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Why Do Investors Hold Socially Responsible Mutual Funds?

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Abstract

Why do individual investors hold socially responsible (SRI) mutual funds? We use administrative data and link them to survey responses and behavior in incentivized social preferences experiments. Our results show that intrinsic social preferences are crucial for investment decisions and that social signaling also plays a role. Contrasting standard finance theory, financial motives are of limited importance. In fact, socially responsible investors expect to earn lower returns on SRI than on conventional funds and pay higher management fees. This shows that a large group of investors is willing to forgo financial performance to invest in accordance with their social preferences.

Keywords: experimental finance, social preferences, socially responsible investments, mutual funds
JEL Classification: G11, D64, C90

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Socially responsible investments (SRI) are increasing in economic and financial importance, as testified by its growing volume in Europe and the United States (EUROSIF (2014), SIF (2014)). In the United States already one in nine dollars of professionally managed assets are involved in socially responsible investments. These investments are, however, a conundrum in finance because they deviate from the market by excluding potentially high-return 'sin' companies from their portfolio, or by focusing on companies with potentially good environmental policies, respect of human rights, employee relations, and so forth (Social Investment Forum, 2014).

Why do investors hold socially responsible mutual funds? While it is tempting to jump to the conclusion that this is because investors have strong social preferences, other motives are equally likely ex-ante. Investors may have financial motives triggered by optimistic risk-return expectations for SRI or the desire to diversify their portfolio risk. Another possible motive could be that investors try to reap social reputation benefits from holding SRI. Thus, the question arises whether socially responsible investments are the reflection of social preferences, potentially biased financial motives, a sign of investment into social reputation, or a mix of these and other motives?

There is surprisingly little empirical evidence on the reasons why people invest in a socially responsible manner. In this paper we fill this gap and provide answers to the above question. We combine administrative investor data, behavior in incentivized experiments and survey data to empirically investigate the reasons for holding SRI funds. We focus on SRI equity funds as these are most common worldwide and because socially responsible investors in our sample mainly hold SRI equity funds rather than SRI bond funds.

As already mentioned, a potential motive for investors to hold SRI equity funds is that they expect these funds to financially outperform conventional equity funds. A few papers show that SRI equity may sometimes perform financially better or not worse than conventional investments,[1] but other studies find that investing in a socially responsible manner is financially costly.[2] Hence, from the existing empirical evidence it is impossible to deduce whether financial or other motives are at the basis of SRI. Next

1 See for instance Bauer, Otten and Koedijk (2005), Derwall, et al. (2005), Kempf and Osthoff (2007), Edmans (2011). Moreover, Karpoff, Lott and Wehrly (2005) find that the losses of firms that violate environmental regulations are equal to the legislation costs and the firms face no additional losses due to reputational costs.

to financial motives, investors might hold SRI funds because of social reputation motives. For instance through talking to others about their investments, socially responsible investors can create a positive social image of themselves. Several theoretical and experimental papers emphasize the importance of such social signaling[3]. Alternatively, investors could have strong social preferences and thus be intrinsically motivated to hold SRI funds. A variety of social preferences models have been developed that constitute a profound deviation from the standard neoclassical *homo economicus* assumption and there is mounting empirical evidence that people indeed often exhibit intrinsic social concerns for others.[4]

In finance, theoretical models have been developed in which it is assumed that some investors are willing to pay a premium to invest in socially responsible companies (see e.g. Heinkel, Kraus and Zechner (2001) and Gollier and Pouget (2014)). Yet, other recent theoretical contributions imply that holdings of SRI mutual funds are not necessarily – or even impossibly – the reflection of social preferences. For instance, Dufwenberg et al. (2011) and Sobel (2015) analyze the theoretical general equilibrium properties of an economy under the assumption that social preferences exist and find that it can be difficult to identify social preferences from market behavior. It therefore remains an empirical question whether investors indeed take investment decisions based on their social preferences or if other motives dominate.[5]

We empirically investigate the different potential motives for investors to hold SRI equity funds, by utilizing administrative data of a large mutual fund provider that offers

2 For instance, Fabozzi, Ma and Oliphant (2008) and Hong and Kacperczyk (2009) find that divesting from 'sin' industries that involve weapons, tobacco, alcohol or gambling is costly because these companies tend to perform better than 'non-sin' companies. Moreover, Krüger (2015) finds that stock prices sometimes react negatively to positive news of a company's corporate social responsibility (CSR).

3 Theoretical contributions include Glazer and Konrad (1996), Bénabou and Tirole (2006), and Ellingsen and Johannesson (2008). Empirical evidence is found by Ariely, Bracha and Meier (2009), Fehrler and Przepiorka (2013), Cappelen et al. (forthcoming).

4 For theoretical approaches modeling such behavior see, amongst others, Andreoni (1990), Rabin (1993), Fehr and Schmidt (1999), Bolton and Ockenfels (2000), Charness and Rabin (2002), Sobel (2005). Experimental support is reported amongst others, by Ledyard (1995), Fehr and Gächter (2000), Karlan (2005), Egas and Riedl (2008), Falk and Heckman (2009), Cappelen et al., forthcoming).

5 The empirical evidence on whether or not social preferences survive market forces is scarce and mixed. See, e.g., Bartling et al. (forthcoming) on social responsible consumer behavior and List (2006) on gift-exchange.

a wide variety of socially responsible and conventional mutual funds. Individual investors buy and sell their funds directly online without the interference of an intermediary. In addition, we collect data from a survey and incentivized experiments that are conducted with a large group of individual investors. In that way we create a unique data set that links the administrative data of conventional and socially responsible investors to their behavior in controlled experiments and answers in a comprehensive survey.

To investigate potential effects of social preferences on portfolio choice in a clean way, it is necessary to have an independent measure of such preferences. To explore the pure role of intrinsic social preferences, this measure should ideally be unaffected by social reputation considerations and strategic fairness (Kreps, Milgrom, Roberts, and Wilson (1982)) or social image concerns (Ellingsen and Johannesson (2008)). To get such a measure we let investors participate in a controlled and anonymous one-shot trust game experiment (Berg, Dickhaut, and McCabe (1995)). The trust game is a two player sequential move game where the first-mover can transfer money to the second-mover. The transferred amount is tripled by the experimenter. The second-mover can send back to the first mover, nothing, parts, or all of the received money. The behavior of the first mover mainly captures trust, which is why the game is called the 'trust game'. Yet, we want to measure social preferences rather than trust and, therefore, use behavior of investors in the role of second-movers as our measure of intrinsic social preferences (Karlan (2005), Falk, Meier and Zehnder (2013)). When the second-mover behaves like the prototypical *homo economicus* s/he should not send back any money. The more a second-mover investor returns, the stronger are his / her intrinsic social preferences.

We find that intrinsic social preferences play a dominant role in determining socially responsible investments. An investor who equally shares the amount of money in the experiment is 14 percentage points more likely to hold an SRI equity fund compared to a selfish investor who keeps all the money. As only 16% of our total sample holds an SRI equity fund, these 14 percentage points can be considered as economically substantial. Moreover, investors pay significantly higher management fees on SRI funds than on conventional funds and most investors expect SRI funds to underperform relative to conventional funds. This shows that a large group of investors is willing to forgo financial performance in order to invest in mutual funds that are in

concordance with their social preferences. Moreover, socially responsible investors donate about 41% more to charity than conventional investors, implying that SRI is not a substitute for charity donations. We find also that social signaling is a motive for investors to hold SRI equity funds. Investors who talk more often about their investments are also more likely to invest in a socially responsible way.

Financial reason also play a some role for holding SRI. Investors who expect that SRI equity funds underperform relative to conventional equity funds are less likely to invest in a socially responsible manner. On the other hand, investors who expect SRI equity funds to perform financially better than conventional equity funds are not more likely to hold such funds. Risk perceptions are unrelated to holdings of SRI funds. However, investors who generally hold funds for a longer time are more likely to invest in SRI equity funds, which indicates that socially responsible investors have a longer investment horizon. We also find that investors with larger portfolios are more likely to hold SRI perhaps for risk diversification reasons. Individual characteristics only play a marginal role in determining whether or not investors hold SRI equity funds.

Overall, we identify a number of reasons why individuals invest in a socially responsible manner, with the most robust and strongest result that intrinsic social preferences play a dominant role in such investment decisions.

The richness of our data allows us to control for a large variety of potentially confounding variables. For instance, a variable like portfolio value could be positively related to both intrinsic social preferences and socially responsible investments. Our main results hold while controlling for this and many other possible explanatory variables such as risk preferences, trading activity, realized Sharpe ratios and other investor characteristics.

While we find strong effects of social preferences for the likelihood to invest in SRI equity funds, for investors with an SRI equity fund in the portfolio we find no significant relation between social preferences and the percentage invested in SRI equity funds. This suggests that strong social preferences are needed to take the hurdle to buy an SRI fund in the first place, but social preferences are less important for deciding on the fraction of the portfolio held in SRI funds, once this first hurdle is taken. Interestingly, however, and in line with the signaling hypothesis, we find that

investors with weak social preferences who strongly signal their SRI hold significantly smaller shares in SRI. In addition, we find that financial motives influence the fraction invested in SRI funds. For example, investors with a larger portfolio invest a smaller fraction in SRI funds, most likely to diversify their portfolio.

Our empirical results are related to several theoretical models. In their seminal work, Heinkel, Kraus and Zechner (2001) develop a model in which some investors refrain from investing in non-responsible companies. Consequently, they drive up the price of socially responsible companies and lower the expected returns of these company stocks, because the risk of non-responsible firms is borne by fewer investors. Similarly, Fama and French (2007) show in their model that taste for assets can influence stock prices. Gollier and Pouget (2014) develop a model in which investors can improve social responsibility of firms by excluding non-responsible companies from their portfolio or by activism against non-responsible firms.[6] Our paper provides empirical support for a key assumption of these models: social preferences are indeed an important determinant of investment decisions.

Some previous empirical studies show that socially responsible investors may behave differently from conventional investors. Bollen (2007) and Renneboog, Ter Horst and Zhang (2011) find that, ex-post, investors more likely hold on to bad performing SRI funds than to bad performing conventional funds. Hong and Kostovetsky (2012) report that Democratic fund managers select stocks that score higher on social responsibility than stocks selected by Republican fund managers[7]. Importantly, these studies do not distinguish between whether socially responsible investors hold different beliefs regarding the performance of SRI funds or are motivated by social image concerns and/or their intrinsic social preferences. Another important difference with Hong and Kostovetsky is that investors in our study make decisions for

6 De Bettignies and Robinson (2013) develop a model that addresses the question whether corporate social responsibility is actually beneficial for society. Baron (2007) models socially responsible firm behavior as donations. He shows that the cost of social responsibility is borne by the social entrepreneur when going public rather than by the shareholder as long as corporate social responsibility is anticipated by shareholders.

7 Di Giuli and Kostovetsky (2014) also demonstrate that companies ran by a democratically leaning CEO are more likely to go green than firms ran by a Republican leaning CEO. Other papers investigating socially responsible investment decisions include Statman (2004), Nilsson (2008), Hood, Nofsinger and Varma (2014), Bauer and Smeets (2015).

their own account, instead of on behalf of others. This is important, as Anderson et al. (2013) show that decisions for others can differ vastly from decisions for oneself.

Understanding the motives of investors to hold SRI funds is important because, as Fama and French (2007) show, taste for assets can have long run effects on asset prices, but differences in beliefs will only generate short run effects (see also Bénabou and Tirole 2010; Borgers et al. 2013). We find little evidence for the beliefs hypothesis. Rather, social preferences and – to some extent – social signaling are important in socially responsible investment decisions. Especially the effect of social preferences is likely to be long lasting, because SRI has been steadily growing in the last years. If SRI continues to grow[8], socially responsible investors might have an increasing effect on asset prices by driving up prices of socially responsible companies and driving down prices of sin companies.

