Does the willingness to pay for sustainable investments differ between stated and incentivized choice experiments?

February 2025

Abstract
This paper compares individual sustainable investment decisions in pre-registered non-incentivized and incentivized choice experiments to examine hypothetical bias. Using a representative sample of over 2,100 individual investors in Germany and France, our econometric analysis reveals that the willingness to pay for sustainable investments is not significantly stronger in the non-incentivized than in the incentivized treatment, contrary to predictions from previous studies. The results are robust to various explanations of hypothetical bias and experimental design choices, and individual characteristics have mostly similar effects on preferences in both settings. The results of our empirical analysis offer insight into the reliability of previous stated choice experiments and provide guidance for future experiments. Additionally, our estimation results enhance the understanding of individual investment decisions, which is crucial from a policy perspective as individual investors play a critical role in financing the transition to a sustainable economy.

JEL classification: C25, G11, G41, Q56

Keywords: Sustainable investments, choice experiments, hypothetical bias, willingness to pay, investment experiments

Funding: This research is conducted as part of the project "Investment Funds for low-carbon Infrastructure (IF)" funded by the German Federal Ministry of Education and Research (BMBF) (grant number: 01LA1824B).

1. Introduction

Top-ranked finance journals have been publishing an increasing number of experimental studies in recent years (e.g. Huber and Kirchler, 2023). Examples refer to the effects of rankings in the finance industry on investment decisions of financial professionals (e.g. Kirchler et al., 2018), moral messages on debt repayment by bank customers (e.g. Bursztyn et al., 2019), or different types of information on the propensity of individuals to check their pension accounts (e.g. Bauer et al., 2022). With the rapid growth of sustainable investing as a topic (e.g. Pastor et al., 2021), an increasing number of experiments is also conducted to study sustainable investment behavior of individuals. Examples include studies on the effects of different information about social benefits of financial products (e.g. Brodback et al., 2019), information about donations to charities by companies (e.g. Bonnefon et al., 2022), the real-world impact of sustainable investments (e.g. Heeb et al., 2023), or of rising fees for sustainable financial products (e.g. Engler et al., 2024), on sustainable investment behavior of individuals. To measure investment behavior, these experiments often require participants to choose between multiple investment alternatives, such as different financial products or retirement portfolios (e.g. Benartzi and Thaler, 2007). Typically, these experiments involve incentivized investment decisions. However, when budgetary constraints or other restrictions prevent the use of incentives, non-incentivized experiments such as stated choice experiments have gained popularity as an alternative in the past years (e.g. Mariel et al., 2021).

Data from stated choice experiments have become an important source to elicit individual preferences in various economic contexts (e.g. Johnston et al., 2017). A main advantage of stated choice data is that they are not limited to situations, products, and attributes of alternatives that currently exist or have existed in the past, but can also refer to new products, which are not available on the market yet. This data can be used for valuations of public goods such as sustainable development or climate protection. Furthermore, stated choice experiments allow to flexibly consider different decision contexts that can mimic actual decision-making environments. Most importantly, compared to simpler forms of experiments, they allow for deeper insights on individual decision-making by quantifying the relative importance of different attributes and the trade-offs that individuals have to make when they choose between alternatives (e.g. Train, 2009). By doing so, it is possible to estimate willingness to pay for particular attributes of an alternative, such as sustainability. Therefore, stated choice experiments have also become increasingly popular in the analysis of individual financial decisions, including individual decisions on sustainable investment products (e.g. Barreda-Tarrazona;

Gutsche and Ziegler, 2019; Hartzmark and Sussman, 2019; Lagerkvist et al., 2020; Filippini et al., 2024), and in some cases, these studies find a high willingness to pay for sustainable investments.

It is also well-known that people may make different choices in hypothetical experimental settings than in incentivized settings or in the real world, and this difference is usually termed hypothetical bias (e.g. Murphy et al., 2005). Various factors, including the type of products or alternatives being evaluated, the elicitation method employed, and the sampled population, can influence differences between hypothetical choices and incentivized or revealed choices (e.g. List and Gallet, 2001; Schmidt and Bijmolt, 2020). Hypothetical bias is particularly large in contexts where the alternatives are characterized by normative attributes, which are associated with, for example, environmental or social consequences (e.g. Andreoni, 1990; Johansson-Stenman and Svedsäter, 2012).[1] As sustainable investment products commonly possess at least one normative attribute, the results of stated choice experiments that focus on sustainable investments are thus suspected to be especially affected by hypothetical bias (e.g. Bauer et al., 2021), that is, people are said to overstate their willingness to pay for sustainability in hypothetical settings. To examine whether this indeed holds true, we examine three key research questions: Do investors have a higher willingness to pay for sustainable investments in purely hypothetical settings than in incentivized settings? Which factors drive differences between choices in incentivized and purely hypothetical settings? Do we identify the same relevant explanatory factors for individual sustainable investing based on incentivized and hypothetical settings?

To answer these questions, our empirical analysis is based on data from large-scale computer-assisted representative online surveys among overall 2,153 individual investors from France and Germany conducted from May to July 2021. We define individual investors as household financial decision makers who have either previously or currently owned investment products or are knowledgeable enough about investment products. In our pre-registered choice experiments, participants were endowed with €500 and asked to choose six times among four (varying) bond funds that are traded on the capital market and that especially differ with respect

[1] For example, Brown et al. (1996) and Cummings and Taylor (1999) find that people overstate their willingness to pay for conserving national parks in hypothetical compared to incentivized settings. Johansson-Stenman and Svedsäter (2012) find a much higher hypothetical than revealed willingness to contribute to a World Wildlife Fund project. De-Magistris et al. (2013), Moser et al. (2014), and Menapace and Raffaelli (2020) find a higher willingness to pay for either organic and regional food or environmentally, climate, and socially friendly food in non-incentivized experiments compared to incentivized experiments.

to their strength of sustainability. These experiments were incentivized for one half of the participants and non-incentivized for the other half. In our incentivized experiments, we actually implement the investment decisions and pay out the final portfolio values one year later to 10 randomly selected participants. This approach has become a widely accepted standard in sustainable finance experiments to reduce hypothetical bias (e.g. Gutsche et al., 2023; Heeb et al., 2023; Auzepy et al., 2024; Engler et al., 2024; Filippini et al., 2024; Seifert et al., 2024).

We gather data on factors that have been identified as potential drivers to hypothetical bias in the literature, including socially desirable response behavior (e.g. Lusk and Norwood, 2009), strategic answering motives (e.g. Lloyd-Smith and Adamowicz, 2018), cross-country variations (e.g. Ehmke et al., 2008), knowledge about and familiarity with the goods in question (e.g. Sanjuán-López and Resano-Ezcaray, 2020; Schmidt and Bijmolt, 2020), choice certainty (e.g. Loomis, 2014), and experimental design choices (e.g. Penn et al., 2019). To examine the effect of experimental design choices on hypothetical bias, we slightly modify the experimental design for some participants: In two experimental groups, participants can additionally choose a safe option alternative, that is, leave their endowment on a bank account, instead of investing in a bond fund. Lastly, we collect information on individual characteristics that have been shown to affect sustainable investing in previous studies.

We find that individual preferences for sustainable funds are not significantly stronger in the non-incentivized than in the incentivized settings. This core result holds regardless of the considered country and also if we include a safe option as an additional alternative. The preference for sustainable investments in the stated choice experiments is also not significantly stronger for participants with stronger social desirability motives. Surprisingly, the preference for sustainable investments is stronger in the incentivized than in the non-incentivized experimental groups in two German and French subsamples. Finally, the estimated correlations between individual characteristics and the preference for sustainable investments are qualitatively and quantitatively similar in the incentivized and stated choice experiments, and also similar to those in previous stated choice experiments (e.g. Gutsche and Ziegler, 2019).

Our empirical analysis contributes to several strands of the literature. First, we contribute to the literature on differences between incentivized and non-incentivized choices in settings that include alternatives with normative attributes (e.g. Johannson-Stenman and Svedsäter, 2012; Menapace and Raffaelli, 2020). We show that people do not necessarily exaggerate their willingness to pay for normative attributes in non-incentivized compared to incentivized settings. In contrast to previous studies, we even find a lower willingness to pay when incentives are

absent. Second, the use of data from representative samples in two different countries enhances the generalizability of our estimation results and especially contributes to the scarce literature on country differences in hypothetical bias (e.g. Ehmke et al., 2008), particularly in the willingness to pay for normative attributes. Third, we provide a novel application of choice experiments by using tradable real-market investment products, which are combined with a validated (probabilistic) incentive-compatible scheme from behavioral economics that is increasingly used in experiments about sustainable investing (e.g. Gutsche et al., 2023; Heeb et al., 2023; Auzepy et al., 2024; Engler et al., 2024; Filippini et al., 2024; Seifert et al., 2024). Fourth, we contribute on the literature on sustainable investing by examining and partially confirming the validity of previous stated choice experiments in experimental and sustainable finance (e.g. Gutsche and Ziegler, 2019), especially with respect to individual heterogeneity in the preference for sustainable investments. Our results concerning the general willingness to pay for sustainable investments and its determinants are similar to the results from previous studies who use artificial instead of real financial products. Fifth, we examine whether experimental design choices concerning the presence or absence of a safe option lead to different conclusions regarding hypothetical bias and the determinants of sustainable investments (e.g. Penn et al., 2019). We find that the extent of hypothetical bias and the main determinants of sustainable investing are similar regardless of the presence or absence of a safe option. Taken together, our empirical analysis improves the understanding of sustainable investment behavior, which is crucial from a policy perspective since individual investors play an important role in financing the transition to a sustainable economy, and provide guidance for the design of future choice experiments in experimental and sustainable finance.

The remainder of this paper is structured as follows: Section 2 describes the survey including the choice experiments and defines all relevant variables for the empirical analysis. Section 3 presents descriptive statistics, discusses the main estimation results, and describes several robustness checks. Section 4 concludes.

2. Data and variables

Our econometric analysis is based on data from pre-registered[2] stated and incentivized choice experiments among representative samples of 2,153 individual investors from France (829 respondents) and Germany (1,324 respondents). The survey was carried out in collaboration with the professional market research institute Psyma+Consulting GmbH from May to July

[2] https://osf.io/q2vng

2021. Following earlier studies (e.g. Gutsche and Ziegler, 2019), the target group of the survey consisted of households' financial decision makers aged 18 or older who have made experiences with or gained sufficient knowledge of financial products with variable returns (e.g. bonds, bond funds, stocks, equity funds, or more complex assets). These restrictions were intended to guarantee that respondents were familiar with similar decision-making situations like those in the experiment. Nevertheless, with this approach we were still able to consider a broad group of individuals, as restricting the focus on too specific groups of investors (e.g. only investors who already own sustainable investment products or customers of a specific bank) might not reflect investment behavior market wide (e.g. Hartzmark and Sussman, 2019).

The survey consisted of eight different parts (A-H): Part A contained questions that allowed us to screen-out respondents who did not meet the above requirements for participation in the experiments. This part also included further questions about respondents' current forms of investments. Part B comprised general questions on investment and consumption behavior. Part C aimed to capture a variety of individual characteristics such as economic preferences, personality traits, or personal attitudes. Part D consisted of the investment choice experiments which are described in the next section. Part E captured further background information on the respondents' sustainable investment behavior and knowledge. It particularly contained measures to capture individual financial performance perceptions concerning sustainable investments. Part F contained questions regarding low-carbon infrastructure. Part G contained questions on financial literacy and cognitive reflection. Finally, Part H comprised further questions on the respondents' socio-demographic and socio-economic background.

2.1 Experimental design

Our empirical analysis is based on data from individuals who were randomly assigned to one of several versions of an investment experiment. In all versions of the experiment, participants made six choices among real bond funds.[3] All participants obtained the same basic information on the setting and funds. They received a short explanation of the financial products these funds could invest in (i.e., corporate bonds, public bonds, cash, and other derivatives)

[3] We selected bond funds as investment product for this experiment as there are relatively low barriers for individual investors to invest in this type of fund (e.g. in terms of liquidity, minimum investment amount, and accessibility compared to, for example, single bonds). They can also directly finance sustainable projects by buying, for example, newly issued green bonds. Therefore, individual investors could have an environmental or social impact when they buy these funds (e.g. Tang and Zhang, 2020).

and learned that all funds accumulated earnings, were traded in €, had similar risk-return profiles, and mainly invested in corporate bonds. We further explained that the funds differed in terms of the five different attributes 'strength of sustainability,' 'annual returns in the past two years,' 'share of bond issuers from the EU,' and 'fees.' Table 1 shows the descriptions of these attributes, which were also shown to the participants.[4]

-- insert Table 1 --

The attribute 'strength of sustainability' was the key attribute in our experiment. In line with Hartzmark and Sussman (2019), we distinguished more sustainable funds from less sustainable funds by using the Morningstar Sustainability Rating. The Morningstar Sustainability Rating generally ranges between one and five globes, where a higher number of globes indicates a better sustainability performance.[5] Hartzmark and Sussman (2019) find significant inflows for funds having received a high rating of four or five globes and significant outflows for funds with a low rating of one or two globes. They find no significant investor reactions to medium ratings of three globes. Accordingly, we did not include funds with three globes in the experiment. To avoid any positive or negative reactions to the (name of the) rating agency or the display of the rating with globes, we also only explained that a fund's strength of sustainability was measured by a company on the basis of a five-point scale ranging from "very low" to "very high." We therefore did not mention the name of the rating agency or the sustainability rating itself.

