

Running headline: ATTITUDES TOWARDS AN EXTENDED FIDUCIARY DUTY

**Attitudes Among Beneficiaries of Pension Funds Towards an Extended Fiduciary Duty  
Including Social, Ethical, and Environmental Concerns**

Magnus Jansson, Joakim Sandberg, and Tommy Gärling

*University of Gothenburg, Göteborg, Sweden*

Send correspondence to

Joakim Sandberg

Department of Philosophy, Linguistics & Theory of Science

University of Gothenburg

P.O. Box 200

SE-405 30 Göteborg

Sweden

E-mail: [joakim.sandberg@filosofi.gu.se](mailto:joakim.sandberg@filosofi.gu.se)

December 2013

## **Attitudes Among Beneficiaries of Pension Funds Towards an Extended Fiduciary Duty Including Social, Ethical, and Environmental Concerns**

### **Abstract**

Many fund managers, lawyers and academics assume that pension funds' legal responsibility to manage assets in the best interests of their beneficiaries (their fiduciary duty) rules out including social, ethical and environmental (SEE) concerns in investments. A counter-argument is that beneficiaries' best interests can be interpreted more broadly to also encompass such concerns. We seek to contribute to resolving this controversy by analyzing the attitudes of beneficiaries themselves. In a survey questionnaire answered by 1,119 future beneficiaries of the Swedish pension system, we measure their attitudes towards an extended fiduciary duty taking SEE concerns into account. Analyzing the determinants of these attitudes, we find support for a model including both financial motives (beliefs about financial risk and returns) and values-based motives (endorsement of self-transcendent values). Our results give unique insights into the psychological drivers of beneficiaries' viewpoints that are highly pertinent to present attempts at reimagining the aims of pension investments.

### **Keywords**

Fiduciary duty, pension funds, investment, values

## **Attitudes Among Beneficiaries of Pension Funds Towards an Extended Fiduciary Duty Including Social, Ethical, and Environmental Concerns**

There is currently a heated debate among fund managers, stakeholders and academics alike concerning the extent to which institutional investors like pension funds should include social, ethical, and environmental (SEE) concerns in their investment decisions.<sup>1</sup> Some very influential pension funds – such as CalPERS in the US, the Universities Superannuation Scheme in the UK, and PGGM in the Netherlands – have recently started to include such concerns (Sparkes, 2002; Kiernan, 2009). Academic proponents regard this as “socially responsible” behavior given the enormous influence of pension funds over the economy as a whole and the activities of investee companies (Joly, 2002; Lydenberg, 2012; Sethi, 2005). More specifically, it is argued that pension funds integrating SEE concerns could incentivize companies listed on the stock market to promote more long-term growth and sustainable development (Kiernan, 2009; Woods and Urwin, 2010). However, academic opponents argue that it is not pension funds’ place to take a stand on such non-financial issues (Entine, 2005; Rounds, 2005).

A central point of the most recent discussion concerns how to understand the legal responsibilities owed by trustees to their beneficiaries, their so-called fiduciary duty. Pension trustees are under a legal obligation to manage their funds in the best interests of the ultimate recipients of the funds, that is, the future pensioners (Freshfields Bruckhaus Deringer, 2005; Whitfield, 2005). “Best interests” have over time become equated with short-term financial interests, as captured by prevailing finance theories, and is typically thought to preclude fiduciaries from taking SEE concerns into account in investment decisions (Hawley et al., 2011; Hess, 2007). However, this view is now being challenged on several fronts. A common argument in the debate is that “best interests” can be understood more broadly to also include,

for instance, beneficiaries' ethical or welfare interests (Lydenberg, 2012; Richardson, 2008; Sandberg, 2013).

Some previous research has taken a top-down political or philosophical approach, providing normative arguments for why beneficiaries' "best interests" should be understood in a particular way (Joly, 2002; Lydenberg, 2012). In the present study we take a bottom-up approach in that we seek to understand how beneficiaries themselves define their "best interests", or what they believe that the managers of their pension funds should consider in investment decisions. More specifically our research question is: What determines the extent to which beneficiaries are positive or negative towards an extended fiduciary duty which takes SEE concerns into account? Based on survey responses from future beneficiaries of the Swedish pension system, we test models of the determinants that include both financial motives (beliefs about financial risk and returns) and values-based motives (more general SEE concerns).

Our study is somewhat similar to previous empirical studies of the attitudes of private investors towards so-called socially responsible investments (SRI), as further explained below. However, since both target group and research focus are different, we believe that it gives unique insights into beneficiaries' viewpoints that are relevant to present attempts at reimagining the aims of pension investments. The paper proceeds as follows. We first give some further background on the debate about fiduciary duty, as well as a review of previous studies on the attitudes of SRI investors. The subsequent section presents our model specifications and hypotheses. After this we describe the survey and report the results. In two final sections we discuss the results and their implications for the debate on fiduciary duty and SEE concerns.

## Previous research

### *Fiduciary Duty*

The traditional legal view is that pension funds' fiduciary duty is incompatible with their including SEE concerns in investment decisions. This view is often defended with reference to a central court case in the UK, *Cowan v. Scargill*, where the judge ruled that: "In considering what investment to make, the trustees must put on one side their own personal interests and views. [...] The investment] power must be exercised so as to yield the best return for the beneficiaries, judged in relation to the risks of the investments in question" (quoted in UNEP FI, 2009:87). The idea is that SEE concerns are too personal to be pertinent and fiduciaries should focus on the financial interests of their beneficiaries. A similar view is supported by the classic commentary of US law professors Langbein and Posner (1980:98), who argue that "both the duty of loyalty and the prudent man rule would be violated if a fiduciary were to make an [...] investment decision based on other objectives [than risk-adjusted returns], such as to promote job security or social welfare".

Proponents of the SRI movement have long sought to challenge this view in various ways (for an early discussion, see Simon et al., 1972). The by far most successful and influential attempt is the so-called 'Freshfields report'; a report commissioned by the United Nations Environment Programme's Finance Initiative (UNEP FI) to the law firm Freshfields Bruckhaus Deringer. The report suggests at least three circumstances in which pension funds are legally allowed – or even obliged – to take SEE concerns into account (Freshfields Bruckhaus Deringer, 2005): (1) It is permissible when deciding between investments which are exactly similar on financial grounds; (2) It is obligatory when SEE concerns are financially relevant; that is, when a company's performance on SEE issues can be expected to impact on its financial performance or valuation; (3) Finally it is obligatory if and when

beneficiaries themselves support it; that is, to the extent that a consensus exists among beneficiaries on including some SEE concern.

The Freshfields report has received a great amount of attention and praise from fund managers, academics as well as the financial press worldwide (Kiernan, 2009; Sandberg, 2011; UNEP FI, 2009). Most of the praise has concerned its second argument on the financial relevance of SEE concerns. Consequently, the ensuing research agenda has been dominated by increased interest in an already popular topic, the ability of SRI to generate financial returns (Bauer et al., 2005; Derwall et al., 2005; Hamilton et al., 1993; Rennebog et al., 2008). Unfortunately, however, research on this topic has so far produced mixed or unstable results. Recent meta-analyses suggest at best a contingent connection between some SEE concerns and above-market returns, in some markets and at some times (Margolis et al., 2007; Orlitzky et al., 2003; UNEP FI, 2006).

