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Can information provision and preference elicitation promote ESG investments? Evidence from a large, incentivized online experiment

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ABSTRACT

Sustainable investing is characterized by considerations of both financial returns and ESG (Environmental, Social and Governance) impacts. We investigate how information about these two aspects, individually and in combination, affects investors' decision to invest sustainably and their satisfaction with the information they received. We also test whether different ESG preference elicitation modes affect these investment decisions and investors' satisfaction. We conduct an incentivized online experiment with two samples, experienced retail investors and a representative sample of the Austrian population in terms of age and gender ($N = 2{,}254$ in total). We find that both financial return information and ESG impact information stimulate ESG investment. Providing both types of information does not have a greater effect than presenting either one alone. Finally, we find no effect on satisfaction and the ESG preference elicitation mode significantly affects neither investment decisions nor satisfaction.

1. Introduction

Sustainable investments that consider Environmental, Social and Governance criteria ("ESG investments") arguably have great potential to mitigate climate change by promoting a more sustainable economy (Eurosif, 2018; IPCC, 2018). Despite the remarkable growth of such investments in the recent past (GSIA, 2021), challenges such as a lack of investor awareness are slowing their even faster adoption (Gutsche and Zwergel, 2020; Meunier and Ohadi, 2022; Wins and Zwergel, 2016; The World Bank, 2020). To address this problem, the European Union (EU) passed regulation (EU) 2021/2616, requiring financial institutions to inform their clients about ESG investments and to elicit their ESG sustainability preferences, starting from August 2022 (see Appendix A). However, financial institutions may fear that the already complex advisory process will become even more complex due to the new regulation, which in turn could affect investor satisfaction and customer

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loyalty (Seiler et al., 2013). If investors are dissatisfied with the information overload associated with eliciting ESG preferences, this could also affect ESG investments.

Motivated by the new regulation, we aim to answer two pivotal research questions in the context of ESG investments. For this purpose, we collaborate with eight Austrian banks and with the Austrian Financial Market Authority (FMA) which is responsible for implementing EU regulations regarding investments in Austria. We answer two questions: First, do ESG investments and investor satisfaction increase when financial advisors provide investors with information about the financial returns and ESG impacts (i.e., impact on Environmental, Social and Governance factors) of investment products? Second, are ESG investments and investor satisfaction affected by the mode of eliciting investors' ESG preferences (i.e., using either a general or a more detailed elicitation mode)? Answering these questions is crucial to understanding how effective information provision and ESG preference elicitation can promote ESG investments and increase investor satisfaction, as intended by the new EU regulation and similar initiatives, e.g., by the World Bank.

We answer our research questions through a preregistered, incentivized, online experiment with 871 retail investors and 1383 members of a representative sample for Austria. We test different ways of conducting an investment consultation, ensuring compliance with the new EU regulation. Participants receive 600 euros to invest in four randomly assigned treatments that vary in the information the participants receive about ESG investments. In the *basic information* treatment, we provide them with only the basic, legally required definition of ESG. In the *financial return information* treatment, we additionally inform them about financial benefits of ESG investments, in the *ESG impact information* treatment about the ESG impact, and in the *combined information* treatment about both. In addition, we randomly assign participants to either the general preference elicitation mode, which asks for the minimum ESG investment amount, or to the specific elicitation mode, which additionally asks for the focus of the ESG investment. Based on their ESG preferences, participants receive a recommendation involving up to four different equity mutual funds, which they can either accept or modify according to their wishes. To incentivize these choices, we really implement the investment decisions and pay out the final portfolio values one year later to 15 randomly selected participants (as in Gutsche et al., 2023).

We elicit participant satisfaction as well as individual characteristics (biospheric and social values, household income, financial literacy) through a post-experiment questionnaire. We explore heterogeneous effects of the financial return and ESG impact information treatments, how the treatments affect the stability of investors' investment decisions in the face of underperformance, and what drives deviations from the investment recommendation.

We find that both financial return and ESG impact information promote ESG investments compared to the basic information treatment. Combining financial return and ESG impact information yields similar effect sizes as providing either type of information alone. Neither of the information treatments notably affects investor satisfaction. The general and the specific sustainability preference elicitation modes do not markedly differ in their effect on ESG investments and satisfaction. Participants with stronger biospheric values, higher financial literacy, education, and income levels tend to invest more sustainably. We find no evidence of interaction effects between the treatments and participant characteristics. Finally, the treatments do not materially affect the stability of the investment decisions, and the deviations from the investment recommendation.

This paper makes two conceptual contributions. Our first conceptual contribution is to demonstrate the impact of combining financial return and ESG impact information on ESG investments and investor satisfaction. Previous studies have tested how financial, environmental, social, or moral information in isolation impacts green investments or socially responsible investments (Barreda-Tarrazona et al., 2011; Døskeland and Pedersen, 2016, 2021; Heeb et al., 2023; Lagerkvist et al., 2020; Siemroth and Hornuf, 2023). Our second conceptual contribution is to extend the literature on the elicitation of ESG preferences and its effect on ESG investments and investor satisfaction. Prior research on eliciting sustainability preferences and how this elicitation translates into actual investment decisions is sparse (Bauer et al., 2021 is a notable recent exception). We fill this gap by experimentally comparing two versions of an ESG sustainability preference elicitation mechanism that were debated by EU legislators: asking only generally about ESG sustainability preferences, or asking investors to further specify the focus of their ESG investments. The present study is also among the first to provide up-front information about ESG investments, as mandated by the new EU regulation, instead of varying the fund characteristics used in the investment decisions (Gutsche et al., 2023; Heeb et al., 2023; Lagerkvist et al., 2020).

Our study also makes a methodological contribution in that we incentivize participants' investment decisions by actually realizing them in the stock market. This approach is relatively novel in the literature (with a few exceptions, see, e.g., Gutsche et al., 2023), yet offers a more realistic representation of investors' payoffs compared to other incentivization modes (Barreda-Tarrazona et al., 2011; Riedl and Smeets, 2017) and in particular to the large majority of unincentivized experiments (e.g., Degryse et al., 2023) or survey studies (e.g., Wins and Zwergel, 2016). Our recruitment of two distinct samples – experienced investors and a representative, general population sample – further differentiates our study from studies that either investigate retail investors (e.g., Gutsche et al., 2023) *or* the general population (e.g., Degryse et al., 2023), often with smaller samples (Engler et al., 2023 is a rare counterexample).

Finally, our study yields practical contributions. The design, developed in close cooperation with the Austrian Financial Market Authority and eight banks, ensured a realistic and legally compliant test of the EU regulation. Previous studies (e.g., Døskeland and Pedersen 2016, 2021) use strong manipulation texts (e.g., concerning profitability) that would not be permissible in practice. Thus, our information treatments and preference elicitation modes are ready to be used by banks. Also, the results alleviate concerns among banks that excessively granular questions regarding an investor's specific ESG preferences might lead to lower ESG investments and investor dissatisfaction. This aspect is particularly relevant given that the specific elicitation mode we model was ultimately mandated by EU regulation (EU) 2021/2616.

The remainder of this paper is organized as follows. Section 2 derives the hypotheses. Section 3 describes the experimental design, sample, and outcome variables. Section 4 presents the empirical results and Section 5 discusses them. Section 6 concludes, with cautious policy recommendations.

2. Hypothesis development

Based on the literature, we derive hypotheses how ESG information and preference elicitation may affect ESG investments and investor satisfaction. In the following, we only discuss our main hypotheses. The Appendix provides a detailed presentation and analysis of all preregistered hypotheses.

Hypothesis 1. Information impacts ESG investments (i.e., the amount that is invested considering Environmental, Social and Governance criteria) and investor satisfaction. A rich body of literature finds that investors consider financial and non-financial (e.g., moral) aspects of sustainable investments (Degryse et al., 2023; Gutsche et al., 2023; Riedl and Smeets, 2017). Informing investors about these aspects might enhance their understanding of potential benefits, break down knowledge barriers, and rectify misperceptions (Meunier and Ohadi, 2022; Wins and Zwergel, 2016). For instance, those investors initially linking ESG investments with morality might find ESG investments more appealing upon realizing that these instruments offer comparable financial returns to traditional investments. Conversely,

those viewing ESG investments as profit-driven greenwashing might reconsider learning about the moral implications of ESG investments. Survey studies (e.g., Nilsson, 2008) and non-incentivized experiments show that financial return information stimulates sustainable investments (Døskeland and Pedersen, 2016, 2021), as does information regarding moral aspects (Barreda-Tarrazona et al., 2011; Bassen et al., 2019; Glac, 2009). However, rather than just relying on creating a feeling of moral obligation, this latter effect might be driven by creating a belief in the chance to have an environmental or social impact (van Valkengoed and Steg, 2019). This conjecture is supported both by survey studies (Nilsson, 2008; Wins and Zwergel, 2016; Palacios-González and Chamorro-Mera, 2018) and experiments (Heeb et al., 2023; Siemroth and Hornuf, 2023). Hence, we expect the provision of ESG information to stimulate ESG investments.

With regard to satisfaction, quantitative surveys show that both information on financial performance and information on environmental impact positively relate to satisfaction (Nilsson et al., 2014). Thus, we conjecture that both sets of information will increase satisfaction. This satisfaction might furthermore spill over and also increase the willingness to invest in ESG products. Since both financial and ESG impact information are potentially important for sustainable investments (Gutsche and Ziegler, 2019; Hartzmark and Sussman, 2019; Hong and Kostovetsky, 2012; Riedl and Smeets, 2017) and satisfaction (Nilsson et al., 2014), their combination may be even more effective. Conversely, overemphasizing ESG investments could fuel doubts and lead to dissatisfaction (e.g., Agnew and Szykman, 2005), crowding out motivation. Similarly, highlighting financial rewards could reduce the intrinsic motivation to invest in ESG. Yet, investors who are not convinced by one argument may be convinced by the other so that more recipients end up convinced and satisfied overall. We thus expect more information to result in greater ESG investments and satisfaction. We test the following hypotheses:

H1.1. Both information on financial return and information on ESG impact increase ESG investments compared to a treatment with only basic, legally required information about ESG.

H1.2. The combination of financial return information and ESG impact information increases ESG investments more than either does on its own.

H1.3. Both information on financial return and information on ESG impact increase investor satisfaction with the information received compared to a treatment with only basic, legally required information about ESG.

H1.4. The combination of financial return information and ESG impact information increases investor satisfaction with the information received more than either does on its own.

Hypothesis 2. The elicitation of ESG preferences itself impacts ESG investments and satisfaction. Few studies investigate how the way in which financial advisors elicit investors' preferences regarding investment into ESG assets affects investment decisions (see Bauer et al., 2021 for a recent exception) or satisfaction. The literature sends mixed signals, such that predictions for the effects of different elicitation modes could go in either direction. The general mode of preference elicitation might be perceived as straightforward and easy to understand, thus increasing ESG investments and satisfaction (Yoon, 2010). It could, however, also be perceived as overly simplistic or less transparent, thus negatively affecting trust, satisfaction and the willingness to invest. The specific mode of preference elicitation gives investors more control over their investment and may yield a better fit between investors' preferences and the resulting investments (Johnson et al., 2012), thus increasing ESG investments and satisfaction. Conversely, investors might not care about the more subtle differences between different ESG investments or become confused due to information overload (Scheibehenne et al., 2010), leading to reduced ESG investments and satisfaction. In conclusion, we posit the following, non-directional hypotheses:

Table 1
Treatment conditions and number of participants.

		Wave			
		Retail		Population	
		Elicitation mode			
		General	Specific	General	Specific
Information	Basic information	116	105	170	172
	Financial return	103	106	171	172
	ESG impact	111	111	172	178
	Combined	109	110	172	176

H2.1. The ESG preference elicitation mode affects the amount invested into ESG assets.

H2.2. The ESG preference elicitation mode affects investor satisfaction.

Hypothesis 3. Individual investor characteristics affect ESG investments. Previous research indicates that a greater regard for biospheric and social values (i.e., caring for an intact environment and for others' utility) correlates positively with sustainable investments (Bassen et al., 2019; Bauer et al., 2021; Gutsche et al., 2023). So do higher household income (Cheah et al., 2011; Escrig-Olmedo et al., 2013; Gutsche et al., 2023) and financial literacy (Bauer and Smeets, 2015; Gutsche et al., 2021, 2023; Riedl and Smeets, 2017). We thus test the following hypothesis:

H3. Investors who care more about biospheric and altruistic values and who have greater household income and financial literacy invest more sustainably.

3. Experimental design

We conducted two waves of an incentivized online experiment in Austria, with the first wave targeting experienced retail investors and the second targeting a sample that was representative of the general population in terms of age and gender. We used the same treatments in both, and followed the analysis plan outlined in the preregistration of the population sample wave.[1]

3.1. Treatment manipulations

Table 1 presents our 4 × 2 design of information and preference elicitation modes.

Information. In the *basic information* treatment, we provide the participants with basic information about ESG (see Section 3.4., Procedure). In the *financial return information* treatment, we follow up the basic information with a headline ("Earning returns with ESG investments") and a short text informing participants about ESG investments as a promising financial investment in future technologies with reduced risks related to ESG factors. In the *ESG impact information* treatment, we follow up the basic information with a headline ("Promoting sustainability with ESG investments") and a short text informed participants that ESG investments can be promising with regard to ESG impact and the promotion of companies that fulfill ESG criteria. In the *combined information* treatment, we follow up the basic information with

[1] Preregistered at Open Science Framework (OSF): https://osf.io/pe4g2 (retail investor sample) and https://osf.io/3zymq (population sample). We made the following adaptations between the two waves: Based on a power analysis of the preliminary results of the retail investor sample, we increased the sample size of the population sample to $N = 1{,}400$. Participants were informed that the lottery would have five winners. The attention check was adapted to suit non-investors.

Fund	Fund A	Fund B	Fund C	Fund D
Orientation	Conventional		Sustainable	
Type	Fund with focus on energy and finance	Fund with focus on information technology and healthcare	Fund that avoids negative impacts on ESG factors	Fund that invests in activities that are considered sustainable by law
Risk and return profile	6	6	6	6
Performance in the last year	Greater than 30 %	Greater than 30 %	Greater than 30 %	Greater than 30 %
Largest shares by sector	Finance, Oil, Gas	Microelectronics, Semiconductors, Agricultural products	Insulation technology, Metal recycling, Electricity	Plant engineering, Wind energy, Semiconductors

Fig. 1. Equity mutual funds used in the investment decision. The figure shows the information about the four equity mutual funds as presented to the participants (English translation).

both, the financial and the impact information texts (see Section 3.4., Procedure).[2] We include the English translation of all manipulations in Appendix K. Furthermore, Table B.1 in the Appendix shows that the randomization with regards to the information treatments was successful for most variables, except for *biospheric values* ($p = 0.045$) and *trust in ESG products* ($p = 0.023$).

Sustainability preference elicitation. Both the *general sustainability preference elicitation* and the *specific sustainability preference elicitation* ask participants for the minimum percentage of their investments that should meet ESG criteria (*What is the minimum amount of your investment that should go into investment products that meet ESG sustainability criteria*?; 1 = *0 % - no sustainable products*; 2 = *up to 25 %*; 3 = *up to 50 %*; 4 = *up to 75 %*, and 5 = *100 % - only sustainable products*). The *specific sustainability preference elicitation* follows up on this first question with a second question about the preferred focus of the investment (*If you choose an ESG investment, you can choose one or both of the following two product categories*; 1 = *Investment products that avoid important negative impacts on ESG factors*; 2 = *Investment products that invest in activities that are considered sustainable according to legal requirements (Disclosure Regulation, Taxonomy Regulation)*). In the specific elicitation, the second question is not asked if participants had indicated no interest in sustainable investment in the first question. Table B.2 in the Appendix shows that the randomization concerning to the sustainability preference elicitation mode was successful (all $p > 0.05$).

3.2. Measured variables

3.2.1. Outcome variables

Participants make investment decisions by allocating their endowments of 600 euros to four equity mutual funds (as per Gutsche et al., 2023). They can do so by accepting the non-binding recommendation based on their stated ESG preferences or by allocating their money themselves. Our most important outcome variable, *sustainable ESG investments*, is the percentage of the 600 euros that they invest into sustainable funds.