In addition to the attribute of interest, other attributes that may be of relevance to a large proportion of participants are commonly included in choice experiments to describe the alternatives (e.g. Hoyos, 2010). Since individual investors tend to chase past returns (e.g. Sirri and Tufano, 1998), we also included the attribute 'annual returns in the past two years.' This attribute captured a fund's average annual return in the years 2019 and 2020 (in %) and ranged between -0.02% and 12.75%. Furthermore, individual investors prefer to invest in their domestic economy or country (e.g. Lewis, 1999). To be able to run the experiment without differences in attributes and levels in France and Germany, we included the attribute 'share of bond issuers from the European Union.' Instead of the countries of France or Germany themselves, we thus considered the European Union (EU) as the domestic economy. The attribute levels ranged between 0.00% and 83.23%, while the remaining percentages related to issuers

[4] The wording of the texts shown to the participants are reported in Part D of the Appendix.
[5] See Morningstar (2022) for a detailed description of the Morningstar Sustainability Rating methodology.

of bonds not from the EU, cash, and other financial products. Lastly, given the relevance of fees in investment decisions (e.g. Barber et al., 2005; Choi et al., 2010), the funds in our experiment differed in the amount of fees (in % of the investment amount) that incurred during the one-year investment period. They were calculated as the sum of the front-up fee and the management fee of each fund during the one-year holding period and ranged between 0.44% and 6.67%.

Each choice situation was constructed by randomly drawing four out of 16 bond funds that had been carefully selected in advance.[6] To prevent participants from getting additional information on these funds, for example, via websites of financial information providers, we did not show the names of the funds. Thus, participants could only consider the information provided in the experiment. We therefore also avoid that familiarity with, for example, certain funds or fund providers affect our results. In each choice situation, participants were able to re-read the explanations of the attributes. Figure 1 shows an exemplary choice set.

-- insert Figure 1 --

The experimental setting was nearly identical for all participants. However, participants in Germany were randomly divided into four groups and respondents in France were randomly divided into two groups (see Table 2). The experimental setting for these groups only differed with respect to the presence or absence of i) incentivized choices, ii) a so-called safe option, and iii) the corresponding information on the incentives or safe option.

-- insert Table 2 --

Participants in the experimental groups with incentivized choices and no safe option ($T1_G$ in Germany and $T1_F$ in France) learned that they would be shown four different actively managed bond funds six times. In each of these six decision situations, they had to indicate which of the four bond funds they would like to purchase for an investment amount of €500. They further received all basic information and explanations of the different fund attributes, as described above. Most importantly, participants in these two groups received the information that ten people would be randomly selected from all participants.[7] For each of these ten people,

[6] We describe the selection process in detail in Part B of the Appendix.

[7] In addition to the 1,068 participants in the experimental groups with incentives considered in this paper, the choice experiment was also conducted for additional experimental groups and in additional countries with additional 2,477 participants. The additional experimental groups are not considered in this paper because they address different research questions. The additional countries are not considered as there is no corresponding non-incentivized experimental group. In total, 3,545 participants were therefore part of the experimental groups with incentives, of which 10 were randomly selected as winners.

one of the six investment decisions they made would be randomly selected and realized by us after the end of the survey in July 2021. The investment would run for exactly one year and then be liquidated in July 2022. The selected individuals would then be paid the current value of their fund less fees. They further received examples explaining that if the value of the fund increased to €550, they would receive €550 minus the fund's fees. Likewise, if the value of the fund decreased to €450, they would receive €450 minus the fund's fees. We further guaranteed that all information was true and would be implemented, and that they were completely free in their decisions.

With this approach, we follow previous experimental studies analyzing individual investment behavior and using a probabilistic incentive scheme (e.g. Kirchler et al., 2018; Gutsche et al., 2023; Heeb et al., 2023; Auzepy et al., 2024; Engler et al., 2024; Filippini et al., 2024; Seifert et al., 2024). This allows us to provide realistically high investment amounts to participants and reduce administrative complexity. Results from several previous review studies show that such an approach leads to only small differences, if any, compared to the case in which all participants are paid (e.g. Charness et al., 2016; Clot et al., 2018). After the survey, we invested real money according to the investment decisions.

The setting was almost identical for participants in the experimental groups with non-incentivized choices and no safe option ($T2_G$ in Germany and $T2_F$ in France). They received basically the same information on the decision situations, the funds and their attributes, the investment period, the aforementioned examples, etc. The difference was that their choice was not incentivized; they were only asked to indicate which of the funds in each of the six decision situations seemed so attractive to them that they would purchase it for an investment amount of €500. We further asked them to decide as if they were selecting the fund in reality in each choice situation and to take their personal financial situation into account.

By considering these four groups, we can already examine the extent to which preferences for sustainable funds differ in incentivized and non-incentivized investment decisions, and whether there are differences across countries. In additional experiments, we aim to investigate the extent to which the inclusion of a so-called safe option affects individual decisions in the aforementioned settings. The provision of a safe (or "none") option is often considered good practice in choice experiments (e.g. Johnston et al., 2017), as it gives participants the option not to select any of the alternatives and thus increases the realism of the choice experiment. In fact, willingness to pay estimates can be different between settings with or without

a "none" option (e.g. Penn et al., 2019), and the absence or presence of incentives can influence the frequency of selecting the "none" option (e.g. Lusk and Schroeder, 2004; Mørkbak et al., 2014). However, none of the aforementioned choice experiments in the field of individual sustainable investing has considered such a safe option yet.

We included a safe option for two further experimental groups in Germany (with incentivized choices in $T3_G$ and non-incentivized choices in $T4_G$).[8] Participants in group $T3_G$ received almost the same information as participants in groups $T1_G$ and $T1_F$. We only added one further alternative to each choice situation. In each of their six choice situations, participants thus not only had four bond funds to choose from, but also a safe option in the form of a bank account (see Figure 2). Accordingly, participants learned that they could leave their endowment on a bank account instead of investing in one of the funds. In this case, they would receive €500 in any case in July 2022 if the corresponding decision would be randomly chosen after the survey. Analogously, participants from group $T4_G$ received almost the identical information as participants from groups $T2_G$ and $T2_F$, but learned that they could also leave their endowment on a bank account.

-- insert Figure 2 --

2.2 Variables

The dependent variable in our econometric analysis is *Choice*. For each of the participants' six choice situations, this variable takes the value of one for the alternative selected by the participant, and zero for all non-chosen alternatives. As explanatory variables, we consider the attributes of the different funds and individual-specific characteristics. We treat the attributes 'annual returns in the last two years,' 'share of issuers of bonds from the European Union,' and 'fees' as continuous variables (i.e., *Annual returns in the past two years*, *Share of issuers of bonds from the EU*, and *Fees*), which allows us to directly include them in our econometric models. The dummy variable *Strength of sustainability* captures the attribute of main interest and takes the value of one for "very high" or "rather high," and zero for "very low" or "rather low." For the experimental groups $T3_G$ and $T4_G$, we additionally create the

[8] Due to budget constraints, we could not implement all treatments in both countries. Therefore, we implemented the safe option only in Germany. For the same reason, we considered a reduced sample size for these two experimental groups.

dummy variable *Safe option* that takes the value of one for the safe option. We further create dummy variables indicating each of the six experimental groups shown in Table 2.

To analyze possible differences in the effects of individual characteristics on sustainable investments in stated and incentivized choice experiments, we refer to the variables that are considered in the analysis of the stated choice experiments by Gutsche and Ziegler (2019). As described above, Gutsche and Ziegler (2019) also consider capital market-experienced adult household financial decision makers in Germany as their target group. Moreover, in one of their choice experiments, they repeatedly ask their respondents to select one out of four equity funds. A safe option (e.g. in the form of a bank account) does not exist. Their setting is thus very similar to our hypothetical setting without safe option in Germany. This allows us to examine the extent to which the same individual characteristics play a role in investment decisions in these experiments. Following their approach, we measure a variety of pecuniary and non-pecuniary motives that could affect individual sustainable investments decisions. In addition, we capture socio-demographic and socio-economic characteristics of all participants.

To capture individual risk perceptions concerning sustainable versus conventional investments, we asked respondents to what extent they agree with the statement "Sustainable investments are riskier than conventional investments" on an ordinal five-point scale with the response categories ranging from "strongly disagree" to "completely agree." The dummy variable *High perceived risk* takes the value of one if a respondent indicated one of the two highest categories. Any return expectations of the respondents are already addressed by the corresponding attribute in the experiment.

We further consider non-pecuniary factors such as psychological motives, values, and norms regarding sustainable investments. A motive that is often important for sustainable behavior is warm glow, which can be described as a good feeling through the act of giving (e.g. Andreoni, 1990). Such feelings can lead to psychological benefits and thus higher utility levels from acting sustainably. The corresponding dummy variable *Warm glow* takes the value of one if a respondent agreed rather strongly or completely with the statement "It makes me feel good when I behave sustainably" on an ordinal five-point scale with the response categories ranging from "strongly disagree" to "completely agree."[9] To capture potential effects of social norms,

[9] To construct their *Warm glow* variable, Gutsche and Ziegler (2019) jointly consider the statements "it makes me feel good to make sustainable investments" and "I feel responsible for a sustainable development and want to contribute by making sustainable investments." As we believe that the first statement is a better indicator for

the dummy variable *Expectation social environment* takes the value of one if a respondent agreed rather strongly or completely with the statement "My social environment (e.g. family, friends, colleagues) expects me to behave in a sustainable manner" on an ordinal five-point scale with the response categories ranging from "strongly disagree" to "completely agree."

We also consider indicators for sociability and political identification. The dummy variable *Volunteering* takes the value of one if individuals report to be engaged in volunteering activities. Concerning political identification, we follow Ziegler (2017, 2019) and measure individual political identification by using the dummy variables *High social policy identification* and *High ecological policy identification*. The variable *High social policy identification* takes the value of one if the respondent rather or completely agreed with the statement "I identify myself with socially oriented policy" and the variable *High ecological policy identification* takes the value one if the respondent rather or completely agreed with the statement "I identify myself with ecologically oriented policy" on an ordinal five-point scale with the response categories ranging from "strongly disagree" to "completely agree."

In addition, we capture usual socio-demographic and socio-economic characteristics. The dummy variable *Female* takes the value of one if a respondent is a woman. The variable *Age* denotes the age of the respondent in years. The dummy variable *High education* takes the value of one if a respondent has at least a university entrance qualification according to level six of the International Standard Classification for Education (Eurostat, 2022). The dummy variable *Living together or married* takes the value of one if a respondent had one of these two marital statuses. Finally, for the econometric analysis of the data from the survey conducted in Germany, the dummy variable *Western Germany* takes the value of one if a respondent lived in one of the Western German federal states excluding Berlin.

2.3 Descriptive statistics and randomization check

Table 3 reports the means of all individual characteristics considered in our analysis across all six experimental groups and both countries. This overview reveals that males, older persons, and well-educated persons are overrepresented in all six experimental groups. Such a sample structure is in line with the characteristics of individual investors in previous studies (e.g. Guiso et al., 2008; Kaustia and Torstila, 2011; van Rooij et al., 2011; Riedl and Smeets, 2017;

warm glow motives, we focus on this statement in our main analysis. Nevertheless, in robustness checks, we also consider a variable based on both statements and derive very similar results compared to our main analysis.

Choi and Robertson, 2020). In terms of the randomized assignment of respondents to the four different experimental groups in Germany and the two experimental groups in France, we mostly do not find significant differences in the means of the individual characteristics between the experimental groups within each country. This implies that the randomization was widely successful.[10]

-- insert Table 3 --

3. Econometric analysis

3.1 Econometric approach

In the following, we briefly depict the econometric approach used to analyze the data derived from the different versions of our choice experiment. In the four experimental groups without safe option, each respondent *i* chooses $M = 6$ times among $J = 4$ bond funds. In the other two experimental groups with safe option, each respondent *i* chooses $M = 6$ times among $J = 5$ alternatives (four bonds funds and a bank account). The alternatives in each choice set vary in terms of the attributes captured by the variables *Strength of sustainability*, *Annual returns in the past two years*, *Share of issuers of bonds from the EU*, and *Fees*. In treatments with a bank account, this additional alternative is indicated by the variable *Safe option*. To examine the relevance of these attributes on the choice among the four (or five) available mutually exclusive alternatives, we consider multinomial discrete choice models, assuming utility functions for each choice alternative. Accordingly, the utility of individual *i* ($i = 1,\ldots, N$) in choice set *s* ($s = 1,\ldots, 6$) for investment alternative *j* ($j = 1,\ldots, 4$ or $j = 1,\ldots, 5$) is:

$$U_{isj} = \beta_i' \, x_{isj} + \varepsilon_{isj} \qquad (1)$$

An individual's utility U_{isj} thus depends on the vector $x_{isj} = (x_{isj1}, \ldots, x_{isjK})'$ of explanatory variables that are based on the attributes, individual characteristics, and the corresponding unknown parameter vectors β_i ($\beta_i = \beta_{i1}, \ldots, \beta_{iK})'$. The basic models without safe option include $K = 4$ and basic models with safe option include $K = 5$ explanatory variables for the attributes

[10] Table A.1 in Part A of the Appendix reports the differences in the means between the four experimental groups in Germany and the two experimental groups in France (and the z-values based on mean comparison z-tests). From a statistical perspective, for 105 comparisons, we would expect i) about one difference to be significantly different from zero at the 1% significance level, ii) about five differences to be significantly different from zero at the 5% significance level, and iii) about ten differences to be significantly different from zero at the 10% significance level. Table A.1 in Appendix A reveals that no difference is significantly different from zero at the 1% significance level, two differences are significantly different from zero at the 5% significance level, and six differences are significantly different from zero at the 10% significance level. Therefore, the number of significant differences is lower than statistically expected.

in the choice experiment. We will successively extend these basic models with additional explanatory to examine the extent to which the settings considered or individual characteristics affect preferences for sustainable funds. For this purpose, we will introduce interaction terms between *Strength of sustainability* and the variables indicating the different experimental groups or capturing individual characteristics. This will increase the number of explanatory variables accordingly.