An alternative view in the most recent literature is that more focus should be put on the third argument of the Freshfields report; that is, the appeal to beneficiaries' own viewpoints. This view is supported by Richardson (2007; 2008) who argues that beneficiaries' "best interests" also can be understood to include their SEE concerns. Richardson writes: "If beneficiaries share a moral objection to a particular form of investment, it could be construed as for their benefit if the trust avoided that investment, possibly even at the cost of a lower financial return" (Richardson, 2007:158-59). Similarly, Berry and Scanlan (forthcoming) argue that: "Unease about ethical investment often appears to stem from concerns that it amounts to trustees' imposing their own moral agendas on beneficiaries. Naturally, the only ethical views, which fiduciaries should take into account in their investment or engagement policies, are those of the beneficiaries themselves. [...] The fiduciary duty of undivided loyalty to the beneficiaries applies as much to this species of benefit as to any other."

But is this argument likely to work in practice? Sandberg (2011, 2013) has recently argued that, given the great complexity and controversial nature of most SEE concerns, it is unlikely that there will be many such concerns on which a consensus exists among beneficiaries. This will effectively prevent trustees from including SEE concerns since they are not allowed to favor the views of one group of beneficiaries over another. In response, however, Richardson (2007, 2011) argues that beneficiaries are likely to agree on a set of very basic values – such as the desirability of a stable climate and the legitimacy of human rights. Furthermore, legislative improvements aimed at making beneficiaries more directly involved in their pension funds’ decision-making processes may lead to increased consensus on many issues. This is because “theories of ethical and democratic deliberation suggest that social values can evolve among participants through appropriately structured forums for reasoned discussion” (Richardson, 2011:10).

### *SRI Investors*

Very few previous studies have been made on the SEE concerns of beneficiaries as such, in particular on their attitudes towards the fiduciary duty of their pension funds. We will here review previous research on what characterizes and influences private investors in SRI funds, that is, commercial funds that include SEE concerns in investment decisions.

SRI investors have been found to constitute a heterogeneous group with different and sometimes mixed motives. Some individuals are motivated to invest in SRI because they want to do good for others, while others mainly want to do financially well for themselves (Bauer & Smeets, 2010; Bollen, 2007; Nilsson, 2009). For instance, a Dutch study of private SRI investors found that only a minority could be characterized as exclusively values-driven, whereas the majority also gave weight to financial concerns such as past returns and fees (Bauer & Smeets, 2010). Nilsson (2008) found similar results in a study on Swedish SRI investors. In a follow-up attempt to establish better defined subgroups of investors, Nilsson

(2009) found that about 20% of investors were primarily driven by social responsibility whereas 30% were primarily concerned with profits. However the largest group of SRI investors (50%) had mixed motives and was driven by both financial returns and SEE concerns.

Investors' motives in this regard have been found to depend on a variety of factors. For example women are often more values-driven, whereas men – and especially wealthy men – are more profit-seeking and likely to be influenced by past financial returns and fees (Bauer & Smeets, 2010; 2013). Other studies have found that education and income correlate positively with private investors' willingness to invest in SRI funds (Nilsson, 2008; Rosen et al., 1991). How much they invest in SRI compared to conventional funds is furthermore influenced by their expectations of the financial returns on SRI (Jansson & Biel, 2011; Nilsson, 2008). Interestingly, many investors have pessimistic beliefs about the returns on SRI funds (Jansson & Biel, 2011; Lewis & Mackenzie, 2000; Riedl & Smeets, 2012), although conclusive evidence is lacking that SRI funds financially underperform conventionally managed funds (Bauer et al., 2005; Rennebog et al., 2008).

Mixed motives lead to a need to make trade-offs between SEE concerns and financial returns. Studies indicate that financial concerns tend to dominate in this choice (Beal et al., 2005; Riedl & Smeets, 2012) and, in fact, most SRI investors only invest a minor part of their total assets in SRI funds (Eurosif, 2010; Mackenzie and Lewis, 1999). However, there are at least some SRI investors that are prepared to make substantial financial sacrifices in order to align their investments with their social values (Borgers, 2012; Lewis & Mackenzie, 2000). This was also concluded by Webley et al. (2001) in a UK study showing that, in an experimental setting, “hard-core ethical” investors tended to hold on to their SRI funds even if the investments financially underperformed conventional ones. In another study by Lewis and Mackenzie (2000), it was found that about 50% of SRI investors would accept halved

financial returns on their SRI funds compared to their conventional ones. Yet a minority of those investigated held assets only in SRI funds, whereas the majority held assets in both SRI and conventionally managed funds. Finally, a recent study of a panel of Dutch households' attitudes towards socially responsible pension management revealed that about 50% were willing to accept a small financial cost to investing in SRI pension funds, while 25% were willing to accept a substantial cost (Borgers & Pownall, 2012).

The extent to which SRI investors are prepared to sacrifice financial returns seems to depend on the strength of their values. SRI investors with a strong identification with SEE concerns have been found to be more loyal to their SRI funds than those with less pronounced social-altruistic values (Bauer & Smeets, 2010; Bollen, 2007). In a similar vein previous studies have demonstrated the influence of "pro-social" and "pro-environmental" attitudes, held by both private and professional investors, on investments in funds that include SEE concerns (Hong & Kacperczyk, 2009; Lewis & Webley, 1994; Nilsson, 2009). Other research has shown that how much "pro-social" attitudes determine investment varies between private and professional investors (Jansson & Biel, 2011). In setting SRI investment goals, it was found that private investors are more influenced by moral concerns whereas professional investors are more influenced by financial ones.

### **Model Specifications and Hypotheses**

It should be noted that our target group in this study is much larger and broader compared to previous studies on SRI investors. Beneficiaries of pension funds are citizens representing a broad spectrum of socio-demographic backgrounds with different political orientations and heterogeneous values. It is therefore likely that their motives are even more diverse than those of SRI investors. However, we simplify by identifying two main types of motives: selfish financial motives and values-based motives that include a regard for others. We posit (i) that both financial motives and values-based motives exist among beneficiaries of pension

funds, and (ii) that beneficiaries of pension funds vary in how much weight they place on each.

In an attempt to fully capture both motives, in the following we specify three different models of the determinants of beneficiaries' attitude towards an extended fiduciary duty (henceforth EFD). We first derive a model with solely financial motives, and then a model with solely values-based motives. Finally we propose an integrated model that includes elements from both these models.

#### *Model with Financial Motives*

Mainstream financial theory posits that investments are chosen only if they provide the highest possible returns for a preferred risk level (Nagy & Obenberger, 1994). We translate this into hypotheses about the determinants of beneficiaries' attitude towards EFD. Thus, the basic tenet of our first model is that this attitude is determined by beneficiaries' beliefs about the risk and return of investments guided by SEE concerns.

Research has shown that people vary both in how they perceive the risks associated with different kinds of activities, as well as in their attitude towards those risks (e.g. Markiewicz & Weber, 2013; Weber et al., 2002). Attitude towards financial risk is thus another potential determinant of attitude towards EFD.<sup>2</sup> Investing in funds that include SEE concerns is generally believed to increase financial risk since these funds screen out non-SEE alternatives and thus limit the possibility to diversify (Campbell et al., 2001; Markowitz, 1952). We therefore propose that risk attitude is positively related to attitude towards EFD (those with a negative risk attitude should be more negative towards EFD and vice versa).

Attitude towards risk has two determinants which we propose may indirectly, through risk attitude, influence attitude towards EFD. From the standpoint of financial theory, it is rational to choose more risky investments when the time horizon is longer (Cocco et al., 2005). If investing in funds that include SEE concerns is financially more risky, then attitude towards

financial risk and therefore attitude towards EFD should be more positive the more years that are left to retirement. This assumption is supported by empirical results showing that private investors' financial risk-taking tend to be negatively correlated with age (Clarck and Strauss, 2008; McInish, 1982).

