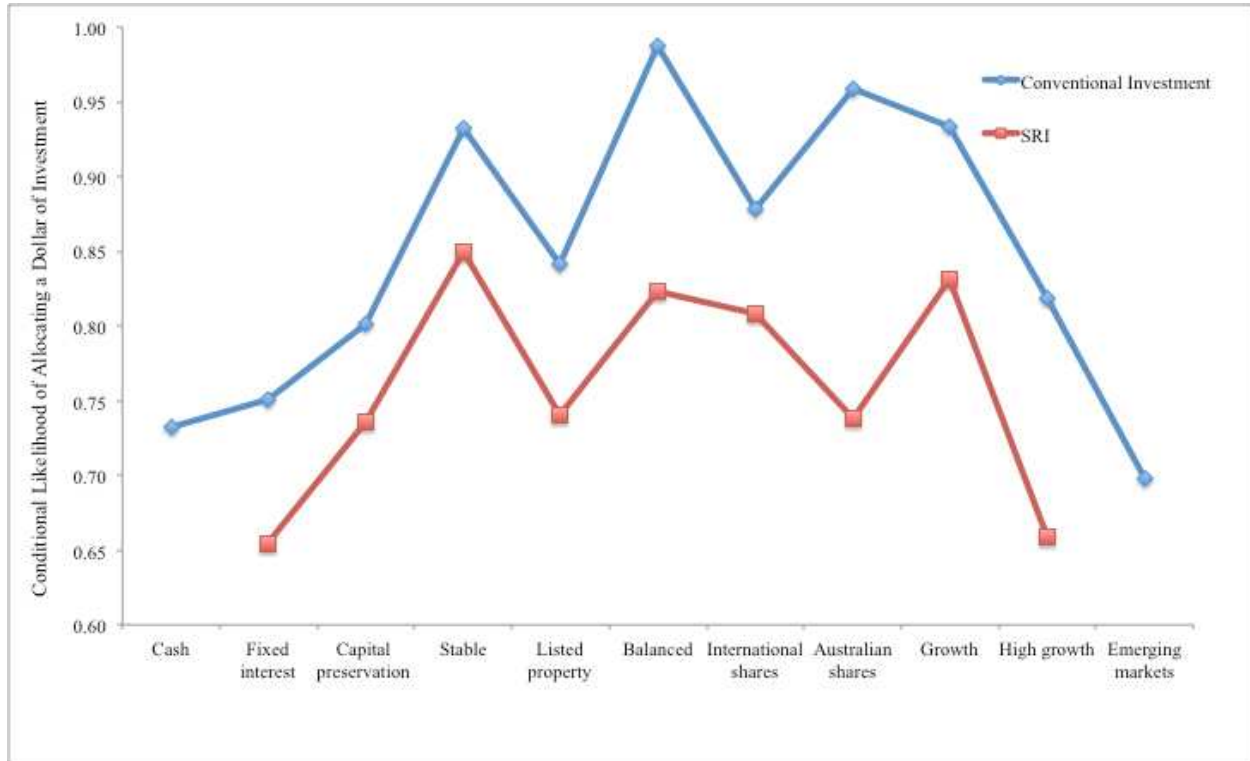
Table 4

Relative Allocations to Focal Socially Responsible Investments Against Current Allocations

Current allocation	Fixed	Capital	Stable	Property	Balanced	Intl Shares	Local Shares	Growth	High Growth
Cash	-1.2	0.1	0.3	-2.0	3.6	-1.1	-1.1	1.6	-0.7
Fixed interest	0.0	-1.0	-0.9	-1.0	3.8	-1.0	-0.3	0.8	-1.2
Capital preservation	-1.9	0.0	-0.8	-0.8	2.6	-0.9	-0.7	-2.3	-0.8
Stable	-2.5	-0.7	0.0	-1.0	7.2	-1.1	-1.0	-0.7	-0.8
Listed properties	-3.7	-1.0	-1.1	0.0	7.0	-1.1	-0.7	-1.1	-1.0
Balanced	-2.1	-0.5	-0.4	-0.5	0.0	-0.6	-0.5	-2.3	-1.0
International shares	-1.7	-1.1	-0.6	-1.5	-6.6	0.0	-1.2	-3.7	-1.3
Local shares	-2.7	-1.2	-1.3	-1.4	-2.9	-1.3	0.0	1.2	-1.2
Growth	-2.7	-1.2	-1.1	-1.4	-5.2	-1.0	-0.6	0.0	-0.5
High growth	-2.6	-1.4	-1.2	-1.7	-0.8	-0.9	-1.0	-4.7	0.0
Emerging markets	-1.4	-1.0	-0.9	-0.8	-9.3	-1.0	-0.9	-0.1	-0.9