The values of U_{isj} cannot be observed and depend on the error terms ε_{isj}, which summarize all unobserved factors for the choice of an investment alternative. According to random utility maximization theory (e.g. McFadden, 1974), we assume that individuals choose an investment alternative in a specific choice situation if the utility for this alternative is the largest among the utilities for all four (or five) alternatives. To avoid the well-known problems associated with common multinomial logit models, we apply mixed logit models (e.g. McFadden and Train, 2000). These models also assume independently and standard (type 1) extreme value distributed error terms ε_{isj}, but do not require the restrictive independence of irrelevant alternatives assumption. Mixed logit models specifically assume that the parameters $\beta_i = \beta$ ($i = 1, \ldots, N$) of the explanatory variables are continuously distributed across i. All parameters except for interaction terms and fees are assumed to be random. The random parameters are assumed to follow normal distributions, as individuals might experience positive or negative utility from each of the corresponding attributes. In the present application, β_i follows the multivariate distribution $f(\beta, \Sigma)$, where β is a vector of means and Σ is a variance–covariance matrix that allows to account for unobserved taste heterogeneity. We assume that the non-diagonal elements of Σ are zero for the main estimation and additionally consider robustness checks where we relax this assumption.

The basis for the willingness to pay estimation is the utility function discussed above. The mean willingness to pay is the change of the fee variable that keeps the utility constant for a change of the explanatory variable of interest (e.g. *Strength of sustainability*). It can be determined by setting the total derivative of the utility function (with respect to the *Strength of sustainability* and the *Fees* variables) equal to zero, assuming all other variables are held constant. This is done by calculating the ratio between the negative value of the estimated mean parameter for *Strength of sustainability* and the estimated parameter for *Fees*:

$$\widehat{Mean\ WTP} = -\frac{\widehat{Mean}\ \hat{\beta}_{Strength\ of\ sustainability}}{\hat{\beta}_{Fees}} \tag{2}$$

Mixed logit models cannot be estimated using maximum likelihood estimation due to the complex probability calculations involved. Instead, probabilities are approximated using simulation methods, known as simulated maximum likelihood (SML) estimation. We use the Python package xlogit with R = 1,000 Halton draws for the SML estimation of mixed logit models (Arteaga et al., 2022).

3.2 Do investors have a higher willingness to pay for sustainable investments in purely hypothetical settings than in incentivized settings?

Table 4 reports the basic SML estimation results for the six experimental groups. The upper part of Table 4 shows that almost all estimated mean parameters in all six models are strongly significantly different from zero and positive for the variables *Strength of sustainability*, *Annual returns in the past two years*, and *Share of bond issuers from the EU*. Thus, in line with findings from previous (stated) choice experiments in this field, we find that individual investors prefer funds with a higher sustainability rating on average (e.g. Hartzmark and Sussman, 2019). Also consistent with previous empirical evidence, our results imply that individual investors chase past returns (e.g. Sirri and Tufano, 1998) and prefer a higher share of bond issuers from the EU, implying home bias (e.g. Lewis, 1999). Only for the sixth experimental group $T2_F$ we find no evidence that individual investors prefer suppliers from the domestic market. The estimated mean parameters for *Fees* are always significantly different from zero and negative, which implies that participants prefer funds with lower fees. In the experimental groups with safe option, individual investors prefer to choose a fund, and thus a risky option, over putting the money in a bank account.

The lower part of Table 4 reports the estimated standard deviations for those explanatory variables for which the parameters are assumed to be normally distributed. All estimated standard deviations of the random parameters are strongly significantly different from zero, which suggests the presence of unobserved heterogeneity among respondents concerning those attributes.

-- insert Table 4 --

To what extent can we observe differences in mean willingness to pay estimates in incentivized and hypothetical settings? Considering column 1 in Table 4, we find that participants in the incentivized choice and no safe option group in Germany are (based on formula 2) willing to pay on average about 5.83 (=- 1.75/-0.30) percentage points higher fees when a funds'

strength of sustainability is rather or very high. Participants in the direct comparison group with hypothetical choice (see column 2) are willing to pay about 5.06 percentage points for more sustainable funds. Participants' average willingness to pay for sustainable funds in the hypothetical setting is thus lower compared to the incentivized setting.

We find similar differences between the other directly comparable experimental groups. Considering the incentivized and non-incentivized experimental groups with safe option in Germany (see columns 3 and 4), we find that participants with incentivized choices are willing to pay on average more for sustainable funds than participants in the hypothetical setting (5.51 percentage points versus 3.97 percentage points). Also French participants in the incentivized experimental group without safe option (see column 5) have a higher estimated average willingness to pay of about 4.68 percentage points compared to about 3.90 percentage points among participants in the non-incentivized experimental group (see column 6).[11]

Thus, in line with previous studies, we find that individual investors are willing to pay for sustainable investments (e.g. Riedl and Smeets, 2017; Gutsche and Ziegler, 2019; Barber et al., 2021; Bauer et al., 2021; Heeb et al., 2023). These results hold regardless of whether decisions have been incentivized or which country the investors come from. However, we also find that participants whose investment decisions have not been incentivized consistently have a lower mean estimated willingness to pay compared to their counterparts with incentivized choices.

To examine whether these differences in mean willingness to pay between incentivized and non-incentivized choices are significantly different from zero, we pool the data from each of the two directly comparable groups. That is, for Germany, i) we pool the data of the two groups without safe option ($T1_G$ and $T2_G$) and ii) the data of the two groups with safe option ($T3_G$ and $T4_G$). For France, we pool all data available, as both experimental groups did not see a safe option ($T1_F$ and $T2_F$). To estimate the difference in the mean willingness to pay for the strength of sustainability between groups with and without incentivized choices, we further extend the model specifications considered in Table 4 by an interaction term between

[11] Concerning all further attributes, Table 4 shows that respondents are willing to pay on average between 0.48 (0.65) to 0.64 (0.68) percentage points more fees for an increase of annual returns in the past two years by one percentage point in Germany (France). For the share of issuers of bonds from the European Union, respondents are willing to pay on average between 0.95 and 1.52 (1.70) percentage points more fees in Germany (France) for a one percentage-point increase.

Strength of sustainability and the dummy variable indicating the corresponding non-incentivized experimental group. The base group for these comparisons is always the incentivized experimental group.

Table 5 reports the results from the estimations of the three corresponding mixed logit models. Considering the two experimental groups without safe option in Germany (see column 1), we see that respondents in the incentivized setting are willing to pay on average about 5.77 (=- 1.73/-0.30) percentage points higher fees when a funds' strength of sustainability increases by one category. This estimation result is in line with the estimated mean willingness to pay for the same group reported in Table 4. The estimated parameter for the interaction term in the model is not significantly different from zero and implies that the difference in the willingness to pay for sustainable funds between respondents in the non-incentivized experimental group and the incentivized experimental group is similar. This approach therefore shows that the difference between the incentivized and non-incentivized experimental group without safe option, as already observed in Table 4, is not significantly different from zero. Nevertheless, our findings thus stand in contrast to a significantly higher mean willingness to pay in the hypothetical setting that we expected based on past studies on hypothetical bias for goods with normative attributes.

When we consider the estimated difference in the willingness to pay for a fund's strength of sustainability between the incentivized and non-incentivized experimental group with safe option (see column 2 in Table 5), our findings are different. As in the first model in Table 5, the estimated parameter for the interaction term in this model is strongly significantly different from zero and negative. This result implies that respondents in the non-incentivized experimental group with safe option are willing to pay on average 1.14 percentage points lower fees for sustainable funds compared to the incentivized experimental group with safe option. Thus, we again find no evidence of a significantly higher mean willingness to pay in the non-incentivized setting compared to the incentivized setting. Our results also do not support previous findings that the inclusion of a safe or "no choice" option, which enhances the realism of the choice context, affects hypothetical bias (c.f. Lusk and Schroeder, 2004). However, the estimated mean willingness to pay is lower in both settings with a safe option compared to the settings without a safe option. This suggests that while the difference in the willingness to pay for sustainable investments between settings with and without incentives is unaffected by the presence or absence of a safe option, the inclusion of a safe option overall leads to lower willingness to pay estimates.

-- insert Table 5 --

Finally, the third column in Table 5 reports the estimation results for the two experimental groups without safe option in France. In contrast to the same setting in Germany, where the difference between both groups is not significantly different from zero, the estimated parameter of the interaction term in this model is marginally significant. Therefore, respondents in the non-incentivized experimental group are willing to pay on average 0.53 percentage points lower fees for sustainable funds compared to the incentivized experimental group. This result is partly in line with previous findings that the direction and degree of hypothetical bias differ across countries (e.g. Ehmke et al., 2008). Nevertheless, just as in the case for German individuals, this finding implies that we find no evidence of a higher mean willingness to pay for the sustainability attribute in hypothetical settings compared to incentivized settings in France.

Result 1: There is no evidence that the mean willingness to pay for sustainable investments is higher in hypothetical settings compared to incentivized settings. This finding holds regardless of whether a safe option is included or not and in both countries considered.

3.3 Which factors drive differences between choices in incentivized and purely hypothetical settings?

While we find no evidence of a higher mean willingness to pay for sustainable bond funds in hypothetical compared to incentivized choices, we even unexpectedly see that the mean willingness to pay is significantly lower in the incentivized compared to the hypothetical settings in one of the German samples and in the French sample. In the remaining German sample, the corresponding difference is not statistically significant, but also points in the same (negative) direction and the z-statistic of 1.55 is close to the 10%-significance threshold. How can we explain that the estimated mean willingness to pay for sustainable funds is lower in hypothetical settings than in incentivized settings? To answer this question, we conduct a heterogeneity analysis considering several factors that have been identified as drivers of hypothetical bias in previous studies.

We take social desirability motives, strategic behavior, choice certainty, knowledge about and familiarity with financial products, and the perceived impact of sustainable investments into account. We thus address that some individuals might gain utility from stating that they support something "good" (e.g. Andreoni, 1990; Johansson-Stenman and Svedsäter, 2012) to impress others or from maintaining a positive self-image (e.g. Paulhus, 1984, 1991; Menapace

and Raffaelli, 2020). These individuals might give socially desirable answers and report a higher willingness to pay for sustainable investments, even if they do not actually follow through on their stated intentions. Thus, in the non-incentivized experimental groups, they might choose sustainable funds more often when their choice cannot lead to any financial consequences. Individuals could also think that their answers or decisions could impact sustainable investment policies, as they might expect that the results of the study are shared with relevant decision makers. These persons could therefore strategically exaggerate or understate their willingness to pay to signal stronger or weaker preferences for sustainable investments (e.g. Lloyd-Smith and Adamowicz, 2018), which would be easier for them if their signal has no potential financial consequences in the non-incentivized experimental groups.

Bond funds in our experimental setting are also characterized by complex financial and sustainability information, and choosing among the available alternatives can thus be difficult for respondents. Non-incentivized and incentivized decisions might differ depending on the extent to which respondents understand the choice situation and possibly choose sustainable investments as a simplifying heuristic to avoid cognitive load (e.g. Boxall et al., 2009). For example, when participants were not able to cope with the overall experimental setting and are uncertain about their choices (e.g. Loomis, 2014), they might be more likely to choose sustainable investments as a mental shortcut in non-incentivized settings where no money is at stake. Moreover, some studies find that people with more knowledge about and a higher familiarity with the considered products are less likely to overstate their preference for the products as they can better assess their utility (e.g. Schmidt and Bijmolt, 2020). Lastly, some investors derive utility from investing in assets that generate a positive, measurable social and environmental impact alongside a financial return, and therefore might be willing to pay more for sustainable investments if they can actually have a real-world impact in the incentivized settings (e.g. Barber et al., 2021). We describe the variables that we use to capture the above explanations for hypothetical bias as well as our approach to conducting the heterogeneity analysis and the corresponding estimation results in Part C of the Appendix.

The results of our heterogeneity analysis suggest that none of the aforementioned factors or channels affect hypothetical bias consistently. The estimated mean willingness to pay for sustainable investments is never higher in the non-incentivized experimental groups than in the incentivized experimental groups in Germany or France.[12]

Result 2: There is no evidence that social desirability motives, strategic motives, choice certainty, knowledge about and familiarity with financial products, or the perceived impact of sustainable investments lead to a consistently higher mean willingness to pay for sustainable investments in hypothetical settings compared to incentivized settings.

3.4 Do we identify the same relevant explanatory factors for individual sustainable investing based on incentivized and hypothetical settings?

We finally examine to what extent the explanatory factors of individual preferences for sustainable bond funds differ across incentivized and hypothetical settings.[13] To this end, we extend the basic models considered in the previous sections by interacting the variable *Strength of sustainability* with each of the individual characteristics as defined in Section 2.2., and which Gutsche and Ziegler (2019) consider in their stated choice experiment. The interaction terms can be used to infer the extent to which individuals with certain characteristics have a higher or lower mean willingness to pay for sustainable investments. Based on their experiment, Gutsche and Ziegler (2019) find that investors who perceive sustainable investments as riskier than conventional investments have a lower estimated mean willingness to pay for sustainable funds. In contrast, particularly persons who feel a warm glow from investing sustainably, are members of environmental organizations, or are aligned to left-wing parties have a significantly higher mean willingness to pay for sustainable funds, respectively.

Table 6 reports the corresponding estimation results. It turns out that not only can we replicate the main findings from the previous study, but also that the results in the incentivized and non-incentivized settings are very similar. In line with Gutsche and Ziegler (2019), we find for all four experimental groups in Germany (see columns 1 to 4) that respondents who feel a warm glow from sustainable consumption have significantly stronger preferences for sustainable

[12] One additional result of the heterogeneity analysis is that participants with low financial literacy in all experimental groups in Germany and France do not react on rising fees for funds, whereas participants with high financial literacy are much less likely to choose funds with higher fees. This is strongly in line with the results reported by Engler et al. (2024).

[13] In doing so, we also automatically address the strong empirical evidence of unobserved heterogeneity with respect to the willingness to pay for a funds' strength of sustainability (see Tables 4 and 5).

funds in both incentivized and hypothetical settings in Germany. Likewise, respondents with an ecological policy orientation are willing to pay on average more for sustainable funds than their counterparts in all four experimental groups in Germany.[14]

-- insert Table 6 --

For the remaining variables in the first four columns, there are some minor differences between the hypothetical and incentivized settings, but as they are mostly only weakly significantly different from zero, we abstain from a more detailed interpretation. Those differences refer to the perceived risks of sustainable funds compared to conventional funds, expectations from the social environment concerning sustainable behavior, volunteering, social policy orientation, gender, education, marital status, and Western Germany. In sum, the core estimation results in the hypothetical and incentivized experimental groups without and with safe option are very similar to each other and also to the results reported in Gutsche and Ziegler (2019).