Furthermore, previous research has found that (lack of) financial confidence and skill are major determinants of the financial activity and risk-taking of the general public (Clark et al., 2004; MacFarland et al., 2004). Other studies have found that overly risk-taking investors tend to be "overconfident", that is, they believe that they are more skilled than they are (Gervais & Odean, 2001; Statman et al., 2006). Based on this research, we hypothesize that confidence in one's financial skills should directly increase a positive attitude towards financial risk and indirectly a positive attitude towards EFD.

The proposed model with financial motives as determinants of beneficiaries' attitudes towards EFD (see Figure 1) entails the following hypothetical relationships (referred to as hypotheses H1-H4):

H1. Beliefs about financial returns have a direct positive influence, and beliefs about financial risk a direct negative influence, on attitude towards EFD.

H2. Attitude towards financial risk has a direct positive influence on attitude towards EFD.

H3. Financial confidence has a direct positive influence on attitude towards financial risk and an indirect positive influence, through attitude towards financial risk, on attitude towards EFD.

H4. Years to retirement have a direct positive influence on attitude towards financial risk and an indirect positive influence, through attitude towards financial risk, on attitude towards EFD.

### *Model with Values-Based Motives*

The basic tenet of our second model is that beneficiaries' attitudes towards EFD is determined by their general concern for SEE issues in society. As noted above, previous research has shown that existence of "pro-social" and "pro-environmental" attitudes increases conscientious behaviour including private investments in SRI funds (Lewis & Webley, 1994; Jansson & Biel, 2011). Our conjecture is therefore that SEE concerns have a direct influence on attitude towards EFD.

We likewise propose that SEE-concern is influenced by people's value priorities. Previous research has shown that people identify with a fundamental value orientation varying on a continuum from self-transcendence to self-enhancement (Schwartz, 1992; Schwartz & Boehnke, 2004). The majority of people tend to prioritize self-transcendence values such as benevolence (doing good for others) and universalism (doing good for humanity) over self-enhancement values such as achievement, power, and hedonism, although a good deal of people also prioritize the other way around (Schwartz & Bardi, 2001). People prioritizing self-transcendent values are more likely than people prioritizing self-enhancement values to engage in pro-environmental and pro-social behaviours (Hansla et al., 2008, 2013; Schultz & Zelezny, 1999). Our conjecture is thus that SEE concerns are related to people's more fundamental value orientation, and more specifically that prioritizing self-transcendence values has an indirect positive influence, through SEE concerns, on attitude towards EFD.

The proposed values-based model (see Figure 2) entails the following hypothesized relationships:

H5. SEE concerns have a direct positive influence on attitude towards EFD.

H6. Prioritizing self-transcendent values has a direct positive influence on SEE concerns and an indirect positive influence, through SEE concerns, on attitude towards EFD.

### *Integrated Model*

Finally we propose an integrated model comprised of elements of both previous models. A model of this kind is obviously most in line with the previous research on private SRI investors outlined above. Furthermore, research on value orientations has shown that people in a population-based sample are distributed along a continuum from highest priority for self-transcendence to highest priority for self-enhancement values (e.g. Schwartz & Bardi, 2001). We expect a representative sample of beneficiaries of pension funds to be similarly distributed, implying that people at one extreme place most weight on financial motives and that people at the other extreme place most weight on values-based motives. Therefore, an integrated model of the determinants of attitude towards EFD is expected to more fully capture the variation among the beneficiaries in how much weight they place on financial versus values-based motives.

Integrating hypotheses H1 to H4 (financial motives) and hypotheses H5 to H6 (values-based motives) in one model (Figure 3) is thus expected to increase its explanatory power over the models with only financial or only values-based motives.

## **Method**

### *Sample and Procedure*

A random sample of 3,500 Swedish residents in the working ages 18 to 64 years was obtained from the official tax payer register.<sup>3</sup> A mail-back questionnaire was sent to them by regular mail including a free-reply envelope. After two reminders, we received 1,119 usable questionnaires, corresponding to a response rate of 33.2%. Socio-demographic information reported in the questionnaire showed that 50.5% of the participants were women, that their mean age was 52.1 years (SD=11.9), and that 41.0% had a university degree. Compared to the Swedish population in the same age range (Statistics Sweden, 2011), the sample was on average older (mean age 41.3 years in population) and slightly more educated (33.8%

university degree in population). The sample's income distribution did not differ importantly from the population.

### *Questionnaire*

On the first page of the questionnaire, the main purpose was stated to be to investigate attitudes towards socially responsible pension investments. Participants were told that the questionnaire would take about 20 to 25 minutes to answer. They were asked to finish the questionnaire and mail it back as soon as possible. No incentive was offered. A number of questions then followed that were designed to make possible to construct indexes to be used in the subsequent model tests. The questions are described in Tables 1 and 2 and commented on in the following.

To measure *beliefs about financial returns*, *beliefs about financial risk*, *risk attitude* and *financial confidence*, participants rated degree of agreement to the statements in Table 1 on five-point Likert-type scales ranging from 1 (do not agree at all) to 5 (totally agree). Indexes with acceptable reliability (Cronbach's  $\alpha > .60$ ) were obtained by averaging across the ratings.<sup>4</sup>

*Social, environmental and ethical (SEE) concerns* were measured by asking the question "How important do you think it is that we as a society (individuals, companies and authorities) invest time and effort to achieve the following goals?" followed by the list of goals shown in Table 1. Participants rated each goal on a five-point importance scale ranging from 1 (not at all important) to 5 (very important). A reliable index of SEE concerns was obtained by averaging the ratings.

Six items from Schwartz' (1992) value survey were used to measure *self-transcendent value priority*. Participants rated each item in Table 1 on a 5-point scale ranging from 1 (nothing I strive to achieve in my life at all) to 5 (something I very much strive to achieve in my life). A reliable index was obtained by calculating an average.

*Attitude towards an extended interpretation of fiduciary duty* (EFD) was obtained from responses to two direct questions and three scenarios. The questions and scenarios are shown in Table 2 including how the responses were scored. A reliable index was obtained by averaging the scores assigned to the response alternatives.

## **Results**

### *Descriptives*

Means and standard deviations of the ratings used to form indexes are given in Tables 1 and 2. Table 3 shows means, standard deviations, Cronbach's  $\alpha$ s, and inter-correlations of the indexes formed by averaging the ratings on the separate scales. Missing values were replaced by means for the same variables using a data imputation procedure based on multiple linear regression analysis. The indexes range maximally from 1 to 5 except attitude towards EFD that ranges from 1 to 3.4.

It may be seen in Table 3 that mean attitude towards EFD is slightly above the mid-point suggesting that on average an extended interpretation of fiduciary duty is preferred over a traditional one that focuses exclusively on financial returns. This is further corroborated by the percentages reported in Table 2 which suggest that very few respondents chose the lowest-scored alternatives that strictly fall within the traditional view on fiduciary duty. An extreme example is the BRAZA scenario where almost everyone prefers to sell the stock. At the same time SEE concerns and prioritizing self-transcendence values were rated well above the midpoint (Table 3), whereas all the financial motives were rated below the mid-point. It may further be seen that only SEE concerns and prioritizing self-transcendence values have any substantial correlations with attitude towards EFD.

### *Model Tests*

The model tests are made by means of path analyses conducted with AMOS (version 20.0.0.01, build 1027) included in the SPSS statistical package (version 20). The input is the

covariances between the indexes. Overall goodness of fit of the models and standardized path coefficients are outputs. We first test the model with financial motives (hypotheses H1-H4), then the model with values-based motives (hypothesis H5 and H6), and finally we investigate whether the goodness-of-fit of the model with financial motives would improve by adding the values-based motives. To evaluate model fits, a range of indexes were employed as recommended by Hooper et al. (2008). Indirect effects were tested by the method proposed by Brown (1997).