The four funds, two conventional and two sustainable, are identical in terms of risk and performance but vary regarding ESG criteria and the economic sectors they invest in (see Fig. 1). The choice set of funds is held constant across all treatments. Participants did not learn the actual fund names to ensure that they would base their decisions solely based on the information provided.[3] Consistent with similar experiments (Gutsche et al., 2023; Gutsche and Zwergel, 2020; Heeb et al., 2023; Lagerkvist et al., 2020), we limit the information provided about the funds to avoid information overload, to ensure the experiment would not take too long (median duration: 10.87 min), and to ensure that the fund information differed primarily regarding their sustainability aspects.

Our second outcome variable assesses *satisfaction with the information on ESG investments,* using the average response to four items (*The*

[2] A pretest with 58 participants in September 2021 showed that the information has the intended effect. Participants were randomly presented with the information and asked for their agreement on three items (*With sustainable ESG investments I can … earn money; have an impact; follow my values*), answered on a 7-point Likert scale (1 = *I totally disagree* / 7 = *I totally agree*). The results of *t*-tests show that the financial information ($M = 5.46$, $SD = 0.98$) received significantly ($p = 0.03$) higher ratings for "earn money" than did the ESG impact information ($M = 4.65$, $SD = 1.70$). The ESG impact information was rated higher ($p < 0.01$) on "have an impact" ($M = 5.62$, $SD = 1.10$) than the financial information ($M = 4.50$, $SD = 1.38$). ESG impact information ($M = 5.74$, $SD = -1.44$) and financial information ($M = 5.16$ $SD = 1.45$) were rated comparably high on "follow my values" ($p = 0.14$).

[3] We nevertheless ensured that the funds were similar in terms of assets under management (AUM), volatility and costs. Their ISINs, names and characteristics (as of August 2021) are: Fund A: AT0000805460 "Raiffeisen Osteuropa Aktien T", AUM: 264.09 million euros, 3-year volatility: 29.53%, ongoing charges: 2.33%; Fund B: AT0000764758 "Raiffeisen US Aktien R T", AUM: 442,47 million euros, 3-year volatility: 18.78%, ongoing charges: 1.72%; Fund C: AT000UMWELT5 "Kepler Umwelt Aktienfonds T", AUM: 119.70 million euros, 3-year volatility: 13.59%, ongoing charges: 1.48%; Fund D: LU2257980289 "Mandarine Global Transition R", AUM: 135.2 million euros, 1-year volatility: 18.60%, ongoing charges: 2.25%. Note that performance in the preceding year was relatively high, reflecting the recovery after COVID-19, yet it was identical across all funds and thus unlikely to have affected the amounts allocated to the different funds.

information I received at the beginning about ESG investing was understandable, simple, informative, helpful; standardized Cronbach's α = 0.91), elicited on a 7-point Likert scale (1 = *I totally disagree* / 7 = *I totally agree*). The third outcome variable, *satisfaction with the sustainability preference elicitation*, is also assessed using the average of four items (*The way I was asked how much I would like to invest in ESG investment products was understandable, simple, informative, helpful*; standardized Cronbach's α = 0.92), elicited on the same 7-point Likert scale. We display screenshots of the initial information and the sustainability preference elicitation question(s) during the satisfaction assessment.

We also elicit an exploratory outcome variable, the *stability of investment decisions* (see Appendix J.1), using two hypothetical, non-payoff-relevant scenarios (scenario 1 [2]: after 6 months, conventional funds have performed 5 % better [worse] than sustainable funds). Participants had to indicate how they would revise the amount initially invested in sustainable funds in each of these two scenarios on a 5-point Likert scale (*1 = significantly reduce* / 3 = *neither reduce nor increase* / 5 = *significantly increase*). We aggregate the responses to a binary variable indicating whether a participant would have adjusted their ESG investments in at least one scenario (stability = 0) or not (stability = 1).

As a second exploratory outcome variable, we compute the *deviation from the recommendation* for ESG investments, defined as the total amount invested in sustainable funds minus the recommended amount for sustainable funds (see Appendix J.2). Positive values indicate that participants invest more sustainably than recommended, while negative values indicate that participants invest less.

3.2.2. Explanatory variables

We calculate both the *biospheric* and the *altruistic value orientation* as the average response to four items (based on De Groot and Steg, 2007, 2008). Participants indicated how important four concepts of biospheric values (*preventing pollution, respecting the earth, unity with nature, protecting the environment*, Cronbach's α = 0.93) and four concepts of altruistic values (*equality, a world at peace, social justice, helpfulness*, Cronbach's α = 0.89) were as guiding principles of their lives (7-point Likert scales with 1 = *Opposed to my values* / 7 = *Extremely important*).

We calculate *household income* by dividing the income of all household members by household size, weighting adults by 1 and minors under 18 years by 0.5. The total income of all household members was measured with a single-choice question, answered in 1000 euro-increments from *less than 1000 euros* to *more than 8000 euros*.[4]

We measure *financial literacy* using the percentage of correct answers to the three-item scale by Lusardi and Mitchell (2008), consisting of questions on interest rates, inflation, and risk (e.g., *Suppose you have 100 euros credit balance in your savings account. This balance earns interest at 2 % per year and you leave it in this account for 5 years. What do you think: How much will your balance be after 5 years?* 1 = *higher than 102 euros, 2 = exactly 102 euros, 3 = lower than 102 euros, 4 = do not know)*.

3.2.3. Control variables and other variables

We assess *gender, age, education, risk preference, experience in investing, trust in ESG products, trust in the information and the elicitation*, and *perceived relevance of the incentives* as control variables (see experimental material in Section K in the Appendix). We additionally add dummy variables for the provision of the email address (pre-requisite to participate in the incentive lottery), the experiment wave, and a correct answer on an attention-check question.

3.3. Participants

We recruited 2254 participants in two waves.[5] The retail investor sample was collected between October 12, 2021, and November 9, 2021, the population sample between February 2, 2022, and February 11, 2022. The overall sample consisted of 56.7 % men, with an average age of 48.2 years (*SD* = 15.5), which is minimally lower than the average of Austrians aged 18 years or above (*M* = 49.9 years).[6] Table B.3 in the Appendix provides details for both samples.

We invited the first wave participants (retail investor sample) directly through eight Austrian banks (*N* = 871).[7] We compare the demographics of this first wave to that of Austrian investors more generally, using 2023 data from the Vienna Stock Exchange.[8] Compared to the 63 % in the stock exchange data, male investors were, at 69.6 %, slightly overrepresented in our first wave. The average age of Austrian investors of 47.5 years closely aligns with our first wave's 47.7 years.

We invited the second wave participants through a market research agency ("Talk Online Panel"). The second wave (*N* = 1383) was representative of the Austrian population concerning age and gender by adding quotas for age (categories: 18–29 years: 17.3 %; 30–39 years: 16.6 %; 40–49 years: 16.0 %; 50–59 years: 18.9 %; above 60 years: 31.2 %) and gender (51.2 % female and 48.8 % male).

Across both samples, 31.4 % of the participants held a university degree, which is higher than in the general Austrian population (19.7 % in 2021). Moreover, more of the participants in our retail investor sample held a university degree (38.7 %) than did in our population sample (26.8 %) and in the population of retail investors in Austria in 2023 (26 %). The majority of participants reported monthly incomes between 2001 euros and 5000 euros. The median income in our first wave (3001 to 5000 euros) surpassed the Austrian median household income (2484 euros), and the individual income in the Austrian population of investors (2000 to 2999 euros). The median income of our second wave (2001 to 3000 euros) aligns with the Austrian average in 2021. In the retail investor sample, 10.0 % report less than one year of investment experience, while 51.4 % indicated more than 11 years of experience. In the population sample, 52.2 % report no investment experience and only 16.1 % indicate more than 11 years of experience. Average financial literacy was 0.80 (*SD* = 0.28), or 2.4 out of 3 questions answered correctly (retail investor sample: *M* = 0.90, *SD* = 0.20; population sample: *M* = 0.74, *SD* = 0.31). These results align with results from a German study (Gutsche et al., 2023) reporting 2.46 correctly answered questions on average, and are slightly higher than those reported by an Austrian survey using similar questions (about 1.9 correctly answered; Fessler et al., 2020). Participants considered the biosphere (*M* = 6.00, *SD* = 1.07) and altruism (*M* = 5.88, *SD* = 1.04) to be highly important.

[4] As preregistered, we used multiple imputation by chained equations (van Buuren and Groothuis-Oudshoorn, 2011) in the R statistical package "MICE" to impute missing data in the two covariates income (10.3%) and number of minors in the household (3.5%). This method, recommended for handling missing data (Hanss and Böhm, 2013, Tabachnick et al., 2007), involves an iterative algorithm which generates 10 datasets with plausible imputed values for these covariates. Our regression analyses are pooled regressions over these imputed datasets.

[5] We followed our two preregistrations for the retail investor sample and the population sample. Applying the preregistered criteria of the population sample led to the exclusion of 7 participants from the first and 18 participants from the second wave due to repeated participation.

[6] Official Austrian population statistics in 2021 (time of the first wave) from Statistics Austria.

[7] Our recruitment strategy targeted them via investor-specific newsletters, website postings and online banking portals. Since our eventual sample size fell short of projections, we supplemented this sample with a second, newly preregistered wave, the population sample.

[8] Data collected in the "Aktienbarometer 2023" survey (*N* = 2000; telephone/online interviews in January 2023 among the Austrian population above 16 years). Note that these data were collected one year after our data collection and income data here corresponds to individual income, not household income.

3.4. Procedure

Participants were invited to a study on investment decisions. The link in the invitation brought them to the survey platform Qualtrics, where they found general instructions, terms of participation, and privacy statements.[9] We furthermore informed participants about the lottery incentives, through which 15 participants (10 in wave 1 and 5 in wave 2) were randomly selected. For these, we invested the amount allocated to each mutual fund, sold the funds after one year and paid out the resulting ending values to the participants (cp. Gutsche et al., 2023).

To mimic a financial advice setting, we asked participants to imagine themselves asking for financial advice in a bank about how to invest 600 euros. In this setting, their advisor would provide basic investment information, including that, besides liquidity, returns and risk, they could also consider ESG factors in their investment choices (see Appendix K).

Depending on the randomly chosen treatment, we then presented only basic information on ESG (*basic information* treatment), the basic information plus information on financial returns (*financial return information* treatment), the basic information plus information on ESG impact (*ESG impact information* treatment), or the basic information plus financial and ESG impact information combined (*combined information* treatment). We followed up the information provision with the sustainability preference elicitation (see Fig. 2). We informed the participants that their stated sustainability preferences would be used to prepare a non-binding investment recommendation (e.g., a choice of 75 % ESG investment in the general preference elicitation resulted in a recommendation to invest 225 euros into each of the two sustainable funds and 75 euros into each of the two conventional funds). Participants then made their investment decisions by accepting the non-binding investment recommendation or by manually choosing their allocations to the four funds. At this stage, we reminded the participants of the incentives, i.e., the lottery procedure.

The participants then filled in the post-experimental questionnaire (see Section 3.2. for details). At the end, participants could leave their email address to participate in the lottery and/or receive information about the study's results. Finally, we thanked them for their participation.

4. Results

We start by presenting descriptive statistics of the outcome variables, followed by the main results, followed by exploratory analyses. Our results are based on the total sample, including a dummy for the wave, since both waves yielded qualitatively comparable results (i.e., effects pointing in the same direction) and since pooling the samples increases the statistical power and internal validity of the results. Additionally, since the new EU regulation targets both investors and non-investors, our approach ensures relevance for both groups. Nevertheless, we also provide the main results separately for each sample to allow our readers to judge the external validity for themselves. We control for multiple hypothesis testing by applying the Benjamini-Hochberg procedure (Benjamini and Hochberg, 1995) to the results of the total sample. All results reported in the paper regarding hypotheses *H1* – *H3* remain significant after controlling for multiple hypothesis testing (see Table C.1 in the Appendix).

Participants invest an average of 394.39 out of 600 euros into ESG funds (i.e., 65.73 %, $SD = 27.94$ %; see Table B.4 in the Appendix for details on the total sample and both waves separately). This investment level is 94.93 euros higher than suggested by the 1/n or naïve-diversification strategy ($p < 0.001$), which would prescribe investing equal amounts into each fund (Benartzi and Thaler, 2001). ESG investments are higher in the retail investor sample ($M = 68.65$ %, $SD = 25.75$) than in the population sample ($M = 63.89$ %, $SD = 29.10$; $p < 0.001$). The participants favor Fund D, which invests in activities considered sustainable by the "EU taxonomy for sustainable activities" (EU Regulation (EU) 2020/852 2020), while they least favor Fund A, which invests in oil and gas (see Table B.4 for average allocations to each fund).

Satisfaction with the information ($M = 5.60$, $SD = 1.13$) and with the mode of sustainability preference elicitation ($M = 5.64$, $SD = 1.16$), both rated on a 7-point Likert scale, are relatively high and correlate positively with ESG investments ($r = 0.28$ and $r = 0.26$, respectively; $p < 0.001$ for both). In the first (general) sustainability preference question that all participants answer, 3.86 % indicate a preference for 0 % sustainable products and 26.31 % a preference for 100 % sustainable products. The share of participants who choose 0 % in the first question is not significantly lower ($p > 0.1$) in the general (34 out of 1124 participants, 3.0 %) than in the specific elicitation mode (53 out of 1130 participants, 4.7 %). Moreover, there is no overall difference in the stated preferences between the general and the specific elicitation modes (Chi-square test: $\chi^2(4) = 6.02$, $p = 0.197$). In the second question of the *specific sustainability preference elicitation* treatment, answered only by those who did not select "*0 % - no sustainable products*" in the first question, 48.93 % profess a preference for products that are sustainable according to the law (i.e., the EU taxonomy). Avoiding a negative impact was the preferred focus for 32.59 % of the participants and 18.48 % selected investments that focus on both, i.e., products that are sustainable according to the law *and* avoid negative impact.

4.1. Financial return and ESG impact information

Fig. 3 shows that the average investment in sustainable ESG products amounts to 362.90 euros ($SD = 172.69$) in the basic information treatment. This number increases to 395.80 euros ($SD = 160.57$) in the financial return information and to 411.90 euros ($SD = 167.25$) in the ESG impact information treatments. Finally, the average investment amounts to 406.60 euros ($SD = 165.93$) in the combined information treatment.

Table 2 presents the OLS regressions we use to test our hypotheses on the effect of financial and/or ESG impact information on ESG investments (*H1.1* and *H1.2*). Model (1) regresses sustainable ESG investment (the percentage of the total endowment that is invested in sustainable funds) on dummies indicating whether financial return and/or ESG impact information was presented. Model (2) adds the elicitation mode dummy, household income, biospheric and altruistic value orientation, financial literacy variables, and other control variables. Models (3) and (4) present separate results for the retail investor sample ($N = 871$), and Models (5) and (6) for the population sample ($N = 1383$). We use the same control variables throughout the remainder of the paper.

Models (1) and (2) show that financial return information increases ESG investments by a statistically significant margin of 5 percentage points (pp) compared to the basic information treatment. ESG impact information increases ESG investments by statistically significant 7pp (in Model (1), this, for example, corresponds to an increase of 13.48 % relative to the basic information treatment). The difference between the effects of the financial return and ESG impact information treatments is not significant (Wald test for coefficient equality, $\chi^2(1) = 2.04$, $p = 0.153$). Providing both types of information yields similar effect sizes as providing one type of information alone (Wald tests, both $p > 0.27$). The negative interaction effect of the combined financial return and ESG impact information indicates that the two types of information are substitutes rather than complements.

Studying each wave separately, the treatment coefficients are significant in the population sample (Models (5) and (6)) but smaller and

[9] The procedure was approved by the Ethics Committee of the Institute for Advanced Studies, Austria, and a representative of the interests for investors of the Austrian Chamber of Labor. Compliance with the EU's General Data Protection Regulation (GDPR) was audited by the data protection officer of the Institute for Advanced Studies.