I. Data

In this section, we first describe the administrative investor data, followed by a description of the survey and details on the experiments. Thereafter, we describe our main variables.

A. Administrative investor data

We use administrative individual investor data from one of the largest mutual fund providers in the Netherlands, covering the period June 2006 – June 2012. The mutual fund provider offers a wide range of investment funds, including equity funds, bond funds and mixed funds. Within these categories the funds can be global, sector-specific, SRI funds, and more.[9] The administrative data contain for each investor all monthly

8 Previous studies show that mutual funds advertising results in larger inflows of money into these funds (e.g. Jain and Wu (2000) and Cronqvist (2006)). The growing interest in SRI could make it more attractive for mutual funds to advertise these funds in the near future, further increasing the market share of SRI.

9 Figure D1 in the supplementary materials shows a screenshot of the product selector of the mutual fund provider. The product selector shows for each fund to which category it belongs and whether the provider classifies the fund as sustainable, emerging markets, global, etc. On the same screen, investors can read about the details of the fund including the details regarding stock selections based on social responsibility criteria. In addition, the product selector gives information such as past

fund holdings, including SRI funds.[10] We define an investor as socially responsible when s/he holds at least one SRI equity fund in his/her portfolio.

B. Survey data

The administrative data provide information on 3,382 socially responsible investors, which were all invited to participate in the survey. Next to the socially responsible investors, we randomly selected 35,000 investors of the approximately 145,000 remaining accounts in the database.[11] All selected investors received an email containing a link to the online survey. The response rate was 8% for conventional investors and 12% for socially responsible investors. We deliberately invited disproportionately more socially responsible investors, in order to increase the statistical power when comparing them to conventional investors. Relative to the invited sample, participants are slightly more likely to be male, older and hold larger portfolios (see Table A1 in the appendix for a comparison of the survey respondents and the overall sample regarding gender, age, total portfolio value, and the percentage of SRI equity holdings). We control for these and other demographic variables in our analyses.

In the online survey, investors answered questions and took part in experiments with monetary incentives (for details see below). At the beginning of the survey respondents received some general information. In addition, they were also informed that they would take part in several experiments, but were not informed about the content of the experiments until they actually took place. In the introduction to the survey also the general procedure regarding possible money earnings in the experiments was explained. In the first part of the survey, we asked about general investment issues like the assets held, the number of investment accounts and investment goals. In this part, investors also participated in a risk preferences elicitation experiment. Thereafter, more questions on investment behavior followed. Somewhere in the middle of the

performance, Morningstar ratings and fees.

10 Our survey (see below) indicates that 83% of all investors (including those who do not hold SRI funds) respond positive or neutral to the statement that socially responsible investments have a positive influence on society. Only 26% of the investors indicate in another statement that they believe that SRI funds are a marketing trick to sell more funds. We are therefore confident that funds defined as SRI funds are also perceived as such by most investors.

11 We excluded investors that were no longer holding the account at the time we conducted the survey. We also did not invite investors who never placed a single trade or were younger than 18 years.

survey investors participated in an experiment eliciting their intrinsic social preferences. We asked all survey questions regarding SRI and other behavior that could be interpreted as related to social goals after the experiments.

Survey questions have many advantages but also some known limitations. For instance, participants might differ from non-participants and the answers of respondents may depend upon the framing of the questions. We discuss a potential response bias in our results below and conclude that if a response bias is present, it likely weakens the effect sizes we identify and that we err on the conservative side. Regarding framing effects, it is important to note that all investors received the same questions. We are primarily interested in potential differences in beliefs and attitudes of socially responsible and conventional investors and any framing effects should be similar for these groups. Surveys also have major benefits. Specifically important for our research question is that it allows us to gather information about return expectations on and risk perceptions of SRI in comparison to conventional equity investment, which would otherwise remain unobserved. Moreover, we can collect information on additional important control variables, like self-rated investment knowledge, income levels, education, etc. (see also Guiso, Sapienza and Zingales (2013) for a discussion of the pros and cons of surveys for studying financial decisions).

C. Experiments[12]

Investors participated in a risk preferences elicitation experiment and in an interactive experiment with other investors where we elicited their social preferences. All experiments were for real money and investors were informed that their earnings depended on their own decisions and (in some cases) on the decisions of other investors. They were also informed that at the end of the survey it would be determined randomly (with a chance of one in ten) whether they will receive the earnings from the experiment or not.[13] Those who were selected for payment got one of the experiments paid out at random. Investors received their earnings via bank transfer at the first working day after they completed the survey and payments were guaranteed by the authors' university. We used a unique identification number to link the choices in the experiments and survey

12 The experimental instructions are available as supplementary material in the appendix.

13 For a recent validation of this procedure, see Dohmen et al. (2011).

answers to our administrative data. In order to ensure anonymity of investors we hired an external company specialized in conducting online research to handle the payments. This company does not have access to the trading records or other information of the investors. Survey participants were informed about this at the beginning of the survey.

C.1 Risk preferences

We elicit risk preferences with incentivized multiple price list lotteries, similar to Holt and Laury (2002) and Dohmen et al. (2011). Investors faced 20 different decision situations and for each situation they decided between a specific sure amount and a lottery with a 50% chance of winning 300 euro and a 50% chance of not winning anything. The sure amount was minimally 0 euro and maximally 190 euro and increased in steps of 10 euro from one to the next decision situation. The presented choice options can be found in Table A2 in the appendix. As common in such risk elicitation experiments, it was determined randomly which of the 20 decision situations will be relevant for the participant's earnings.

The decision situation where a participant switches between the lottery and the certain outcome informs us about his / her risk preferences. We therefore use this switching point as a measure of an individual's risk attitude. As the sure amount is ordered from low to high, a higher switching point from the lottery to the sure amount indicates a more risk tolerant participant.

C.2 Social preferences

To measure intrinsic social preferences, we use a variant of the trust game experiment introduced by Berg, Dickhaut and McCabe (1995). The trust game is a two-player sequential game. Both the first-mover and the second-mover are endowed with 50 euro.[14] The first-mover decides on the amount s/he wants to send to the second-mover, which can be any multiple of 5 euro, including zero and 50. The amount sent is tripled

14 Since its introduction (Berg, Dickhaut and McCabe (1995)) it is standard practice in the literature using trust game experiments to endow both participants with the same initial amount (e.g., Fehr and List (2004); Falk, Meier and Zehnder (2013); Falk and Zehnder (2013)). The main reason is to avoid experimenter induced unequal positions *ex ante*.

by the experimenter and the second-mover decides how much of the received money to return to the first-mover. Hence, the earnings of the first-mover are 50 euro minus the amount sent plus the amount returned by the second-mover. The earnings of the second-mover are 50 euro plus triple the amount sent by the first-mover minus the money sent back.[15]

We use second-mover behavior to measure intrinsic social preferences.[16] In order to obtain a comprehensive measure of intrinsic social preferences as well as for practical implementation reasons, we used for second-movers the so-called strategy method (Selten (1967)). That is, each second-mover decided how much to send back, for each of the 10 possible non-zero amounts sent by the first-mover – ranging from 5 euro to 50 euro – before knowing the actually sent amount. Specifically, the experiment instructions informed second-movers that "[f]or technical reasons you should make your decision without knowing how much money the person to whom you have been linked has actually sent you. Therefore, for each possible amount that the other person could send you, we would like to ask you to indicate, how much you would like to return. However, only the decision that is relevant for the amount that has actually been sent is decisive for your income and the income of the person to whom you have been linked." If the first-mover did not sent anything then both, first- and second-mover, earned the 50 euro they were endowed with.

Next to generating a comprehensive measure of intrinsic social preferences another important advantage of the strategy method is that it simulates sequential moves for each possible choice of the first-mover without deceiving subjects and without the necessity that players' choices are indeed sequential in time. Similar versions of the strategy method have recently been successfully used in trust game experiments (see e.g. Baran, Sapienza and Zingales (2010), Falk, Meier and Zehnder (2013), Falk and Zehnder (2013)).

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15 The money sent by the first-mover and tripling of this amount by the experimenters is 'free lunch' for the second-mover and one may argue that second-movers could act differently would they need to earn these rights. Unfortunately, there is no evidence available on if and how second-mover behavior in trust games would change when first-mover transfers and tripling of the transfer were not free. We therefore adapted the standard procedure.

16 We also have data on the behavior of first-movers in the trust game, but do not report on them here for brevity and because it intermingles trust and social preferences (Cox (2004)).

Each investor was either a first- or a second-mover. Every working day, we randomly matched first-movers to second-movers. After choices were made, we implemented the one choice out of the 10 possible choices of the second-mover that corresponded to the actual choice of the first-mover, in case s/he made a non-zero transfer. For example, if the first-mover transferred 30 euro to the second-mover, we used the amount that the second-mover wanted to return for that transfer to calculate earnings. In the example, the second-mover would receive 3 x 30 = 90 euro from the first mover. If the second-mover, for instance, decided to return 45 euro, the earnings of the second-mover would be 90 - 45 + 50 (endowment) is 95 euro and the earnings of the first mover would be – 30 + 45 + 50 (endowment) is 65 euro. In case the actual choice of the first-mover was to send zero both earned their initial endowment of 50 euro. Second-movers in the trust game are randomly assigned to one of two conditions. Under one condition, they are matched to a first-mover who is a randomly chosen investor participating in the survey and the experiment. In the other condition, a second-mover is randomly matched to a first-mover who is a socially responsible investor participating in the survey and the experiment. We inform subjects in the introduction to the experiment in which condition they are, without telling them that there are two different conditions.[17] Investors received instructions of the experiment online and had to answer a couple of comprehension questions about the rules of the game and how the payment is calculated before the experiment started. These questions were correctly answered by 89.5% of the investors.[18] The trust game was played only once. The investors were informed about this and also about the fact that they and the other participants in the experiment would remain anonymous during and after the experiment.

The fact that the trust game is played only once rules out repeated game effects. Moreover, second-movers know that their behavior will never be revealed to anybody and is only anonymously known to the experimenters, which minimizes prosocial behavior in the trust game that is due to reputation and social image effects. We are therefore confident that we can interpret second-mover behavior as an independent

17 We do not find differences in behavior between conditions and therefore use the pooled data in our analysis below.

18 We conduct our main analysis with all investors and confirm in robustness analyses in the appendix that the results remain qualitatively unchanged when excluding investors who answered incorrectly at least one question after three trials (see Table A5).

measure of intrinsic social preferences. In Section II, C.3, we discuss in detail how we quantify this measure.[19]

II. Variables

All variables discussed here are also described in Table 1. Table A3 in the appendix shows summary statistics for all variables and results of statistical tests comparing socially responsible and conventional investors. We discuss in sequence the variables from (A) the administrative transaction data, (B) the survey questions, and (C) the experiments.

< TABLE 1 ABOUT HERE>

A. Administrative variables

A.1. SRI equity fund holdings

As mentioned already, we classify an investor as a socially responsible investor if s/he owns at least one SRI equity fund at the time of the experiment. We construct a measure for the *Percentage in SRI equity funds*, which is equal to the average amount invested in SRI equity funds in the year after the experiment divided by the average total equity investments in that period.