Goodness of fit of the model with financial motives was acceptable (NFI=.887; CFI=.910; RMSEA= 0.054),<sup>5</sup> and the hypothesized path coefficients were statistically significant at  $p = .05$ . Figure 1 reports the standardized path coefficients with associated  $t$ -values within parentheses. As may be seen, in support of hypothesis H1 *beliefs about financial returns* have a direct positive influence on *attitude towards EFD* and *beliefs about financial risk* a direct negative influence. *Risk attitude* has unexpectedly and contrary to hypothesis H2 a direct negative influence on *attitude towards EFD*. Consistent with hypotheses H3 and H4, *risk attitude* is directly positively influenced by *financial confidence* and negatively by *years to retirement*.<sup>6</sup> Also consistent with hypotheses H3 and H4, significant path coefficients indicate that there are indirect effects through *risk attitude* on *attitude towards EFD* of *financial confidence* (0.08,  $t = 3.70$ ,  $p < .05$ ) and *years to retirement* (0.04,  $t = 3.07$ ,  $p < .05$ ).

The fit of the model with values-based motives was also acceptable (NFI=.921; CFI=.934; RMSEA=0.062). The standardized path coefficients in Figure 2 confirm hypotheses H5 and H6. *SEE concerns* have the expected direct positive influence on *attitude towards EFD*, and *endorsement of self-transcendent values* the expected direct influence on *SEE concerns*. Also confirming hypothesis H6, the indirect effect of *endorsement of self-transcendent values* on *attitude towards EFD* through *SEE concerns* was significant (.59,  $t = 8.60$ ,  $p < .001$ ).

An additional path analysis adding the values-based motives to the financial motives (Figure 3) showed that the overall goodness of fit was significantly improved,  $\Delta\chi^2(224, n=1019) = 764.0, p < .05$ . Yet, some changes in model specification were made to further improve goodness of fit (NFI=.884; CFI=.912; RMSEA=0.049).<sup>7</sup> First, *beliefs about financial risk* were removed. Second, a path was added (broken arrow in Figure 3) to represent that *endorsement of self-transcendent values* have a direct positive influence on *beliefs about financial returns*. After these changes the path coefficients reported in Figure 3 show that all expected direct effects are significant. Furthermore, the indirect effect of *self-transcendent value orientation* on *attitude towards EFD* through *SEE concerns* was significant (0.49,  $t = 7.20, p < .001$ ). The indirect negative effect of *financial confidence* on *attitude towards EFD* through *risk attitude* was likewise significant (-0.04,  $t = 3.33, p < .05$ ). The indirect effect of *years to retirement* on *attitude towards EFD* through *risk attitude* was however not significant (0.02,  $t = 1.72, p < .05$ ).

### Discussion

The results confirm that we have been able to develop a plausible model – the integrated one – of the determinants of beneficiaries’ attitudes towards an extended fiduciary duty that includes SEE concerns. This model is an important achievement in itself since no previous research has modeled the determinants of SEE concerns and attitudes towards fiduciary duty of beneficiaries of pension funds.

In line with expectations, we found evidence of the influence of people’s beliefs about the financial risk and return of investments that include SEE concerns on their attitude towards pension trustees’ fiduciary duty in this regard. However, our integrated model refutes the proposition in mainstream financial theory that people are exclusively concerned with their risk-adjusted returns (Markowitz, 1952). We found that both financial and values-based

motives are important and there is no indication that the financial motives dominate (if anything, our descriptive results suggest that it may be the opposite).

An additional finding is that the differences between people with regards to values may go deeper than previously assumed. It is not only that people vary in their general commitment to SEE issues in society which explains their differing attitudes towards EFD, but this variation is also connected to differences in fundamental value priorities. Along the lines of previous psychological research (Schwartz, 1992; Schwartz & Boehnke, 2004), we found that people vary in value orientation on a continuum from self-transcendence to self-enhancement and that this influences both their SEE concerns and attitude towards EFD. Future research may further investigate the relationships between these factors and specifically the importance of fundamental value priorities.

Some findings were contrary to our theoretical expectations. First, as expected we found that age and financial confidence were positively correlated with risk attitude. However, contrary to expectation, risk attitude negatively influenced attitude towards EFD. One possible reason is that SRI simply is perceived as less risky than conventional investments. Another complementary explanation may be that people's risk attitude in an investment context mainly is driven by a strong motive to achieve financial returns, implying that risk attitude is a proxy for strong profit interest. This is consistent with prior research showing that risk attitude is related to the perceived importance of money, perceived financial knowledge, and significantly lower scores on altruistic values (Halko et al., 2012; Sjöberg & Engelberg, 2009). It is also consistent with research indicating that people who are self-confident gamblers tend to prioritize self-enhancement over self-transcendence values (Campbell et al., 2004; Fritzsche & Oz, 2007).

Second, a successful revision of the integrated model was to add a path from *prioritizing self-transcendent values* to *beliefs about financial returns*. We interpret this to imply that

those prioritizing self-transcendent values have a stronger faith in that SRI delivers higher financial returns. Although we did not hypothesize such a relationship, other research has theoretically hypothesized and empirically confirmed that values can causally influence beliefs (e.g. Krueger & Dickson, 1994; Stern et al., 1995). A proposed rationale is that individuals seek and are more influenced by values-congruent information than values-incongruent information. Such “wishful thinking” may also help beneficiaries to resolve a conflict they may experience between their priority for other-regarding values and their self-interest in high financial returns. Future research should be conducted to provide more solid knowledge about the conditions under which and how investors’ financial expectations are influenced by their values.

### **Implications**

We want to highlight two aspects of our results which are particularly relevant if beneficiaries’ attitudes should have any bearing on how fiduciary duty should be interpreted. The first aspect is the general existence and importance of values-based motives among beneficiaries. As noted above, the traditional view on fiduciary duty holds that SEE concerns are too personal to be pertinent and that pension trustees only should focus on the financial interests of beneficiaries (Langbein and Posner, 1980). This view is essentially corroborated by the Freshfields report, although the report offers a different perspective on what investment style leads to maximal profits (Freshfields Bruckhaus Deringer, 2005). But according to our results, beneficiaries themselves are not only interested in financial costs versus gains, but also in social, ethical and environmental aspects in their own right. The reason that many of them are fairly positive towards their pension trustees including SEE concerns is not primarily that they think it leads to high profits, but instead that they think it makes sense from an SEE point of view. Indeed we have seen that their view on the profitability of SRI ultimately may stem from their more fundamental value priorities.

This result is a signal to pension trustees that they need to take more seriously understandings of fiduciary duty that go beyond strictly financial interests. There is some recent scholarship suggesting increased focus on beneficiaries' other interests, such as their welfare interests or direct moral concerns (Lydenberg, 2012; Richardson, 2008; Berry and Scanlan, forthcoming). Our results suggest that such extended understandings of beneficiaries' interests are more in line with how beneficiaries themselves reason concerning fiduciary duty. That is, our integrated model indicates that beneficiaries find both financial and values-based concerns relevant to questions about the adequate aims of pension investments.