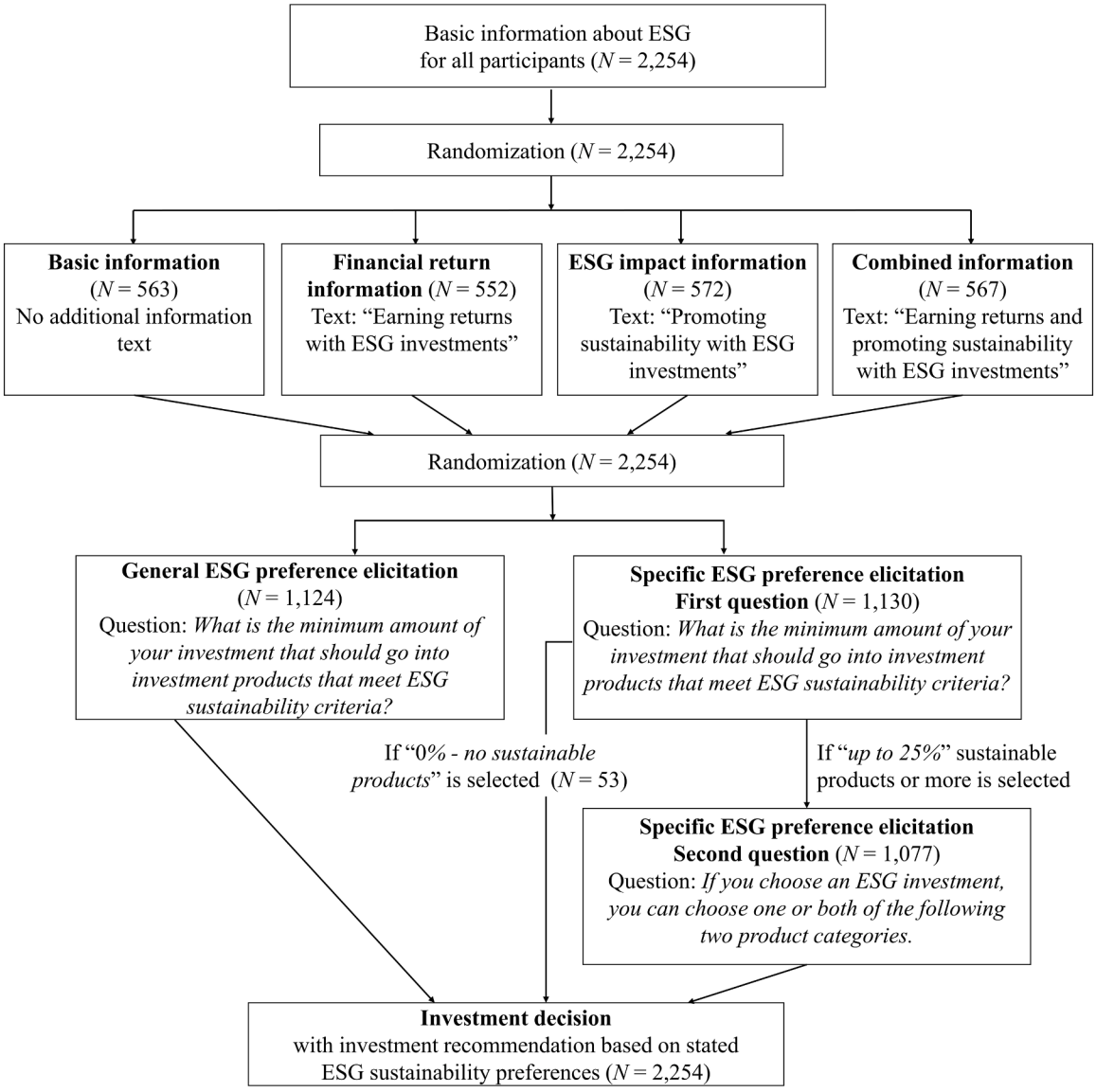

Fig. 2. Flow chart of the main task in the experiment. All participants receive basic information about ESG investments and are then randomly assigned to four information treatments (*basic, financial return, ESG impact*, or *combined information*) and to two different modes of ESG preference elicitation (*general* or *specific*) before making their investment decision.

not significant in the retail investor sample (Models (3) and (4)). We calculate the interaction coefficients of the information treatments with the sample but find no significant interaction effects (max. $b = 0.048$, min. p-value $= 0.152$), suggesting that the information treatments have a similar effect size across samples whether or not we control for other, participant-specific characteristics.[10]

To test whether financial and ESG impact information affect satisfaction with the information (*H1.3* and *H.1.4*), Table 3 replicates the OLS regression analyses from Table 2, but using satisfaction with the information as the dependent variable. After controlling for multiple hypothesis testing, we find no significant effect of information on satisfaction with the information. Our point estimates for the effect of information on satisfaction is slightly higher in the retail investor sample than in the population sample, yet this difference too is not statistically significant (max. $b = -0.248$, min. p-value $= 0.069$). Bivariate t-tests reveal a significant increase in trust compared to the basic information treatment for the ESG impact information treatment ($p = 0.032$) and the combination of information treatment ($p = 0.015$), yet not for the financial return information treatment ($p = 0.147$).

4.2. Elicitation of ESG sustainability preferences

Table 4 analyzes the relationship between the sustainability preference elicitation mode and ESG investments and satisfaction (*H2*) using OLS models with ESG investments and satisfaction with the elicitation, respectively, as the outcome variables (further details in Appendix G). We include only the elicitation mode as a predictor in Model (1), while Model (2) includes the same predictors (in different order) as the model reported for ESG investments (Table 2, Model (2)). The results yield no evidence that the elicitation mode affects ESG investments. The point estimates are close to zero and not statistically significant.[11] The same

[10] The corresponding estimation results are omitted to conserve space, but are available upon request.

[11] Excluding those participants ($N = 87$) who selected "*0% - no sustainable investments*" from the analyses in Table 2 and Table 4 does not change the results.

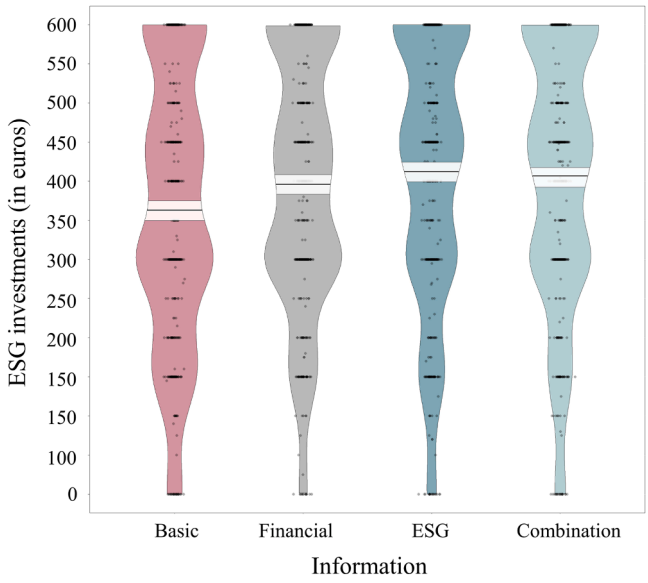

Fig. 3. ESG investments in euros by information treatment. The figure shows the mean amounts of ESG investments (in euros, displayed by bold line in center) and 95 % confidence intervals (displayed by white bands) for each information treatment (basic: $N = 563$; financial return: $N = 552$; ESG impact: $N = 572$; combined: $N = 567$). The black dots represent the raw data points of the variable *ESG investments* (0 to 600 euros), the colored shapes plot the density of the data distribution for each treatment.

holds for satisfaction with the elicitation mode (Models (3) and (4)). We find similar null results when including the mode of elicitation in the models for each wave separately (see coefficients for mode of elicitation in Tables 2 and 3). Moreover, there is no significant interaction between information and sample (ESG investments: max. $b = 0.025$, min. p-value $= 0.294$; satisfaction with the elicitation: $b = 0.002$, min. p-value $= 0.982$). Bivariate t-tests additionally detect no significant difference between the general and the specific sustainability preference elicitation modes regarding trust in the preference elicitation ($p = 0.122$). We also find no significant interaction between the information and the ESG preference elicitation mode (see Table D.2 in the Appendix).

4.3. *Differences in personal values, income, and financial literacy as determinants for ESG investments*

Model (2) in Table 2 examines which participant-level differences determine ESG investments. Our results show that participants who care more about biospheric values, who have greater household income and who are more financially literate invest significantly more sustainably, while altruistic values do not seem to play a role. These results remain significant after controlling for multiple hypothesis testing. Additionally, the exploratory results in Table D.1. in the Appendix show that greater trust in ESG ($b = 0.043$, $p < 0.001$) and higher education ($b = 0.017$, $p < 0.001$) are associated with greater ESG investments. Greater preferences for risk-taking ($b = -0.011$, $p < 0.001$) are related to lower ESG investments. Men invest less sustainably than do women ($b = 0.038$, $p < 0.01$). Table H.1 in the Appendix reports the results for treatment heterogeneity, testing whether the information provided has different effects on different subgroups. Except for one positive effect (financial

Table 2
OLS models: Impact of information on ESG investments.

	(1)	(2)	(3)	(4)	(5)	(6)
Financial return	0.055***	0.041**	0.037	0.025	0.067**	0.053**
	(0.017)	(0.015)	(0.025)	(0.023)	(0.022)	(0.020)
ESG impact	0.082***	0.063***	0.052*	0.037	0.101***	0.080***
	(0.016)	(0.015)	(0.024)	(0.023)	(0.022)	(0.020)
Financial * impact	−0.064**	−0.045*	−0.037	−0.024	−0.082**	−0.063*
	(0.023)	(0.022)	(0.035)	(0.033)	(0.031)	(0.028)
Specific elicitation mode		0.005		−0.011		0.015
		(0.011)		(0.017)		(0.014)
Biospheric values		0.063***		0.070***		0.061***
		(0.009)		(0.014)		(0.011)
Altruistic values		−0.014		−0.014		−0.015
		(0.009)		(0.015)		(0.011)
Household income		0.024**		0.004		0.040***
		(0.007)		(0.009)		(0.010)
Financial literacy		0.074***		0.046		0.083**
		(0.022)		(0.044)		(0.026)
Constant	0.605***	0.001	0.651***	0.095	0.575***	−0.040
	(0.012)	(0.058)	(0.017)	(0.097)	(0.016)	(0.063)
Control variables	NO	YES	NO	YES	NO	YES
N	2254	2254	871	871	1383	1383
Adjusted R^2	0.012	0.172	0.004	0.100	0.015	0.154
F	9.797	24.338	2.048	6.357	8.173	15.768
p	0.000	0.000	0.106	0.000	0.000	0.000
Mean (SD)	0.66 (0.28)	0.66 (0.28)	0.69 (0.26)	0.69 (0.26)	0.64 (0.29)	0.64 (0.29)

Note. Robust standard errors in parentheses. In Models (1) and (2) use the full sample, Models (3) and (4) the retail investor sample, and Models (5) and (6) the population sample. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and the same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive, email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy in Model (2) (1 = retail investor sample, 2 = population sample); see Tables D.1 and F.1 in the Appendix for the regression coefficients of the control variables. F and p indicate the overall significance of the regression model. Mean (SD) is the mean (standard deviation) of the dependent variable. In the Appendix we show that the results are qualitatively robust to stratifying standard errors by age and gender (Table I.1) and to month-year fixed effects (Table I.4).

* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

Table 3
OLS models: Impact of information on satisfaction with the information.

	(1)	(2)	(3)	(4)	(5)	(6)
Financial return	0.088	0.008	0.185*	0.074	0.034	−0.040
	(0.068)	(0.055)	(0.092)	(0.085)	(0.092)	(0.072)
ESG impact	0.140*	0.047	0.292**	0.210*	0.045	−0.062
	(0.067)	(0.055)	(0.091)	(0.084)	(0.092)	(0.072)
Financial * impact	−0.089	0.009	−0.192	−0.069	−0.030	0.062
	(0.095)	(0.078)	(0.130)	(0.119)	(0.130)	(0.101)
Specific elicitation mode		0.005		0.026		−0.012
		(0.039)		(0.060)		(0.050)
Biospheric values		0.156***		0.093+		0.179***
		(0.031)		(0.051)		(0.039)
Altruistic values		0.129***		0.128*		0.120**
		(0.031)		(0.053)		(0.039)
Household income		0.058*		0.038		0.073*
		(0.024)		(0.034)		(0.034)
Financial literacy		0.697***		0.415*		0.735***
		(0.079)		(0.161)		(0.092)
Constant	5.507***	1.187***	5.638***	1.949***	5.423***	1.277***
	(0.048)	(0.209)	(0.064)	(0.353)	(0.065)	(0.224)
Control variables	NO	YES	NO	YES	NO	YES
N	2254	2254	871	871	1383	1383
Adjusted R^2	0.012	0.139	0.004	0.100	0.015	0.154
F	9.797	20.202	2.048	6.357	8.173	15.768
p	0.000	0.000	0.106	0.000	0.000	0.000
Mean (SD)	5.60 (1.13)	5.60 (1.13)	5.83 (0.96)	5.83 (0.96)	5.45 (1.21)	5.45 (1.21)

Note. Robust standard errors in parentheses. Models (1) and (2) use the full sample, Models (3) and (4) the retail investor sample, in Models (5) and (6) the population sample. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and the same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive, email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy in Model (2) (1 = retail investor sample, 2 = population sample); for full models, see Tables E.1 and F.2 in the Appendix. F and p indicate the overall significance of the regression model. Mean (SD) is the mean (standard deviation) of the dependent variable. In the Appendix, we show that the results are qualitatively robust to stratifying standard errors by age and gender (Table I.2) and to month-year fixed effects (Table I.4).

+ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

return, ESG impact, and above-median altruistic values), no results regarding treatment heterogeneity remain significant after controlling for multiple hypothesis testing.

4.4. Exploratory analyses: ESG sustainability preferences, stability of investment decisions, and deviation from recommendation

ESG sustainability preferences. ESG investments could be affected by the selection of mutual funds that we present in the experiment. ESG preferences, as elicited in the general elicitation mode, are less context-dependent and hence interesting in their own right. Table 5 presents the ordered probit models we use to explore whether financial and ESG impact information affect participants' ESG sustainability preferences in the general elicitation mode. The models in the table mirror our models for ESG investments (Table 2), yet use the ordinal sustainability preference score from the general elicitation as their outcome variable (1 = *0 % - no sustainable products*; 2 = *up to 25 %*; 3 = *up to 50 %*; 4 = *up to 75 %*, and 5 = *100 % - only sustainable products*). The rightmost five columns in Table 5 provide the average marginal effects based on Model (2). The results show that both financial return and ESG impact information significantly increase the indicated sustainability preference in the general elicitation mode. A Wald test shows that the coefficient for the ESG impact information is significantly greater than that for the financial return information in Model (1) ($\chi^2(1) = 5.51$, $p = 0.019$). The large and negative interaction coefficient of financial return and ESG impact information again indicates that presenting the two information sets in combination does not yield greater effects than presenting either one in isolation. The average marginal effects indicate that ESG impact information as well as the combination of the information sets reduce (increase) the probability of participants selecting lower (higher) percentages of sustainable investments in the preference elicitation. For example, the probability of selecting "*100 % - only sustainable products*" increases by 7.5 percentage points in the ESG impact information treatment compared to the basic information treatment. Finally, a Chi-square test does not indicate a significant influence of financial and ESG impact information on choices in the specific preference elicitation mode ($\chi^2(9) = 6.12$, $p = 0.728$).

Stability of investment decisions. We asked participants whether they would want to revise their initial investment decision in two hypothetical scenarios of investment performance by either decreasing, keeping constant, or increasing the amount invested in sustainable funds. We use logit models with stability of investment (SOI) as the binary outcome variable to explore whether financial and/or ESG impact information increase the stability of investments (i.e., the investors indicate no intent to revise their investments) compared to the basic information treatment (0 = no stability of investments, 1 = stability of investments, $M = 0.33$, $SD = 0.47$). We find no significant impact of financial return or ESG impact information on stability (minimum $p > 0.1$, see Appendix J.1 for the full results).

We do, however, identify other determinants for the stability of investment decisions. When asked what they would do if, six months later, the sustainable funds had outperformed the conventional funds by 5 percentage points, 39.49 % of the participants reply that they would maintain their ESG investment, 55.10 % would increase it and only 5.41 % would decrease it (5-point Likert scale, *1 = significantly reduce* / 5 = *significantly increase, Median* = 4). In the scenario where conventional funds outperform, 67.30 % reply they would maintain their ESG investment, 17.84 % would increase it, and only 14.86 % would decrease it (*Median* = 3). We furthermore explore whether participants whose investment amounts are below the median ESG investment amount differ from those at/above the median in their revision choices in the scenario where conventional investments perform better than ESG

Table 4
OLS models: Impact of elicitation mode on ESG investments (Models (1) & (2)) and on satisfaction with the information (Models (3) & (4)).