19 The experiment payoffs may seem small relative to investors' assets and incomes. We are confident, that this does not jeopardize our results for the following reasons. First, as the most important effect of no or low stakes is an increase of noise in the data (Camerer and Hoghart (1999)), it would most likely reduce the chance to detect a relation between social preferences measured in our experiment and socially responsible investments in the field. Therefore, any effects of social preferences we observe can be interpreted as lower bounds. Second, payoffs in the experiment were reasonable for the time investors had to spend on the experiment. On average it took participants 45 minutes to complete the whole survey and all experiments. Therefore, the potential payment may not be too far off participants' opportunity costs, given that they most likely participated in their leisure time. Third, although there have been some moderate quantitative stake size effects reported in experiments similar to ours, qualitatively these effects do not differ much for low and high stakes (Oosterbeek, Sloof and Van De Kuilen (2004)). For a relatively recent discussion of stake size effects, see Falk and Heckman (2009).

A.2. Other portfolio characteristics

The variable *Total portfolio value* is defined as the average euro amount invested in bonds and equity at the provider in the year after the survey and experiment. The *Equity ratio* of an investor is defined as the fraction of the overall portfolio that is invested in equity funds. The variable *Log number of transactions* reports the logarithm of the number of trades an investor made in the 12 months prior to the experiment. The *Average holding period* specifies the average number of months an investor has held on to a mutual fund in the time period June 2006 until June 2011, in which the survey and experiment were conducted.

Mean portfolio returns is defined as the average portfolio return in the year before the investor participated in the survey and experiment. *Volatility portfolio returns* is the monthly portfolio volatility in that period and the *Sharpe ratio* is defined as the *Mean portfolio returns* divided by the *Volatility portfolio returns* in the year before the experiment.

B. Survey variables

B.1. Return expectations and risk perceptions

In order to explore the importance of financial motives we elicit return expectations and risk perceptions regarding SRI equity funds compared to conventional equity funds. To measure the returns investors expect, we used responses to the statement: "I expect that the returns of socially responsible equity funds compared to conventional equity funds are: "Much lower, A bit lower, The same, A bit higher, Much higher, I do not know." Only 2.5% of the socially responsible and 10.2% of the conventional investors choose "I do not know." For our regression models, to be introduced below, we create several dummy variables. The dummy *Lower expected returns on SRI* takes value 1 if the investor expects the returns on SRI funds either to be much lower or a bit lower than the returns on conventional equity funds. The dummy *Higher expected return on SRI* takes value 1 if the investor expects much or a bit higher returns on SRI funds compared to conventional equity funds. Equal return expectations form the base category.

To measure risk perceptions of SRI equity funds compared to conventional equity funds, we asked investors to rate their agreement to the following statement: "Socially responsible equity funds are more risky than conventional equity funds." The agreement with each of these statements had to be rated on a 7 point Likert scale, from 1 "Disagree completely" to 7 "Agree completely." We created the dummy *Lower perceived risk on SRI*, which takes value 1 if the investor perceives the risk on SRI equity funds to be lower than the risk of conventional equity funds (Likert scale 1-3). The dummy *Higher perceived risk on SRI* takes value 1 if the investor perceives the risk on SRI equity funds to be higher than the risk of conventional equity funds (Likert scale 5-7). Equally perceived risk perceptions (Likert scale 4) form the base category.

B.2. Signaling

At the mutual fund provider, investors buy and sell funds directly online, without the interference of an intermediary. Therefore, nobody observes their investment portfolios. An investor who wants to signal to others that he invests in SRI funds therefore has to talk about his investments to others. Therefore, to measure the extent to which investors may use SRI funds for reasons of signaling pro-social inclinations, called *Social signaling*, investors rated their agreement with the statement "I often talk about investments with others." on a 7 point Likert scale. The question is phrased in neutral terms to avoid experimenter demand effects as well as socially desirable responses.

B.3. Investment knowledge, education level and other investor characteristics

Similar to other studies (Dorn and Huberman (2005), Graham, Harvey and Huang (2009), Van Rooij, Lusardi and Alessie (2011)) we measured self-assessed *Investment knowledge* with the statement: "My investment knowledge is good." Investors rated their agreement on a 7 point Likert scale. We also asked for the highest achieved education level and define a dummy variable *University degree* taking value 1 in case the investor indicated to have a university degree. Further, we gathered information on investors' gender and define *Female* with a dummy variable taking value 1 when the investor is a women. The variable *Age* is measured in years and self-explanatory.

Investors also self-reported their annual family income. For our subsequent analysis we created the dummy variables *Low income* (below 60,000 euro), *Median income* (between 60,000 euro and 100,000 euro) and *High income* (above 100.000 euro) such that each category comprises about one third of the sample.

B.4. Donations

Charitable donations could serve as a substitute for or complement to SRI. To test this we asked investors how much they on average donate to charity per year. The variable *Log donations* specifies the logarithm of this average.

C. Experiment variables

C.1 Risk preferences

The variable *Risk preferences* indicates the amount at which the investor switches from choosing the risky lottery to choosing the risk-free option in the risk preference elicitation experiment. A higher amount indicates more risk tolerance.

C.2 Intrinsic social preferences

We use the second-mover behavior in our one-shot anonymous trust game experiment to elicit intrinsic social preferences. Through the use of the strategy method, we have 10 monetary return decisions for each investor in the role of second-mover. In order to arrive at a measure of intrinsic social preferences we aggregate these return decisions and construct the natural measure 'mean intrinsic social preferences'. Specifically, for each possible non-zero first-mover transfer (i.e., 5 euro, 10 euro,…, 50 euro) we calculate the ratio of the back-transfer and take the average. In the remainder of the paper, we will call this measure *Intrinsic social preferences* or just *Social Preferences*, for brevity.

III. Individual and portfolio characteristics of socially responsible and conventional investors

Table 2 shows that 16.2% of the investors in the sample can be classified as socially responsible investors, because they hold at least one SRI equity fund. On average they hold 4,574 euro in SRI equity funds, which corresponds to 23.0% of their total equity investments. Socially responsible investors invest overwhelmingly in SRI equity funds (94.2%), as compared to SRI bond funds (5.8%).

< TABLE 2 ABOUT HERE>

The data show that more socially responsible investors hold a university degree (59.0%) than conventional investors (46.7%; p=0.009) do.[20] Compared to conventional investors, socially responsible investors on average rate their investment knowledge higher (4.3 vs. 4.1; p=0.029).

The gender composition and age of socially responsible and conventional investors differ somewhat. 12.3% of socially responsible investors are female in comparison to 18.7% of conventional investors (p=0.064). On average the age of socially responsible investors (55.5 years) is similar to the age of conventional investors (56.8 years) (p=0.166). Income does not differ between socially responsible and conventional investors as they are nearly identically distributed over the different income categories.

Risk preferences are also nearly identical for socially responsible and conventional investors, with a 115.8 euro switch point compared to 112.2 euro (p=0.340). This implies that both groups of investors are on average similarly risk averse (risk neutral switching point is 150 euro).

With respect to portfolio characteristics, we see that socially responsible investors hold larger portfolios than conventional investors (*Log total portfolio value*: 10.7 vs 10.3; p=0.002). The average *Log number of transactions* of SR investors is with 2.1 not significantly different from conventional investors with 2.0 (p=0.438). The *Average*

20 Table A3 in the appendix summarizes the descriptive statistics and statistical tests reported here. The kind of tests used can also be found in Table A3. All reported p-values are for two-sided tests.

holding period is similar (socially responsible: 32.3; conventional: 32.1) and statistically indistinguishable (p=0.890).

IV. Why do investors hold SRI equity funds?

Our foremost interest is to understand the role of financial and social motives in holding SRI funds. According to standard models of portfolio choice, investors select investments purely on the basis of risk and return. We therefore first look at the realized portfolio performance of socially responsible and conventional investors and at investors' expectations regarding return and risk of SRI funds, in Sections A and B below. If socially responsible investors were mainly driven by financial motives, then investors who expect the returns of SRI funds to be higher will be more likely to invest in SRI funds. Similarly, investors who perceive the risk of SRI funds to be lower could be more likely to invest in SRI funds.

Next, we analyze the role of social motives. We distinguish between intrinsic social preferences and signaling. Intrinsic social preferences refer to prosocial behavior that is not motivated by social image concerns, but by taking into account the welfare of others.. Several theories in finance and economics specifically introduce social preferences in their models (Andreoni (1990), Rabin (1993), Fehr and Schmidt (1999), Bolton and Ockenfels (2000), Heinkel, Kraus and Zechner (2001), Charness and Rabin (2002), Sobel (2005), and Gollier and Pouget (2014)). Investors with strong social preferences are likely willing to hold SRI funds even if they expect these funds to perform worse than conventional funds. They might also be willing to bear higher costs, like higher management fees, on SRI funds than on conventional funds.

Social signaling refers to the idea that investors might like to show others that they invest in a responsible manner to benefit their social image. For contributions on signaling theory see Glazer and Konrad (1996), Bénabou and Tirole (2006), and Ellingsen and Johannesson (2008). Investors who hold SRI funds primarily for signaling reasons, can be expected to hold a small fraction of their equity in SRI equity funds. Holding a small fraction allows these investors to signal to others that they invest in a socially responsible manner, while keeping low the potential financial disadvantages from holding SRI. For example, Glazer and Konrad (1996) find that most

people donate exactly the required amount for their name to be mentioned in a list of major donors.

A. Portfolio performance

Panel A of Table 3 reports on the overall portfolio performance of socially responsible and conventional investors for three different time horizons: one, three, and five years prior to the survey and experiment. The table shows that while mean returns are similar for both types of investors volatility is significantly higher for socially responsible investors for the 3- and 5-year time horizon (p=0.047 and p=0.003, respectively). In addition, the three year realized Sharpe ratio of an investor who holds an SRI equity fund is with 0.22 significantly lower than the Sharpe ratio of 0.27 reached by conventional investors (p=0.039). The Sharpe ratio for the one year and five year overall portfolio performance is not significantly different for socially responsible and conventional investors.

<TABLE 3 ABOUT HERE>

While Panel A documents the performance for the overall portfolio of investors, Panel B focuses on equity investments. This panel shows that investors obtain significantly worse performance on SRI equity funds compared to conventional equity funds for all three measures and all considered time periods. For example, the five year Sharpe ratio of SRI equity funds is with 0.08 significantly lower than the 0.19 on conventional equity funds (p=0.000).

These data show that socially responsible investors achieve a worse risk-adjusted performance than conventional investors. This is consistent with several studies which show that the performance of SRI is lower than that of conventional investments (e.g. Bauer, Otten and Koedijk, (2005), Fabozzi, Ma and Oliphant (2008), Hong and Kacperczyk (2009)).

Finally, Panel C of Table 3 reports that the average yearly total expense ratio (TER) of socially responsible equity funds is with 2.2% significantly higher than the 1.5% fees

paid on conventional equity funds (p=0.023). These extra fees are used to screen portfolios on environmental and social criteria.

Together these observations indicate that financial motives are unlikely the main driver of SRI. However, subjective performance expectations of investors regarding SRI funds could be biased and if the bias is sufficiently large investors might still invest into SRI funds for financial reasons. We explore this possibility next.

B. Expected returns and risk perceptions about SRI funds

Figures 1 and 2 display the forward looking return expectations and risk perceptions on SRI equity funds compared to conventional equity funds, separately for socially responsible and conventional investors (see also Table A3 in the appendix). Figure 1 depicts the distribution of expected returns on SRI equity funds in comparison to conventional equity funds (as defined in Table 1). The figure shows that both investor types are overall relatively pessimistic regarding the performance of socially responsible investment funds. Only 16.5% and 14.6% of socially responsible and conventional investors, respectively, expect higher returns on SRI than on conventional funds. Socially responsible investors are slightly less pessimistic about the returns of SRI funds than are conventional investors. For instance, 48.7% of the socially responsible investors and 56.1% of the conventional investors expect to earn much or a bit lower returns on SRI funds than on conventional funds. The difference between socially responsible and conventional investors is marginally significant (KS- test, p=0.054).