But a second aspect of our results may be a cause of caution in this context. We found that values-based differences between beneficiaries may go deeper than previously assumed – people not only differ in SEE concerns but vary in value priorities on a continuum from self-transcendence to self-enhancement. This finding is relevant since, according to standard interpretations of fiduciary duty, fund managers need to point to a consensus among beneficiaries in order to act on a given SEE concern (Freshfields Bruckhaus Deringer, 2005; Sandberg, 2011). Our results speak against Richardson's (2007) speculation that, while beneficiaries may disagree on the details of practical action plans, there is a set of more basic values on which they all agree. Furthermore, our result also calls into question Richardson's later (2011) suggestion that increased dialogue among and participation by beneficiaries in the investment decision process may lead to further consensus on SEE issues. This is because the relevant disagreements among beneficiaries are not simply situational and one-dimensional, instead they are comprehensive and located deeply in people's self-images.

Our general hope is that our results will help pension fund managers to better understand their beneficiaries' expectations about their job and responsibilities, in particular their expectations about including social, ethical and environmental concerns in investment

decisions. More specifically, an aspiration is that awareness of the great differences between segments of beneficiaries could be an inspiration for new funds that want to create a more differentiated supply of investment opportunities for future pensioners. Because what we need is probably a greater range of pension funds that can cater to this continuum of differently characterized beneficiaries.

## References

- Bauer, R., Koedjik, K., & Otten, R. (2005). International evidence on ethical mutual fund performance and investment style. *Journal of Banking and Finance*, 29, 51-67.
- Bauer, R., & Smeets, P. (2010). *Social values and mutual fund clienteles*. Working paper. University of Maastricht, The Netherlands.
- Bauer, R., & Smeets, P. (2013). *Some men invest like women: The influence of social values on investment decisions and investor loyalty*. Working paper. University of Maastricht, The Netherlands.
- Bollen, N. (2007). Mutual fund attributes and investor behaviour. *Journal of Financial and Quantitative Analysis*, 42, 683-708.
- Borgers, A., & Pownall, R. (2012). *Social norms in pension funds*. Working paper, Tilburg University, NL.
- Beal, D. J., Goyen, M., & Phillips, P. (2005). Why do we invest ethically? *Journal of Investing*, 14, 66-77.
- Browne, M., & Cudeck, R. (1992). Constructing a covariance matrix that yields a specified minimizer and a specified minimum discrepancy function value. *Psychometrika*, 57, 357-369.
- Brown, R. L. (1997). Assessing specific mediational effects in complex theoretical models. *Structural Equation Modeling*, 4, 142-156.
- Campbell J., Lettau, M, Malkiel, B., & Xu, Y. (2001). Have individual stocks become more volatile? An empirical exploration of idiosyncratic risk. *Journal of Finance*, 56, 1-43.
- Campbell, K., Goodie, A., & Foster, J. (2004). Narcissism, confidence and risk attitude. *Journal of Behavioral Decision Making*, 17, 297-311.
- Cocco, J., Gomes, F.J., & Maenhout, P. (2005). Consumption and portfolio choices over the life cycle. *Review of Financial Studies*, 18, 491-533.

- Clark, R. L., d'Ambrosio, M. B., McDermed, A. A., & Sawant, K. (2004). Sex differences, financial education, and retirement goals. In O. S. Mitchell & S. P. Utkus (Eds.), *Pension design and structure* (pp. 185-206). New York: Oxford University Press.
- Clark, G., & Strauss, K. (2008). Individual pension-related risk propensities: the effects of socio-demographic characteristics and a spousal pension entitlement on risk attitudes. *Ageing and Society*, 28, 847-874.
- Derwall, J., Guenster, N., Bauer, R., & Koedijk K. (2005). The eco-efficiency premium puzzle. *Financial Analysts Journal*, 61, 2, 51-62.
- Entine, J. (2005). The politicization of public investments. In J. Entine (Ed.), *Pension fund politics* (pp. 1-12). Washington, DC: American Enterprise Institute.
- EUROSIF (2010). *European SRI study 2010*. Retrieved from <<http://www.eurosif.org>>.
- Frederick, S., Loewenstein, G. F., & O'Donoghue, T. (2002). Time discounting and time preference: A critical review. *Journal of Economic Literature*, 40, 351-401.
- Freshfields Bruckhaus Deringer (2005). *A legal framework for the integration of environmental, social and governance issues into institutional investment*. Report, UNEP Finance Initiative.
- Fritzsche, D., & Oz, E. (2007). Personal values' influence on the ethical dimension of decision making. *Journal of Business Ethics*, 75(4), 335-343.
- Gervals, S., & Odean, T. (2001). Learning to be overconfident. *Review of Financial Studies*, 14, 1-27.
- Halko, M.-L., Kaustia, M., & Alanko, E. (2012). The gender effect in risky asset holdings. *Journal of Economic Behavior & Organization*, 83, 66-81.
- Hamilton, S., Jo, H., & Statman, M. (1993). Doing well while doing good? Then investment performance of socially responsible mutual funds. *Financial Analysts Journal*, 49(6), 62-66.

- Hansla, A., Gamble, A., Juliusson, E. A., & Gärling, T. (2008). The relationship between awareness of consequences, environmental concern, and value orientations. *Journal of Environmental Psychology, 28*, 1-9.
- Hansla, A., Gärling, T., & Biel, A. (2013). Attitude towards environmental policy measures related to value orientation. *Journal of Applied Social Psychology*. In press.
- Hawley, J., Johnson, K., & Waitzer, E. (2011). Reclaiming fiduciary duty balance. *Rotman International Journal of Pension Management, 4*, 4-16.
- Hess, D. (2007). *Public pensions and the promise of shareholder activism for the next frontier of corporate governance*. Working paper, Ross School of Business, University of Michigan.
- Hong, H., & Kacperczyk, M. (2009). The price of sin: The effects of social norms on markets. *Journal of Financial Economics, 103*, 1-19.
- Hooper, D., Coughlan, J., & Mullen, M. (2008). *Structural equation modelling. Guidelines for determining model fit*. Dublin, UK: Dublin Institute of Technology.
- International Financial Services London (IFSL) (2009). *Fund management 2009*. London: IFSL.
- Jansson, M., & Biel, A. (2011). Motive to engage in sustainable investment: A comparison between institutional and private investors. *Sustainable Development, 19*, 135-142.
- Joly, C. (2002). The greening of financial markets. In United Nations (Ed.), *Finance for sustainable development: Testing new policy approaches* (pp. 283–300). New York: United Nations.
- Kiernan, M. (2009). *Investing in a sustainable world*. New York: Amacom.
- Krueger, N., & Dickson, P. (1994). How believing in ourselves increases risk taking: Perceived self-efficacy and opportunity recognition. *Decision Sciences, 25*(3), 385-400.

- Langbein, J. H. & Posner, R. A. (1980). Social investing and the law of trusts. *Michigan Law Review*, 79, 72-112.
- Lewis, A., & Mackenzie, C. (2000). Morals, money, ethical investing and economic psychology. *Human Relations*, 53, 179-191.
- Lewis, A., & Webley, P. (1994). Social and ethical investing: Beliefs, preferences and the willingness to sacrifice financial return. In A. Lewis & Wärneryd (Eds), *Ethics and economic affairs* (pp. 171-182). London. Routledge.
- Lydenberg, S. (2012). Reason, rationality and fiduciary duty. *Pensions & Investments*, February 21.
- Nagy, R., & Obenberger, R. (1994). Factors influencing individual investors' behavior. *Financial Analysts Journal*, 50, 4, 63-68.
- MacFarland, D. M., Marconi, C. D., & Utkus, S. P. (2004). Money attitudes and retirement plan design: One size does not fit all. In O. S. Mitchell & S. P. Utkus (Eds.) *Pension design and structure* (pp. 97-120). New York: Oxford University Press.
- Mackenzie, C., & Lewis, A. (1999). Morals and markets: The case of ethical investing. *Business Ethics Quarterly*, 3, 439-452.
- Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2007). *Does it pay to be good?* Working paper, Harvard Business School, Cambridge, MA.
- Markiewicz, L., & Weber, E. U. (2013). DOSPERT's gambling risk-taking propensity scale predicts excessive stock trading. *Journal of Behavioral Finance*, 14, 65–78.
- Markowitz H. (1952). Portfolio selection. *Journal of Finance*, 7, 77-91.
- McInish, T.H. (1982). Individual investors and risk-taking. *Journal of Economic Psychology*, 2, 125-136.