Consistent with the results for Germany, respondents who feel a warm glow from sustainable consumption have significantly stronger preferences for sustainable funds in both settings in France. For the incentivized setting, preferences for sustainable funds are significantly positively correlated with a high ecological policy orientation or a high education, and significantly negatively correlated with expectations from the social environment concerning sustainable behavior. In the hypothetical setting, the corresponding correlation is significantly negative for the perceived risk of sustainable investments and age, and significantly positive for having a spouse. Therefore, the correlations between individual characteristics and preferences for sustainable funds seem to be slightly less consistent between the settings with and without incentives in France compared to Germany. This implies that the results on the influence of individual characteristics on sustainable investing cannot be unrestrictedly transferred between both countries. Nevertheless, the results for the perceived risks of sustainable funds, warm glow, expectations from the social environment concerning sustainable behavior, and ecological policy orientation are at least partially consistent with the results from Germany.

Result 3: Both hypothetical and incentivized settings lead to qualitatively similar results with respect to the main explanatory factors of preferences for sustainable funds in Germany. These

[14] While Gutsche and Ziegler (2019) use another measure for policy orientation and find that a left-wing affinity is positively correlated with the mean willingness to pay for sustainable investments, our results imply that this result is rather driven by the ecological policies than the social policies of left-wing parties in Germany.

findings are also mainly in line with results from a previous similar study, based on data from non-incentivized investment choices. However, no such uniform picture emerges for France.

3.5 Robustness checks

Several robustness checks support our main findings. We additionally estimated all models in willingness to pay space using draws based on the Modified Latin Hypercube Sampling algorithm (e.g. Czajkowski and Budziński, 2019). We assumed correlated random parameters with a lognormal distribution for the random parameter for fees, normal distributions for the parameters of the remaining attributes, and fixed parameters for the interaction terms. This means that we additionally estimate the non-diagonal elements of Σ mentioned in Section 3.1. While there were convergence issues in a few of the models from the heterogeneity analysis based on smaller subsamples, the estimation results in the other models are qualitatively and quantitatively similar to the results reported above. Moreover, for all models, we also considered simple conditional logit models using fixed parameters for all attributes and interactions, and standard errors clustered at the individual level. Again, the findings in all specifications are qualitatively similar to the results based on the models reported above. Most importantly, we never find that the estimated mean willingness to pay for sustainable investments is significantly higher in hypothetical compared to incentivized settings. All corresponding estimation results are available on request.

4. Conclusions

Many previous studies show that people make different choices in hypothetical and incentivized experimental settings. People especially exaggerate their willingness to pay when they consider goods with normative attributes in hypothetical settings but not when real money is at stake. In this study, we empirically examine the extent to which these patterns are also observed in experiments in sustainable investing, an area where incentivized and non-incentivized investment experiments with goods that are characterized by normative attributes are becoming increasingly common.

To answer the three key research questions, our econometric analysis is based on data from large-scale computer-based survey experiments on the choice of real-world bond funds among a representative sample of 2,153 German and French individual investors. In stark contrast to previous studies in other fields, we do not find that the willingness to pay for sustainable investments is higher in hypothetical settings compared to incentivized settings. This finding

holds for several factors that could potentially affect the extent of hypothetical bias, that is, regardless of whether a safe option is available in the experimental design, and for both countries considered. There is also no evidence that social desirability motives, strategic motives, choice certainty, knowledge of and familiarity with financial products, or the perceived impact of sustainable investments drive differences in the willingness to pay for sustainable investments in hypothetical settings compared to incentivized settings. In Germany, both hypothetical and incentivized settings yield similar results regarding the main explanatory factors of preferences for sustainable funds. These findings are generally consistent with those from a prior study that relied on data from non-incentivized investment decisions with artificial instead of real-world financial products (e.g. Gutsche and Ziegler, 2019). In France, the findings concerning those explanatory factors are, however, less consistent between the experimental groups.

We also obtain some additional results. Despite minor differences, the preferences of respondents for the attributes of financial products, especially concerning sustainability, are similar in all considered experimental groups. In two subsamples, the mean willingness to pay for sustainable funds is, against our initial expectation in the pre-registration, higher in incentivized than in non-incentivized groups.

The results of this study bear important implications for the validity of past non-incentivized studies and the design of future studies. While it is not always possible to use monetary incentives in choice experiments in finance, for example, due to budget constraints, the absence of incentives does not necessarily lead to different conclusions regarding the preferences for attributes of financial products or the determinants of investment choices. Even though (stated) choice experiments are particularly suspected to be affected by hypothetical bias, our results show that this is not always the case. This especially holds for sustainability as a normative attribute, for which past studies have often found people to overstate their willingness to pay in hypothetical settings. Our findings also imply that the use of real-world products in the experiment does not necessarily lead to different conclusions compared to the use of similar, but artificial, financial products in past studies. This is important when researchers are interested in the willingness to pay for new attributes that do not yet exist on the market, which cannot be elicited using real-world financial products. As (stated) choice experiments are a flexible tool that allow to study interesting research questions related to how consumers make financial decisions, we hope that our results encourage more researchers to use them.

The results reported here do, however, not necessarily reflect "true" preferences due to the experimental setting even though monetary incentives are at stake. One interesting avenue for further research would be to compare real choices that individual investors make at retail (online) brokers with choices in a similar hypothetical environment, which would add another degree of realism to the analysis of data from choice experiments (e.g. Haghani et al., 2021).

Another explanation for our findings is that the now-popular standard method of incentivizing investment choices by individual investors (e.g., Gutsche et al., 2023; Heeb et al., 2023; Auzepy et al., 2024; Engler et al., 2024; Filippini et al., 2024; Seifert et al., 2024) may not be as effective in the (sustainable) finance domain as previously assumed. Although monetary incentives are typically used to mitigate hypothetical bias, our results suggest that such incentives might have a limited impact on decisions related to sustainability attributes. One possible reason is that, in the context of sustainable finance, participants may be more influenced by ethical or normative considerations than by financial rewards. Another possible reason is that the amount of incentives typically provided in these studies is not high enough to significantly affect behavior, given that the expected value for the incentives is usually low. While future research should reexamine the effectiveness of current incentive structures in finance experiments and vary the expected values for the incentives, budget constraints naturally make it challenging to examine this issue in-depth. Moreover, determining the appropriate expected value for a particular experiment might be challenging, as it may depend on various contextual factors, such as the specific decision environment or the type of financial product considered.

While we do not find evidence for hypothetical bias for general sustainability as a normative attribute, it would be interesting to analyze whether the results hold for different dimensions of sustainability. For example, choosing funds that particularly consider social criteria could be perceived as more socially desirable compared to a more general sustainability measure and therefore be suspect to stronger hypothetical bias. Moreover, the estimation results reported here refer to the specific case of Germany and France in 2021. Therefore, it is an open question whether these results are valid for other time periods and countries. Similar empirical analyses in other non-European industrialized countries are an interesting direction for future research. For example, Japanese individual investors have a stronger focus on pecuniary factors compared to non-pecuniary factors when making sustainable investment decisions (e.g. Gutsche et al., 2021), and could therefore react more sensitive on the presence or absence of monetary incentives.

References

Adamowicz, W., D. Dupont, A. Krupnick, and J. Zhang (2011), Valuation of cancer and microbial disease risk reductions in municipal drinking water: An analysis of risk context using multiple valuation methods, *Journal of Environmental Economics and Management* 61 (2), 213-226.

Andreoni, J. (1990), Impure altruism and donations to public goods: A theory of warm-glow giving, *The Economic Journal* 100 (401), 464-477.

Arteaga, C., J. Park, P. B. Beeramoole, and A. Paz (2022), xlogit: An open-source Python package for GPU-accelerated estimation of Mixed Logit models, *Journal of Choice Modelling* 42, 100339.

Auzepy, A., C. E. Bannier, and F. Gärtner (2024), *Looking beyond ESG preferences: The role of sustainable finance literacy in sustainable investing*, Center for Financial Studies Working Paper 719.

Barber, B. M., A. Morse, and A. Yasuda (2021), Impact investing, *Journal of Financial Economics* 139 (1), 162-185.

Barber, B. M., T. Odean, and L. Zheng (2005), Out of sight, out of mind: The effects of expenses on mutual fund flows, *The Journal of Business* 78 (6), 2095-2120.

Barber, B. M. and T. Odean (2013), The behavior of individual investors, In: Handbook of the Economics of Finance (Eds: G. M. Constantinides, M. Harris, and R. M. Stulz) Vol. 2, 1533-1570. Elsevier.

Barreda-Tarrazona, I., J. C. Matallín-Sáez, and M. R. Balaguer-Franch (2011), Measuring investors' socially responsible preferences in mutual funds, *Journal of Business Ethics* 103, 305-330.

Bauer, R., T. Ruof, and P. Smeets (2021), Get real! Individuals prefer more sustainable investments, *The Review of Financial Studies* 34 (8), 3976-4043.

Bauer, R., I. Eberhardt, and P. Smeets (2022), A fistful of dollars: Financial incentives, peer information, and retirement savings, *The Review of Financial Studies* 35 (6), 2981-3020.

Bauer, R. and P. Smeets (2015), Social identification and investment decisions, *Journal of Economic Behavior & Organization* 117, 121-134.

Benartzi, S. and R. Thaler (2007), Heuristics and biases in retirement savings behavior, *Journal of Economic Perspectives* 21 (3), 81-104.

Bonnefon, J.-F., A. Landier, P. R. Sastry, and D. Thesmar (2022), *The moral preferences of investors: Experimental evidence*, NBER Working Paper 29647.

Boxall, P., W. L. Adamowicz, and A. Moon (2009), Complexity in choice experiments: Choice of the status quo alternative and implications for welfare measurement, *Australian Journal of Agricultural and Resource Economics* 53 (4), 503-519.

Brodback, D., N. Guenster, and D. Mezger (2019), Altruism and egoism in investment decisions, *Review of Financial Economics* 37 (1), 118-148.

Brown, T. C., P. A. Champ, R. C. Bishop, and D. W. McCollum (1996), Which response format reveals the truth about donations to a public good?, *Land Economics 72*, 152-166.

Bursztyn, L., S. Fiorin, D. Gottlieb, and M. Kanz (2019), Moral incentives in credit card debt repayment: Evidence from a field experiment, *Journal of Political Economy* 127 (4), 1641-1683.

Charness, G., U. Gneezy, and B. Halladay (2016), Experimental methods: Pay one or pay all, *Journal of Economic Behavior & Organization* 131, 141-150.

Choi, J. J., D. Laibson, and B. C. Madrian (2010), Why does the law of one price fail? An experiment on index mutual funds, *The Review of Financial Studies* 23 (4), 1405-1432.

Choi, J. J. and A. Z. Robertson (2020), What matters to individual investors? Evidence from the horse's mouth, *The Journal of Finance* 75 (4), 1965-2020.

Clot, S., G. Grolleau, and L. Ibanez (2018), Shall we pay all? An experimental test of random incentivized systems, *Journal of Behavioral and Experimental Economics* 73, 93-98.

Committee of European Securities Regulators (2010), CESR's guidelines on the methodology for the calculation of the synthetic risk and reward indicator in the Key Investor Information Document, https://www.esma.europa.eu/sites/default/files/library/2015/11/10_673.pdf (last accessed January 10th, 2023).

Cummings, R. G. and L. O. Taylor (1999), Unbiased value estimates for environmental goods: A cheap talk design for the contingent valuation method, *American Economic Review* 89 (3), 649-665.

Czajkowski, M. and W. Budziński (2019), Simulation error in maximum likelihood estimation of discrete choice models, *Journal of Choice Modelling* 31, 73-85.

De-Magistris, T., A. Gracia, and R. M. Nayga Jr. (2013), On the use of honesty priming tasks to mitigate hypothetical bias in choice experiments, *American Journal of Agricultural Economics* 95 (5), 1136-1154.

Ehmke, M. D., J. L. Lusk, and J. A. List (2008), Is hypothetical bias a universal phenomenon? A multinational investigation, *Land Economics* 84 (3), 489-500.

Engler, D., G. Gutsche, and P. Smeets (2024), *Why Do Investors Pay Higher Fees for Sustainable Investments? An Experiment in Five European Countries. An Experiment in Five European Countries*, SSRN Working Paper.

European Commission (2021), Commission puts forward new strategy to make the EU's financial system more sustainable and proposes new European Green Bond Standard, https://ec.europa.eu/commission/presscorner/detail/en/ip_21_3405 (last accessed January 10 th, 2023).

Eurostat (2022), International Standard Classification of Education (ISCED), https://ec.europa.eu/eurotat/statistics-explained/index.php?title=International_Standard_Classification_of_Education_(ISCED) (last accessed January 10th, 2023).

Falk, A., A. Becker, T. Dohmen, B. Enke, D. Huffman, and U. Sunde (2018), Global evidence on economic preferences, *The Quarterly Journal of Economics* 133 (4), 1645-1692.

Farrow, K., G. Grolleau, and L. Ibanez (2017), Social norms and pro-environmental behavior: A review of the evidence, *Ecological Economics* 140, 1-13.

Filippini, M., M. Leippold, and T. Wekhof (2024), Sustainable Finance Literacy and the determinants of sustainable investing, *Journal of Banking & Finance 163*, 107167.

Gutsche, G., A. Köbrich León, and A. Ziegler (2019), On the relevance of contextual factors for socially responsible investments: an econometric analysis, *Oxford Economic Papers* 71 (3), 756-776.

Gutsche, G. and A. Ziegler (2019), Which private investors are willing to pay for sustainable investments? Empirical evidence from stated choice experiments, *Journal of Banking and Finance* 102, 1155-1182.

Gutsche, G., M. Nakai, and T. H. Arimura (2021), Revisiting the determinants of individual sustainable investment—The case of Japan, *Journal of Behavioral and Experimental Finance* 30, 100497.