Figure 2 shows the distribution of the perceived risk on SRI equity funds relative to conventional equity funds (as defined in Table 1) for socially responsible and conventional investors. Socially responsible and conventional investors appear to have similar risk perceptions regarding SRI equity funds. The difference of the distributions of risk perceptions between socially responsible and conventional investors is not significant (KS- test, p=0.186).

<FIGURE 1 SOMEWHERE HERE>

<FIGURE 2 SOMEWHERE HERE>

Together, the results on return expectations and risk perception show that socially responsible investors have a slightly more positive view on the performance of SRI equity funds than conventional investors. Although the differences are small, performance expectations could still play some role in explaining why investors hold SRI funds. Another financial motive to hold SRI funds could be risk diversification. Although an investor might perceive the risk of an SRI fund in isolation to be equally risky to a conventional equity fund, the investor might hold an SRI fund to diversify the overall portfolio. The survey data show that this motive is virtually absent. Only 5.4% of all SR investors indicate to hold SRI funds because of diversification benefits.

C. Regression results - social and financial motives of socially responsible investors

Table 4 studies simultaneously the different possible motives of investors to hold socially responsible mutual funds. The first specification presents marginal effects of a probit regression in which the dependent variable is a dummy that takes value 1 if an investor holds an SRI equity fund and 0 otherwise. We control for portfolio characteristics as well as individual characteristics. To control for variables related to investors' portfolios we use the variables *Average holding period*, *Log total portfolio value*, and *Log number of transactions* as introduced above.

Regarding individual characteristics we control for *Investment knowledge* as defined above and use the dummy variable *University degree* to control for higher education. We also control for investors' risk preferences independently measured by the switch amount in our experimental risk preference elicitation task (*Risk preferences*). As further control variables we include gender (*Female*) and *Age* of investors. We also control for income by using the dummy variables *Low income*, *High income* and *Untold income*, with medium income being the omitted reference category (for the precise definitions of these variables, see Section II and Table 1). In the following we first discuss social motives, then financial motives and third other characteristics.

<TABLE 4 SOMEWHERE HERE>

When investigating the role of social motives, we distinguish between *Intrinsic social preferences* and *Signaling* (for definitions see Section II and for summary statistics Table A3 in the appendix). The results for Specification (1) in Table 4 show that stronger intrinsic social preferences have a highly significant positive effect on the likelihood to invest in a socially responsible manner (p=0.003). To illustrate the economic effect: an investor who equally splits the earnings among him- or herself and the other participant in the trust game is 2 * 0.0694 = 14 percentage points more likely to hold an SRI fund than a completely selfish investor who returns zero to the first mover. These 14 percentage points represent a large economic effect compared to the 16% of our sample that holds SRI equity funds.

Also signaling is significantly positively related to the likelihood to invest in SRI equity funds. An investor who scores one point higher on the signaling variable is 2.3 percentage points more likely to invest in an SRI equity fund (p = 0.035).

Specification (1) further shows that the variable *Lower expected returns on SRI* is negative and marginally statistically significant (p=0.071). An investor who expects SRI equity funds to underperform relative to conventional equity funds is 5.8 percentage points less likely to hold an SRI equity fund. However, investors who expect SRI equity funds to perform better than conventional equity funds are not significantly more likely to hold such a fund (p=0.239). This suggests that investors do not hold SRI equity funds because they expect these funds to financially outperform conventional funds, but rather that investors who are pessimistic about the performance of SRI avoid SRI funds. The risk perception dummies are not significant, which indicates that investors do not hold SRI equity funds because they perceive their risk to be lower. These results highlight that purely financial motives play some role but cannot explain the decision to invest in SRI funds.

The probit estimates of Table 4 also document that investors who hold funds for a longer time (*Average holding period*) are more likely to invest in SRI equity funds. This indicates that socially responsible investors have a longer investment horizon. An investor who holds his funds for one year longer is 0.0023 * 12 = 2.76 percentage points more likely to hold an SRI equity fund.

The value of the portfolio (*Log total portfolio value*) is positively related to the likelihood to invest in SRI. A doubling of the portfolio size is associated with being about 3.9 percentage points more likely to invest in a socially responsible manner (p=0.002). This relatively strong effect is intuitive as investors with larger portfolios likely spread their larger wealth over various funds, including SRI funds. We also see a slightly positive significant effect of the number of transactions, which indicates that more active investors tend to be more likely to invest in SRI funds.

Of the individual characteristics only the educational level and age exhibit robust statistically (marginally) significant effects. Having a university degree tends to increase the likelihood to hold SRI funds whereas being older decreases it.

Specification (2) shows coefficients of an OLS regression for investors who hold at least one SRI fund. We see that, conditional upon holding an SRI equity fund, neither social preferences nor signaling explain the percentage invested in SRI equity funds. These results suggest that while social motives are determinant for taking the hurdle to invest in a socially responsible manner at all, they seem not important in determining the percentage invested in SRI, once this hurdle is taken.

Rather, it seems that financial motives determine the percentage invested in SRI funds. Investors with a larger portfolio invest a significantly smaller fraction of their portfolio in SRI funds (p = 0.004). It seems that these investors want to diversify their portfolio over non-SRI funds more than investors with smaller portfolios.

Of the explored individual characteristics holding a university degree is marginally significantly positively related with the likelihood of holding SRI while age exhibits a marginally significant negative effect. The share of SRI, socially responsible investors hold is marginally significantly negatively related with investment knowledge while more risk tolerant investors hold significantly larger SRI shares.

Table 5 explores the role of social preferences, social signaling and their interaction in more detail, using dummy variables. In specifications (1) and (3), the table presents marginal effects from a probit regression in which the dependent variable is a dummy that takes value 1 if an investor holds an SRI equity fund and 0 otherwise. Specifications (2) and (4) present coefficients of an OLS regression where the dependent variable is the percentage invested in SRI equity funds for those investors

who hold an SRI equity fund. The variable *strong social preferences* takes value 1 if an investor at least equally shares the money in the experiment and 0 if the investor shares less than half of the money. The variable *strong signaling* takes value 1 if an investor scores at or above the median for signaling and 0 otherwise.

The results in specification (1) show that the relation between social preferences and the likelihood to hold an SRI fund is robust to this non-linear specification of the social preference variable. An investor who gives at least half of the money in the experiment away is significantly more likely to invest in SRI funds than a more selfish investor ($p = 0.033$). Consistent with the linear specification for social preferences, strong social preferences explain the likelihood to invest in SRI funds, but not the percentage invested in SRI funds conditional upon holding an SRI fund (specification (2)). This again indicates that social preferences are most important for taking the first hurdle to buy an SRI fund, but are less important for the decision on the fraction of all equity investments held in SRI equity funds.

Consistent with the results of the linear specification, the variable *strong signaling* is neither significant for explaining the choice to hold an SRI fund, nor for explaining the percentage in SRI funds. Yet, we expect social signaling to matter most for investors with weak social preferences, because these investors are willing to hold SRI funds only if it benefits their social image. We test this hypothesis in specifications (3) and (4). The variable *weak social preferences x strong signaling* takes value 1 if an investor gives less than half of the money in the experiment but does score at or above the median for signaling; it takes the value 0 otherwise. In these regressions, the base group consists of investors who give less than half of the money in the experiment and who score low on signaling.

<TABLE 5 SOMEWHERE HERE>

The results show that investors with weak social preferences and strong signaling are more likely to invest in SRI funds than investors with weak social preferences and weak signaling, but the statistical significance is not so strong

(p=0.103). The results again confirm that investors with strong social preferences are more likely to invest in SRI funds (p=0.009).

Importantly, investors with weak social preferences but strong signaling indeed invest a smaller fraction of their portfolio in SRI funds (p = 0.042). This result is consistent with the hypothesis that rather selfish investors who are motivated by social image concerns invest a small fraction in SRI funds for bragging rights. The small fraction in SRI funds allows them to signal that they invest in SRI funds but to keep low the potential financial disadvantages of holding SRI. The effects of all other investigated variables are similar to those reported in the linear regression specification.

We have shown that investors with strong social preferences are more likely to hold SRI funds and that, next to some other financial variables, beliefs about the financial performance of SRI funds also play some role. Next, we investigate whether beliefs about the societal impact of SRI drives investment into SRI and whether the results reported so far are robust to controlling for such beliefs. Table 6 explores whether investors who hold more positive views about the societal impact of SRI funds are also more likely to hold SRI funds. The results of column (1) show that this is indeed the case (p=0.016). Yet, as for social preferences, investors who hold more positive views on the societal impact of SRI are not holding a larger fraction of their portfolio in SRI funds (column 2, p=0.987). Importantly, the results of column (3) and (4) show that the previously documented effects of strong social preferences and the interaction between weak social preferences and strong signaling remain robust to the inclusion of the perceived social impact variable. The effects of all other investigated variables are similar to those reported for the original specification (Table 5).

In addition to the analyses presented here in the main text we have also conducted a number of additional regressions checking the robustness of the relation between social motives and socially responsible investments. These are contained in the appendix (Tables A4 – A8). Table A4 excludes all investors who believe that socially responsible investments are a marketing trick (10.6% of the sample). Table A5 excludes all investors who incorrectly answered at least one question from the comprehension questions of the experiment (11.3%) of the sample. Table A6 excludes all investors who expected both higher returns on SRI and perceive lower risk on SRI, but still do not invest in these funds (6.5% of the sample). Table A7 includes the full set of signaling

dummies. Finally, Table A8 also includes investors who held an SRI equity fund at least once in the period between 2006 and the time the survey was taken. These tables show that our main effects of social motives on SRI are robust to these variations.

<TABLE 6 SOMEWHERE HERE>

V. Characteristics related to intrinsic social preferences and social signaling

We have seen that intrinsic social preferences and signaling are predictive for respectively the likelihood of holding SRI and the share of SRI a socially responsible investor holds. We next investigate which investor characteristics are related to these determining factors. Table 7 reports the results of OLS regressions with intrinsic social preferences (Specification (1)) and signaling (Specification (2)), respectively, as *dependent* variable and portfolio as well as individual characteristics as explanatory variables. Specification (1) shows that for social preferences only risk preferences are marginally significant with a small effect size. Interestingly, male and female investors behave equally prosocial in the experiment and there is also no difference between young and old investors.

Specification (2) looks at the determinants of social signaling and shows that women signal less about investments than men ($p<0.001$). Similarly older investors signal less about their investments than younger ones ($p=0.046$). This suggests that in particular young male investors care about social signaling. Moreover, investors with good investment knowledge care more about signaling, but investors with a university degree do so to a lesser extent.

These results show that strong intrinsic social preferences are not limited to certain types of investors with specific demographic characteristics. Neither demographics nor non-SRI related portfolio characteristics are a good proxy for intrinsic social preferences. It is thus important to measure these preferences independently. Social signaling, on the other hand, is stronger for young male investors with good investment knowledge. This highlights that the two types of social motivations for investing in a socially responsible manner are inherently distinct.

Specification (3) shows that intrinsic social preferences are significantly negatively related to signaling ($p<0.001$). This finding is consistent with the interpretation that investors with a strong intrinsic motivation are less likely to signal their prosocial behavior to others. This finding is also in line with the effect documented in Table 5 that investors with weak social preferences but strong signaling who hold SRI funds, hold a relatively small fraction of such funds.