- Nilsson, J. (2008). Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behaviour. *Journal of Business Ethics*, 83, 307-325.
- Nilsson, J. (2009). Segmenting socially responsible mutual fund investors: The influence of financial return and social responsibility. *International Journal of Bank Marketing*, 27, 5-31.
- Orlitzky, M., Schmidt, F.L., & Rynes, S.L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, 24: 403–41.
- Rennebog, L., Horst, J., & Zhang, C. (2008). Socially responsible investments: Institutional aspects, performance, and investor behavior. *Journal of Banking and Finance*, 32, 1723-1742.
- Reinard, J. (2006). *Confirmatory factor analysis through the Amos programme*. Retrieved from [http://srmo.sagepub.com/view/communication\\_researchstatistics/n16.xml?rskey=ZqBKkS&print](http://srmo.sagepub.com/view/communication_researchstatistics/n16.xml?rskey=ZqBKkS&print)
- Richardson, B. J. (2007). Do the fiduciary duties of pension funds hinder socially responsible investment? *Banking and Finance Law Review*, 22, 145-201.
- Richardson, B. J. (2008). *Socially responsible investment law*. New York: Oxford University Press.
- Richardson, B. J. (2011). From fiduciary duties to fiduciary relationships for socially responsible investment. *Journal of Sustainable Finance & Investment*, 1, 5-19.
- Riedl, A., & Smeets, P. (2012). *Socially responsible investments: Return expectations or social preferences?* Working paper. University of Maastricht.
- Rosen, B. N., Sandler, D. M. and Shani, D. (1991). Social issues and socially responsible investment behavior: A preliminary empirical investigation. *Journal of Consumer Affairs*, 25, 221-234.

- Rounds, C. E. (2005). Why social investing threatens public pension funds, charitable trusts, and the social security trust fund. In J. Entine (Ed.), *Pension fund politics* (pp. 56-80). Washington, DC: American Enterprise Institute
- Sandberg, J., Juravle, C., Hedesström, T. M. & Hamilton, I. (2009). The Heterogeneity of Socially Responsible Investment. *Journal of Business Ethics*, 87 (4), 519-33.
- Sandberg, J. (2011). Socially responsible investment and fiduciary duty: Putting the Freshfields Report into perspective. *Journal of Business Ethics*, 101, 143-62.
- Sandberg, J. (2013). (Re-)interpreting fiduciary duty to justify socially responsible investment for pension funds? *Corporate Governance: An International Review*, 21, 436-446.
- Schwartz, S. H. (1992). Universals in the content and structure of values. In M. P. Zanna (Ed.), *Advances in experimental social psychology*, 25, 1-65). New York: Academic Press.
- Schwartz, S. H., & Bardie, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, 32, 268-290.
- Schwartz, S. H., & Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *Journal of Research in Personality*, 38, 3, 230-255.
- Schultz, P. W., & Zelezny, L. (1999). Values as predictors of environmental attitudes: Evidence for consistency across 14 countries. *Journal of Environmental Psychology*, 19, 255-265.
- Sethi, S. P. (2005). Investing in socially responsible companies is a must for public pension funds – Because there is no better alternative. *Journal of Business Ethics*, 56, 99-129.
- Simon, J., Powers, C., & Gunnemann, J. (1972). *The Ethical Investor: Universities and Corporate Responsibility*. London: Yale University Press.

- Sjöberg, L., & Engelberg, E. (2009). Attitudes to economic risk taking, sensation seeking and values of business students specializing in finance. *Journal of Behavioral Finance, 10*, 33-43.
- Sparkes, R. (2002). *Socially Responsible investment: A global revolution*. New York: Wiley.
- Statistics Sweden (2011). *Population statistics*. Retrieved from [http://www.scb.se/Pages/SSD/SSD\\_TreeView.aspx?id=340506](http://www.scb.se/Pages/SSD/SSD_TreeView.aspx?id=340506)
- Statman, M., Thorley, S., & Vorkink, K. (2006). Investor overconfidence and trading volume. *Review of Financial Studies, 19*, 1531-1565.
- Stern, P., Dietz, T., Kalof, L., & Guagnano, G. (1995). Values, beliefs and pro-environmental action: Attitude formation toward emergent attitude objects. *Journal of Applied Social Psychology, 25*, 1611-1636.
- United Nations Environment Programme Finance Initiative (UNEP FI). (2006). *Show me the money: Linking environmental, social and governance issues to company value*. Geneva: UNEP FI.
- United Nations Environment Programme Finance Initiative (UNEP FI). (2009). *Fiduciary responsibility: Legal and practical aspects of integrating environmental, social and governance issues into institutional investment*. Geneva: UNEP FI.
- Webley, P., Lewis, A., & Mackenzie, C. (2001). Commitment among ethical investors: An experimental approach. *Journal of Economic Psychology, 22*, 27-42
- Weber, E., Blais, A., & Betz, N. (2002). A domain specific risk attitude scale: Measuring risk perceptions and risk behaviours. *Journal of Behavioural Decision Making, 15*, 263-290.
- Whitfield, J. (2005). Trustees' investment duties. In C. Scanlan (Ed.), *Socially responsible investment: A guide for pension schemes and charities* (pp 27-52). London: Key Haven.
- Woods, C., & Urwin, R. (2010). Putting sustainable investing into practice: A governance framework for pension funds. *Journal of Business Ethics, 92*, 1-19.

### **Author Note**

Magnus Jansson, Gothenburg Research institute, School of Business, Economics and Law, University of Gothenburg, Göteborg, Sweden; Joakim Sandberg, Department of Philosophy, Linguistics & Theory of Science, University of Gothenburg, Göteborg, Sweden; Tommy Gärling, Department of Psychology and Center for Finance, School of Business, Economics and Law, University of Gothenburg, Göteborg, Sweden.

This research was financially supported by the Swedish Foundation for Strategic Environmental Research (Mistra) through the Sustainable Investment Research Platform (SIRP), and by a grant from the Rotman International Centre for Pension Management. We are very grateful to Anders Biel who has supported and helped to direct our efforts throughout the research process. We also thank Anders Carlander and Daniel Peterson for assistance in collecting and processing the data.

Correspondence concerning this article should be addressed to Joakim Sandberg, Department of Philosophy, Linguistics & Theory of Science, University of Gothenburg, P.O. Box 200, SE-405 30 Göteborg, Sweden. E-mail: joakim.sandberg@filosofi.gu.se

## Footnotes

<sup>1</sup> Terminology in this area is notoriously heterogeneous (cf. Sandberg et al., 2009). We have chosen the term SEE rather than ESG (environmental, social, governance) because we think the former is more congenial to beneficiaries' viewpoints which are our present interest (beneficiaries have strong views about ethics but little or no relation to governance). SEE is also closer to how these issues typically are framed in Swedish.

<sup>2</sup> Theoretically (see e.g. Weber et al., 2002) attitude towards financial risk, considered to be a determinant of risk propensity, has been conceptualized as being proportional to the product of perceived financial returns and perceived financial risk. Our empirical results did however not bear this out. Therefore, we treat these constructs as additive, although correlated determinants.