	ESG investments		Satisfaction with elicitation	
	(1)	(2)	(3)	(4)
Specific elicitation mode	0.002	0.005	−0.044	−0.053
	(0.012)	(0.011)	(0.049)	(0.040)
Financial return		0.041**		0.058
		(0.015)		(0.057)
ESG impact		0.063***		0.028
		(0.015)		(0.056)
Financial * impact		−0.045*		0.044
		(0.022)		(0.080)
Biospheric values		0.063***		0.149***
		(0.009)		(0.031)
Altruistic values		−0.014		0.127***
		(0.009)		(0.032)
Household income		0.024**		0.058*
		(0.007)		(0.025)
Financial literacy		0.074***		0.743***
		(0.022)		(0.081)
Constant	0.656***	0.001	5.663***	1.027***
	(0.008)	(0.058)	(0.035)	(0.215)
Control variables	No	Yes	No	Yes
N	2254	2254	2254	2254
Adjusted R^2	0.000	0.172	0.000	0.347
F	0.032	24.338	0.823	60.907
p	0.858	0.000	0.364	0.000
Mean (SD)	0.66 (0.28)	0.66 (0.28)	5.64 (1.16)	5.64 (1.16)

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive, email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy (1 = retail investor sample, 2 = population sample); see Table G.1 in the Appendix for the regression coefficients of the control variables. F and p indicate the overall significance of the regression model. Mean (SD) is the mean (standard deviation) of the dependent variable. We also show that the results are qualitatively robust to stratifying standard errors by age and gender in Table I.3 in the Appendix.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

investments, yet find no significant difference (Mann–Whitney *U* test; *Median* = 3 for both groups, $p = 0.290$). However, participants with investments at or above the median increased their ESG investments significantly more ($p < 0.001$) in the hypothetical scenario (*Median* = 4) where ESG investments performed better than participants with lower ESG investments (*Median* = 3).

Deviation from the recommendation. We find that 34.43 % of the participants accept the non-binding recommendation. For the others, the deviation from the recommended amount is on average positive ($M = 15.00$, $SD = 109.41$), indicating that participants invest about 15 euros more in sustainable funds than recommended based on the preference elicitation. The results (Table J.2) yield no convincing evidence of financial and ESG impact information affecting the deviation from the recommended ESG investment amount.

5. Discussion

Understanding which information financial advisors should provide about ESG investments and how investors' ESG sustainability preferences should be elicited is crucial to increase ESG investments and investor satisfaction. Both, information provision and preference elicitation by financial institutes are mandatory under EU Regulation (EU) 2021/2616, and, outside of the EU too, promoting ESG investments is a key topic in current discussion about financial advisory (The World Bank, 2020).

5.1. Financial and ESG impact information

In line with *Hypothesis 1.1*, we find that providing information about financial returns and ESG impact increases ESG investments by about 5 and 7 percentage points, respectively. While these effects are qualitatively similar in our retail investor population samples, the overall effect seems to be driven by the population sample. One reason for this result might be that the retail investors have greater ESG sustainability preferences and thus choose higher ESG investment amounts irrespective of the information. Another might be that a greater proportion of retail investors are already aware of ESG investments, such that our information provision has less of an effect. Both reasons would leave less room for a further increase among retail investors due to ceiling effects.

Contrary to Hypothesis 1.2, however, the combination of financial return and ESG impact information does not increase ESG investments more than each type of information does alone. This could be driven by an individual upper bound in ESG investments that both types of information independently push investors to, leaving no room for additional increases when the information is combined. Another explanation could be motivational crowding out (Frey and Jegen, 2001). Investors might lose their intrinsic desire to support ESG goals when financial rewards are highlighted. Conversely, those motivated by financial considerations might not derive additional utility from ESG appeals and would thus not increase their ESG investments when provided with ESG impact information.

Our results challenge the claim that financial considerations are a more important driver of sustainable investments than other considerations (Døskeland and Pedersen, 2016, 2021). We show that both aspects are similarly important as compared to previous studies that have emphasized either financial returns (Døskeland and Pedersen, 2016, 2021) or other single aspects as key drivers (Barreda-Tarrazona et al., 2011; Bassen et al., 2019; Heeb et al., 2023; Siemroth and Hornuf, 2023). Moreover, we show that the combination of both sets of information does not affect ESG investments beyond the effect of each type of information alone. Finally, with one exception, we find no significant heterogeneous treatment effects when controlling for individual characteristics after multiple hypothesis testing.

Our financial return and ESG impact information treatments increase investments over and above any effect of the basic, legally required (in the EU) information regarding ESG. In the basic information treatment, ESG investments constitute 60.49 % of the total investment amount, significantly exceeding the 1/n heuristic's prediction of 50 % or 300 euros (Benartzi and Thaler, 2001). This finding suggests that participants actively choose to invest sustainably rather than merely seeking diversification. The overall high level of ESG investments may of course have been caused by the limited set of information we provided about the funds, which could have made sustainability issues more salient relative to other parameters (i.e., risk and return). Nevertheless, since we kept the fund-related information set constant, our treatment effects would be unaffected by such a level shift. As a final observation regarding the investment amounts, note that the financial return information resulted in a less robust increase in ESG investments than the ESG impact information in both samples. Hence, when uncertain, financial advisors who aim to increase sustainable investments might be better off providing information on ESG impact.

Contrary to *H1.3* and *H1.4*, we do not find that information increases satisfaction. The reasons could be the layout or the length of the text provided. However, overall satisfaction correlates positively with ESG investments. Thus, financial advisors in banks can confidently provide information and highlight reasons for ESG investing without fearing counteracting effects (Agnew and Szykman, 2005).

Table 5
Ordered probit models and average marginal effects: Impact of information on stated preferences for ESG investments.

	Coefficients		Marginal Effects				
	(1)	(2)	0 %	Up to 25 %	Up to 50 %	Up to 75 %	100 %
Financial return	0.169***	0.135*	−0.009	−0.019	−0.012	0.008	0.031
	(0.063)	(0.064)	(0.005)	(0.012)	(0.007)	(0.005)	(0.020)
ESG impact	0.318***	0.274***	−0.018***	−0.043***	−0.030***	0.016***	0.075***
	(0.063)	(0.064)	(0.005)	(0.012)	(0.008)	(0.005)	(0.020)
Financial * impact	−0.207*	−0.164+	−0.017***	−0.041***	−0.028***	0.015**	0.071***
	(0.089)	(0.091)	(0.005)	(0.012)	(0.008)	(0.005)	(0.020)
Biospheric values		0.287***					
		(0.036)					
Altruistic values		−0.027					
		(0.036)					
Household income		0.068*					
		(0.030)					
Financial literacy		0.233*					
		(0.092)					
Control variables	NO	YES					
N	2254	2254					
Nagelkerke Pseudo R^2	0.014	0.204					

Note. Robust standard errors in parentheses for Models (1) and (2). Marginal effects are based on Model (2), shown with standard errors. The dependent variable is the outcome of the general sustainability preference elicitation (*What is the minimum amount of your investment that should go into investment products that meet ESG sustainability criteria?*, 1 = 0 % - *no sustainable products*; 2 = *up to 25 %*; 3 = *up to 50 %*; 4 = *up to 75 %*, 5 = *100 % - only sustainable products*). Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive, email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy (1 = retail investor sample, 2 = population sample).

+ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

5.2. Modes of preference elicitation

Contrary to *H2*, the results suggest that the two sustainability preference elicitation modes do not differ in their effects on ESG investments and satisfaction. Thus far, limited comparable research exists on how investment advisors should assess ESG sustainability preferences (Bauer et al., 2021, is a notable exception). We fill this gap in the literature and provide practical evidence to understand whether a general or a specific elicitation mechanism increases ESG investments more effectively. Consistent with the new EU regulation, the results suggest that the newly mandatory, specific elicitation mode of sustainability preferences has no disadvantages (such as causing choice overload; cp. Scheibehenne et al., 2010) compared to a simpler format.

5.3. Individual differences in ESG investment

In line with *H3,* the results reveal that investors with greater biospheric value orientation, greater financial literacy, and higher income, invest more sustainably. When controlling for multiple hypothesis testing, these results are significant and align with previous research (Cheah et al., 2011; Escrig-Olmedo et al., 2013; Gutsche et al., 2023). In contrast to what we hypothesized in *H3*, however, altruistic value orientation does not seem to relate significantly to ESG investments.

Our exploratory analyses support the widespread notion that sustainable investors tend to be female and educated, but we find no support for the notion that these investors are typically younger (Dorfleitner and Nguyen, 2016; Nilsson, 2008). Trust in ESG is a determinant of ESG investing in our data, consistent with other studies (Gutsche et al., 2023; Gutsche and Zwergel, 2020; Nilsson, 2008). Interestingly, greater risk aversion relates to an increase of 1.1 pp in ESG investments. Both of these latter findings might reflect the view that sustainable investments are typically perceived as less risky (Scholtens and van't Klooster, 2019; Verheyden et al., 2016).

5.4. Limitations

Our study of course is subject to some limitations. First, participants made investment decisions with windfall gains, as opposed to self-earned money. Prior research has found that windfall gains may increase the willingness to invest sustainably (Hoffmann et al., 2019), which may have inflated our overall level of ESG investments. Given that every treatment is subject to this limitation, however, we would expect qualitatively similar treatment effects for the case of investing self-earned money. Specifically, we would expect future experiments to find lower ESG investments on average, but to find our treatment variables to have a comparable impact as observed in the present study. Furthermore, windfall gains are a common occurrence in practice, such as in the form of inheritances, gifts, surprise bonuses, or lottery gains.

A second potential limitation is that our design does not include control groups who did not receive any ESG information or did not participate in any sustainability preference elicitation. Instead, we used a basic information treatment reflecting the mandatory legal practice regarding financial advice in the EU. We decided not to include a control group without any sustainability preference elicitation in favor of greater external validity and practical relevance. This approach also ensured participants' understanding of basic ESG information when we elicited their ESG sustainability preferences and may be seen as a conservative benchmark for the effect of ESG information on ESG investments. Likely, our information treatments would show larger effects when compared to a control condition with no ESG information at all.

Third, our study did not include the possibility of ESG investment products being more costly. While the interaction of higher fees for sustainable investments with our information treatments cannot be completely disregarded, the existing literature indicates a willingness to pay higher fees for funds with a sustainability mandate (Engler et al., 2023; Heeb et al., 2023; Riedl and Smeets, 2017). At the same time, sustainable investors seem to be more sensitive to paying higher fees when funds lack an explicit sustainability mandate (Sjuve, 2022). Future research should therefore evaluate how fees and information interact in shaping investors' decisions to invest in ESG products.

A fourth potential limitation is that we observe investments not in actual capital markets, but in a controlled experimental context with self-selected retail investors and a sample reflecting the Austrian general population. To enhance external validity, we designed our experiment in close cooperation with eight banks and the Austrian Financial Market Authority to ensure that it closely simulates a real investment decision. Our incentivized design, involving actual investments in the stock market, represents a methodological advancement over studies without such realistic incentives, again aimed at closely mimicking investors' potential payoffs. Finally, our study used a comparatively large and diverse sample of investors and non-investors, all of whom are potentially affected by the new EU regulation.

6. Conclusion and policy implications

The present research was conducted in collaboration with the Austrian Financial Market Authority and Austrian banks, and examines different legally possible implementations of EU Commission Delegated Regulation (EU) 2021/2616 (2021), designed to foster ESG investments. Our results show that providing retail investors with information regarding the financial returns *or* the ESG impact of sustainable investment products will likely increase ESG investments. We find that combining both information sets has no additional effect. Contrary to worries sometimes advanced by banks and investment advisors, a specific and more complex mode of eliciting ESG preferences does not influence ESG investments or investor satisfaction compared a general, simpler mode.

Our results also indicate that more ESG information affects the general population more strongly than it does experienced investors. Without more information, many (potential) investors with sustainability preferences might remain unaware of sustainable investment options (Gutsche and Zwergel, 2020; Wins and Zwergel, 2016) causing the value-action gap observed in some investment decisions (Brunen and Laubach, 2022; Kollmuss and Agyeman, 2002).

The present results allow the conclusion that investors prefer ESG funds with a legally based definition of sustainability (mutual funds adhering to the EU Taxonomy; EU Regulation (EU) 2020/852, 2020) compared to other such definitions. Clear legal ESG definitions (maybe communicated with labels, Degryse et al., 2023; Gutsche et al., 2023) allow investors with less knowledge about sustainable finance to feel protected from greenwashing or cheap talk (UNCTAD, 2021). We believe that future research and practice should develop and apply measures to increase investors' knowledge about ESG investments and sustainable finance, in other words, promote "sustainable finance literacy". Greater sustainable finance literacy could improve the understanding of ESG investments which could in turn increasing investors' general appetite for stocks over less profitable traditional savings options.

Although our research presents an optimistic view of the effectiveness of new ESG regulations, we wish to note several pitfalls. Investors seem to prefer clear (legal) ESG definitions. At present, a large variety of (un-)standardized ESG ratings exists, and especially for small investment managers, obtaining a trustworthy rating for their products may be prohibitively expensive. Due to a lack of clear definitions and maybe also due to a lack of knowledge, financial advisors might thus be hesitant to suggest ESG investments. Studies show, however, that ESG indices not only outperform benchmark indices concerning their impact in relation to the UN's Sustainable Development Goals (SDGs), but also offer at least similar financial performance (Bekaert et al., 2023; Pastor et al., 2021). Yet, advisors might not be aware of these studies or might not trust the examined ESG definitions and products, causing them to perceive a possible conflict with their fiduciary duties (i.e., to offer their clients the "best" investment advice), making them reluctant to recommend ESG investments. The establishment of a clear ESG definition (system) and further education of financial advisors concerning ESG investment options thus seems to be crucial.

The present study shows that more information may increase investors' readiness to invest in ESG products. The materials used in this study comply with regulation (EU) 2021/2616, making them suitable for financial advisors' use. Nonetheless, greater regulatory effort and research are necessary to fully harness the potential of ESG investments in environmental protection and the combat against climate change.

Disclaimer

We hereby declare that this paper reports all experimental sessions and treatments conducted within the course of this study. Instructions in German language are available from the authors upon request.

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CRediT authorship contribution statement

Marcel Seifert: Conceptualization, Methodology, Software, Validation, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration. **Florian Spitzer:** Conceptualization, Methodology, Writing – review & editing, Funding acquisition. **Simone Haeckl:** Conceptualization, Methodology, Formal analysis, Writing – review & editing. **Alexia Gaudeul:** Conceptualization, Methodology, Writing – review & editing. **Erich Kirchler:** Conceptualization, Methodology, Writing – review & editing. **Stefan Palan:** Conceptualization, Methodology, Writing – review & editing. **Katharina Gangl:** Conceptualization, Methodology, Validation, Investigation, Resources, Writing – original draft, Writing – review & editing, Visualization, Supervision, Project administration, Funding acquisition.

Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

I have shared the link to my data/code att the Attach file step

Data for: Financial return and environmental impact information promotes ESG investments: Evidence from a large, incentivized online-experiment (Original data) (Mendeley Data)

Appendix A. The EU regulation 2021/2616

The regulation is part of the European Commission's initiative regarding sustainable development, aiming to include sustainability considerations into the financial system to support the transformation towards a green, resilient and circular system, in line with the European Green deal. The regulation also contributes to the aims to direct financial and capital flows to green investment and avoid stranded assets. It modifies previous regulations in two ways:

First, ESG preferences of clients are added to the suitability assessment when providing investment advice or portfolio management. Thus, in addition to investment experience, ability to bear losses, risk tolerance, etc., ESG preferences need to be elicited. This is particularly important, since clients often do not raise such preferences themselves, and in this case, these preferences could not be considered in financial advice. The regulation ensures that products that are sustainability-related are recommended to clients who report a preference for ESG investments in the elicitation. Based on the ESG preferences, advisors know whether and to what extent the following financial instruments should be integrated in the investment recommendation: i) financial instruments that determine a minimum amount invested in (environmentally) sustainable investments and ii) financial instruments that consider principal adverse impacts on sustainability factors.

Second, the regulation integrates sustainability risks into the organizational requirements, that is, ESG considerations are put at the heart of the financial system. Additionally, investment firms that provide investment advice and portfolio management services must explain the difference between fully or in part sustainable ESG investments, investments that consider principal adverse impacts and other instruments that are not sustainable.

Appendix B. Sample characteristics and descriptive statistics

Table B.1
Balance table by information treatment.