<TABLE 7 SOMEWHERE HERE>

VII. Are socially responsible investments related to charitable donations?

In this section we explore if SRI are substitutes for other expressions of social concern, like charity giving. Graff Zivin and Small (2005) theorize that individuals may perceive SRI as a more efficient way of reaching their social goals than direct donations to charity. In their model, donations and corporate philanthropy are perfect substitutes.

If SRI is a substitute for donations, *ceteris paribus* we expect a negative relation between the likelihood to hold an SRI fund and the amount donated to charity. We test this relation in Table 8 using OLS regressions. Although we cannot address causal effects with our data, our results can provide interesting first evidence on the correlation between donations and SRI.

The dependent variable *Log donations* is the logarithm of the self-reported average euro amount that the investor donates to charity per year and the independent variables of most interest are, respectively, *SRI equity*, which takes on value 1 when an investor holds at least one SRI equity fund and zero otherwise As in the other regressions, we control for portfolio and individual characteristics. We control for income and wealth effects by including investors' portfolio value and self-reported income. These variables control for the possibility that an eventual positive correlation between SRI and donations is actually due to increasing income and wealth.

The results reported in Table 8 show that donations are significantly positively related to holding an SRI equity fund ($p=0.021$). An investor who holds an SRI equity

fund donates 41 percent more to charity. Hence, holding of SRI equity and donations to charity are positively related and we thus reject the substitution hypothesis.

<TABLE 8 SOMEWHERE HERE>

VIII. Conclusion

In this paper we investigate why individuals hold socially responsible equity funds. We find that investors' intrinsic social preferences are a major factor determining the likelihood to hold SRI equity funds. In addition, we find evidence for social signaling also playing a role in socially responsible investment decisions. Financial reasons only play a subordinate role. Most socially responsible investors expect the returns on SRI funds to be lower than on conventional funds, achieve worse Sharpe ratios and pay higher fees on SRI funds. Thus, our analysis shows that a substantial share of investors is willing to forgo financial returns in order to invest according to their social preferences.

Over the last decade, socially responsible investments have been fast growing in volume (EUROSIF (2014), SIF (2014)). Together with our results of the effect of social preferences on SRI, this indicates that stock prices of socially responsible companies are likely affected in the long run. Consequently, social preferences as well as social reputation motives may influence asset prices, especially when the proportion of socially responsible investors in the market continues to grow.

We deliberately use a broad definition of social preferences as a first approach to the question whether social preferences influence portfolio choice. Future research could test how specific models of other-regarding preferences are related to socially responsible investments. For instance, are socially responsible investors more altruistic **(**Fehr and Fischbacher, 2003**)** than conventional investors or do they receive more warm-glow from doing good (Andreoni, 1990)?

We experimentally elicited social preferences using a trust game and related it to field behavior regarding investment choices. Therefore, our paper also contributes to the discussion about the stability of social preferences across different decision domains

and the external relevance of lab experiments (Karlan (2005), List (2006), Levitt and List (2007), Benz and Meier (2008), Falk and Heckman (2009), Baran, Sapienza and Zingales (2010), Fehr and Leibbrandt (2011), Stoop, Noussair and Van Soest (2012), Stoop (2014), Galizzi and Navarro-Martínez (2015)). Investors in our study were unaware that we matched their survey responses and experimental behavior to their (anonymized) trading records. This mitigates the potential problem that socially responsible investors want to behave consistently pro-socially in the experiment (for evidence on consistency, see for instance Gneezy et al. (2012)) and minimizes experimenter demand effects. We find that social preferences measured in an experiment with relatively small stakes are strongly related to field behavior in the form of socially responsible investments worth thousands of euros. This indicates that lab experiments on social preferences do have external relevance.

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Tables

Table 1: Variable definition

Type	Variable	Measure
Administrative	**SRI equity fund**	Dummy variable equal to 1 if an investor holds a socially responsible (SRI) equity fund in his / her portfolio in the month that s\he participated in the experiment.
	Socially responsible investor	An investor who holds at least one SRI equity fund.
	Percentage in SRI equity funds	Investor's average amount invested in SRI equity funds in the year after the experiment, as a percentage of the total amount invested in equity funds.
	Total portfolio value	Investor's average euro amount invested at the provider in the year before the experiment.
	Number of transactions	Number of transactions the investor made in the 12 months before s\he participated in the experiment. To account for extremes, this measure is trimmed by excluding the 1th and the 99th percentile.
	Average holding period	Average number of months the investor has held on to a mutual fund in the five years before the experiment.
	Mean portfolio returns	Average portfolio returns in the year before the investor participated in the experiment (in percent). To account for extremes, this measure is trimmed by excluding the 1th and the 99th percentile.
	Volatility portfolio returns	Standard deviation of the yearly portfolio returns in the year before the investor participated in the experiment (in percent) using monthly return data.
	Sharpe Ratio	Sharpe ratio of the portfolio performance in the year before the investor participated in the experiment.
Survey	**Expected returns on SRI**	Investor's response to statement "I expect that the returns of socially responsible equity funds compared to conventional equity funds are: much lower a bit lower the same a bit higher much higher I do not know" (much lower 1, …, 5 much higher)
	Perceived risk on SRI	Investor's response to statement "Socially responsible equity funds are more risky than conventional equity funds" (fully disagree 1, …, 7 fully agree)

	Lower expected returns on SRI	Dummy equal to 1 if an investor believes that the returns on SRI equity funds are a bit or much lower than on conventional equity funds.
	Higher expected returns on SRI	Dummy equal to 1 if an investor believes that the returns on SRI equity funds are a bit or much higher than on conventional equity funds.
	Lower perceived risk on SRI	Dummy equal to 1 if an investor disagrees with the statement that the risk on SRI equity funds is higher than the risk on conventional equity funds.
	Higher perceived risk on SRI	Dummy equal to 1 if an investor agrees with the statement that the risk on SRI equity funds is higher than the risk on conventional equity funds.
	Signaling	Investor's response to statement "I often talk about investment with others" (fully disagree 1, …, 7 fully agree)
	Strong signaling	Dummy equal to 1 if an investor's response to statement "I often talk about investment with others" (fully disagree 1, …, 7 fully agree) is equal to the median or higher.
	Perceived social impact	Dummy equal to 1 if an investor's response to statement "Socially responsible investment funds have a positive influence on society" (fully disagree 1, …, 7 fully agree) is equal to the median or higher.
	Investment knowledge	Investor's response to statement "My investment knowledge is good" (fully disagree 1-7 fully agree)
	University degree	Dummy equal to 1 if the investor reports to have a university degree.
	Female	Dummy equal to 1 if investor reports to be a woman.
	Age	Investor's reported age.
	Low income	Investor's reported annual gross family income is below 60,000 euro
	Medium income	Investor's reported annual gross family income is between 60,000 euro and 100,000 euro
	High income	Investor's reported annual gross family income is above 100,000 euro
	Untold income	Investor does not disclose his / her income.
	(Log) donations	(Logarithm of the) average yearly amount that the investor reports to donate to charity.
	Risk preferences	Amount at which the investor switches from choosing the risky lottery to choosing the risk-free option in the risk preferences elicitation task. A higher amount indicates that the investor is more risk tolerant.

Incentivized experiment	**Intrinsic social preferences**	Social preferences are measured by the second-mover behavior in the trust game. The second-mover indicates how much s\he wants to send back for each possible amount that the first mover could send. It is calculated as follows. First, the return ratio for each possible first-mover transfer in the trust game is calculated. That is, if the first mover sends 5 euro, the amount the second mover returns is divided by 5, if the first mover sends 10 euro the amount the second mover returns is divided by 10, and so on. Second, the average of these ratios across the range of 5 to 50 euro first-mover transfers is calculated. The measure varies from 0 to 3.
	Strong social preferences	Dummy that takes the value 1 if an investor has an average return ratio in the trust game of 2 or higher. This means at least equally splitting the amount of money in the experiment.
	Weak social preferences	Dummy that takes the value 1 if an investor has an average return ratio in the trust game of less than 2. This means sending back less than half of total amount of money in the trust game.
	Weak social preferences * strong signaling	Dummy equal to 1 if investor has weak social preferences and strong signaling.

Table 2: Portfolios of socially responsible investors

This table shows the fund holdings of conventional investors and of investors holding SRI equity funds. *Total portfolio value* refers to the total portfolio value, comprising of SRI and conventional investments. *Amount invested in SRI equity* is the average amount investors hold in SRI equity. *% of equity invested in SRI* is the amount invested in SRI equity divided by the total amount invested in equity. *% of SRI investments in SRI equity* is the fraction of all socially responsible funds invested in SRI equity funds rather than SRI bond funds.

	% of investors	**Total portfolio value (€)**	**Amount invested in SRI equity (€)**	**% of equity invested in SRI equity**	**% of SRI investments in SRI equity**
Conventional investors	83.8%	70,235	-	-	-
Socially responsible investors	16.2%	104,332	4,574	23.0%	94.2%
Overall	*100%*	*75,778*	-	-	-

Table 3: Investment performance of socially responsible and conventional investors

Panel A presents the overall yearly portfolio performance of socially responsible and conventional investors one, three, and five years before the experiment. Panel B presents the overall yearly portfolio performance of SRI and conventional equity funds one, three, and five years before the experiment. Panel C presents the average yearly fees paid on SRI equity funds and conventional equity funds. P-values refer to two-sided t-tests.

Panel A	**Socially responsible investor**	**Conventional investor**	**p-value**
1 year portfolio performance			
Mean return	5.50%	5.10%	0.178
Volatility	10.40%	10.40%	0.951
Sharpe ratio	0.32	0.38	0.168
3 year average portfolio performance			
Mean return	2.00%	2.13%	0.535
Volatility	14.23%	13.09%	0.047
Sharpe ratio	0.22	0.27	0.039
5 year average portfolio performance			
Mean return	1.44%	1.32%	0.563
Volatility	12.39%	11.06%	0.003
Sharpe ratio	0.28	0.29	0.327
Panel B	**SRI equity**	**Non-SRI equity**	**p-value**
1 year portfolio performance			
Mean return	2.39%	8.63%	0.0000
Volatility	8.31%	4.99%	0.0000
Sharpe ratio	0.13	0.32	0.0000
3 year average portfolio performance			
Mean return	-0.99%	0.70%	0.0000
Volatility	28.10%	22.92%	0.0000
Sharpe ratio	0.07	0.17	0.0000
5 year average portfolio performance			
Mean return	-2.56%	-0.82%	0.0000
Volatility	14.60%	19.38%	0.0000
Sharpe ratio	0.08	0.19	0.0000
Panel C	**SRI equity funds**	**Conventional equity funds**	
Average yearly fees paid (TER)	2.20%	1.50%	0.023

Table 4: Why do investors hold socially responsible equity funds?