<sup>3</sup> We chose a wide sample in order to ensure a sufficient number of respondents, and also to minimize any possible biases that may exist in more specific groups of beneficiaries (such as the beneficiaries of a certain occupational or private pension fund). All Swedish residents in working ages may be considered future beneficiaries of the Swedish pension system in general, which is comprised of both mandatory and private pillars. It should be noted that our study therefore is not confined to any more specific type of pension fund, such as only mandatory or private versions. We acknowledge that our results may not generalize beyond national borders. However, our belief is that they would still be indicative for a wide range of countries with roughly similar financial systems and cultural norms.

<sup>4</sup> The statements on financial returns and financial risk distinguish between the short and long term because, in line with previous research on SRI, we hypothesized that people would be more optimistic about the long-term financial prospects of SRI. Since we did not find this we added all belief items together to obtain a more reliable index.

<sup>5</sup> The goodness-of-fit indexes have the following interpretations and accepted values. The Normed Fit Index (NFI) is used as an alternative to a  $\chi^2$  test to compensate for an upward bias with large sample sizes. Values above 0.8 or 0.9 indicate a good model fit (Reinard, 2006). The Comparative Fit Index (CFI) is an incremental fit index with values larger than 0.9 indicating an acceptable fit (Browne & Cudeck, 1992). The Root Mean Square Error of Approximation (RMSEA) is a measure of the discrepancy between model and observations per degree of

freedom. Values of 0.05 or less indicate a close fit, whereas higher values up to 0.08 indicate a reasonable fit (Browne & Cudeck, 1992).

<sup>6</sup> Years to retirement were calculated by subtracting the participants' age from the formal retirement age of 65 years.

<sup>7</sup> The computer program reports a modification index suggesting how to improve model fit. The changes we made followed such suggestions.

Table 1

*Questions used to form indices. Mean ratings (M) and standard deviations (SD) are reported in parentheses. (See text for details about measurement.)*

---

*Beliefs about financial returns*

Funds that take ethical, social and environmental considerations into account achieve higher returns in the short term (less than three years) compared to other funds (M=2.2; SD=0.9)

Funds that take ethical, social and environmental considerations into account achieve higher returns in the long term (more than three years) compared to other funds (M=2.7; SD=1.0)

*Beliefs about financial risks*

Funds that take ethical, social and environmental considerations into account are more risky in the short term (less than three years) compared to other funds (M=2.8; SD=1.0)

Funds that take ethical, social and environmental considerations into account are more risky in the long term (more than three years) compared to other funds (M=2.6; SD=1.0)

*Risk attitude*

The most important thing for me is that my pension savings are safe and risk is avoided (M=3.4; SD=1.1)

I am prepared to take risks in my savings to achieve a higher return (M=2.7; SD=1.1)

I prefer to invest my pension money in interest bearing funds rather than in stock funds (M=3.0; SD=1.14)

*Financial confidence*

I feel that I am a competent stock-market investor (M=1.8; SD=1.0)

I often make active pension investment choices (M=1.8; SD=1.1)

I have no knowledge about pension investments and hence have to trust others (M=2.9; SD=1.3)

*Social, ethical and environmental (SEE) concerns*

To counteract the acidification of lakes and rivers (M=4.4; SD=0.7)

To reduce global inequalities and eradicate world poverty (M=4.2; SD=0.8)

To increase gender equality (M=4.0; SD=0.9)

To reduce our emissions of greenhouse gases (M=4.3; SD=0.8)

To reduce alcohol's negative effects on our society (M=4.0; SD=1.0)

To counteract the deforestation of rain forest (M=4.4; SD=0.8)

To control the international arms trade (M=4.2; SD=0.9)

*Self-transcendent values*

To be helpful (work for others' well-being) (M=3.9; SD=0.8)

To contribute to social justice (prevent injustices, care about the weak) (M=3.9; SD=0.8)

To be forgiving (willing to forgive others) (M=3.8; SD=0.8)

To contribute to equality in society (equal opportunities for all) (M=4.0; SD=0.8)

To contribute to understanding and cooperation (avoid conflicts and wars) (M=4.0; SD=0.9)

To protect animals and nature (M=4.2; SD=0.8)

---

Table 2

*Questions and scenarios used to measure attitude towards extended fiduciary duty. Means (M) and standard deviations (SD), scores assigned to the response alternatives and percentages choices are reported in parentheses*

*What should the fund managers think of when investing your pension money? Choose one of the following alternatives. (M=2.6; SD=1.0)*

- a. Only how to maximize financial returns (1) (18.3%)
- b. Both financial returns and the ethical concerns of beneficiaries (2) (26.1%)
- c. What benefits beneficiaries in several respects, including social and environmental interests (3) (35.0%)
- d. What benefits society in general, not only the beneficiaries (4) (20.6%)

*What is your opinion about fund managers who integrate social, ethical and environmental concerns in investment decisions? Choose one the following alternatives. (M=2.7; SD=0.8)*

- a. Fund managers should not consider ethical, social and environmental aspects (1) (5.5%)
- b. Fund managers should only consider ethical, social and environmental aspects if it is relevant for increasing investment returns (2) (34.0%)
- c. Fund managers should consider ethical, social and environmental aspects even if it does not increase investment returns (3) (49.0%)
- d. Fund managers should consider ethical, social and environmental aspects even if it leads to lower investment returns (4) (11.5%)

*Imagine that one of your pension funds owns shares in the Brazilian mining company BRAZA. BRAZA uses cyanide to extract metals. Cyanide has leaked into the ground water and polluted lakes and rivers, causing many children to die and others to become seriously ill. Instead of taking responsibility, BRAZA has tried to bribe the local authorities to cover the incident. Which of the following advices would you give your fund manager? (M=2.8; SD=0.4)*

- a. Under these circumstances it is unacceptable to own BRAZA shares. Sell all BRAZA shares (3) (82.7%)
- b. Wait to sell BRAZA shares until it will not inflict too much financial harm for the beneficiaries/future pensioners (2) (15.7%)
- c. As long as the scandal does not affect BRAZA's share price, do not sell BRAZA shares (1) (1.6%)

*Imagine that one of your pension funds owns shares in the American department store SHOP. SHOP treats its female employees badly. For example, they are forced to wear short skirts and shirts with décolletage to attract male customers. Female employees are also paid less than their male colleagues. Which of the following advices would you give your fund manager? (M=2.3; SD=0.6)*

- a. Under these circumstances it is unacceptable to own SHOP shares. Sell all SHOP shares (3) (43.9%)
- b. It would be appropriate to start a dialogue with the aim of influencing SHOP's management to change their policy (2) (49.9%)
- c. The fund manager should not act on this information because SHOP has not done anything illegal (1) (6.2%)

*Imagine that one of your pension funds holds no shares in the Swedish high-tech company GREEN. It is now known that GREEN plans to make a large-scale effort to develop a new green technology. They have employed 20 new engineers for this purpose. But it will probably take some time before GREEN will make a profit. Which of the following advices would you give your fund manager? (M=1.9; SD=0.5)*