	Basic *M*(*SD*), f (%)	Financial *M*(*SD*), f (%)	ESG *M*(*SD*), f (%)	Combination *M*(*SD*), f (%)	Total sample *M*(*SD*), f (%)	*p*-value
Biospheric values	5.91 (1.14)	5.97 (1.09)	6.07 (0.94)	6.05 (1.10)	6.00 (1.07)	0.045
Altruistic values	5.83 (1.09)	5.84 (1.04)	5.94 (0.94)	5.92 (1.10)	5.88 (1.04)	0.191
Household income	2.04 (0.89)	2.04 (0.96)	2.05 (0.92)	2.10 (0.88)	2.06 (0.91)	0.679
Financial literacy	0.80 (0.28)	0.82 (0.27)	0.78 (0.29)	0.79 (0.29)	0.80 (0.28)	0.233
Age (in years)	48.78 (15.56)	48.58 (15.75)	47.58 (15.27)	47.88 (15.54)	48.20 (15.53)	0.518
Gender						0.385
Female	233 (41.4 %)	219 (39.7 %)	261 (45.6 %)	259 (45.7 %)	972 (43.1 %)	
Male	329 (58.4 %)	332 (60.1 %)	310 (54.2 %)	307 (54.1 %)	1278 (56.7 %)	
Non-binary	1 (0.2 %)	1 (0.2 %)	1 (0.2 %)	1 (0.2 %)	4 (0.2 %)	
Highest education						0.734
Primary / secondary degree	14 (2.5 %)	10 (1.8 %)	14 (2.4 %)	13 (2.3 %)	51 (2.3 %)	
Vocational training	97 (17.2 %)	102 (18.5 %)	96 (16.8 %)	95 (16.8 %)	390 (17.3 %)	
Secondary degree (no A-levels)	59 (10.5 %)	62 (11.2 %)	62 (10.8 %)	62 (10.9 %)	245 (10.9 %)	
High school(A-levels)	176 (31.3 %)	175 (31.7 %)	189 (33.0 %)	203 (35.8 %)	743 (33.0 %)	
College / foreperson	16 (2.8 %)	20 (3.6 %)	30 (5.2 %)	19 (3.4 %)	85 (3.8 %)	
University degree	195 (34.6 %)	174 (31.5 %)	175 (30.6 %)	164 (28.9 %)	708 (31.4 %)	
Other degree	6 (1.1 %)	9 (1.6 %)	6 (1.0 %)	11 (1.9 %)	32 (1.4 %)	
Household children	0.41 (0.77)	0.47 (0.83)	0.43 (0.80)	0.39 (0.77)	0.42 (0.79)	0.391
Experience	3.17 (2.92)	3.46 (2.92)	3.40 (3.00)	3.16 (2.93)	3.30 (2.95)	0.207
Risk preference	5.41 (2.45)	5.53 (2.47)	5.57 (2.28)	5.44 (2.48)	5.49 (2.42)	0.675
Trust in ESG	5.20 (1.30)	5.38 (1.28)	5.40 (1.19)	5.23 (1.34)	5.31 (1.28)	0.023
Relevance of the incentive	5.19 (1.78)	5.22 (1.87)	5.27 (1.74)	5.30 (1.72)	5.24 (1.77)	0.694
Email provided	0.86 (0.34)	0.87 (0.34)	0.89 (0.32)	0.91 (0.29)	0.88 (0.32)	0.133
Attention check passed	352 (62.52 %)	386 (69.93 %)	379 (66.26 %)	395 (69.66 %)	1512 (67.08 %)	0.964
Survey wave	1.61 (0.49)	1.62 (0.49)	1.61 (0.49)	1.61 (0.49)	1.61 (0.49)	0.971

Note. *f* = frequency, % = percent of the basic information treatment ($N = 563$), financial return information ($N = 552$), ESG impact information ($N = 572$), both ($N = 567$) and the full sample ($N = 2254$), *M* = mean, *SD* = standard deviation. For categorical variables (gender, education), frequencies, and percentage of the sample (in parentheses) are displayed. For the other variables, the mean and standard deviation is presented.
[a]Statistics on number of children in the household and household income are calculated over the 10 imputed datasets, as described in Section 3.2. Measured variables.

Table B.2
Balance table by mode of sustainability preference elicitation treatment.

	General elicitation *M*(*SD*), f (%)	Specific elicitation *M*(*SD*), f (%)	Total sample *M*(*SD*), f (%)	*p*-value
Biospheric values	6.01 (1.05)	5.99 (1.08)	6.00 (1.07)	0.598
Altruistic values	5.90 (1.03)	5.86 (1.05)	5.88 (1.04)	0.321
Household income	2.09 (0.93)	2.03 (0.89)	2.06 (0.91)	0.132
Financial literacy	0.79 (0.29)	0.80 (0.28)	0.78 (0.28)	0.326
Age (in years)	48.08 (15.46)	48.32(15.60)	48.20 (15.53)	0.712
Gender				0.126
Female	481 (42.8 %)	491 (43.5 %)	972 (43.1 %)	
Male	643 (57.2 %)	635 (56.2 %)	1278 (56.7 %)	
Non-binary	0 (0.0 %)	4 (0.4 %)	4 (0.2 %)	
Highest education				0.091
Primary / secondary deg.	28 (2.5 %)	23 (2.0 %)	51 (2.3 %)	

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Table B.2 (*continued*)

	General elicitation *M*(*SD*), f (%)	Specific elicitation *M*(*SD*), f (%)	Total sample *M*(*SD*), f (%)	*p*-value
Vocational training	179 (15.9 %)	211 (18.7 %)	390(17.3 %)	
Sec. degr. (no A-levels)	113 (10.1 %)	132 (11.7 %)	245 (10.9 %)	
High school (A-levels)	367 (32.7 %)	376 (33.3 %)	743 (33.0 %)	
College / foreperson	44 (3.9 %)	41 (3.6 %)	85 (3.8 %)	
University degree	381 (33.9 %)	327 (28.9 %)	708 (31.4 %)	
Other degree	12 (1.1 %)	20 (1.8 %)	32 (1.4 %)	
Household children	0.43 (0.80)	0.42 (0.79)	0.42 (0.79)	0.733
Experience	3.30 (2.92)	3.29 (2.97)	3.230 (2.95)	0.950
Risk preference	5.48 (2.43)	5.50 (2.41)	5.49 (2.42)	0.848
Trust in ESG	5.29 (1.27)	5.33 (1.30)	5.31 (1.28)	0.509
Relevance of the incentive	5.21 (1.76)	5.27 (1.79)	5.24 (1.77)	0.416
Email provided	0.88 (0.33)	0.88 (0.32)	0.88 (0.32)	0.662
Attention check passed	748 (66.55 %)	764 (67.97 %)	1512 (67.08 %)	0.892
Survey wave	1.61 (0.49)	1.62 (0.49)	1.61 (0.49)	0.687

Note. f = frequency, % = percent of general elicitation ($N = 1124$), specific elicitation ($N = 1130$), and the full sample ($N = 2254$), M = mean, SD = standard deviation. For categorical variables (gender, education), frequencies, and percentage of the sample (in parentheses) are displayed. For the other variables, the mean and standard deviation is presented.

[a]Statistics on number of children in the household and household income are calculated over the 10 imputed datasets, as described in Section 3.2. Measured variables.

We provide characteristics of both survey waves and the full sample in Table B.3. The population sample is balanced in terms of gender while the investor sample mirrors the general overrepresentation of male investors (Holmen et al., 2021). We detect no significant differences with regards to age. We find that education, household income, experience in investing and financial literacy are higher in the retail investor sample than in the population sample. Compared to other studies (Gutsche et al., 2023) the financial literacy of the retail investor is slightly higher, while that in the population sample is lower. This finding and the observed higher risk preferences of the retail investor sample are in line with previous research comparing finance professionals with the general population (Holmen et al., 2021). We furthermore observe that biospheric and altruistic value orientation is higher in the retail investor sample.

Table B.3
Descriptive statistics of sample characteristics by survey wave.

	Retail investor *M*(*SD*), f (%)	Population *M*(*SD*), f (%)	Full sample *M*(*SD*), f (%)
Gender			
Female	261 (30.0 %)	711 (51.4 %)	972 (43.1 %)
Male	606 (69.6 %)	672 (48.6 %)	1278 (56.7 %)
Non-binary	4 (0.5 %)	0 (0.0 %)	4 (0.2 %)
Age (in years)	47.69 (13.83)	48.52 (16.50)	48.20 (15.52)
Income[a]			
Less than 1000 euros	11 (1.26 %)	62 (4.49 %)	73 (3.24 %)
1001 to 2000 euros	67 (7.68 %)	309 (22.36 %)	376 (16.68 %)
2001 to 3000 euros	167 (19.15 %)	321 (23.22 %)	488 (21.65 %)
3001 to 4000 euros	189 (21.67 %)	298 (21.56 %)	487 (21.61 %)
4001 to 5000 euros	181 (20.76 %)	214 (15.48 %)	395 (17.52 %)
5001 to 6000 euros	117 (13.42 %)	93 (6.73 %)	209 (9.27 %)
6001 to 7000 euros	57 (6.54 %)	37 (2.68 %)	94 (4.17 %)
7001 to 8000 euros	22 (2.52 %)	20 (1.45 %)	42 (1.86 %)
8001 euros or more	61 (7.00 %)	28 (2.03 %)	90 (3.99 %)
Household children [a]	0.47 (0.81)	0.40 (0.78)	0.42 (0.79)
Household income [a]	2.29 (0.99)	1.91 (0.83)	2.06 (0.91)
Highest educational level			
Primary/secondary deg.	12 (1.38 %)	39 (2.82 %)	51 (2.26 %)
Vocational training	101 (11.60 %)	289 (20.90 %)	390 (17.30 %)
Sec. degr. (no A-levels)	72 (8.27 %)	173 (12.51 %)	245 (10.87 %)
High school (A-levels)	287 (32.95 %)	456 (32.97 %)	743 (32.96 %)
College/foreperson	42 (4.82 %)	43 (3.11 %)	85 (3.77 %)
University degree	337 (38.69 %)	371 (26.83 %)	708 (31.41 %)
Other degree	20 (2.29 %)	12 (0.87 %)	32 (1.42 %)
Experience			
Not invested	53 (6.08 %)	722 (52.21 %)	775 (34.3 %)
Less than 1 year	34 (3.90 %)	59 (4.27 %)	93 (4.1 %)
1 – 2 years	75 (8.61 %)	98 (7.09 %)	173 (7.7 %)
3 – 4 years	87 (9.99 %)	93 (6.72 %)	180 (8.0 %)
5 – 6 years	67 (7.69 %)	91 (6.58 %)	158 (7.0 %)
7 – 8 years	56 (6.43 %)	47 (3.40 %)	103 (4.6 %)
9 – 10 years	51 (5.86 %)	50 (3.62 %)	101 (4.5 %)
More than 11 years	448 (51.44 %)	223 (16.12 %)	671 (29.8 %)
Financial literacy	0.90 (0.20)	0.74 (0.31)	0.80 (0.28)
Biospheric values	6.21 (0.81)	5.87 (1.18)	6.00 (1.07)
Altruistic values	6.04 (0.80)	5.78 (1.16)	5.88 (1.04)
Risk preference	6.51(2.20)	4.85 (2.33)	5.49 (2.42)

Note. f = frequency, % = percent of the retail investor sample ($N = 871$), the population sample ($N = 1383$), and the full sample ($N = 2254$), M = mean, SD = standard deviation. For categorical variables (gender, income, education, experience),

frequencies, and percentage of the sample (in parentheses) are displayed. For the other variables, the mean and standard deviation is presented.

[a] Statistics on income, number of children in the household and the resulting household income are calculated over the 10 imputed datasets, as described in Section 3.2. Measured variables.

Table B.4
Summary statistics by survey wave.

Variable	Retail investor *M*(*SD*), f (%)	Population *M*(*SD*), f (%)	Full sample *M*(*SD*), f (%)
ESG investments (%)	0.69 (0.26)	0.64 (0.29)	0.66 (0.28)
ESG investments (euros)	411.91 (154.50)	383.35 (174.61)	394.39 (167.67)
Conventional Fund A (euros)	68.58 (88.10)	93.29 (100.17)	83.74 (96.42)
Conventional Fund B (euros)	119.52 (106.13)	123.36 (109.05)	121.87 (107.92)
Sustainable Fund C (euros)[a]	181.98 (127.35)	173.84 (133.44)	176.99 (131.16)
Sustainable Fund D (euros)[a]	229.93 (138.30)	209.51 (151.27)	217.40 (146.70)
Satisfaction with info	5.83 (0.96)	5.45 (1.21)	5.60 (1.13)
Satisfaction with elicitation	5.86 (1.02)	5.50 (1.22)	5.64 (1.16)
General sustainability preference elicitation			
0 % - no sustainable products	27 (3.10 %)	60 (4.34 %)	87 (3.86 %)
Up to 25 %	108 (12.40 %)	264 (19.09 %)	372 (16.50 %)
Up to 50 %	244 (28.01 %)	405 (29.28 %)	649 (28.79 %)
Up to 75 %	264 (30.31 %)	289 (20.90 %)	553 (24.53 %)
100 % - only sustainable	228 (26.18 %)	365 (26.39 %)	593 (26.31 %)
Specific sustainability preference elicitation[b]			
Avoid negative impact	124 (30.02 %)	227 (34.19 %)	351 (32.59 %)
Sustainable according to law	195 (47.22 %)	332 (50.00 %)	527 (48.93 %)
Both	94 (22.76 %)	105 (15.81 %)	199 (18.48 %)
Acceptance of recommendation	239 (26.41 %)	547 (39.55 %)	776 (34.42 %)
Deviation from recommendation	15.81 (95.99)	14.48 (117.11)	15.00 (109.41)
Stability of investment[c]	0.33 (0.47)	0.34 (0.47)	0.34 (0.47)

Note. f = frequency, % = percent of the retail investor sample ($N = 871$), the population sample ($N = 1383$), and the full sample ($N = 2254$), M = mean, SD = standard deviation. For categorical variables (general elicitation, specific elicitation), frequencies, and percentage of the sample (in parentheses) are displayed. For the other variables, the mean and standard deviation is presented.

[a] Fund C and D match the product categories in the specific mode of elicitation: Fund C avoids negative impacts on ESG-factors while fund D invests in activities that are considered sustainable by law.

[b] Only participants in the respective treatment and who chose "*up to 25 %*" or more in the general elicitation were shown the specific elicitation. Thus, the reported sample size of the specific elicitation is reduced to $N = 1077$.

[c] Stability of investment decisions equals is binary: the investment is revised on one or both hypothetical scenarios (stability = 0); the investment is not revised (stability = 1).

Appendix C. Multiple hypothesis testing

We control for multiple hypothesis testing by including the p-values of all hypothesis tests in the Benjamini-Hochberg procedure (Benjamini--Hochberg, 1995), applying the "p.adjust" function in the "stats" package version 3.6.2 in R (Table C.1). The *p*-values of the regression coefficients are derived from the respective model that includes our experimental manipulations (information and mode of sustainability preference elicitation) and the explanatory variables (biospheric and altruistic values, household income, and financial literacy).

Table C.1
Results of the multiple hypothesis testing correction.

	p-value	p-Value Bonferroni	p-value Benjamini-Hochberg	Hypoth. holds Bonferroni	Hypoth. holds Benjamini-Hochberg
H3. Biospheric values are related to higher ESG investments	< 0.0001	< 0.0001	< 0.0001	1	1
H1.1. Impact info increases ESG investments	< 0.0001	< 0.001	< 0.0001	1	1
H3. Financial literacy is related to more ESG investments	< 0.0001	< 0.001	< 0.0001	1	1
H1.1. Financial info increases ESG investments	0.002	0.058	0.014	0	1
H3. Household income is related to higher ESG investments	0.007	0.198	0.040	0	1
H1.2. Combined info increases ESG investments	0.009	0.264	0.042	0	1
H4. Heterogeneity altruistic values and combined info	0.010	0.297	0.042	0	1
H4. Heterogeneity altruistic values and financial info	0.030	0.888	0.111	0	0
H4. Heterogeneity financial literacy and financial info	0.050	1	0.166	0	0
H1.3. Impact info increases satisfaction	0.088	1	0.265	0	0
H4. Heterogeneity income and financial return information	0.130	1	0.333	0	0
H4. Heterogeneity financial literacy and impact info	0.148	1	0.333	0	0
H1.1. Impact info increases ESG investments more than financial info	0.153	1	0.333	0	0
H4. Heterogeneity financial literacy and combined info	0.156	1	0.333	0	0

(*continued on next page*)

Table C.1 (*continued*)

	p-value	p-Value Bonferroni	p-value Benjamini-Hochberg	Hypoth. holds Bonferroni	Hypoth. holds Benjamini-Hochberg
H4. Heterogeneity altruistic values and impact info	0.214	1	0.413	0	0
H1.4. Combined info vs. financial info: satisfaction	0.222	1	0.413	0	0
H4. Heterogeneity income and combined information	0.234	1	0.413	0	0
H1.2. Combined info vs. financial info: ESG investments	0.275	1	0.458	0	0
H1.3. Financial info increases satisfaction	0.335	1	0.506	0	0
H4. Heterogeneity biospheric values and financial info	0.337	1	0.506	0	0
H2.2. Mode of elicitation affects satisfaction	0.355	1	0.507	0	0
H1.4. Combined info increases satisfaction	0.430	1	0.568	0	0
H1.3. Impact info increases satisfaction more than financial info	0.435	1	0.568	0	0
H4. Heterogeneity income and impact info	0.518	1	0.647	0	0
H4. Heterogeneity biospheric values and impact info	0.565	1	0.677	0	0
H3. Altruistic values are related to higher ESG investments	0.750	1	0.824	0	0
H2.1. Mode of elicitation affects ESG investment	0.768	1	0.824	0	0
H4. Heterogeneity biospheric values and combined info	0.778	1	0.824	0	0
H1.2 Combined info vs. impact info: ESG investments	0.818	1	0.824	0	0
H1.4 Combined info vs. impact info: satisfaction	0.824	1	0.824	0	0

Note. The first column contains the hypothesis with the resulting p-values in the second column in ascending order. Columns 3 and 4 show the expected p-values according to the Bonferroni-correction and the Benjamini-Hochberg procedure. Columns 5 and 6 indicate, whether the hypothesis holds multiple hypothesis testing (0 = no, 1 = yes).