Column (1) presents marginal effects of a probit regression. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey; 0 otherwise. Column (2) presents coefficients of an OLS regression. The dependent variable is *% in SRI equity* funds and represents the investor's holdings in SRI equity funds as a share of the total investments in equity. Only investors who at least hold one SRI equity fund are considered. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit has SRI equity (1)	OLS % in SRI equity (2)
SOCIAL MOTIVES		
Social preferences	0.0694***	-0.0204
	(0.0233)	(0.0479)
Signaling	0.0228**	-0.0181
	(0.0108)	(0.0169)
FINANCIAL MOTIVES		
Sharpe Ratio	0.0025	0.0580
	(0.0205)	(0.0537)
Lower expected returns on SRI	-0.0581*	-0.0730
	(0.0322)	(0.0492)
Higher expected returns on SRI	-0.0433	-0.0358
	(0.0368)	(0.0677)
Lower perceived risk on SRI	-0.0422	-0.0141
	(0.0302)	(0.0503)
Higher perceived risk on SRI	0.0065	0.0639
	(0.0441)	(0.0720)
PORTFOLIO CHARACTERISTICS		
Average holding period	0.0023**	-0.0015
	(0.0010)	(0.0019)
Log total portfolio value	0.0390***	-0.0572***
	(0.0126)	(0.0197)
Log number of transactions	0.0252**	0.0162
	(0.0114)	(0.0266)
INDIVIDUAL CHARACTERISTICS		
Investment knowledge	0.0022	-0.0315*
	(0.0119)	(0.0188)
University degree	0.0553*	0.0505
	(0.0314)	(0.0547)
Risk preferences	-0.0001	0.0015**
	(0.0004)	(0.0006)
Female	0.0074	-0.0241
	(0.0424)	(0.0584)
Age	-0.0025*	0.0009
	(0.0014)	(0.0022)
Low income	0.0243	0.0196
	(0.0387)	(0.0608)
High income	-0.0255	0.0176
	(0.0383)	(0.0645)
Untold income	-0.0062	-0.0121
	(0.0417)	(0.0666)
Constant		0.8089***
		(0.2892)
Observations	625	121
R-squared		0.1820

Table 5 – Interaction effects between social preferences and signaling

Column (1) presents marginal effects of a probit regression. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey; 0 otherwise. Column (2) presents coefficients of an OLS regression. The dependent variable is *% in SRI equity* funds and represents the investor's holdings in SRI equity funds as a share of the total investments in equity. Only investors who at least hold one SRI equity fund are considered. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit has SRI equity (1)	OLS % in SRI equity (2)	Probit has SRI equity (3)	OLS % in SRI equity (4)
SOCIAL MOTIVES				
Strong social preferences	0.0644**	-0.0138	0.1084**	-0.1155
	(0.0313)	(0.0485)	(0.0441)	(0.0812)
Strong signaling	0.0386	-0.0684		
	(0.0317)	(0.0511)		
Weak social preferences * strong signaling			0.0686	-0.1604**
			(0.0435)	(0.0780)
FINANCIAL MOTIVES				
Sharpe Ratio	0.0037	0.0510	0.0041	0.0494
	(0.0211)	(0.0519)	(0.0212)	(0.0552)
Lower expected returns on SRI	-0.0561*	-0.0700	-0.0557*	-0.0702
	(0.0325)	(0.0475)	(0.0324)	(0.0459)
Higher expected returns on SRI	-0.0441	-0.0369	-0.0432	-0.0369
	(0.0372)	(0.0670)	(0.0371)	(0.0651)
Lower perceived risk on SRI	-0.0375	-0.0194	-0.0371	-0.0218
	(0.0303)	(0.0514)	(0.0303)	(0.0499)
Higher perceived risk on SRI	0.0028	0.0606	0.0042	0.0586
	(0.0441)	(0.0696)	(0.0443)	(0.0654)
PORTFOLIO CHARACTERISTICS				
Average holding period	0.0022**	-0.0016	0.0023**	-0.0021
	(0.0010)	(0.0019)	(0.0010)	(0.0019)
Log total portfolio value	0.0375***	-0.0590***	0.0371***	-0.0566***
	(0.0127)	(0.0199)	(0.0127)	(0.0191)
Log number of transactions	0.0255**	0.0150	0.0256**	0.0088
	(0.0113)	(0.0257)	(0.0112)	(0.0250)
INDIVIDUAL CHARACTERISTICS				
Investment knowledge	0.0068	-0.0339*	0.0063	-0.0340*
	(0.0117)	(0.0186)	(0.0114)	(0.0181)
University degree	0.0503	0.0576	0.0504	0.0456
	(0.0316)	(0.0544)	(0.0316)	(0.0539)
Risk preferences	-0.0001	0.0015**	-0.0001	0.0013**
	(0.0004)	(0.0006)	(0.0004)	(0.0006)
Female	0.0024	-0.0234	-0.0014	-0.0261
	(0.0419)	(0.0587)	(0.0410)	(0.0538)
Age	-0.0026*	0.0009	-0.0027*	0.0008
	(0.0014)	(0.0023)	(0.0014)	(0.0023)
Low income	0.0230	0.0177	0.0224	0.0125
	(0.0390)	(0.0609)	(0.0389)	(0.0599)
High income	-0.0275	0.0278	-0.0285	0.0239
	(0.0385)	(0.0655)	(0.0382)	(0.0642)
Untold income	-0.0090	-0.0075	-0.0088	-0.0040
	(0.0416)	(0.0678)	(0.0413)	(0.0632)
Constant		0.8047***		0.9032***
		(0.2549)		(0.2599)
Observations	625	121	625	121
R-squared		0.1887		0.2211

Table 6 – Perceived social impact of SRI

Column (1) presents marginal effects of a probit regression. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey; 0 otherwise. Column (2) presents coefficients of an OLS regression. The dependent variable is *% in SRI equity* funds and represents the investor's holdings in SRI equity funds as a share of the total investments in equity. Only investors who at least hold one SRI equity fund are considered. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit has SRI equity (1)	OLS % in SRI equity (2)	Probit has SRI equity (3)	OLS % in SRI equity (4)
SOCIAL MOTIVES				
Perceived social impact	0.0470**	-0.0005	0.0755**	0.0191
	(0.0194)	(0.0275)	(0.0330)	(0.0497)
Strong social preferences			0.1033**	-0.1167
			(0.0437)	(0.0810)
Weak social preferences * strong signaling			0.0688	-0.1620**
			(0.0434)	(0.0781)
FINANCIAL MOTIVES				
Sharpe Ratio	-0.0018	0.0142	0.0033	0.0493
	(0.0079)	(0.0189)	(0.0221)	(0.0547)
Lower expected returns on SRI	-0.0701***	-0.0598*	-0.0534*	-0.0682
	(0.0202)	(0.0324)	(0.0320)	(0.0457)
Higher expected returns on SRI	-0.0096	-0.0473	-0.0486	-0.0380
	(0.0259)	(0.0396)	(0.0362)	(0.0650)
Lower perceived risk on SRI	-0.0199	-0.0355	-0.0542*	-0.0264
	(0.0187)	(0.0265)	(0.0306)	(0.0534)
Higher perceived risk on SRI	0.0019	0.0120	-0.0066	0.0526
	(0.0246)	(0.0397)	(0.0421)	(0.0707)
PORTFOLIO CHARACTERISTICS				
Average holding period	0.0006	-0.0026**	0.0022**	-0.0020
	(0.0007)	(0.0012)	(0.0010)	(0.0019)
Log total portfolio value	0.0276***	-0.0542***	0.0373***	-0.0564***
	(0.0074)	(0.0124)	(0.0128)	(0.0190)
Log number of transactions	0.0048	-0.0146	0.0265**	0.0093
	(0.0069)	(0.0121)	(0.0111)	(0.0249)
INDIVIDUAL CHARACTERISTICS				
Investment knowledge	0.0114*	-0.0489***	0.0058	-0.0340*
	(0.0063)	(0.0122)	(0.0113)	(0.0183)
University degree	0.0311*	0.0540**	0.0535*	0.0460
	(0.0182)	(0.0262)	(0.0315)	(0.0540)
Risk preferences	-0.0001	0.0004	-0.0000	0.0014**
	(0.0002)	(0.0003)	(0.0004)	(0.0006)
Female	-0.0057	0.0261	-0.0130	-0.0273
	(0.0229)	(0.0358)	(0.0399)	(0.0544)
Age	-0.0037***	-0.0019	-0.0029**	0.0006
	(0.0009)	(0.0013)	(0.0014)	(0.0024)
Low income	0.0231	0.0107	0.0280	0.0157
	(0.0228)	(0.0353)	(0.0390)	(0.0638)
High income	-0.0090	0.0230	-0.0226	0.0276
	(0.0234)	(0.0339)	(0.0387)	(0.0675)
Untold income	-0.0201	-0.0354	0.0037	0.0019
	(0.0253)	(0.0325)	(0.0430)	(0.0687)
Constant		1.1609***		0.8796***
		(0.1849)		(0.2705)
Observations	1,803	346	625	121
R-squared		0.2186		0.2223

Table 7: Covariates of intrinsic social preferences and social signaling

Specification (1) reports coefficients of an OLS regression with *Intrinsic social preferences* as dependent variable. Specifications (2) and (3) report OLS regressions in which the dependent variable is *Signaling*. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	(1) Intrinsic social preferences	(2) Signaling	(3) Signaling
Strong social preferences			-0.3907***
			(0.1037)
PORTFOLIO CHARACTERISTICS			
Average holding period	0.0001	-0.0020	-0.0034
	(0.0019)	(0.0024)	(0.0037)
Log total portfolio value	-0.0045	-0.0356	-0.0229
	(0.0218)	(0.0244)	(0.0399)
Log number of transactions	-0.0076	0.0103	-0.0482
	(0.0227)	(0.0248)	(0.0437)
INDIVIDUAL CHARACTERISTICS			
Investment knowledge	-0.0061	0.4712***	0.4956***
	(0.0213)	(0.0228)	(0.0378)
University degree	-0.0125	-0.1367**	-0.0129
	(0.0543)	(0.0616)	(0.1045)
Risk preferences	0.0012*	-0.0011	0.0002
	(0.0007)	(0.0008)	(0.0013)
Female	-0.0583	-0.3191***	-0.2895**
	(0.0712)	(0.0749)	(0.1377)
Age	-0.0006	-0.0060**	-0.0029
	(0.0027)	(0.0030)	(0.0050)
Low income	-0.0406	0.0218	-0.1095
	(0.0676)	(0.0763)	(0.1344)
High income	0.0021	0.0693	-0.1217
	(0.0703)	(0.0824)	(0.1354)
Untold income	-0.0804	0.0422	-0.1211
	(0.0765)	(0.0902)	(0.1444)
Constant	1.5046***	2.0682***	1.8998***
	(0.2738)	(0.2868)	(0.5004)
Observations	679	1,991	679
Adjusted R-squared	-0.0066	0.2110	0.2234

Table 8: Relation between socially responsible investments and donations to charity

The table present an OLS regression in which the dependent variable *Log donations* is the logarithm of the self-reported average yearly donations by the investor. The variable *Socially responsible investor* has value 1 if the investor holds at least one SRI equity fund in the month investors participated in the experiment and survey; and 0 otherwise. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Log donations
Socially responsible investor	0.4100**
	(0.1765)
PORTFOLIO CHARACTERISTICS	
Average holding period	-0.0006
	(0.0046)
Log total portfolio value	0.0604
	(0.0473)
Log number of transactions	-0.0148
	(0.0498)
INDIVIDUAL CHARACTERISTICS	
Investment knowledge	0.0271
	(0.0502)
University degree	0.0692
	(0.1354)
Risk preferences	-0.0016
	(0.0017)
Female	0.0757
	(0.1748)
Age	0.0305***
	(0.0068)
Low income	-0.2878*
	(0.1602)
High income	0.1670
	(0.1675)
Untold income	-0.3072
	(0.2454)
Constant	3.6367***
	(0.6045)
Observations	519
R-squared	0.0809

Figure 1 – Return expectations of SRI equity funds

This figure presents the distributions of return expectations of SRI equity funds separately for investors with and without a SRI equity fund. The bars depict the response to the statement 'I expect that the returns of socially responsible equity funds compared to conventional equity funds are':1 = much lower, 2 = a bit lower, 3 = the same, 4 = a bit higher, 5 = much higher. The category 'I don't know' is excluded from the figure; it was chosen by 0.9% of the socially responsible and 6.3% of the conventional investors.