Gutsche, G., H. Wetzel, and A. Ziegler (2023), Determinants of individual sustainable investment behavior - A framed field experiment, *Journal of Economic Behavior & Organization* 209, 491-508.

Haghani, M., M. Bliemer, J. Rose, H. Oppewal, and E. Lancsar (2021), Hypothetical bias in stated choice experiments: Part I. Macro-scale analysis of literature and integrative synthesis of empirical evidence from applied economics, experimental psychology and neuroimaging, *Journal of Choice Modelling* 41, 100309.

Hartzmark, S. M. and A. B. Sussman (2019), Do investors value sustainability? A natural experiment examining ranking and fund flows, *The Journal of Finance* 74 (6), 2789-2837.

Johansson-Stenman, O. and H. Svedsäter (2012), Self-image and valuation of moral goods: Stated versus actual willingness to pay, *Journal of Economic Behavior & Organization* 84 (3), 879-891.

Heeb, F., J. F. Kölbel, F. Paetzold, and S. Zeisberger (2023), Do investors care about impact? *The Review of Financial Studies* 36 (5), 1737-1787.

Hess, S. and D. Palma (2019), Apollo: A flexible, powerful and customisable freeware package for choice model estimation and application, *Journal of Choice Modelling* 32, 100170.

Holland, P. W. (1986), Statistics and causal inference, *Journal of the American Statistical Association* 81(396), 945-960.

Hoyos, D. (2010), The state of the art of environmental valuation with discrete choice experiments, *Ecological Economics* 69 (8), 1595–1603.

Huber, C. and M. Kirchler (2023), Experiments in finance: A survey of historical trends, *Journal of Behavioral and Experimental Finance* 37, 100737.

Johnston, R. J., K. J. Boyle, W. Adamowicz, J. Bennett, R. Brouwer, T. A. Cameron, M. Hanemann, N. Hanley, M. Ryan, R. Scarpa, R. Tourangeau, and C. A. Vossler (2017), Contemporary guidance for stated preference studies, *Journal of the Association of Environmental and Resource Economists* 4 (2), 319-405.

Kirchler, M., F. Lindner, and U. Weitzel (2018), Ranking and risk-taking in the finance industry, *The Journal of Finance* 73 (5), 2271-2302.

Lagerkvist, C. J., A. K. Edenbrandt, I. Tibbelin, and Y. Wahlstedt (2020), Preferences for sustainable and responsible equity funds - A choice experiment with Swedish private investors, *Journal of Behavioral and Experimental Finance* 28, 100406.

Lewis, K. K. (1999), Trying to explain home bias in equities and consumption, *Journal of Economic Literature* 37 (2), 571-608.

List, J. A. and C. A. Gallet (2001), What experimental protocol influence disparities between actual and hypothetical stated values? Evidence from a meta-analysis, *Environmental and Resource Economics* 20 (3), 241–254.

Lloyd-Smith, P. and W. Adamowicz (2018), Can stated measures of willingness-to-accept be valid? Evidence from laboratory experiments, *Journal of Environmental Economics and Management* 91, 133-149.

Loomis, J. B. (2014), 2013 WAEA keynote address: Strategies for overcoming hypothetical bias in stated preference surveys, *Journal of Agricultural and Resource Economics* 39, 34-46.

Lusardi, A. and O. S. Mitchell (2008), Planning and financial literacy: How do women fare? *American Economic Review: Papers & Proceedings* 98 (2), 413-417.

Lusk, J. L. and F. B. Norwood (2009), Bridging the gap between laboratory experiments and naturally occurring markets: an inferred valuation method, *Journal of Environmental Economics and Management* 58 (2), 236-250.

Lusk, J. L., L. McLaughlin, and S. R. Jaeger (2007), Strategy and response to purchase intention questions, *Marketing Letters* 18 (1), 31-44.

Lusk, J. L. and T. C. Schroeder (2004), Are choice experiments incentive compatible? A test with quality differentiated beef steaks, *American Journal of Agricultural Economics* 86 (2), 467-482.

McFadden, D. (1973), Conditional logit analysis of qualitative choice models, In: *Frontiers in Econometrics*. Academic Press, New York, 105-142.

McFadden, D. and K. Train (2000), Mixed MNL models for discrete response, *Journal of Applied Econometrics* 15 (5), 447-470.

Menapace, L. and R. Raffaelli (2020), Unraveling hypothetical bias in discrete choice experiments, *Journal of Economic Behavior & Organization* 176, 416-430.

Mørkbak, M. R., S. B. Olsen, and D. Campbell (2014), Behavioral implications of providing real incentives in stated choice experiments, *Journal of Economic Psychology* 45, 102-116.

Morningstar (2022), Morningstar Sustainability Rating Methodology, https://www.morningstar.com/content/dam/marketing/shared/research/methodology/744156_Morningstar_Sustainability_Rating_for_Funds_Methodology.pdf (last accessed January 10th, 2023).

Moser, R., R. Raffaelli, and S. Notaro (2014), Testing hypothetical bias with a real choice experiment using respondents' own money, *European Review of Agricultural Economics* 41 (1), 25-46.

Murphy, J. J., P. G. Allen, T. H. Stevens, and D. Weatherhead (2005), A meta-analysis of hypothetical bias in stated preference valuation, *Environmental and Resource Economics* 30 (3), 313–325.

Nilsson, J. (2008), Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior, *Journal of Business Ethics* 83, 307-325.

Norwood, F. B. and J. L. Lusk (2011), Social desirability bias in real, hypothetical, and inferred valuation experiments, *American Journal of Agricultural Economics* 93 (2), 528-534**.**

Pastor, L., R. F. Stambaugh, and L. A. Taylor (2021), Sustainable investing in equilibrium, *Journal of Financial Economics* 142 (2), 550-571.

Paulhus, D. K. (1984), Two-component models of socially desirable responding, *Journal of Personality and Social Psychology* 46 (3), 598-609.

Paulhus, D. L. (1991), Measurement and control of response bias, In: Measures of personality and social psychological attitudes (Eds: J. P. Robinson, P. R. Shaver, and L. S. Wrightman), 17–59. New York: Academic Press.

Penn, J. M., W. Hu, and L. J. Cox (2019), The effect of forced choice with constant choice experiment complexity, *Journal of Agricultural and Resource Economics* 44, 439-455.

Revelt, D. and K. Train (1998), Mixed logit with repeated choices: Households' choices of appliance efficiency level, *Review of Economics and Statistics* 80 (4), 647-657.

Riedl, A., and P. Smeets (2017), Why do investors hold socially responsible mutual funds?, *The Journal of Finance* 72 (6), 2505-2550.

Rossi, M., D. Sansone, A. van Soest, and C. Torricelli (2019), Household preferences for socially responsible investments, *Journal of Banking and Finance* 105, 107-120.

Sanjuán-López, A. I., and H. Resano-Ezcaray (2020), Labels for a local food speciality product: The case of saffron, *Journal of Agricultural Economics* 71 (3), 778-797.

Schmidt, J. and T. H. Bijmolt (2020), Accurately measuring willingness to pay for consumer goods: A meta-analysis of the hypothetical bias, *Journal of the Academy of Marketing Science* 48 (3), 499-518.

Seifert, M., F. Spitzer, S. Haeckl, A. Gaudeul, F. Kirchler, S. Palan, and K. Gangl (2024), Can in-formation provision and preference elicitation promote ESG investments? Evidence from a large, incentivized online experiment, *Journal of Banking and Finance* 161, 107114.

Sirri, E. R. and P. Tufano (1998), Costly search and mutual fund flows, *The Journal of Finance* 53 (5), 1589-1622.

Tang, D. Y. and Y. Zhang (2020), Do shareholders benefit from green bonds?, *Journal of Corporate Finance* 61, 101427.

Train, K. and M. Weeks (2005), Discrete choice models in preference space and willingness-to-pay space, In: *Applications of simulation methods in environmental and resource economics*. Springer, Dordrecht, 1-16.

Train, K. (2009), Discrete choice methods with simulation. Cambridge University Press, Cambridge, New York.

Zawojska, E. and M. Czajkowski (2017), Re-examining empirical evidence on stated preferences: Importance of incentive compatibility, *Journal of Environmental Economics and Policy* 6 (4), 374-403.

Ziegler, A. (2017), Political orientation, environmental values, and climate change beliefs and attitudes: An empirical cross country analysis, *Energy Economics* 63, 144-153.

Ziegler, A. (2019), The relevance of attitudinal factors for the acceptance of energy policy measures: A micro-econometric analysis, *Ecological Economics* 157, 129-140.

Tables

Table 1: Attributes in the choice experiments

Attribute	Description	Levels or range
Strength of sustainability	Individual bond funds differ in the extent to which sustainability criteria (i.e., environmental, social and/or governance criteria) are included in addition to financial criteria in their composition or construction. The strength of sustainability varies between "very low" and "very high" on a five-point scale based on an assessment carried out by a company.	Very low, rather low, rather high, very high
Annual returns in the past two years	The bond funds differ in terms of their average return in the years 2019 and 2020 in %.	-0.02% - 12.75%
Share of issuers of bonds from the European Union	The bond funds differ in the countries from which the issuers of the invested bonds (e.g. corporate or public) originate. The percentage share of countries of the European Union (EU) is indicated. The remaining percentage relates to issuers of bonds not from the EU, as well as cash and other financial products.	0.00% - 83.23%
Fees	The bond funds differ in the amount of fees (in % of the investment amount) that can be incurred during the one-year investment period.	0.44% - 6.67%

Table 2: Experimental groups in Germany and France

Country:	Germany	
	Incentivized choice	Non-incentivized / hypothetical choice
No safe option	$T1_G$	$T2_G$
Safe option	$T3_G$	$T4_G$
Country:	France	
	Incentivized choice	Non-incentivized / hypothetical choice
No safe option	$T1_F$	$T2_F$

Table 3: Average values of explanatory variables for different experimental groups in Germany and France

	Germany					France		
	Full sample	$T1_G$	$T2_G$	$T3_G$	$T4_G$	Full sample	$T1_F$	$T2_F$
High perceived risk	0.27	0.27	0.24	0.27	0.30	0.28	0.29	0.27
Warm glow	0.80	0.80	0.81	0.78	0.78	0.84	0.84	0.84
Expectation social environment	0.38	0.40	0.36	0.38	0.38	0.55	0.55	0.55
Volunteering	0.33	0.34	0.35	0.32	0.30	0.31	0.32	0.30
Social policy identification	0.63	0.67	0.60	0.63	0.63	0.47	0.45	0.48
Ecological policy identification	0.49	0.48	0.51	0.49	0.49	0.56	0.55	0.56
Female	0.36	0.35	0.37	0.34	0.37	0.42	0.44	0.40
Age	48.93	48.63	49.38	49.87	47.76	46.76	46.34	47.16
High education	0.35	0.37	0.31	0.34	0.36	0.32	0.34	0.30
Married	0.63	0.63	0.65	0.63	0.61	0.68	0.70	0.66
Western Germany	0.77	0.77	0.78	0.80	0.75	-	-	-
Choice certainty [a)]	0.62	0.64	0.59	0.63	0.65	0.45	0.48	0.43
Self-deceptive enhancement	0.75	0.74	0.77	0.75	0.72	0.79	0.80	0.77
Impression management	0.61	0.57	0.64	0.66	0.57	0.74	0.74	0.74
Strategic behavior	0.30	0.30	0.27	0.30	0.31	0.17	0.16	0.18
Financial literacy	0.56	0.58	0.52	0.56	0.57	0.66	0.68	0.63
Knows sustainable investments	0.58	0.61	0.56	0.58	0.57	0.45	0.48	0.43
Impact	0.47	0.48	0.48	0.47	0.43	0.36	0.40	0.32
Number of respondents	1,324	408	408	253	255	829	407	422

Notes: This table reports the means of the variables capturing individual characteristics in the different experimental groups. [a)] For *Choice certainty*, we report the mean across all six choice situations of all participants within an experimental group.

Table 4: Basic estimation results for different experimental groups in Germany and France, dependent variable: *Choice*

	Germany				France	
	No safe option		Safe option		No safe option	
	Incentivized ($T1_G$)	Hypothetical ($T2_G$)	Incentivized ($T3_G$)	Hypothetical ($T4_G$)	Incentivized ($T1_F$)	Hypothetical ($T2_F$)
	(1)	(2)	(3)	(4)	(5)	(6)
Estimated mean						
Strength of sustainability	1.75*** (20.41)	1.57*** (19.28)	1.82*** (17.42)	1.47*** (14.63)	1.03*** (14.74)	0.82*** (13.56)
Annual returns in the past two years	0.23*** (16.56)	0.20*** (15.78)	0.21*** (12.10)	0.21*** (13.14)	0.17*** (14.04)	0.16*** (15.14)
Share of bond issuers from the EU	0.82*** (5.15)	0.80*** (5.33)	0.96*** (4.91)	0.74*** (3.79)	0.69*** (4.56)	-0.01 (-0.06)
Fees	-0.30*** (-20.68)	-0.31*** (-21.41)	-0.33*** (-18.02)	-0.37*** (-19.13)	-0.22*** (-16.59)	-0.21*** (-17.30)
Safe option	--	--	-0.72** (-2.53)	-1.53*** (-4.70)	--	--
Estimated standard deviation						
Strength of sustainability	1.62*** (13.31)	1.58*** (13.87)	1.42*** (10.05)	1.58*** (11.27)	1.39*** (13.29)	1.36*** (13.80)
Annual returns in the past two years	0.20*** (9.84)	0.21*** (10.61)	0.17*** (7.05)	0.22*** (10.43)	0.18*** (9.58)	0.13*** (7.23)
Share of bond issuers from the EU	2.32*** (8.55)	2.05*** (7.55)	2.06*** (7.09)	1.57*** (4.70)	3.09*** (12.28)	1.32*** (4.91)
Safe option	--	--	2.92*** (8.84)	3.19*** (9.32)	--	--
Number of respondents (number of observations)	408 (2,448)	408 (2,448)	253 (1,518)	255 (1,530)	407 (2,442)	422 (2,532)

Notes: This table reports simulated maximum likelihood estimates (robust z-statistics) in mixed logit models in preference space. The first model is estimated for the N = 408 respondents (and thus 408 × 6 = 2,448 observations) from the incentivized choice and no safe option group. The second model is estimated for the N = 408 respondents (and thus 408 × 6 = 2,448 observations) from the non-incentivized choice and no safe option group in Germany. The third model is estimated for the N = 253 respondents (and thus 253 × 6 = 1,518 observations) from the incentivized choice and safe option group in Germany. The fourth model is estimated for the N = 255 respondents (and thus 255 × 6 = 1,530 observations) from the non-incentivized choice and safe option group in Germany. The fifth model is estimated for the N = 407 respondents (and thus 407 × 6 = 2,442 observations) from the incentivized choice and no safe option group in France. The sixth model is estimated for the N = 422 respondents (and thus 422 × 6 = 2,532 observations) from the non-incentivized choice and no safe option group in France. The "estimated mean" panel reports the estimated means of the respective explanatory variables. The "estimated standard deviation" panel reports the estimated standard deviations of the normal distribution for the random parameters that are assumed to be normally distributed. For the explanatory variables, we consider random parameters for strength of sustainability, annual returns in the past two years, and share of bond issuers from the EU in all models. In the third and fourth model, we additionally consider a random parameter that is assumed to be normally distributed for the safe option. All variables are defined in Section 2.2. * (**, ***) means that the estimated parameter is different from zero at the 10% (5%, 1%) significance level, respectively.