Figure 1

Conditional Likelihood of a Dollar of Investment Being Allocated to a Superannuation Fund Alternative



APPENDIX: INVESTMENT OPTIONS

Investment Options	Investment strategy	Performance objective	Risk profile	Investment payoff profile
Cash	Liquidity achieved through a diversified portfolio of short term money market instruments	1% p.a.	None	Very Short: 1 to 2 years
Fixed Interest	A diversified portfolio of money market instruments, government and corporate bonds, and other instruments with fixed rates of return	1.5% p.a.	1%	Short/ Moderate: 3 to 6 years
Capital Preservation Portfolio	A diversified portfolio of shares and fixed interest assets that is balanced to ensure that the initial principal investment is protected. The portfolio is skewed toward fixed interest investment to preserve the investment but with some shares to generate upside returns (e.g., 20% shares, 80% fixed interest)	2.0% p.a.	3%	Long: 6 to 8 years
Stable Portfolio	A diversified portfolio of shares and fixed interest assets that generates a more stable pattern of returns but with more emphasis on returns (e.g., 40% shares, 60% fixed interest)	2.5% p.a.	6%	Short: 2 to 4 years
Listed Properties	A diversified portfolio of listed property assets	2.5% p.a.	10%	Long: 8 to 10 years
Balanced Portfolio	A diversified portfolio of assets with a 50:50 mix between shares (local and global) and fixed interest assets (bonds)	3% p.a.	10%	Moderate: 4 to 8 years
International Share Portfolio	A portfolio of shares chosen to mimic the movement of the major global share market indices (80%-100% shares) but with a slightly higher overall return over the medium to long term	3.5% p.a.	15%	Moderate: 4 to 8 years
Australian/ NZ Share Portfolio	A portfolio of shares chosen to mimic the movement of shares listed on the Australian Stock Exchange (ASX) and the New Zealand Exchange (NZX) (80%-100% shares) but with a slightly higher overall return over the medium to long term	3.5% p.a.	21%	Moderate: 4 to 8 years
Growth Portfolio	A portfolio of shares, fixed investments, properties and other investments aimed at generating a high return	4% p.a.	21%	Long: 8 to 10 years
High Growth Portfolio	A portfolio of shares, fixed investments, properties and other investments aimed at generating a very high return. This grouping relies more on small capitalization firms and those in emerging industries	4.5% p.a.	28%	Very Long: 10 years +
Emerging Markets Portfolio	A portfolio of shares with an exclusive emphasis on emerging markets. The portfolio includes nearly 100% investment in overseas markets such as Asia, Eastern Europe, South America and the Middle East	5% p.a.	36%	Very Long: 10 years +

Investment Strategy: The investment strategy refers to the logic of the investment mix, how it is determined and what it includes.

Performance Objective: The performance objective refers to the minimum return target on a per annum (p.a.) basis for the investment. This return is defined as the percentage return above inflation (consumer price index). It is based on the historic average return for the underlying investment instruments.

Risk Profile: The risk profile refers to the riskiness of the investment. It is defined as the likelihood that the investment will show a negative inflation-adjusted return. It is expressed as a probability (percent) of years in which the investment return was negative.

Investment Payoff: The investment payoff profile characterizes the time period that is best for that class of investment.

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¹ A comparable analysis would have been to run a logit model where each investment received a '1' if it appeared in the set and '0' otherwise and then was weighted by the percent allocated to that investment. The results from analyses using this alternative method are comparable and hence we chose the simpler regression model approach.