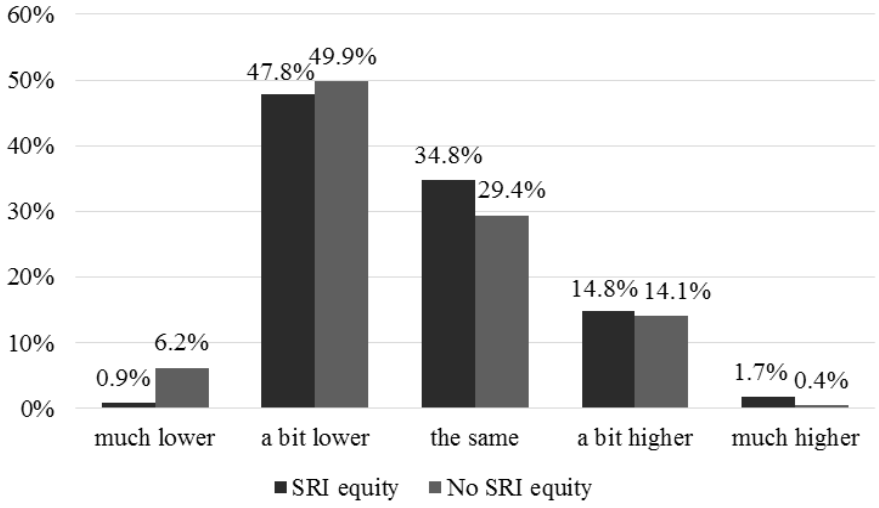
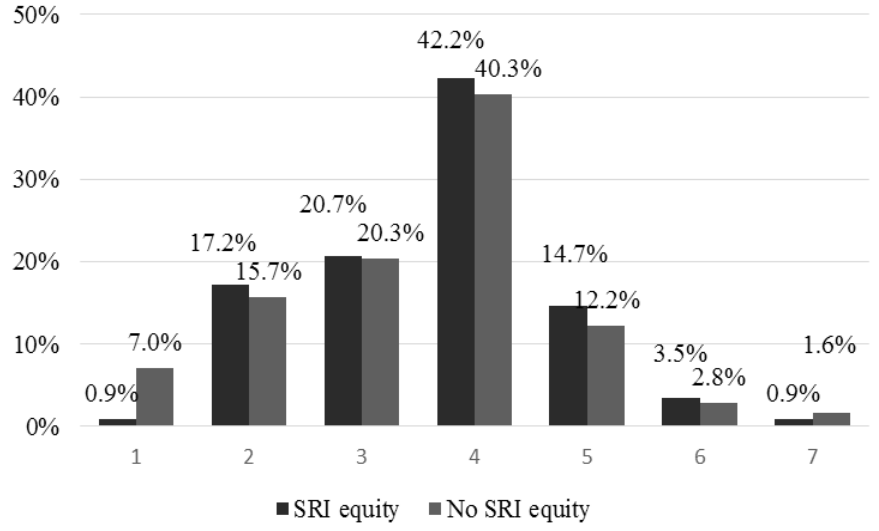


Figure 2 – Risk perceptions of SRI equity funds

This figure presents the distributions of risk perceptions of SRI funds separately for investors with and without a SRI equity fund. The bars depict the response of investors on a 1-7 Likert scale to the statement: "Socially responsible equity funds are more risky than conventional equity funds" where 1 is fully disagree and 7 fully agree.



Appendix A: Supplementary tables and figures

Tables

Table A1: Survey respondents and overall sample characteristics

This table compares the mean characteristics of all invited investors to those for the respondents to the survey and experiments. The variables are defined in Table 1. Note that we purposefully oversampled socially responsible investors in the survey to increase the power of our analyses in which we compare socially responsible investors to conventional investors. The response rate for socially responsible investors is 12% and that for conventional investors is 8%.

	Invited sample (n = 38,382)	**Respondents (n = 3,254)**
Female	24.7%	20.6%
Age	55.5	57.9
Total portfolio value (euro)	61,509	74,259
% holding a SRI equity fund	8.4%	11.0%

Table A2: Choice list in risk preferences elicitation experiment

	Safe Payment		**Lottery**
1)	€0 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
2)	€10 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
3)	€20 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
4)	€30 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
5)	€40 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
6)	€50 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
7)	€60 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
8)	€70 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
9)	€80 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
10)	€90 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
11)	€100 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
12)	€110 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
13)	€120 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
14)	€130 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
15)	€140 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
16)	€150 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
17)	€160 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
18)	€170 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
19)	€180 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0
20)	€190 for sure	or	50 percent chance of winning €300 and 50 percent chance of winning €0

Table A3: Summary statistics comparison of investors with and without an SRI equity fund

This table presents the summary statistics for investors with and without a SRI equity fund. All variables are defined in Table 1. If not otherwise indicated in Table 1, the statistics represent the portfolios of investors in the month in which they participated in the experiment and the survey. Standard deviations are in parentheses and p-values are from two-sided t-tests ([a]) or Chi-square tests ([b]). For highly skewed variables we only report p-values of their logarithmic transformations. Differences in the number of observations stem from the fact that not all participants in the experiments did answer all survey questions.

	Socially responsible investors (16.2%)			Conventional investors (83.8%)			Δ
	Mean	Median	N	Mean	Median	N	
Percentage in SRI equity funds	23.03%	9.82%	146	-	-	-	-
SOCIAL MOTIVES							
Mean intrinsic social preferences	1.53 (0.66)	1.79	146	1.41 (0.68)	1.51	756	0.052[a]
Signaling	3.41 (1.48)	3	146	3.06 (1.49)	3	756	0.009[a]
FINANCIAL MOTIVES							
Lower expected returns on SRI	48.89%		135	56.17%		673	0.121[b]
Higher expected returns on SRI	17.04%		135	14.41%		673	0.434[b]
Lower perceived risk on SRI	39.86%		138	43.02%		716	0.491[b]
Higher perceived risk on SRI	18.84%		138	16.62%		716	0.525[b]
PORTFOLIO CHARACTERISTICS							
Average holding period	32.3 (14.2)	29.5	146	32.1 (17.0)	28	752	0.890[a]
Total portfolio value	104,332 (262,880)	53,005	146	70,235 (146,468)	35,845	752	-
Log total portfolio value	10.70 (1.38)	10.86	146	10.25 (1.57)	10.49	752	0.002[a]
Number of transactions	15.5 (18.0)	8	138	17.2 (22.0)	8	605	-
Log number of transactions	2.14 (1.14)	2.08	138	2.04 (1.34)	2.08	605	0.438[a]
Donations							
Donations (in euro)	1,074 (1,300)	500	106	845 (1,355)	300	525	-
Log donations	6.2 (1.4)	6.2	106	5.8 (1.4)	5.7	525	0.008[a]
Individual Characteristics							
Investment knowledge	4.34 (91.13)	4	146	4.08 (1.38)	4	756	0.029[a]
University degree	58.96%		134	46.67%		705	0.009[b]

Risk preferences	115.8 (39.4)	110	146	112.2 (40.8)	110	756	0.340[a]
Female	12.33%		146	18.73%		753	0.064[b]
Age	55.45 (11.39)	55	144	56.83 (10.83)	56	751	0.166[a]
Low income	28.36%		134	30.47%		699	0.625[b]
High income	20.90%		134	20.46%		699	0.909[b]
Untold income	17.16%		134	17.31%		699	0.967[b]

Table A4: Exclusion of investors who believe SRI is a marketing trick

In Table A4, all subjects are excluded who rate the statement "I think that socially responsible investment funds are a marketing trick with the goal to sell more funds." (fully disagree 1, …, 7 fully agree) with a 4 or higher (10.6%). Columns (1) and (3) present marginal effects of probit regressions. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey; 0 otherwise. Columns (2) and (4) present coefficients of OLS regressions. The dependent variable is *% in SRI equity* funds and represents the investor's holdings in SRI equity funds as a share of the total investments in equity. Only investors with a share greater zero are considered. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit has SRI equity (1)	**OLS % in SRI equity (2)**	**Probit has SRI equity (3)**	**OLS % in SRI equity (4)**
SOCIAL MOTIVES				
Social preferences	0.0802***	-0.0314		
	(0.0252)	(0.0492)		
Signaling	0.0269**	-0.0168		
	(0.0112)	(0.0159)		
Strong social preferences			0.1027**	-0.0881
			(0.0459)	(0.0720)
Weak social preferences * strong signaling			0.0578	-0.1290**
			(0.0442)	(0.0637)
FINANCIAL MOTIVES				
Sharpe Ratio	0.0108	0.0637	0.0137	0.0574
	(0.0213)	(0.0546)	(0.0209)	(0.0559)
Lower expected returns on SRI	-0.0561*	-0.0353	-0.0545	-0.0445
	(0.0335)	(0.0411)	(0.0340)	(0.0412)
Higher expected returns on SRI	-0.0419	-0.0103	-0.0426	-0.0215
	(0.0375)	(0.0633)	(0.0381)	(0.0618)
Lower perceived risk on SRI	-0.0558*	-0.0207	-0.0488	-0.0213
	(0.0307)	(0.0451)	(0.0310)	(0.0472)
Higher perceived risk on SRI	0.0180	0.0653	0.0147	0.0565
	(0.0473)	(0.0711)	(0.0478)	(0.0670)
PORTFOLIO CHARACTERISTICS				
Average holding period	0.0024**	-0.0007	0.0023**	-0.0012
	(0.0011)	(0.0019)	(0.0011)	(0.0018)
Log total portfolio value	0.0425***	-0.0559***	0.0407***	-0.0542***
	(0.0137)	(0.0202)	(0.0139)	(0.0194)
Log number of transactions	0.0227*	0.0317	0.0225*	0.0230
	(0.0119)	(0.0241)	(0.0117)	(0.0225)
INDIVIDUAL CHARACTERISTICS				
Investment knowledge	0.0027	-0.0428**	0.0089	-0.0433**
	(0.0119)	(0.0210)	(0.0114)	(0.0205)
University degree	0.0742**	0.0625	0.0699**	0.0523
	(0.0327)	(0.0495)	(0.0331)	(0.0502)

Risk preferences	-0.0003	0.0013**	-0.0002	0.0011**
	(0.0004)	(0.0006)	(0.0004)	(0.0006)
Female	0.0082	0.0039	-0.0036	-0.0004
	(0.0430)	(0.0575)	(0.0414)	(0.0524)
Age	-0.0024	0.0001	-0.0026*	-0.0002
	(0.0015)	(0.0022)	(0.0015)	(0.0023)
Low income	0.0080	0.0357	0.0069	0.0302
	(0.0379)	(0.0617)	(0.0384)	(0.0617)
High income	-0.0466	0.0448	-0.0494	0.0468
	(0.0360)	(0.0711)	(0.0364)	(0.0711)
Untold income	-0.0180	-0.0583	-0.0199	-0.0507
	(0.0422)	(0.0482)	(0.0423)	(0.0452)
Constant		0.8324***		0.8866***
		(0.2977)		(0.2456)
Observations	566	109	566	109
R-squared		0.2308		0.2512

Table A5: Exclusion of investors who failed at least one practice question in experiment