Appendix D. Full models for information and ESG investments

Table D.1
OLS models: Impact of information on ESG investments.

	(1)	(2)	(3)	(4)
Financial return	0.055***	0.055**	0.049**	0.041**
	(0.017)	(0.017)	(0.016)	(0.015)
ESG impact	0.082***	0.082***	0.071***	0.063***
	(0.016)	(0.016)	(0.016)	(0.015)
Financial * impact	−0.064**	−0.064**	−0.058**	−0.045*
	(0.023)	(0.023)	(0.022)	(0.022)
Specific elicitation mode		0.001	0.003	0.005
		(0.012)	(0.011)	(0.011)
Biospheric values			0.071***	0.063***
			(0.009)	(0.009)
Altruistic values			0.003	−0.014
			(0.009)	(0.009)
Household income			0.018**	0.024**
			(0.006)	(0.007)
Financial literacy			0.090***	0.074***
			(0.021)	(0.022)
Age				−0.001
				(0.000)
Male				−0.038**
				(0.012)
Non-binary				−0.323*
				(0.129)
Education				0.017***
				(0.004)
Children				0.012+
				(0.007)
Experience				0.003
				(0.002)
Risk preference				−0.011***
				(0.003)
Trust in ESG				0.043***
				(0.005)
Relevance incentive				0.003
				(0.003)
Email address				−0.001
				(0.017)
Attention check				−0.032**
				(0.012)
Survey wave				−0.001
				(0.013)
Constant	0.605***	0.604***	0.062+	0.001
	(0.012)	(0.013)	(0.037)	(0.058)
N	2254	2254	2254	2254
Adjusted R^2	0.012	0.011	0.116	0.172
F	9.797	7.349	37.795	24.338
P	0.000	0.000	0.000	0.000

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample).
$^{+}$ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

We use OLS models to test for interaction effects of our two treatment variables (financial return and/or ESG impact information and the mode of the sustainability preference elicitation). In Model (1) in Table D.2, we regress ESG investments on the treatment dummies indicating whether financial return and/or ESG impact information was presented and on the interaction with the elicitation mode dummy. In Model (2) we use satisfaction with the information as the dependent variable, and in Model (3) we use satisfaction with the sustainability preference elicitation. We do not find a significant interaction effect for the information with the mode of eliciting ESG sustainability preferences (all p-values > 0.35).

Table D.2
OLS models: Interaction of information and mode of elicitation.

	(1)	(2)	(3)
Financial return	0.049*	0.028	0.172+
	(0.024)	(0.096)	(0.098)
ESG impact	0.078***	0.104	0.145
	(0.023)	(0.095)	(0.097)
Financial * impact	−0.070*	−0.029	−0.127
	(0.033)	(0.135)	(0.139)
Specific elicitation mode	−0.011	−0.057	−0.029
	(0.023)	(0.096)	(0.098)
Financial * elicitation	0.011	0.120	−0.049
	(0.033)	(0.136)	(0.139)
Impact * elicitation	0.008	0.073	−0.039
	(0.033)	(0.135)	(0.138)
Financial * impact * elicitation	0.012	−0.121	0.110
	(0.047)	(0.191)	(0.196)
Constant	0.610***	5.535***	5.537***
	(0.016)	(0.067)	(0.069)
N	2254	2254	2254
Adjusted R^2	0.010	0.000	0.001
F	4.332	0.936	1.469
P	0.000	0.477	0.174

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). The mode of eliciting ESG sustainability preferences is included as dummy (0 = general elicitation, 1 = specific elicitation).
$^{+}$ $p < 0.1$,.
* $p < 0.05$,.
*** $p < 0.001$.

Appendix E. Customer satisfaction with the information

Table E.1

Table E.1
OLS models: Impact of information on satisfaction with the information.

	(1)	(2)	(3)	(4)
Financial return	0.088	0.088	0.056	0.008
	(0.068)	(0.068)	(0.058)	(0.055)
ESG impact	0.140*	0.140*	0.099+	0.047
	(0.067)	(0.067)	(0.058)	(0.055)
Financial * impact	−0.089	−0.089	−0.065	0.009
	(0.095)	(0.095)	(0.082)	(0.078)
Specific elicitation mode		0.010	0.018	0.005
		(0.048)	(0.041)	(0.039)
Biospheric values			0.223***	0.156***
			(0.032)	(0.031)
Altruistic values			0.208***	0.129***
			(0.033)	(0.031)
Household income			0.075**	0.058*
			(0.023)	(0.024)
Financial literacy			0.947***	0.697***
			(0.077)	(0.079)
Age				0.002
				(0.001)

(*continued on next page*)

Table E.1 (*continued*)

	(1)	(2)	(3)	(4)
Male				−0.102*
				(0.043)
Non-binary				−0.192
				(0.465)
Education				0.045***
				(0.014)
Children				−0.057*
				(0.027)
Experience				0.004
				(0.009)
Risk preference				0.040***
				(0.009)
Trust in ESG				0.229***
				(0.017)
Relevance incentive				0.036**
				(0.012)
Email address				0.243***
				(0.062)
Attention check				−0.209***
				(0.043)
Survey wave				0.021
				(0.048)
Constant	5.507***	5.502***	2.063***	1.187***
	(0.048)	(0.053)	(0.138)	(0.209)
N	2254	2254	2254	2254
Adjusted R^2	0.001	0.001	0.258	0.348
F	1.904	1.437	99.153	60.996
P	0.127	0.219	0.000	0.000

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample).

$^{+}$ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

Appendix F. Full models for each survey wave

We show the full models as preregistered in each survey wave. In Table F.1, Models (1) and (2) are the models for the full sample ($N = 2254$) and ESG investments, applying the exclusion criteria of survey wave 2. Models (3) and (4) use the retail investor sample with application of the exclusion criteria of survey wave 1. Models (5) and (6) show the effects for the retail investor sample while applying the exclusion criteria of survey wave 2. Models (7) and (8) use the population sample, applying the exclusion criteria of survey wave 2.

In Table F.2, Models (1) and (2) are the models for the full sample ($N = 2254$) and satisfaction with the information, applying the exclusion criteria of survey wave 2. Models (3) and (4) use the retail investor sample with application of the exclusion criteria of survey wave 1. Models (5) and (6) show the effects for the retail investor sample while applying the exclusion criteria of survey wave 2. Models (7) and (8) use the population sample, applying the exclusion criteria of survey wave 2.

Table F.1
OLS models: Impact of information on ESG investments by survey wave.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Financial return	0.055***	0.041**	0.034	0.028	0.037	0.025	0.067**	0.053**
	(0.017)	(0.015)	(0.029)	(0.027)	(0.025)	(0.023)	(0.022)	(0.020)
ESG impact	0.082***	0.063***	0.057*	0.047*	0.052*	0.037	0.101***	0.080***
	(0.016)	(0.015)	(0.029)	(0.028)	(0.024)	(0.023)	(0.022)	(0.020)
Financial * impact	−0.064**	−0.045*	−0.048	−0.050	−0.037	−0.024	−0.082**	−0.063*
	(0.023)	(0.022)	(0.041)	(0.038)	(0.035)	(0.033)	(0.031)	(0.028)
Specific elicitation mode		0.005		−0.014		−0.011		0.015
		(0.011)		(0.019)		(0.017)		(0.014)
Biospheric values		0.063***		0.086***		0.070***		0.061***
		(0.009)		(0.017)		(0.014)		(0.011)
Altruistic values		−0.014		−0.027		−0.014		−0.015
		(0.009)		(0.017)		(0.015)		(0.011)
Household income		0.024**		−0.005		0.004		0.040***
		(0.007)		(0.012)		(0.009)		(0.010)
Financial literacy		0.074***		0.038		0.046		0.083**
		(0.022)		(0.054)		(0.044)		(0.026)
Age		−0.001		0.001		0.000		−0.001
		(0.000)		(0.001)		(0.001)		(0.000)
Male		−0.038**		−0.050*		−0.062**		−0.029*

(*continued on next page*)

Table F.1 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		(0.012)		(0.023)		(0.019)		(0.015)
Non-binary		−0.323*		−0.345**		−0.349**		
		(0.129)		(0.127)		(0.126)		
Education		0.017***		0.011		0.012*		0.019***
		(0.004)		(0.007)		(0.006)		(0.005)
Children		0.012+		0.011		0.009		0.012
		(0.007)		(0.013)		(0.011)		(0.010)
Experience		0.003		0.007		0.005		0.001
		(0.002)		(0.006)		(0.004)		(0.003)
Risk preference		−0.011***		−0.013*		−0.012**		−0.010**
		(0.003)		(0.005)		(0.004)		(0.003)
Trust in ESG		0.043***		0.035***		0.036***		0.047***
		(0.005)		(0.008)		(0.007)		(0.006)
Relevance of the incentive		0.003		0.006		0.005		0.001
		(0.003)		(0.006)		(0.005)		(0.005)
Email address		−0.001		0.014		−0.002		−0.006
		(0.017)		(0.036)		(0.031)		(0.021)
Attention check		−0.032**				−0.039+		−0.031*
		(0.012)				(0.020)		(0.015)
Survey wave		−0.001						
		(0.013)						
Constant	0.605***	0.001	0.662***	0.046	0.651***	0.095	0.575***	−0.040
	(0.012)	(0.058)	(0.021)	(0.134)	(0.017)	(0.097)	(0.016)	(0.063)
N	2254	2254	620	620	871	871	1383	1383
Adj. R^2	0.012	0.139	0.002	0.092	0.004	0.100	0.015	0.154
F	9.797	20.202	1.403	4.695	2.048	6.357	8.173	15.768
P	0.000	0.000	0.241	0.000	0.106	0.000	0.000	0.000

Note. Robust standard errors in parentheses. In Models (1) and (2) we used the full sample ($N = 2254$), in Models (3) and (4) the retail investor sample, applying the preregistered exclusion criteria for survey wave 1 ($N = 620$), in Models (5) and (6) the retail investor sample ($N = 871$) and in Models (7) and (8) the population sample ($N = 1383$). Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample).

+ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

Table F.2
OLS models: Impact of information on satisfaction with information by survey wave.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Financial return	0.088	0.008	0.104	0.046	0.185*	0.074	0.034	−0.040
	(0.068)	(0.055)	(0.105)	(0.098)	(0.092)	(0.085)	(0.092)	(0.072)
ESG impact	0.140*	0.047	0.204+	0.173+	0.292**	0.210*	0.045	−0.062
	(0.067)	(0.055)	(0.105)	(0.099)	(0.091)	(0.084)	(0.092)	(0.072)
Financial * impact	−0.089	0.009	−0.108	−0.083	−0.192	−0.069	−0.030	0.062
	(0.095)	(0.078)	(0.147)	(0.138)	(0.130)	(0.119)	(0.130)	(0.101)
Specific elicitation mode		0.005		0.015		0.026		−0.012
		(0.039)		(0.070)		(0.060)		(0.050)
Biospheric values		0.156***		0.070		0.093+		0.179***
		(0.031)		(0.062)		(0.051)		(0.039)
Altruistic values		0.129***		0.149*		0.128*		0.120**
		(0.031)		(0.061)		(0.053)		(0.039)
Household income		0.058*		0.047		0.038		0.073*
		(0.024)		(0.041)		(0.034)		(0.034)
Financial literacy		0.697***		0.344+		0.415*		0.735***
		(0.079)		(0.195)		(0.161)		(0.092)
Age		0.002		0.002		0.004		0.001
		(0.001)		(0.003)		(0.003)		(0.002)
Male		−0.102*		−0.057		−0.062		−0.135*
		(0.043)		(0.084)		(0.070)		(0.054)
Non-binary		−0.192		−0.467		−0.472		
		(0.465)		(0.457)		(0.457)		
Education		0.045***		0.055*		0.040+		0.046**
		(0.014)		(0.025)		(0.021)		(0.017)
Children		−0.057*		−0.063		−0.041		−0.061+
		(0.027)		(0.048)		(0.040)		(0.036)
Experience		0.004		−0.014		−0.018		0.010
		(0.009)		(0.022)		(0.015)		(0.011)
Risk preference		0.040***		0.041*		0.042**		0.040***
		(0.009)		(0.018)		(0.015)		(0.012)
Trust in ESG		0.229***		0.199***		0.205***		0.240***
		(0.017)		(0.030)		(0.026)		(0.021)

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Table F.2 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Relevance of the incentive		0.036**		0.068***		0.063***		0.010
		(0.012)		(0.020)		(0.017)		(0.017)
Email address		0.243***		−0.055		0.040		0.305***
		(0.062)		(0.129)		(0.113)		(0.075)
Attention check		−0.209***				−0.115		−0.257***
		(0.043)				(0.072)		(0.054)
Survey wave		0.021						
		(0.048)						
Constant	5.507***	1.187***	5.738***	2.163***	5.638***	1.949***	5.423***	1.277***
	(0.048)	(0.209)	(0.075)	(0.479)	(0.064)	(0.353)	(0.065)	(0.224)
N	2254	2254	620	620	871	871	1383	1383
Adj. R^2	0.012	0.139	0.002	0.092	0.004	0.100	0.015	0.154
F	9.797	20.202	1.403	4.695	2.048	6.357	8.173	15.768
P	0.000	0.000	0.241	0.000	0.106	0.000	0.000	0.000

Note. Robust standard errors in parentheses. In Models (1) and (2) we used the full sample ($N = 2254$), in Models (3) and (4) the retail investor sample, applying the preregistered exclusion criteria for survey wave 1 ($N = 620$), in Models (5) and (6) the retail investor sample ($N = 871$) and in Models (7) and (8) the population sample ($N = 1383$). Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample).

$^{+}$ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

Appendix G. Modes of sustainability preference elicitation

We regress ESG investments on the specific sustainability preference with the general elicitation method as the reference point (Table G.1). In Model (1), we regress ESG investments on the elicitation mode dummy. In Model (2) we add the financial return and ESG impact information dummies, the explanatory, and the control variables. In Models (3) and (4) we use the same models with satisfaction with the elicitation as the dependent variable. F-tests of Models (1) and (2) are not significant ($p > 0.36$), while F-tests of Models (3) and (4) are highly significant ($p < 0.001$). The results of all Models indicate no significant relationship between the mode of elicitation and ESG investments or satisfaction with the sustainability preference elicitation.

Table G.1
OLS models: Impact of mode of elicitation on ESG investments (Model (1) & (2)) and satisfaction with information (Model (3) & (4)).