Table 5: Estimation results for treatment effects in Germany and France, dependent variable: *Choice*

	Germany		France
	No safe option ($T1_G$+$T2_G$)	Safe option ($T3_G$+$T4_G$)	No safe option ($T1_F$+$T2_F$)
	(1)	(2)	(3)
Estimated mean			
Strength of sustainability x $T2_G$ (hypothetical choice)	-0.15 (-1.55)	--	--
Strength of sustainability x $T4_G$ (hypothetical choice)	--	-0.40*** (-3.60)	--
Strength of sustainability x $T2_F$ (hypothetical choice)	--	--	-0.16* (-1.73)
Strength of sustainability	1.73*** (22.54)	1.85*** (19.84)	1.74*** (22.61)
Annual returns in the past two years	0.22*** (22.95)	0.21*** (17.75)	0.22*** (23.04)
Share of bond issuers from the EU	0.81*** (7.45)	0.85*** (6.20)	0.80*** (7.38)
Fees	-0.30*** (-29.77)	-0.35*** (-26.32)	-0.30*** (-29.77)
Safe option	--	-1.08*** (-5.06)	--
Estimated standard deviation			
Strength of sustainability	1.60*** (19.26)	-1.48*** (-15.05)	1.59*** (19.26)
Annual returns in the past two years	0.20*** (14.52)	0.20*** (12.43)	0.20*** (14.62)
Share of bond issuers from the EU	2.18*** (11.38)	-1.84*** (-8.62)	2.18*** (11.47)
Safe option	--	3.06*** (12.78)	--
Number of respondents (number of observations)	816 (4,896)	508 (3,048)	829 (4,974)

Notes: This table reports SML estimates (robust z-statistics) in mixed logit models in preference space. The first model is estimated for the N = 816 respondents (and thus 816 × 6 = 4,896 choices) with 408 respondents from the incentivized choice and no safe option group and 408 respondents from the non-incentivized choice and no safe option group in Germany. The second model is estimated for the N = 508 respondents (and thus 508 × 6 = 3,084 choices) with 253 respondents from the incentivized choice and safe option group and 255 respondents from the non-incentivized choice and safe option group in Germany. The third model is estimated for the N = 829 (and thus 829 × 6 = 4,974 choices) with 407 respondents from the incentivized choice and no safe option group and 422 respondents from the non-incentivized choice and no safe option group in France. The "estimated mean" panel reports the estimated means of the respective explanatory variables. The "estimated standard deviation" panel reports the estimated standard deviations of the normal distribution for the random parameters that are assumed to be normally distributed. For the explanatory variables, we consider random parameters for strength of sustainability, annual returns in the past two years, and share of bond issuers from the EU in all models. The interactions between the strength of sustainability and the experimental group variables are assumed to be fixed. In the third and fourth model, we additionally consider a random parameter that is assumed to be normally distributed for the safe option. All variables are defined in Section 2.2. * (**, ***) means that the estimated parameter is different from zero at the 10% (5%, 1%) significance level, respectively.

Table 6: Estimation results for effects of individual characteristics on strength of sustainability for different experimental groups in Germany and France, dependent variable: *Choice*

	Germany				France	
	No safe option		Safe option		No safe option	
	Incentivized ($T1_G$)	Hypothetical ($T2_G$)	Incentivized ($T3_G$)	Hypothetical ($T4_G$)	Incentivized ($T1_F$)	Hypothetical ($T2_F$)
	(1)	(2)	(3)	(4)	(5)	(6)
Estimated mean						
Strength of sustainability x high perceived risk	-0.47*** (-3.13)	-0.65*** (-4.28)	-0.27 (-1.54)	-0.12 (-0.71)	0.04 (0.31)	-0.24* (-1.89)
Strength of sustainability x warm glow	0.73*** (4.09)	0.98*** (5.16)	1.25*** (5.58)	0.77*** (3.58)	0.38** (2.03)	0.47*** (2.64)
Strength of sustainability x expectation social environment	-0.10 (-0.66)	-0.33** (-2.16)	-0.25 (-1.37)	-0.30* (-1.73)	-0.33** (-2.43)	-0.06 (-0.52)
Strength of sustainability x volunteering	-0.10 (-0.65)	-0.27* (-1.85)	0.36** (2.06)	0.08 (0.44)	0.00 (0.00)	-0.11 (-0.89)
Strength of sustainability x high social policy orientation	0.27 (1.63)	-0.01 (-0.08)	0.56*** (2.93)	-0.07 (-0.40)	-0.16 (-1.17)	-0.00 (-0.04)
Strength of sustainability x high ecological policy orientation	0.82*** (4.75)	0.81*** (4.95)	0.43** (2.23)	1.04*** (5.54)	0.33** (2.26)	0.16 (1.22)
Strength of sustainability x female	0.15 (0.99)	0.11 (0.76)	-0.18 (-1.02)	0.29* (1.74)	-0.12 (-0.99)	0.12 (1.03)
Strength of sustainability x age	0.01 (1.37)	0.00 (1.19)	0.01 (1.25)	-0.00 (-1.00)	-0.00 (-0.96)	-0.01*** (-3.30)
Strength of sustainability x high education	0.10 (0.66)	0.26* (1.71)	0.15 (0.82)	0.06 (0.35)	0.55*** (3.97)	0.11 (0.84)
Strength of sustainability x living together or married	0.34** (2.26)	-0.07 (-0.44)	-0.44** (-2.50)	0.06 (0.36)	-0.14 (-1.08)	0.24** (2.02)
Strength of sustainability x Western Germany	0.17 (1.01)	0.08 (0.51)	0.45** (2.32)	0.31* (1.69)	--	--
Strength of sustainability	0.08 (0.26)	0.36 (1.15)	-0.05 (-0.13)	0.37 (1.02)	0.92*** (3.40)	0.89*** (3.39)
Annual returns in the past two years	0.23*** (16.59)	0.20*** (15.75)	0.21*** (11.88)	0.21*** (12.65)	0.17*** (14.03)	0.17*** (15.31)
Share of bond issuers from the EU	0.81*** (5.12)	0.80*** (5.28)	0.93*** (4.78)	0.73*** (3.77)	0.68*** (4.52)	0.05 (0.38)
Fees	-0.30*** (-20.63)	-0.31*** (-21.33)	-0.33*** (-18.05)	-0.37*** (-18.98)	-0.22*** (-16.57)	-0.21*** (-17.00)
Safe option	--	--	-0.57** (-2.10)	-1.55*** (-4.71)	--	--

Table 6 (continued): Estimation results for effects of individual characteristics on strength of sustainability for different experimental groups in Germany and France, dependent variable: Choice

Estimated standard deviation						
Strength of sustainability	1.46***	1.40***	1.16***	1.43***	1.34***	1.18***
	(11.94)	(12.22)	(7.84)	(10.14)	(12.73)	(12.20)
Annual returns in the past two years	0.20***	0.21***	0.17***	0.21***	0.18***	0.15***
	(9.76)	(10.65)	(6.95)	(10.09)	(9.68)	(8.30)
Share of bond issuers from the EU	2.28***	2.04***	-2.09***	1.54***	3.09***	-2.05***
	(8.35)	(7.49)	(-7.28)	(4.57)	(12.18)	(-8.13)
Safe option	--	--	2.76***	3.28***	--	--
			(8.58)	(9.34)		
Number of respondents	408	408	253	255	407	422
(number of observations)	(2,448)	(2,448)	(1,518)	(1,530)	(2,442)	(2,532)

Notes: This table reports simulated maximum likelihood estimates (robust z-statistics) in mixed logit models in preference space. The first model is estimated for the N = 408 respondents (and thus 408 × 6 = 2,448 choices) from the incentivized choice and no safe option group. The second model is estimated for the N = 408 respondents (and thus 408 × 6 = 2,448 choices) from the non-incentivized choice and no safe option group in Germany. The third model is estimated for the N = 253 respondents (and thus 253 × 6 = 1,518 choices) from the incentivized choice and safe option group in Germany. The fourth model is estimated for the N = 255 respondents (and thus 255 × 6 = 1,530 choices) from the non-incentivized choice and safe option group in Germany. The fifth model is estimated for the N = 407 respondents (and thus 407 × 6 = 2,442 choices) from the incentivized choice and no safe option group in France. The sixth model is estimated for the N = 422 respondents (and thus 422 × 6 = 2,532 choices) from the non-incentivized choice and no safe option group in France. The "estimated mean" panel reports the estimated means of the respective explanatory variables. The "estimated standard deviation" panel reports the estimated standard deviations of the normal distribution for the random parameters that are assumed to be normally distributed. For the explanatory variables, we consider random parameters for strength of sustainability, annual returns in the past two years, and share of bond issuers from the EU in all models. In the third and fourth model, we additionally consider a random parameter that is assumed to be normally distributed for the safe option. The interaction terms between the strength of sustainability and the individual characteristics (High perceived risk, warm glow, expectation social environment, volunteering, high social policy orientation, high ecological policy orientation, female, age, high education, living together or married, and Western Germany) are assumed to be fixed. All variables are defined in Section 2.2. * (**, ***) means that the estimated parameter is different from zero at the 10% (5%, 1%) significance level, respectively.

Figures

Figure 1: Exemplary choice situation without safe option (translated from German/French)

In each of the six choice situations, please indicate which of the four bond funds offered you would like to purchase for an investment amount of €500. To do so, please select the fund you would like to purchase.

To view the explanation of a term again, please click on (?) next to the respective term or on the corresponding term itself.

	Bond fund 1	**Bond fund 2**	**Bond fund 3**	**Bond fund 4**
Fees (?)	3.81%	4.02%	0.44%	3.60%
Strength of sustainability (?)	Very low	Rather high	Rather low	Very high
Annual returns in the past two years (?)	12.75%	6.10%	8.75%	5.65%
Share of issuers of bonds from the European Union (?)	26.36%	59.32%	17.10%	72.93%
Your choice	□	□	□	□

Figure 2: Exemplary choice set with safe option (translated from German/French)

In each of the six choice situations, please indicate which of the four bond funds offered you would like to purchase for an investment amount of €500. To do so, please select the fund you would like to purchase.

To view the explanation of a term again, please click on (?) next to the respective term or on the corresponding term itself.

	Bond fund 1	**Bond fund 2**	**Bond fund 3**	**Bond fund 4**	**Bank account**
Fees (?)	3.81%	4.02%	0.44%	3.60%	
Strength of sustainability (?)	Very low	Rather high	Rather low	Very high	
Annual returns in the past two years (?)	12.75%	6.10%	8.75%	5.65%	
Share of issuers of bonds from the European Union (?)	26.36%	59.32%	17.10%	72.93%	
Your choice	□	□	□	□	□

Online Appendix

Part A: Randomization

Table A.1: Randomization checks

	Difference in means (z-statistics)						
	$T1_G$ versus $T2_G$	$T1_G$ versus $T3_G$	$T1_G$ versus $T4_G$	$T2_G$ versus $T3_G$	$T2_G$ versus $T4_G$	$T3_G$ versus $T4_G$	$T1_F$ versus $T2_F$
High perceived risk	-1.12	-0.05	0.65	0.93	1.65*	0.63	-0.56
Warm glow	0.18	-0.70	-0.53	-0.86	-0.69	0.15	0.04
Expectation social environment	-1.08	-0.55	-0.43	0.39	0.52	0.11	0.12
Volunteering	0.07	-0.61	-1.10	-0.67	-1.16	-0.44	-0.65
Social policy identification	-2.11**	-1.00	-0.93	0.84	0.92	0.07	0.90
Ecological policy identification	0.70	0.08	0.28	-0.53	-0.33	0.18	0.19
Female	0.61	0.89	-0.62	0.36	-1.16	-1.35	0.77
Age	0.58	-0.28	0.58	-0.79	0.06	0.77	-1.15
High education	-1.55	-0.56	-0.01	0.80	1.35	0.49	-1.40
Married	0.66	-0.10	-0.63	-0.68	-1.21	-0.48	-1.20
Western Germany	0.42	0.87	-0.60	0.51	-0.98	-1.33	-
Self-deceptive enhancement	0.97	0.26	-0.46	-0.59	-1.32	-0.65	-1.34
Impression management	1.94*	2.12**	-0.02	0.43	-1.73*	-1.94*	0.07
Financial literacy	-1.83*	-0.50	-0.31	1.10	1.29	0.17	-1.67*
Knows sustainable investments	-1.49	-0.78	-1.00	0.52	0.31	-0.19	-1.45
Number of respondents	816	663	661	663	661	508	827

Note: This table reports the z-values for the differences in the means between the different experimental groups in Germany and France based on the mean comparison z-test. $T1_G$ versus $T2_G$ shows the z-values for the differences in the means between the incentivized choice and no safe option group and the non-incentivized choice and no safe option group in Germany. $T1_G$ versus $T3_G$ shows the z-values for the differences in the means between the incentivized choice and no safe option group and the incentivized choice and safe option group in Germany. $T1_G$ versus $T4_G$ shows the z-values for the differences in the means between the incentivized choice and no safe option group and the non-incentivized choice and safe option group in Germany. $T2_G$ versus $T3_G$ shows the z-values for the differences in the means between the non-incentivized choice and no safe option group and the incentivized choice and safe option group in Germany. $T2_G$ versus $T4_G$ shows the z-values for the differences in the means between the non-incentivized choice and no safe option group and the non-incentivized choice and safe option group in Germany. $T3_G$ versus $T4_G$ shows the z-values for the differences in the means between the incentivized choice and safe option group and the non-incentivized choice and safe option group in Germany. $T1_F$ versus $T2_F$ shows the z-values for the differences in the means between the incentivized choice and no safe option group and the non-incentivized choice and no safe option group in France. * (**, ***) means that the difference in the means between the experimental groups on the basis of a mean comparison z-test is different from zero at the 10% (5%, 1%) significance level, respectively.