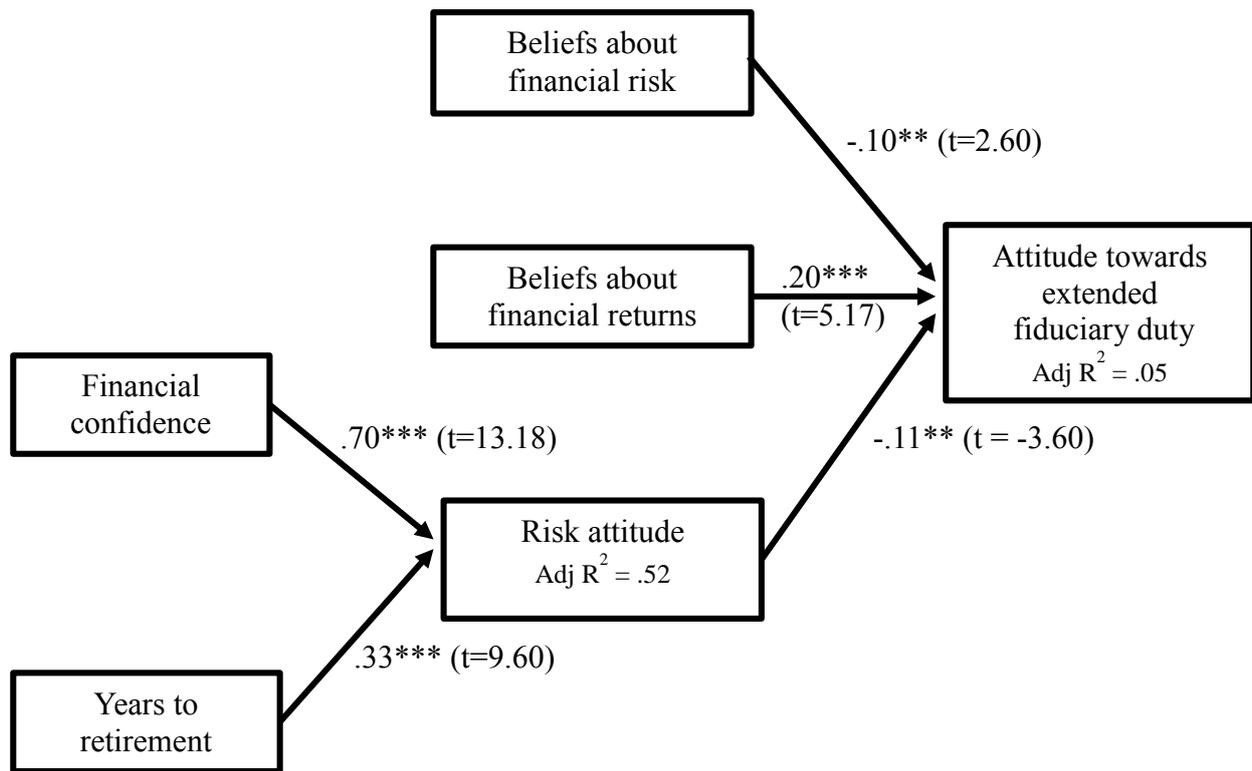
- a. Because GREEN's business is good for the environment, buy as many shares as you can (3) (10.5%)
- b. Buy at least some shares in GREEN. It is wise to invest risky now to earn money later (2) (73.5%)
- c. A pension fund must always earn money on its investments. Hence GREEN is not an appropriate investment option (1) (16.0%)

Table 3

*Means (M), standard deviations (SD), Cronbach's  $\alpha$  and product-moment correlations of indices*

	M	(SD)	$\alpha$	EFD	YRS	RET	RSK	ATT	CNF	SEE
Attitude towards EFD (EFD)	2.5	(0.7)	.61							
Years to retirement (YRS)	12.6	(11.8)	-	-.03						
Beliefs about financial returns (RET)	2.5	(0.8)	.66	.19	.06					
Beliefs about financial risks (RSK)	2.7	(0.8)	.73	.09	.01	.32				
Risk attitude (ATT)	2.7	(0.9)	.71	-.12	.21	-.21	-.03			
Financial confidence (CNF)	2.0	(0.9)	.78	-.15	-.11	-.16	-.01	.47		
SEE concerns (SEE)	4.2	(0.7)	.89	.42	-.13	-.20	-.04	-.20	-.09	
Self-transcendence values	4.0	(0.9)	.82	.33	-.08	.16	-.03	-.16	-.06	.62

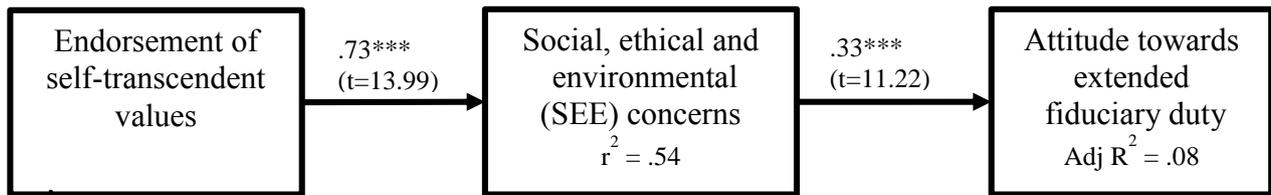
Correlations  $> |.05|$  are significant at  $p < .05$ .



\*\* . Significant at  $p < .01$

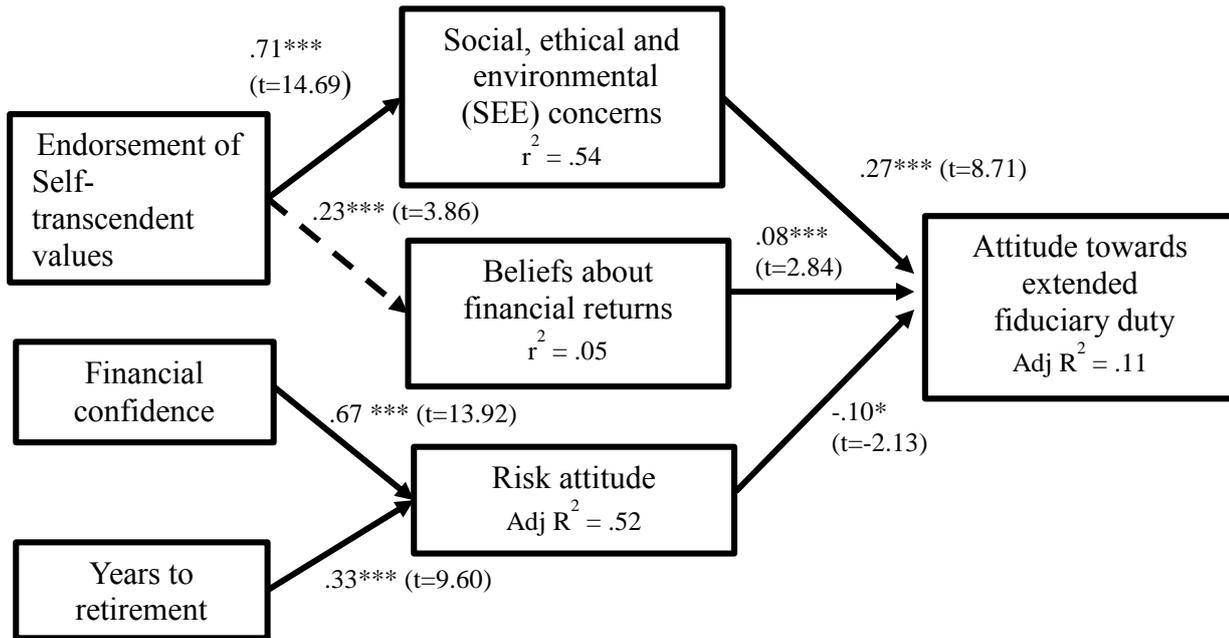
\*\*\*. Significant at  $p < .001$

Figure 1. Model with financial motives with standardized path coefficients and t-values within parentheses.



\*\*\* Significant at  $p < .001$

Figure 2. Model with values-based motives with standardized path coefficients and t-values within parentheses.



\* Significant at  $p < .05$

\*\*\* Significant at  $p < .001$

Figure 3. Integrated model with standardized path coefficients and t-values within parentheses.