	ESG investments		Satisfaction with elicitation	
	(1)	(2)	(3)	(4)
Specific elicitation mode	0.002	0.005	−0.044	−0.053
	(0.012)	(0.011)	(0.049)	(0.040)
Financial return		0.041**		0.058
		(0.015)		(0.057)
ESG impact		0.063***		0.028
		(0.015)		(0.056)
Financial * impact		−0.045*		0.044
		(0.022)		(0.080)
Biospheric values		0.063***		0.149***
		(0.009)		(0.031)
Altruistic values		−0.014		0.127***
		(0.009)		(0.032)
Household income		0.024**		0.058*
		(0.007)		(0.025)
Financial literacy		0.074***		0.743***
		(0.022)		(0.081)
Age		−0.001		0.001
		(0.000)		(0.001)
Male		−0.038**		−0.050
		(0.012)		(0.044)
Non-binary		−0.323*		−0.188
		(0.129)		(0.477)
Education		0.017***		0.033*
		(0.004)		(0.014)
Children		0.012^{+}		−0.040
		(0.007)		(0.027)
Experience		0.003		0.017^{+}
		(0.002)		(0.009)
Risk preference		−0.011***		0.038***
		(0.003)		(0.010)
Trust in ESG		0.043***		0.259***
		(0.005)		(0.017)
Relevance incentive		0.003		0.025*
		(0.003)		(0.013)

(*continued on next page*)

Table G.1 (*continued*)

	ESG investments		Satisfaction with elicitation	
	(1)	(2)	(3)	(4)
Email address		−0.001		0.260***
		(0.017)		(0.064)
Attention check		−0.032**		−0.178***
		(0.012)		(0.044)
Sample		−0.001		0.096+
		(0.013)		(0.049)
Constant	0.656***	0.001	5.663***	1.027***
	(0.008)	(0.058)	(0.035)	(0.215)
N	2254	2254	2254	2254
Adjusted R^2	0.000	0.172	0.000	0.347
F	0.032	24.338	0.823	60.907
P	0.858	0.000	0.364	0.000

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample).

+ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.
*** $p < 0.001$.

Appendix H. Treatment heterogeneity

We examine treatment heterogeneity among participants concerning the effect of the financial return as well as the ESG impact information. Døskeland & Pedersen (2021) find that financial return information is more effective in high wealth investors than in low wealth investors. Given the relevance of biospheric as well as altruistic value orientation and financial literacy, we extend the previous literature and test for heterogenous treatment effects related to these individual characteristics (biospheric and altruistic value orientation, household income and financial literacy). Thus, we test the following hypothesis:

H4: There is heterogeneity in the treatment effects from information provision across biospheric values, altruistic values, household income and financial literacy.

To test whether there is heterogeneity in the effects of the financial return and ESG impact information across individual differences (values, household income and financial literacy), we conduct further OLS regressions (Table H.1). We split each of the variables (household income, biospheric and altruistic value orientation and financial literacy) into two groups at the median. In contrast to our expectations, only one interaction effect (financial * ESG impact * altruistic values) holds up under multiple hypothesis testing correction.

Table H.1
OLS models: Interaction of information and individual characteristics on ESG investments.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Financial return	0.068**	0.061**	0.110***	0.078**	0.032	0.008	0.096***	0.079**
	(0.023)	(0.022)	(0.026)	(0.024)	(0.025)	(0.024)	(0.026)	(0.024)
ESG impact	0.067**	0.059**	0.115***	0.083***	0.072**	0.052*	0.113***	0.085***
	(0.023)	(0.022)	(0.026)	(0.025)	(0.025)	(0.023)	(0.025)	(0.023)
Financial * impact	−0.073*	−0.058+	−0.150***	−0.109**	−0.037	−0.022	−0.116**	−0.081*
	(0.033)	(0.032)	(0.037)	(0.035)	(0.037)	(0.034)	(0.036)	(0.033)
Specific elicitation mode		0.004		0.004		0.003		0.004
		(0.011)		(0.011)		(0.011)		(0.011)
Biospheric values	0.173***	0.121***		0.112***		0.112***		0.112***
	(0.022)	(0.022)		(0.012)		(0.012)		(0.012)
* Financial return	−0.036	−0.038						
	(0.032)	(0.030)						
* ESG impact	0.012	0.011						
	(0.032)	(0.030)						
* financial * impact	0.018	0.013						
	(0.045)	(0.043)						
Altruistic values		0.037**	0.173***	0.060**		0.038**		0.037**
		(0.013)	(0.023)	(0.023)		(0.013)		(0.013)
* Financial return			−0.087**	−0.063*				
			(0.033)	(0.031)				
* ESG impact			−0.057+	−0.028				
			(0.033)	(0.031)				
* Financial * ESG impact[a]			0.131**	0.092*				
			(0.047)	(0.044)				
Household income		0.033**		0.034**	0.024	0.007		0.033*
		(0.013)		(0.013)	(0.024)	(0.023)		(0.013)
* Financial return					0.040	0.057+		
					(0.034)	(0.032)		
* ESG impact					0.016	0.024		
					(0.034)	(0.031)		
* Financial * ESG impact					−0.050	−0.053		

(*continued on next page*)

Table H.1 (*continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
					(0.049)	(0.044)		
Financial literacy		0.042***		0.041***		0.043***	0.119***	0.078***
		(0.012)		(0.012)		(0.012)	(0.024)	(0.022)
* Financial return							−0.073*	−0.063*
							(0.034)	(0.031)
* ESG impact							−0.050	−0.034
							(0.033)	(0.031)
* Financial * ESG impact							0.087+	0.048
							(0.047)	(0.044)
Constant	0.519***	0.271***	0.499***	0.264***	0.591***	0.292***	0.535***	0.256***
	(0.016)	(0.052)	(0.018)	(0.052)	(0.018)	(0.052)	(0.018)	(0.052)
Control variables	NO	YES	NO	YES	NO	YES	NO	YES
N	2254	2254	2254	2254	2254	2254	2254	2254
Adj. R^2	0.098	0.180	0.067	0.181	0.016	0.180	0.032	0.181
F	35.854	22.491	24.215	22.633	6.128	22.531	11.492	22.581
P	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample). Control variables: Age, gender, education, experience, risk preference, trust in ESG, relevance of the incentive, email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed control question, 1 = failed), sample dummy (1 = retail investor sample, 2 = population sample).

+ $p < 0.1$,.

* $p < 0.05$,.

** $p < 0.01$,.

*** $p < 0.001$.

[a] Only this effect holds after multiple hypothesis testing correction.

Appendix I. Robustness checks

To determine the robustness of the models and to account for our study design, we performed additional analyses. The models in Table I.1 use the same model specifications as in Table 2, yet with robust standard errors clustered by age and gender. The results show that the results are relatively robust to these model specifications, except for Model (2), where the effect of the combined information becomes insignificant in the full sample (however, with $p < 0.1$) and in Model (3), where the effect of the ESG impact information in the retail investor sample becomes insignificant (again, $p < 0.1$).

Table I.1
Robustness check: OLS models showing the impact of information on ESG investments, with standard errors clustered by age and gender.

	(1)	(2)	(3)	(4)	(5)	(6)
Financial return	0.055***	0.041***	0.037	0.025	0.067***	0.053*
	(0.017)	(0.015)	(0.027)	(0.026)	(0.024)	(0.021)
ESG impact	0.082***	0.063***	0.052+	0.036	0.101***	0.080***
	(0.019)	(0.017)	(0.027)	(0.024)	(0.025)	(0.022)
Financial * impact	−0.064*	−0.045+	−0.037	−0.024	−0.082*	−0.063*
	(0.028)	(0.025)	(0.040)	(0.038)	(0.034)	(0.031)
Specific elicitation mode		0.004		−0.013		0.015
		(0.010)		(0.015)		(0.012)
Biospheric values		0.063***		0.070***		0.061***
		(0.008)		(0.017)		(0.010)
Altruistic values		−0.013		−0.013		−0.015
		(0.009)		(0.018)		(0.009)
Household income		0.024*		0.004		0.040***
		(0.009)		(0.010)		(0.013)
Financial literacy		0.076***		0.055		0.083***
		(0.024)		(0.043)		(0.028)
Constant	0.605***	0.042	0.651***	0.163	0.575***	−0.011
	(0.012)	(0.058)	(0.018)	(0.111)	(0.016)	(0.068)
Control variables	NO	YES	NO	YES	NO	YES
N	2254	2254	871	871	1383	1383
Adjusted R^2	0.012	0.171	0.004	0.122	0.015	0.190
F	8.155	46.390	1.902	7.534	6.774	29.873
P	0.000	0.000	0.138	0.000	0.000	0.000

Note. Robust standard errors in parentheses. In Models (1) and (2) we used the full sample ($N = 2254$), in Models (3) and (4) the retail investor sample ($N = 871$) and in Models (5) and (6) the population sample ($N = 1383$). Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and the same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive (*To me, 600 euros is …*, answered on a 7-point Likert scale, 1 = *no significant amount of money* to 7 = *a significant amount of money*), email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy in Model (2) (1 = retail investor sample, 2 = population sample). Coefficients in Models (2), (4) and (6) slightly deviate from those reported in Table 2, as gender here is included as a continuous variable for technical reasons.

+ $p < 0.1$,.

* $p < 0.05$,.

*** $p < 0.001$.

In the models shown in Table I.2 we use the same specifications as in Table 3, except for clustering the robust standard errors by gender and age. The results indicate that the main results are robust to these specifications. Exceptions are that the effect of ESG impact information on satisfaction is now insignificant ($p < 0.1$) in the full sample (Model (1)) and that the effect of financial information turns insignificant ($p < 0.1$) in the retail investor sample (Model (3)). Taken together and as reported in the main paper, the results indicate do not indicate a significant effect of information on satisfaction.

Table I.2
Robustness check: OLS models showing the impact of information on satisfaction with the information with standard errors clustered by age and gender.

	(1)	(2)	(3)	(4)	(5)	(6)
Financial return	0.088	0.008	0.185^{+}	0.074	0.034	−0.040
	(0.077)	(0.056)	(0.105)	(0.093)	(0.107)	(0.076)
ESG impact	0.140^{+}	0.047	0.292***	0.209*	0.045	−0.062
	(0.074)	(0.059)	(0.101)	(0.093)	(0.100)	(0.077)
Financial * impact	−0.089	0.009	−0.192	−0.068	−0.030	0.062
	(0.104)	(0.080)	(0.145)	(0.122)	(0.147)	(0.115)
Specific elicitation mode		0.005		0.023		−0.012
		(0.040)		(0.067)		(0.046)
Biospheric values		0.156***		0.094^{+}		0.179***
		(0.034)		(0.051)		(0.040)
Altruistic values		0.129***		0.129*		0.120***
		(0.035)		(0.054)		(0.043)
Household income		0.058*		0.038		0.073*
		(0.023)		(0.034)		(0.032)
Financial literacy		0.696***		0.429***		0.735***
		(0.087)		(0.154)		(0.102)
Constant	5.507***	1.288***	5.638***	2.020***	5.423***	1.411***
	(0.056)	(0.198)	(0.078)	(0.496)	(0.076)	(0.242)
Control variables	NO	YES	NO	YES	NO	YES
N	2254	2254	871	871	1383	1383
Adjusted R^2	0.001	0.348	0.012	0.178	0.000	0.400
F	1.446	142.991	3.880	9.556	0.087	152.783
P	0.237	0.000	0.013	0.000	0.967	0.000

Note. Robust standard errors in parentheses. In Models (1) and (2) we used the full sample ($N = 2254$), in Models (3) and (4) the retail investor sample ($N = 871$) and in Models (5) and (6) the population sample ($N = 1383$). Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and the same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive (*To me, 600 euros is …*, answered on a 7-point Likert scale, 1 = *no significant amount of money* to 7 = *a significant amount of money*), email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy in Model (2) (1 = retail investor sample, 2 = population sample). Coefficients in Models (2), (4) and (6) slightly deviate from those reported in Table 3, as gender here is included as a continuous variable for technical reasons.
$^{+}$ $p < 0.1$.
* $p < 0.05$.
*** $p < 0.001$.

Table I.3. recreates the models shown in Table 4 with the same specifications except for again clustering the robust standard errors by gender and age. The main results remain robust and all effects of the elicitation mode on ESG investments (Models (1) and (2)) as well as on satisfaction (Models (3) and (4)) remain insignificant.

Table I.3
Robustness check: OLS models showing the impact of the elicitation mode on ESG investments (Model (1) & (2)) and on satisfaction with information (Model (3) & (4)).

	ESG investments		Satisfaction with elicitation	
	(1)	(2)	(3)	(4)
Specific elicitation mode	0.002	0.004	−0.044	−0.053
	(0.012)	(0.010)	(0.048)	(0.038)
Financial return		0.041***		0.058
		(0.015)		(0.059)
ESG impact		0.063***		0.028
		(0.017)		(0.056)
Financial * impact		−0.045^{+}		0.044
		(0.025)		(0.086)
Biospheric values		0.063***		0.149***
		(0.008)		(0.035)
Altruistic values		−0.013		0.127***
		(0.009)		(0.037)
Household income		0.024*		0.058*
		(0.009)		(0.023)
Financial literacy		0.076***		0.744***
		(0.024)		(0.085)
Constant	0.656***	0.042	5.663***	1.078***
	(0.008)	(0.058)	(0.038)	(0.204)
Control variables	No	Yes	No	Yes
N	2254	2254	2254	2254
Adjusted R^2	0.000	0.171	0.000	0.347
F	0.032	46.390	0.844	132.809
P	0.859	0.000	0.361	0.000

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive (To me, 600 euros is …, answered on a 7-point Likert scale, 1 = no significant amount of money to 7 = *a* significant amount of money), email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy in Model (2) (1 = retail investor sample, 2 = population sample)). Coefficients in Models (2), (4) and (6) slightly deviate from those reported in Table 4, as gender here is included as a continuous variable for technical reasons.
$^{+}$ $p < 0.1$,.
* $p < 0.05$,.
*** $p < 0.001$.

To determine the robustness of the models and to account for the timing of the data collection, we performed additional analyses. Models (1) and (2) in Table I.4 use the same model specifications as Models (1) and (2) in Table 2, yet with month-year fixed effects. Models (3) and (4) in Table I.4 use the same model specifications as Models (1) and (2) in Table 3, again with month-year fixed effects. The results show that our findings are robust to these model specifications, indicating no effect of the data collection times on the effect of information on ESG investments (Models (1) and (2)) as well as on the effect of information on satisfaction (Models (3) and (4)).

Table I.4
Robustness check: OLS models showing the impact of information on ESG investments and satisfaction with month-year fixed effects.

	(1)	(2)	(3)	(4)
Financial return	0.055***	0.041***	0.092	0.009
	(0.017)	(0.015)	(0.067)	(0.054)
ESG impact	0.082***	0.063***	0.141*	0.046
	(0.017)	(0.016)	(0.066)	(0.055)
Financial * impact	−0.064***	−0.045*	−0.093	0.008
	(0.023)	(0.022)	(0.094)	(0.077)
Specific elicitation mode		0.004		0.005
		(0.011)		(0.038)
Biospheric values		0.063***		0.156***
		(0.009)		(0.035)
Altruistic values		−0.014		0.129***
		(0.009)		(0.034)
Household income		0.024***		0.058*
		(0.008)		(0.024)
Financial literacy		0.074***		0.696***
		(0.023)		(0.080)
Control variables	NO	YES	NO	YES
N	2254	2254	2254	2254
Adjusted R^2	0.018	0.171	0.027	0.347

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and the same for ESG impact information). Control variables: age, gender, education, children, experience, risk preference, trust in ESG products, relevance of the incentive (*To me, 600 euros is* …, answered on a 7-point Likert scale, 1 = *no significant amount of money* to 7 = *a significant amount of money*), email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), sample dummy in Model (2) (1 = retail investor sample, 2 = population sample).
* $p < 0.05$,.
*** $p < 0.001$.

Appendix J. Exploratory results

We explore the effect of the information treatments and the mode of elicitation on the stability of the investment decisions in two hypothetical scenarios about future developments of their conventional and ESG investments and how the share of ESG investments deviates from the recommendations that participants receive based on their stated ESG sustainability preferences.

Appendix J.1. Stability of investment decisions

Stability in one's investment decisions can be a success factor when considering long-term investments. Investors with unstable investment decisions often suffer losses due to being affected by temporary changes in prices of their investments. For example, they may be subject to the disposition effect (Shefrin and Statman, 1985) or to buying at high prices and selling at low prices (Bucher-Koenen and Ziegelmeyer, 2014). In an investigation of investor cash flows from 1980 to 2002, Bollen (2007) shows that those investors who invest in sustainable funds respond more positively to positive returns and less negatively to negative returns (compared to conventional investors) and are more loyal to sustainable funds. Recent results from a survey study additionally reveal that loyalty to sustainable funds is positively related to ethical motives, while loyalty is negatively related to financial motives (Peifer, 2014). Also, individuals who already hold sustainable investments tend to be more interested in new sustainable products (Rossi et al., 2019). We test whether stability of investments is affected by our treatments in Table J.1, using logit regressions with the binary variable stability of investments as outcome variable.