Part B: Construction of the fund universe for the experiment

The investment universe for the investment experiments was based on real bond funds. We only considered bonds for the inclusion into the investment universe when they could be bought by individual investors in Germany either at a stock exchange or directly from the provider of the bond fund. For some retail investment products that are traded on the capital market, there is a minimum amount that has to be invested to be able to buy the corresponding investment product. Funds were only eligible for the inclusion into the investment universe if the minimum amount for investments in the bond fund did not exceed €250, such that the funds were also a realistic investment option for people with less financial means. In addition, the 16 bond funds were selected such that the values of the different attributes were almost uncorrelated across alternatives. Concerning the strength of sustainability, we selected four bond funds with one, four bond funds with two, four bond funds with four, and four bond funds with five globes according to the Morningstar Sustainability Rating. Referring to Hartzmark and Sussman (2019), who do not find significant investor reactions to a rating of three globes, we do not include this category. In addition, we only considered actively man-aged bond funds that invested the majority of their assets in a portfolio of corporate and public bonds, but could also include other positions such as cash and other financial products (e.g. derivatives). All considered bond funds reinvested their income in the fund, were traded in €, and had very similar risk and return profiles (i.e., they received the value of two or three according to the German key investor information document (on a scale that ranges between one for funds with the lowest risk and return profiles and seven for the highest risk and return profiles). With this approach, we identified a total of 16 real bond funds as the investment universe of the experiment. Table B.1 reports the corresponding funds and their attribute levels.

Table B.1: Bond fund universe

Number	ISIN	Name	Strength of sustainability	Annual returns in the past two years	Share of issuers of bonds from the European Union	Fees
1	LU1542252181	Allianz Green Bond - AT EUR ACC	Very high	5.45%	55.12%	6.15%
2	LU0665630736	Allianz GIF - Allianz China Strategic Bond - AT EUR ACC H	Rather high	2.45%	0.00%	3.71%
3	LU0503630740	Pictet - Global Sustainable Credit - HI EUR ACC H	Very high	6.60%	49.10%	6.67%
4	LU1781815300	Edmond de Rothschild Fund Crossover Credit - CR EUR ACC	Rather high	5.60%	30.11%	2.03%
5	LU1104108243	BNPP Flexible Global Credit - Classic EUR ACC	Rather high	0.25%	36.95%	3.80%
6	LU1472740767	Mirova Global Green Bond Fund - R/A EUR ACC	Rather high	6.10%	59.32%	4.02%
7	LU1586216068	NN (L) Green Bond - P EUR ACC	Very high	5.65%	72.93%	3.60%
8	LU1280196426	AXA World Funds - Global Green Bonds - I EUR ACC	Very high	6.20%	65.31%	0.55%
9	LU0133089424	T.Rowe Price Funds-Euro Corporate Bond Fund - A EUR ACCFonds	Rather low	4.90%	47.20%	5.92%
10	LU0155951089	Credit Suisse (Lux) Corporate Short Duration EUR Bond Fund - B ACC	Very low	1.20%	44.73%	5.80%
11	IE00B567SW70	GAM Star Credit Opportunities (EUR) - Ordinary ACC Fonds	Rather low	6.65%	53.05%	6.53%
12	LU0660296624	Credit Suisse(Lux)Emerging Market Corporate Bond Fund - IB USD ACC	Very low	12.75%	26.36%	3.81%
13	LU1727354448	JPMorgan Funds-Global Corporate Bond - I2 EUR ACC H	Rather low	8.75%	17.10%	0.44%
14	LU0029761706	UBAM Dynamic Euro Bond - AC EUR ACC	Rather low	-0.20%	43.32%	3.54%
15	LU1663942362	DWS Invest Short Duration Credit - TFC EUR ACC	Very low	1.60%	71.40%	0.51%
16	AT0000A1PKM0	ERSTE Bond Corporate Plus - EUR ACC	Very low	5.96%	83.23%	4.16%

Part C: Heterogeneity analysis

To capture social desirability motives, we included the following six items from the Balanced Inventory of Desirable Responding (BIDR) developed by Paulhus (1984, 1991) in the survey: (a) "My first impression of people usually turns out to be right," (b) "I am very confident of my judgement," (c) "I always know why I like things," (d) "I have received too much change from a salesperson without telling him or her," (e) "I am always honest towards other people," and (f) "There have been occasions when I have taken advantage of someone." Items (a) to (c) capture self-deceptive enhancement and items (d) to (f) impression management. Individuals who rank high in self-deceptive enhancement are unaware of their overly positive self-presentation and feel the need to maintain a positive narrative about their decisions and abilities, while individuals who rank high in impression management recognize that they are self-enhancing and need external approval. Respondents had to rate their agreement with each statement on an ordinal five-point scale ranging from "not at all" to "completely." After reversing the negative statements (d) and (f), we construct dummy variables for each item that take the value of one for one of the two highest categories, respectively. The variables *Self-deceptive enhancement* and *Impression management* are the sum of the values of the dummy variables for the corresponding three items. Thus, both variables can take values between zero and three.

The dummy variable *Strategic behavior* takes the of value one if a respondent mentioned the assessment of preferences for ecological, climate-friendly, or other sustainable investments as possible objective of the study as a response to the open question "Please describe in one sentence what you think this study will be used for" (Doyon and Bergeron, 2016). Further, after each of the six choice sets, we asked respondents how certain they were with respect to their decision. Respondents could answer on an ordinal five-point ranging from "very uncertain" to "very certain." We construct the dummy variable *Choice certainty* that takes the value of one if a respondent indicated one of the two highest categories.

Table 5.C.1 reports simulated maximum likelihood estimates in mixed logit models in preference space. In the upper panel, eight models are estimated for the no safe option groups in Germany ($T1_G$ and $T2_G$). The first model is based on the subsample of participants from these two groups with scores for *Self-deceptive enhancement* above the sample median for Germany. Accordingly, model 2 is based on the subsample of participants from these two groups with scores for *Self-deceptive enhancement* lower than the sample median for Germany. The

subsamples considered in models 3 and 4 are constructed analogously, but take the median of *Impression management* as reference to construct the two subsamples. To construct the subsamples for models 5 and 6, we distinguish between respondents who mention the analysis of preferences for sustainable investments as the goal of this study (high strategic behavior) and those who did not mention the analysis of preferences for sustainable investments as the goal of this study (low strategic behavior). Finally, in models 7 and 8, we differentiate between choice sets where respondents stated to have been rather or very certain about their choice (high choice certainty) and choice sets where respondents did not choose any of these two categories (low choice certainty). In the middle panel, we proceed as described before but consider participants who were assigned to the safe option groups in Germany ($T3_G$ and $T4_G$). In the lower panel, we consider participants from France ($T1_F$ and $T2_F$).

-- insert Table C.1 –

We additionally take different indicators of knowledge of and familiarity with financial products as well as the perceived impact of sustainable investment products (e.g. Nilsson, 2008) into account. First, we consider a general measure of financial literacy. This measure is based on three quiz questions about interest rates, inflation, and risk diversification, and thus aims to capture a fundamental economic and financial knowledge (Lusardi and Mitchell, 2008). Accordingly, the number of correct answers can range between zero and three. The corresponding dummy variable *Financial literacy* takes the value of one if a respondent correctly answered three questions in Germany or more than two questions in France, which are the sample median values for the respective country. In addition, the dummy variable *Knows sustainable investments* takes the value of one if a respondent indicated to have heard of sustainable investments before the study. Finally, we also asked respondents on an ordinal five-point scale ranging from “not at all” to “very strongly” to what extent they agree with the question “In your investment decisions, a bond fund with a high or very high strength of sustainability was available at least once. In your opinion, how strongly do such investments contribute to sustainable development?” The dummy variable *Impact* takes the value of one if a respondent indicated one of the two highest categories.

-- insert Table C.2 –

Table C.2 reports simulated maximum likelihood estimates in mixed logit models in preference space. In the upper panel, six models are estimated for the no safe option groups in Germany ($T1_G$ and $T2_G$). The first model is based on the subsample of participants from these two groups with scores for *Financial literacy* above the sample median for Germany. Accordingly,

model 2 is based on the subsample of participants from these two groups with scores for *Financial literacy* lower than the sample median for Germany. The subsamples considered in models 3 and 4 are constructed for participants who did have knowledge about sustainable investments prior to the study and those who did not. To construct the subsamples for models 5 and 6, we distinguish between participants who rather or strongly agree that bond funds can contribute to a sustainable development (high impact) and those who did not choose any of these two categories (low impact). In the middle panel, we proceed as described before but consider participants who were assigned to the safe option groups in Germany ($T3_G$ and $T4_G$). In the lower panel, we consider participants from France ($T1_F$ and $T2_F$).

Table C.1: Estimation results for treatment effects on strength of sustainability across different subsamples

	Self-deceptive enhancement		Impression management		Strategic behavior		Choice certainty	
	High	Low	High	Low	High	Low	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No safe option groups in Germany ($T1_G$+$T2_G$)								
Strength of sustainability × $T2_G$ (hypothetical choice)	-0.13 (-1.23)	-0.20 (-1.07)	-0.13 (-1.12)	-0.23 (-1.54)	-0.04 (-0.24)	-0.16 (-1.49)	-0.49*** (-3.62)	0.31** (2.33)
Strength of sustainability	1.95*** (22.50)	1.90*** (13.22)	2.04*** (21.15)	1.80*** (15.52)	2.46*** (16.46)	1.71*** (19.99)	2.57*** (21.84)	1.14*** (11.20)
Fees	-0.26*** (-22.66)	-0.23*** (-12.14)	-0.26*** (-21.13)	-0.23*** (-14.61)	-0.36*** (-18.39)	-0.20*** (-18.08)	-0.31*** (-23)	-0.17*** (-11.73)
Other attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estimated standard deviations	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations (number of choices)	614 (3,684)	202 (1,212)	495 (2,970)	321 (1,926)	237 (1,422)	579 (3,474)	n.a. (2,991)	n.a. (1,905)
Safe option groups in Germany ($T3_G$+$T4_G$)								
Strength of sustainability × $T4_G$ (hypothetical choice)	-0.30** (-2.34)	-0.65*** (-2.90)	-0.44*** (-2.87)	-0.19 (-1.17)	-0.62*** (-3.08)	-0.28** (-2.06)	-0.23 (-1.46)	-0.67*** (-3.66)
Strength of sustainability	1.79*** (17.35)	2.10*** (10.20)	2.19*** (17.37)	1.41*** (10.31)	2.14*** (11.85)	1.71*** (15.64)	1.99*** (15.14)	1.73*** (11.31)
Fees	-0.35*** (-22.32)	-0.40*** (-14.96)	-0.37*** (-20.58)	-0.34*** (-16.91)	-0.41*** (-15.76)	-0.33*** (-20.86)	-0.41*** (-22.76)	-0.26*** (-12.27)
Other attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estimated standard deviations	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations (number of choices)	373 (2,238)	135 (810)	312 (1,872)	196 (1,176)	175 (1,050)	333 (1,998)	n.a. (1,944)	n.a. (1,104)

No safe option groups in France ($T1_F$+$T2_F$)

Strength of sustainability × $T2_F$ (hypothetical choice)	-0.11 (-1.25)	-0.11 (-0.62)	0.01 (0.07)	-0.42*** (-2.61)	-0.45** (-2.23)	-0.04 (-0.46)	-0.17 (-1.36)	-0.07 (-0.64)
Strength of sustainability	1.19*** (17.47)	1.40*** (9.46)	1.24*** (17.58)	1.19*** (9.27)	1.77*** (10.61)	1.13*** (16.98)	1.51*** (15.19)	1.03*** (12.25)
Fees	-0.14*** (-14.67)	-0.18*** (-9.05)	-0.16*** (-15.74)	-0.13*** (-7.34)	-0.20*** (-9.11)	-0.14*** (-14.84)	-0.16*** (-12.15)	-0.14*** (-11.72)
Other attributes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Estimated standard deviations	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations (number of choices)	652 (3,912)	177 (1,062)	616 (3,696)	213 (1,278)	139 (834)	690 (4,140)	n.a. (2,260)	n.a. (2,714)

Note: The dependent variable is *Choice* in all considered models. For the explanatory variables, we consider random parameters for strength of sustainability, annual returns in the past two years, and share of bond issuers from the EU in all models. When the safe option was available, we additionally consider a random parameter for the safe option. The interaction terms between the strength of sustainability and the experimental group dummy variables are assumed to be fixed. We only show the estimated mean parameters for the interaction terms between strength of sustainability and the non-incentivized experimental group dummy variables, strength of sustainability, and fees due to brevity, but the estimation results that also show the remaining estimated mean and standard deviation parameters are available upon request. All variables are defined in Section 2.2. * (**, ***) means that the respective effect is different from zero at the 10% (5%, 1%) significance level.