In Table A5, all subjects are excluded who wrongly answered at least one of the four practice questions for three consecutive times (11.3%). Columns (1) and (3) present marginal effects of probit regressions. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey; 0 otherwise. Columns (2) and (4) present coefficients of OLS regressions. The dependent variable is *% in SRI equity* funds and represents the investor's holdings in SRI equity funds as a share of the total investments in equity. Only investors with a share greater zero are considered. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit has SRI equity (1)	**OLS % in SRI equity (2)**	**Probit has SRI equity (3)**	**OLS % in SRI equity (4)**
SOCIAL MOTIVES				
Social preferences	0.0789***	-0.0018		
	(0.0258)	(0.0459)		
Signaling	0.0235**	-0.0234		
	(0.0118)	(0.0180)		
Strong social preferences			0.1151**	-0.1236
			(0.0465)	(0.0819)
Weak social preferences * strong signaling			0.0670	-0.2116***
			(0.0478)	(0.0792)
FINANCIAL MOTIVES				
Sharpe Ratio	0.0097	0.0680	0.0138	0.0550
	(0.0224)	(0.0536)	(0.0217)	(0.0550)
Lower expected returns on SRI	-0.0504	-0.0634	-0.0471	-0.0595
	(0.0342)	(0.0516)	(0.0345)	(0.0458)
Higher expected returns on SRI	-0.0305	-0.0170	-0.0299	-0.0141
	(0.0414)	(0.0701)	(0.0420)	(0.0669)
Lower perceived risk on SRI	-0.0621*	-0.0157	-0.0574*	-0.0247
	(0.0322)	(0.0526)	(0.0325)	(0.0513)
Higher perceived risk on SRI	-0.0016	0.0857	-0.0079	0.0864
	(0.0471)	(0.0773)	(0.0467)	(0.0699)
PORTFOLIO CHARACTERISTICS				
Average holding period	0.0025**	-0.0004	0.0025**	-0.0012
	(0.0011)	(0.0020)	(0.0011)	(0.0019)
Log total portfolio value	0.0401***	-0.0560***	0.0380***	-0.0567***
	(0.0138)	(0.0208)	(0.0139)	(0.0199)
Log number of transactions	0.0340***	0.0211	0.0342***	0.0098
	(0.0123)	(0.0289)	(0.0121)	(0.0264)
INDIVIDUAL CHARACTERISTICS				
Investment knowledge	0.0005	-0.0414**	0.0050	-0.0479**
	(0.0127)	(0.0201)	(0.0121)	(0.0186)
University degree	0.0676**	0.0588	0.0623*	0.0449
	(0.0340)	(0.0593)	(0.0344)	(0.0564)
Risk preferences	-0.0001	0.0018***	-0.0001	0.0017***

	(0.0004)	(0.0007)	(0.0004)	(0.0006)
Female	0.0142	-0.0087	0.0034	-0.0189
	(0.0459)	(0.0622)	(0.0443)	(0.0558)
Age	-0.0021	0.0020	-0.0024	0.0021
	(0.0015)	(0.0022)	(0.0016)	(0.0023)
Low income	0.0422	0.0346	0.0410	0.0210
	(0.0431)	(0.0626)	(0.0435)	(0.0624)
High income	-0.0287	0.0043	-0.0301	0.0097
	(0.0410)	(0.0652)	(0.0413)	(0.0635)
Untold income	-0.0029	0.0112	-0.0049	0.0304
	(0.0461)	(0.0674)	(0.0454)	(0.0622)
Constant		0.6463**		0.8127***
		(0.2956)		(0.2632)
Observations	555	112	555	112
R-squared		0.2250		0.2950

Table A6: Exclusion of investors who expect higher returns on SRI, perceive lower risk, but do not hold SRI funds

In Table A6, all subjects are excluded who do not invest in SRI equity funds but expect these to yield higher returns at a lower risk compared to normal equity funds (6.5%). Columns (1) and (3) present marginal effects of probit regressions. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey; 0 otherwise. Columns (2) and (4) present coefficients of OLS regressions. The dependent variable is *% in SRI equity* funds and represents the investor's holdings in SRI equity funds as a share of the total investments in equity. Only investors with a share greater zero are considered. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit has SRI equity (1)	**OLS % in SRI equity (2)**	**Probit has SRI equity (3)**	**OLS % in SRI equity (4)**
SOCIAL MOTIVES				
Social preferences	0.0755***	-0.0151		
	(0.0253)	(0.0486)		
Signaling	0.0272**	-0.0158		
	(0.0116)	(0.0172)		
Strong social preferences			0.1192**	-0.1061
			(0.0469)	(0.0824)
Weak social preferences * strong signaling			0.0747	-0.1575**
			(0.0457)	(0.0788)
FINANCIAL MOTIVES				
Sharpe Ratio	-0.0002	0.0598	0.0026	0.0522
	(0.0223)	(0.0536)	(0.0233)	(0.0550)
Lower expected returns on SRI	-0.0619*	-0.0776	-0.0589*	-0.0748
	(0.0342)	(0.0488)	(0.0345)	(0.0456)
Higher expected returns on SRI	0.0687	-0.0079	0.0648	-0.0082
	(0.0638)	(0.0699)	(0.0632)	(0.0678)
Lower perceived risk on SRI	-0.0089	-0.0039	-0.0042	-0.0102
	(0.0333)	(0.0513)	(0.0335)	(0.0512)
Higher perceived risk on SRI	0.0043	0.0630	0.0009	0.0584
	(0.0462)	(0.0727)	(0.0465)	(0.0657)
PORTFOLIO CHARACTERISTICS				
Average holding period	0.0024**	-0.0016	0.0025**	-0.0022
	(0.0011)	(0.0019)	(0.0011)	(0.0019)
Log total portfolio value	0.0430***	-0.0566***	0.0407***	-0.0560***
	(0.0136)	(0.0196)	(0.0137)	(0.0190)
Log number of transactions	0.0262**	0.0175	0.0268**	0.0101
	(0.0124)	(0.0267)	(0.0122)	(0.0250)
INDIVIDUAL CHARACTERISTICS				
Investment knowledge	0.0022	-0.0303	0.0081	-0.0323*
	(0.0130)	(0.0190)	(0.0125)	(0.0183)
University degree	0.0546	0.0503	0.0499	0.0440
	(0.0333)	(0.0545)	(0.0336)	(0.0537)
Risk preferences	-0.0001	0.0016**	-0.0001	0.0015**

	(0.0004)	(0.0006)	(0.0004)	(0.0006)
Female	0.0078	-0.0247	-0.0018	-0.0270
	(0.0447)	(0.0591)	(0.0434)	(0.0540)
Age	-0.0021	0.0016	-0.0024	0.0015
	(0.0015)	(0.0023)	(0.0015)	(0.0023)
Low income	0.0168	0.0183	0.0150	0.0111
	(0.0401)	(0.0607)	(0.0403)	(0.0597)
High income	-0.0200	0.0388	-0.0261	0.0440
	(0.0423)	(0.0650)	(0.0418)	(0.0647)
Untold income	-0.0100	-0.0091	-0.0136	-0.0014
	(0.0442)	(0.0667)	(0.0436)	(0.0635)
Constant		0.7253**		0.8225***
		(0.2927)		(0.2574)
Observations	582	119	582	119
R-squared		0.1910		0.2317

Table A7: Inclusion of the full set of signaling dummies

Column (1) presents marginal effects of a probit regression. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey; 0 otherwise. Column (2) presents coefficients of an OLS regression. The dependent variable is *% in SRI equity* funds and represents the investor's holdings in SRI equity funds as a share of the total investments in equity. Only investors with a share greater zero are considered. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit **has SRI equity** **(1)**	**OLS** **% in SRI equity** **(2)**
SOCIAL MOTIVES		
Social preferences	0.0708***	-0.0290
	(0.0234)	(0.0467)
Social signaling dummy = 2	0.1608**	0.0617
	(0.0681)	(0.1160)
Social signaling dummy = 3	0.1630**	-0.0627
	(0.0796)	(0.1185)
Social signaling dummy = 4	0.1575**	0.0587
	(0.0791)	(0.1158)
Social signaling dummy = 5	0.2011**	-0.0323
	(0.0912)	(0.1287)
Social signaling dummy = 6	0.2435*	-0.0613
	(0.1337)	(0.1376)
Social signaling dummy = 7	0.5851**	-0.0890
	(0.2538)	(0.1352)
FINANCIAL MOTIVES		
Sharpe Ratio	-0.0028	0.0546
	(0.0217)	(0.0567)
Lower expected returns on SRI	-0.0588*	-0.0871*
	(0.0318)	(0.0493)
Higher expected returns on SRI	-0.0459	-0.0378
	(0.0357)	(0.0656)
Lower perceived risk on SRI	-0.0427	-0.0146
	(0.0299)	(0.0527)
Higher perceived risk on SRI	0.0116	0.0758
	(0.0440)	(0.0737)
PORTFOLIO CHARACTERISTICS		
Average holding period	0.0023**	-0.0021
	(0.0010)	(0.0020)
Log total portfolio value	0.0374***	-0.0643***
	(0.0123)	(0.0197)
Log number of transactions	0.0258**	0.0165
	(0.0114)	(0.0258)
INDIVIDUAL CHARACTERISTICS		
Investment knowledge	-0.0036	-0.0363*
	(0.0119)	(0.0201)

University degree	0.0585*	0.0538
	(0.0312)	(0.0536)
Risk preferences	-0.0001	0.0015**
	(0.0004)	(0.0006)
Female	0.0031	-0.0267
	(0.0412)	(0.0578)
Age	-0.0025*	0.0011
	(0.0014)	(0.0021)
Low income	0.0285	0.0205
	(0.0388)	(0.0658)
High income	-0.0213	0.0339
	(0.0383)	(0.0654)
Untold income	-0.0032	-0.0014
	(0.0413)	(0.0702)
Constant		0.8598***
		(0.3210)
Observations	625	121
R-squared		0.2236

Table A8: Inclusion of investors who have held an SRI equity fund in the period between 2006 and the time the survey was taken

Columns (1) and (2) present coefficients of probit regressions. The dependent variable is *SRI equity* and takes the value 1 if an investor holds an SRI equity fund in the month investors participated in the experiment and survey or if an investor has held an SRI equity fund in the period since 2006; 0 otherwise. All other variables are defined in Table 1. Robust standard errors in parentheses. * is 10% ** is 5% and *** is 1% significance.

	Probit has or had SRI equity (1)	**Probit has or had SRI equity (2)**
SOCIAL MOTIVES		
Social preferences	0.0731***	
	(0.0261)	
Signaling	0.0174	
	(0.0124)	
Strong social preferences		0.1209**
		(0.0477)
Weak social preferences * strong signaling		0.0660
		(0.0470)
FINANCIAL MOTIVES		
Sharpe Ratio	0.0350*	0.0360*
	(0.0195)	(0.0193)
Lower expected returns on SRI	-0.0470	-0.0434
	(0.0371)	(0.0371)
Higher expected returns on SRI	-0.0810**	-0.0809**
	(0.0409)	(0.0411)
Lower perceived risk on SRI	-0.0077	-0.0038
	(0.0359)	(0.0360)
Higher perceived risk on SRI	0.0695	0.0657
	(0.0549)	(0.0547)
PORTFOLIO CHARACTERISTICS		
Average holding period	0.0018	0.0018
	(0.0012)	(0.0012)
Log total portfolio value	0.0617***	0.0595***
	(0.0145)	(0.0144)
Log number of transactions	0.0364***	0.0371***
	(0.0136)	(0.0135)
INDIVIDUAL CHARACTERISTICS		
Investment knowledge	0.0204	0.0216
	(0.0139)	(0.0132)
University degree	0.0506	0.0450
	(0.0353)	(0.0354)
Risk preferences	-0.0004	-0.0004
	(0.0004)	(0.0004)
Female	0.0345	0.0271
	(0.0500)	(0.0492)

Age	-0.0009	-0.0012
	(0.0016)	(0.0016)
Low income	0.0348	0.0333
	(0.0440)	(0.0441)
High income	-0.0519	-0.0531
	(0.0428)	(0.0427)
Untold income	-0.0200	-0.0217
	(0.0469)	(0.0466)
Observations	625	625