Table C.2: Estimation results for treatment effects on strength of sustainability across different subsamples

	Financial literacy		Knows sustainable investments		Impact	
	High	Low	Yes	No	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)
No safe option groups in Germany ($T1_G$+$T2_G$)						
Strength of sustainability × $T2_G$ (hypothetical choice)	0.45**	0.17	-0.03	-0.21	-0.21	-0.09
	(2.10)	(0.37)	(-0.27)	(-1.56)	(-1.49)	(-0.75)
Strength of sustainability	0.67***	1.00***	2.24***	1.56***	2.56***	1.36***
	(4.33)	(2.89)	(21.64)	(14.60)	(20.96)	(14.89)
Fees	-0.07***	-0.03	-0.31***	-0.19***	-0.21***	-0.28***
	(-2.72)	(-0.71)	(-22.77)	(-12.91)	(-14.91)	(-20.89)
Other attributes	Yes	Yes	Yes	Yes	Yes	Yes
Estimated standard deviations	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations (number of choices)	448 (2,688)	368 (2,208)	475 (2,850)	341 (2,046)	390 (2,340)	426 (2,556)
Safe option groups in Germany ($T3_G$+$T4_G$)						
Strength of sustainability × $T4_G$ (hypothetical choice)	0.09	-0.43	-0.34**	-0.45***	-0.41**	-0.21
	(0.33)	(-0.95)	(-2.24)	(-2.62)	(-2.46)	(-1.42)
Strength of sustainability	0.99***	0.48	1.93***	1.72***	2.37***	1.34***
	(4.90)	(1.57)	(15.16)	(12.44)	(16.13)	(11.50)
Fees	-0.10***	-0.04	-0.38***	-0.32***	-0.30***	-0.39***
	(-3.08)	(-0.62)	(-21.18)	(-15.48)	(-15.57)	(-20.92)
Other attributes	Yes	Yes	Yes	Yes	Yes	Yes
Estimated standard deviations	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations (number of choices)	287 (1,722)	221 (1,326)	291 (1,746)	217 (1,302)	229 (1,374)	279 (1,674)

No safe option groups in France ($T1_F$+$T2_F$)

Strength of sustainability × $T2_F$ (hypothetical choice)	0.14 (0.95)	-0.02 (-0.09)	-0.23* (-1.89)	0.02 (0.17)	-0.16 (-1.15)	0.02 (0.15)
Strength of sustainability	0.82*** (7.09)	0.87*** (4.53)	1.47*** (15.54)	1.03*** (12.47)	1.65*** (15.15)	0.93*** (12.22)
Fees	-0.09*** (-5.35)	-0.02 (-0.75)	-0.20*** (-14.99)	-0.11*** (-9.72)	-0.11*** (-7.46)	-0.17*** (-15.81)
Other attributes	Yes	Yes	Yes	Yes	Yes	Yes
Estimated standard deviations	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations (number of choices)	545 (3,270)	284 (1,704)	374 (2,244)	455 (2,730)	300 (1,800)	529 (3,174)

Note: The dependent variable is *Choice* in all considered models. For the explanatory variables, we consider random parameters for strength of sustainability, annual returns in the past two years, and share of bond issuers from the EU in all models. When the safe option was available, we additionally consider a random parameter for the safe option. The interaction terms between the strength of sustainability and the experimental group dummy variables are assumed to be fixed. We only show the estimated mean parameters for the interaction terms between strength of sustainability and the non-incentivized experimental group dummy variables, strength of sustainability, and fees due to brevity, but the estimation results that also show the remaining estimated mean and standard deviation parameters are available upon request. All variables are defined in Section 2.2. * (**, ***) means that the respective effect is different from zero at the 10% (5%, 1%) significance level.

Part D: Experimental instructions and survey questions for the variables in the econometric analysis (translated from German/French)

The following experimental instructions were shown to respondents in the incentivized experimental group without safe option:

Please carefully read the following text, after 20 seconds at the earliest you can go to 'next'.

We would now like to return to the topic of financial investments. On the following pages you will be shown six times each four different actively managed bond funds that are available on the financial market. Such funds are investments that invest a majority of their assets in a portfolio of corporate and public bonds and may also include other positions such as cash and other financial products (e.g. derivatives). All funds considered reinvest income in the fund, are traded in €, invest the majority of their portfolio in corporate bonds, and have very similar risk and return profiles. In each of these six decision situations, please indicate which of the four bond funds you would like to purchase given an investment amount of €500.
Following the survey, ten people will be randomly selected from all participants. For each of these ten people, one of the six investment decisions made by them will be randomly selected and realized by us after the end of the survey in July 2021.
The investment will run for exactly one year. After that, in August 2022, the bond funds will be sold and the selected individuals will be paid the current value of their fund.
Examples:
If you are one of the ten selected individuals, one of your investment choices will be randomly selected and realized in July 2021.
If the value of your bond fund increases to €550 by August 2022, you will be paid €550 less applicable fees.
On the other hand, if the value of your bond fund decreases to €450 by August 2022, you will be paid €450 less applicable fees.
The ten randomly selected winners will be notified that they have been selected after the selection process has been completed. We guarantee that all this information is true and will be implemented. Please also note that you are completely free to make this decision. Since the selection of the ten winners is random, you should make your decision in the following for each choice situation as if you would be drawn for sure.

The following experimental instructions were shown to respondents in the non-incentivized experimental group without safe option:

Please carefully read the following text, after 20 seconds at the earliest you can go to 'next'.

We would now like to return to the topic of financial investments. On the following pages you will be shown six times each four different actively managed bond funds that are available on the financial market. Such funds are investments that invest a majority of their assets in a portfolio of corporate and public bonds and may also include other positions such as cash and other financial products (e.g. derivatives). All funds considered reinvest income in the fund, are traded in euros (€), invest the majority of their portfolio in corporate bonds, and have very similar risk and return profiles. In each of these six decision situations, please indicate which of the four bond funds you find so attractive that you would be most likely to purchase it given an investment amount of €500.

Please decide in each selection situation as if you would actually select one of the four bond funds in each case in reality. In particular, please remember to consider your personal financial situation when making each decision.

When making your decisions, assume that each of the investments will be realized after the survey ends in July 2021 and will run for exactly one year. Imagine that after that, in August 2022, the bond funds will be sold and you will be paid the current values of your funds.

Examples:

If the value of your bond fund were to increase to €550 by August 2022, you would be paid €550 less applicable fees.

On the other hand, if the value of your bond fund were to decrease to 450€ by August 2022, you would be paid 450€ less applicable fees.

The following experimental instructions were shown to respondents in the incentivized experimental group with safe option:

Please carefully read the following text, after 20 seconds at the earliest you can go to 'next'.

We would now like to return to the topic of financial investments. On the following pages you will be shown six times each four different actively managed bond funds that are available on the financial market. Such funds are investments that invest a majority of their assets in a portfolio of corporate and public bonds and may also include other positions such as cash and other financial products (e.g. derivatives). All funds considered reinvest income in the fund, are traded in euros (€), invest the majority of their portfolio in corporate bonds, and have very similar risk and return profiles. In each of these six decision situations, please indicate which of the four bond funds you would like to purchase given an investment amount of €500 or whether you would like to leave the money in a bank account.
Following the survey, ten people will be randomly selected from all participants. For each of these ten people, one of the six investment decisions they made will be randomly selected and realized by us after the survey ends in July 2021.
The investment will run for exactly one year. After that, in August 2022, the bond funds will be returned and the selected individuals will be paid the current value of their fund.
Examples:
If you are one of the ten selected individuals, one of your investment choices will be randomly selected and realized in July 2021.
If the value of your bond fund increases to €550 by August 2022, you will be paid €550 less applicable fees.
Conversely, if the value of your bond fund decreases to 450€ by August 2022, you will be paid 450€ less applicable fees.
If you leave the money in a bank account, you will be paid €500 in August 2022 in any case.
The ten randomly selected winners will be notified that they have been selected after the selection process has been completed. We guarantee that all this information is true and will be implemented. Please also note that you are completely free to make this decision. Since the selection of the ten winners is random, you should make your decision in the following for each choice situation as if you would be drawn for sure.

The following introduction screen for the investment choice experiment was shown to respondents in the non-incentivized experimental group with safe option:

Please carefully read the following text, after 20 seconds at the earliest you can go to 'next'.

We would now like to return to the topic of financial investments. On the following pages you will be shown six times each four different actively managed bond funds that are available on the financial market. Such funds are investments that invest a majority of their assets in a portfolio of corporate and public bonds and may also include other positions such as cash and other financial products (e.g. derivatives). All funds considered reinvest income in the fund, are traded in euros (€), invest the majority of their portfolio in corporate bonds, and have very similar risk and return profiles. n each of these six decision situations, please indicate which of the four bond funds you find so attractive that you would be most likely to purchase it if you had an investment amount of €500, or whether you would leave the money in a bank account.

In each selection situation, please decide as if you would actually select one of the four bond funds in each case in reality. In particular, please remember to consider your personal financial situation when making each decision.

When making your decisions, assume that each of the investments will be realized after the survey ends in July 2021 and will run for exactly one year. Imagine that after that, in August 2022, the bond funds will be returned and you will be paid the then-current values of your funds.

Examples:

If the value of your bond fund were to increase to €550 by August 2022, you would be paid €550 less applicable fees.

On the other hand, if the value of your bond fund were to decrease to 450€ by August 2022, you would be paid 450€ less applicable fees.

If you left the money in a bank account, you would be paid 500€ in August 2022 in any case.

The following Statement is used to construct the explanatory variable 'High perceived risk:'

Statement	Strongly disagree	Rather disa-gree	Unde-cided	Rather agree	Com-pletely agree	I don't know
Sustainable investments are riskier than conventional in-vestments	□	□	□	□	□	□

The following Statement is used to construct the explanatory variable 'Warm glow:'

Statement	Strongly disagree	Rather disagree	Unde-cided	Rather agree	Com-pletely agree
I identify myself with ecologically oriented policy	□	□	□	□	□

The following Statement is used to construct the explanatory variable 'Expectation social en-vironment:'

Statement	Strongly disagree	Rather disagree	Unde-cided	Rather agree	Com-pletely agree
My social environment (e.g. family, friends, colleagues) expects me to behave in a sustainable manner	□	□	□	□	□

The following question is used to construct the explanatory variable 'Volunteering:'

Do you engage in volunteering activities?

Yes	□
No	□

The following Statements are used to construct the explanatory variables 'Social policy identification,' and 'Ecological policy identification:'

Statement	Strongly disagree	Rather disagree	Undecided	Rather agree	Completely agree
I identify myself with socially oriented policy	□	□	□	□	□
I identify myself with ecologically oriented policy	□	□	□	□	□

The following question is used to construct the explanatory variable 'Female:'

Please indicate your gender:

Male	□
Female	□
Diverse	□

The following question is used to construct the explanatory variable 'Age:'

Please indicate your age:

Age in years: _____

The following question is used to construct the explanatory variable 'High education:'

German version:
Please indicate your highest school or university degree:

I left school without a graduate	□
I am currently going to school	□
I am currently studying	□
Elementary or secondary school degree (GDR: 8th grade)	□
Secondary school degree ("Mittlere Reife") (GDR: 10th grade)	□
Degree from a polytechnic high school (8th / 10th grade)	□
Advanced technical college certificate	□
High school degree ("Abitur") or higher education entrance qualification	□
Degree from a university of applied sciences or from a vocational academy (GDR: engineering and technical high school degree)	□
University or college degree	□
Doctorate or habilitation	□
Other qualifications with a high school degree ("Abitur") or a higher education entrance qualification	□
Other qualifications without a high school degree ("Abitur") or a higher education entrance qualification	□

French version:
Please indicate your highest school or university degree:

I left school without a graduate	□
I am currently going to school	□
I am currently studying	□
Certificate of professional competence (CAP)	□
Professional certificate (BP)	□
High school degree (bac) or higher education entrance qualification	□
University Diploma of Technology (DUT)	□
Degree from a university of applied sciences or from a vocational academy (BTS & DMA)	□
University or college degree / Bachelor´s degree (LMD)	□
Licence professionnelle	□
Magistrates, degrees in political science and degrees from the ENS, the EPHE or private faculties	□
Engineering degree	□
Degree or certificate from a business school (bac+5)	□
Master's degree (LMD)	□
Doctorate or habilitation	□
Other qualifications with a high school degree (“Abitur”) or a general / specialized higher education entrance qualification	□
Other qualifications without a high school degree (“Abitur”) or a general / specialized higher education entrance qualification	□

The following request is used to construct the explanatory variable 'Living together or married:'

Please indicate your marital status:

Single	□
Living together but not married	□
Married and living with the spouse	□
Divorced or living separately	□
Widowed	□

The following question is used to construct the explanatory variable 'Western Germany:'

Please indicate in which city or municipality you currently live:

Name of the city or municipality: _____
Zip code of the city or municipality: _____

References for the Appendix

Doyon, M. and S. Bergeron (2016), Understanding strategic behavior and its contribution to hypothetical bias when eliciting values for a private good, *Canadian Journal of Agricultural Economics* 64 (4), 653-666.

Hartzmark, S. M. and A. B. Sussman (2019), Do investors value sustainability? A natural experiment examining ranking and fund flows, *The Journal of Finance* 74 (6), 2789-2837.

Lusardi, A. and O. S. Mitchell (2008), Planning and financial literacy: How do women fare? *American Economic Review: Papers & Proceedings* 98 (2), 413-417.

Nilsson, J. (2008), Investment with a conscience: Examining the impact of pro-social attitudes and perceived financial performance on socially responsible investment behavior, *Journal of Business Ethics* 83, 307-325.

Paulhus, D. K. (1984), Two-component models of socially desirable responding, *Journal of Personality and Social Psychology* 46 (3), 598-609.

Paulhus, D. L. (1991), Measurement and control of response bias, In: Measures of personality and social psychological attitudes (Eds: J. P. Robinson, P. R. Shaver, and L. S. Wrightman), 17–59. New York: Academic Press.