Table J.1
Logit model: The impact of information on stability of investment.

	(1)	(2)	(3)	(4)
Financial return	−0.025	−0.025	−0.027	−0.046
	(0.126)	(0.126)	(0.126)	(0.129)
ESG impact	−0.126	−0.126	−0.127	−0.104
	(0.126)	(0.126)	(0.126)	(0.129)
Financial * impact	−0.002	−0.003	−0.004	−0.004
	(0.179)	(0.179)	(0.179)	(0.183)
Specific elicitation mode		−0.031	−0.028	−0.042
		(0.089)	(0.090)	(0.092)
Biospheric values			0.031	0.021
			(0.070)	(0.073)
Altruistic values			−0.030	0.002
			(0.071)	(0.074)
Household income			0.066	0.048
			(0.049)	(0.058)
Financial literacy			0.062	0.027
			(0.168)	(0.189)
Age				0.015***
				(0.003)
Male				0.115
				(0.101)
Non-binary				0.607
				(1.050)
Education				−0.098***
				(0.032)
Children				0.069
				(0.064)
Experience				0.042*
				(0.020)
Risk preference				−0.070***
				(0.022)
Trust in ESG				−0.087*
				(0.039)
Relevance incentive				−0.054+
				(0.029)
Email address				−0.258+
				(0.143)
Attention check				−0.322***
				(0.104)
Survey wave				0.054
				(0.114)
Constant	−0.612***	−0.596***	−0.789***	−0.038
	(0.088)	(0.099)	(0.301)	(0.493)
N	2254	2254	2254	2254

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample).
+ $p < 0.1$,.
* $p < 0.05$,.
*** $p < 0.001$.

Appendix J.2. Deviation from the investment recommendation

The deviation from the recommendation considers the difference between the financial advisors' recommendations based on the sustainability preference elicitation and the actual investment. Investors and especially those who start to invest are often unfamiliar or feel uninformed (Brunen and Laubach, 2022; Wins and Zwergel, 2016) and seek assistance from a financial advisor who give recommendations based on the investor's stated preferences. Financial return and ESG impact information might decrease the deviation from the recommendation by providing reasons for ESG investments.

We resort to OLS regressions to explore whether financial and ESG impact information affect the deviation from the non-binding recommendation. We use the same models as for the ESG investments (Table 2 in the main text), but with the absolute deviation from the recommendation for ESG investments as the dependent variable. The results (Table J.2) offer no convincing evidence of financial return and ESG impact information affecting the deviation from the recommended ESG investment amount.

The reason for this finding might be that this recommendation for ESG investments was based on the stated ESG sustainability preferences. High stated sustainability preferences resulted in a recommendation to invest more of the endowment in sustainable funds and vice versa for low stated sustainability preferences. If participants indicate their preferences close to the actual preference (and thus the intention), the resulting recommendation closely reflects their preferences. Moreover, the elicited ESG sustainability preferences were already affected by the information (see Table 5 in the main text), before taking the investment decision. This effect then translated to recommendations for more ESG investments.

In the results, we do not observe a value-action gap (Haider et al., 2019; Kollmuss and Agyeman, 2002) between preferences and actions ("investments"). Indeed, several scholars suggested the existence of a value-action gap in investment decisions (Bauer et al., 2021; Brunen and Laubach, 2022; Diouf et al., 2016; Nilsson, 2008; Paetzold and Busch, 2014; Vyvyan et al., 2007; Wins and Zwergel, 2016). Yet, the actual gap might occur one

step earlier in the decision-making process, namely between the environmental/social values and the reported preference. Thus, for future studies, it might be worthwhile to differentiate between i) an intention-behavior gap (e.g., Carrington et al., 2014) occurring between stated preferences and investment decisions, and ii) a value-action gap, occurring between pro-environmental/pro-social values and actions in general.

Table J.2
OLS models: Impact of information on deviation from recommendation.

	(1)	(2)	(3)	(4)
Financial return	5.860	5.780	6.003	5.258
	(6.554)	(6.553)	(6.539)	(6.562)
ESG impact	−3.285	−3.376	−1.970	−2.928
	(6.496)	(6.495)	(6.493)	(6.513)
Financial * impact	−4.916	−4.830	−5.568	−3.662
	(9.220)	(9.218)	(9.198)	(9.232)
Specific elicitation mode		6.878	6.679	7.101
		(4.609)	(4.602)	(4.610)
Biospheric values			−4.823	−4.739
			(3.600)	(3.651)
Altruistic values			−3.857	−4.035
			(3.657)	(3.722)
Household income			3.757	4.210
			(2.579)	(2.908)
Financial literacy			10.658	7.954
			(8.603)	(9.427)
Age				−0.311+
				(0.171)
Male				5.078
				(5.083)
Non-binary				−43.804
				(55.363)
Education				0.806
				(1.608)
Children				1.515
				(3.152)
Experience				2.245*
				(1.026)
Risk preference				−1.756
				(1.120)
Trust in ESG				3.415+
				(1.965)
Relevance incentive				−0.098
				(1.454)
Email address				4.193
				(7.399)
Attention check				7.537
				(5.145)
Survey wave				4.351
				(5.727)
Constant	14.982**	11.598*	46.469**	28.012
	(4.612)	(5.138)	(15.390)	(24.917)
N	2254	2254	2254	2254
Adjusted R^2	0.000	0.000	0.006	0.007
F	0.786	1.147	2.591	1.828
P	0.502	0.333	0.008	0.014

Note. Robust standard errors in parentheses. Information is included as dummy variables (0 = no financial return information, 1 = financial return information; and same for ESG impact information). Description of the dummy variables: email address dummy (0 = no, 1 = yes), attention check question dummy (0 = passed attention check, 1 = failed), survey wave dummy (1 = retail investor sample, 2 = population sample).

+ $p < 0.1$,.
* $p < 0.05$,.
** $p < 0.01$,.

Appendix K. Experimental material (translated to English)

PAGE	TEXT (Participants' View)	Scale
Welcome	Dear Sir or Madam, in this study we are interested in investment decisions. This study is conducted by the [author's institute] and funded by [name of funding] as a contribution to basic research. As part of the study, you have the opportunity to invest 600 euros in various investment products. Among all participants, [10/5] will be randomly selected and their investment decision will be financed and realized out by us. These [10/5] persons will be paid the value of the investment after one year. The winners will be informed in about two weeks by email. There are no right or wrong answers in this survey. Please answer spontaneously and truthfully. By conscientiously and completely filling out the questionnaire, you are making a significant contribution to our scientific research! Many thanks for your support. [Names of authors] Contact: xxx@xxx.com	
	GDPR	
Data protection	**By confirming the stated conditions at the bottom of this page, you can proceed to the questionnaire.** [*data protection statement*] **I hereby confirm that I agree and consent to the above conditions.**	
	Explanation ESG	
Info ESG	Please imagine the following situation. You are at an investment consultation at your bank because you want to invest 600 euros and are informed about various relevant aspects and investment options: In addition to classic factors such as liquidity, time horizon, return on investment and risk, ESG factors can also be taken into account when investing your assets. ESG is an abbreviation for Environmental, Social and Governance. Specifically, you can decide whether you want to invest in investment products that pursue sustainability goals in these three areas while adhering to certain criteria. The diagram below illustrates this concept	

	Please click "Next" when you have read the criteria of these factors.	
	Information [random allocation to one of the 4 possibilities]	
Basic information	[no text]	For treatment 1 and 2
Financial return information	You receive even more information about ESG investing during the consultation:	For treatment 3 and 4
	Earning returns with ESG investments	
	By investing in companies that take ESG factors into account and report on them transparently, you can achieve returns and minimize specific risks. Companies that consider ESG factors often operate in industries of the future and are focused on achieving long-term success. An ESG investment can also pay off financially by minimizing specific risks related to environmental disasters, failure to respect labor rights, or rising carbon prices.	
ESG information	You receive even more information about ESG investing during the consultation:	For treatment 5 and 6
	Promoting sustainability with ESG investments	
	By investing in companies that take ESG factors into account and report on them transparently, you can have an impact and promote sustainability. Investing in companies that consider ESG factors means strengthening their development opportunities and position in the market. With an ESG investment, you can make a difference and ensure that your money does not support companies that exploit nature and people or are among the worst CO2 emitters.	
Fin. & ESG Information	[show both, financial and ESG impact information]	For treatment 7 and 8

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(*continued*)

PAGE	TEXT (Participants' View)	Scale
	Elicitation of ESG sustainability preferences	
Text for all	Based on the information received: Please indicate how much of the 600 euros you would like to invest sustainably according to ESG criteria. According to your selection below, the next page will suggest how you could divide your investment amount of 600 euros among different funds. You can adjust this suggestion however you wish.	For treatment 1 - 8
General elicitation	**What is the minimum amount of your investment that should go into investment products that meet ESG sustainability criteria?** *[general sustainability preference elicitation]* ◦ 0 % - no sustainable products [1] ◦ up to 25 % [2] ◦ up to 50 % [3] ◦ up to 75 % [4] ◦ up to 100 % - only sustainable products [5]	For treatment 1–8
Specific elicitation [If in the *general elicitation* 25 % or more is selected]	**If you choose an ESG investment, you can choose one or both of the following two product categories.** *[specific sustainability preference elicitation]* ◦ Investment products that avoid important negative impacts on ESG factors. [1] ◦ Investment products that invest in activities that are considered sustainable according to legal requirements (Disclosure Regulation, Taxonomy Regulation). [2]	For treatment 2, 4, 6, and 8
	Investment decision	
Investment decision	Your bank advisor will now present you with four funds and, based on your input, tell you how you can allocate your 600 euros	

Fund	Fund A	Fund B	Fund C	Fund D
Orientation	Conventional		Sustainable	
Type	Fund with focus on energy and finance	Fund with focus on information technology and healthcare	Fund that avoids negative impacts on ESG factors	Fund that invests in activities that are considered sustainable by law
Risk and return profile	6	6	6	6
Performance in the last year	Greater than 30 %	Greater than 30 %	Greater than 30 %	Greater than 30 %
Largest shares by sector	Finance, Oil, Gas	Microelectronics, Semiconductors, Agricultural products	Insulation technology, Metal recycling, Electricity	Plant engineering, Wind energy, Semiconductors

You can now accept or change the following proposal. **To do so, enter the amount in the respective box**

	Suggestion Fund A: € 150 Your investment in fund A:	Suggestion Fund B: € 150 Your investment in fund B:	Suggestion Fund C: € 150 Your investment in fund C:	Suggestion Fund D: € 150 Your investment in fund D:	Sum
Please indicate an amount	150	150	150	150	600

The amount of investment must total 600 euros. Remember that [ten/five] participants will be randomly selected, where this decision will be implemented and paid out after one year according to the development of the funds.

Revision Investment [randomized question order]

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PAGE	TEXT (Participants' View)	Scale
Text for all	Imagine it is August 2022 and your advisor is now reporting to you how the investments previously described to you have performed in the market, giving you the opportunity to adjust your investments.	
Revision conventional	Assume that the **conventional investments have 5 % more increase in value** than the sustainable ESG investments. **Would you adjust your sustainable investments**? *[revision_conv]* ○ significantly reduce [1] ○ reduce a little [2] ○ neither reduce nor increase [3] ○ increase a little [4] ○ significantly increase [5]	
Revision sustainable	Assume that **sustainable ESG investments have 5 % more increase in value** than the conventional investments. **Would you adjust your sustainable investments?** *[revision_sust]* ○ significantly reduce [1] ○ reduce a little [2] ○ neither reduce nor increase [3] ○ increase a little [4] ○ significantly increase [5]	
	Questions about satisfaction with info texts Finally, we are interested in your opinion.	
Satisfaction Info	**The information I received at the beginning about ESG investing was …** (As a reminder, the information is shown again below). … understandable *[sat_info_under]* … simple *[sat_info_easy]* … informative *[sat_info_info]* … helpful *[sat_info_help]* … trustworthy *[trust_info]* [Screenshot of information, according to treatment]	1 = totally disagree; 7 = totally agree
	Questions about satisfaction with the elicitation	
Satisfaction with elicitation	**The way I was asked how much I would like to invest in ESG investment products was…** (As a reminder, this choice is shown again below as a screenshot). … understandable *[sat_elicit_under]* … simple *[sat_elicit_easy]* … informative *[sat_elicit_info]* … helpful *[sat_elicit_help]* … trustworthy *[trust_elicit]* [Screenshot of information, according to treatment]	1 = totally disagree; 7 = totally agree
Randomized Order of Questionnaire Blocks Start		
	Questions for values [randomized question order]	
Values	**Please indicate how important the following values are to you as guiding principles in your life.**	1 = totally against my; 7 = of utmost importance DeGroot (2007, 2008)
Biospheric values	Preventing pollution: protection of natural resources *[values_pollution]* Repecting the earth: respectful treatment of the environment *[values_respect]* Unity with nature: living in harmony with nature *[values_unity]* Protecting the environment: preserving nature *[values_protect]*	
Altruistic values	Equality: equal opportunities for all *[values_equality]* A world at peace: free of war and conflict *[values_peace]* Social justice: correcting injustice *[values_justice]* Helpfulness: working for the welfare of others *[values_help]*	
	Questions for motives and trust [randomized question order]	
Trust	**Please indicate how strongly you agree with the following statements: I trust that providers follow ESG guidelines.** *[trust_ESG]*	1 = totally disagree; 7 = totally agree; adapted from

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PAGE	TEXT (Participants' View)	Scale
		Nilsson (2008) and Wins & Zwergel (2016)
	Questionnaire Financial Literacy [randomized question order]	
Financial Literacy	**Suppose you have 100 euros credit balance in your savings account. This balance earns interest at 2 % per year and you leave it in this account for 5 years. What do you think: How much will your balance be after 5 years?** *[literacy_interest_rates]* ○ higher than 102 euros [1] ○ exactly 102 euros [2] ○ lower than 102 euros [3] ○ do not know [4]	Lusardi (2008)
	Suppose the interest rate on your savings account is 1 % per year and the inflation rate is 2 % per year. What do you think: After one year, will you be able to buy as much, more or less than today with the balance of the savings account? *[literacy_inflation]* ○ more than today [1] ○ as much as today [2] ○ less than today [3] ○ do not know [4]	
	Do you agree with the following statement, "Investing in stocks of a single company is less risky than investing in a fund with stocks of similar companies"? *[literacy_risk]* ○ agree [1] ○ disagree [2] ○ do not know [3]	
	Attention check	
Attention check for retail investor sample	**In which of the following countries did you already invest at the stock market? Please do not tick anything here and leave the answer blank, this is a control question.** *[attention_check]* ○ Germany [1] ○ Austria [2] ○ USA [3] ○ China [4] ○ Other countries [5]	
Attention check for population sample	**In which of the following countries do you have your bank accounts (savings account, checking account, etc.)? Please do not tick anything here and leave the answer blank, this is a control question.** *[attention_check]* ○ Germany [1] ○ France [2] ○ USA [3] ○ China [4] ○ Other countries [5]	
	Questionnaire investments	
Risk preference	**How would you rate your risk preference in terms of financial investments?** *[risk_preference]*	0 = totally not risk taking to 10 = totally risk taking; Dohmen et al. (2011)
Investments	**Do you have money invested in stocks, funds or bonds?** *[invested_yes_no]* ○ yes [1] ○ no, I also have no interest [2] ○ no, but I'm very interested [3]	
Experience in investing [if previous question is answered with yes]	**For approximately how many years have you had experience as an investor with stocks, funds, bonds, etc.?** *[experience]* 1. less than 1 year [1] 2. 1 to 2 years [2] 3. 3 to 4 years [3]	

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PAGE	TEXT (Participants' View)	Scale
	4. 5 to 6 years [4] 5. 7 to 8 years [5] 6. 9 to 10 years [6] 7. more than 11 years [7]	
Randomized Order of Questionnaire Blocks End		
	Lastly, we would like you to answer a few questions about yourself:	
Gender	**Which gender do you feel you belong to?** *[gender]* ○ female [1] ○ male [2] ○ non-binary [3]	
Age	**Please indicate your age in years:** [open; from 18 to 120] *[age]*	
Education	**Please indicate your highest level of education completed:** *[education]* ○ primary/secondary degree [1] ○ vocational training [2] ○ second degree without A-levels [3] ○ high school with A-Levels [4] ○ college / foreperson course / master (craftsmen) [5] ○ university (university/university of applied sciences [6] ○ other [7]	
Household income	**Please provide the monthly net household income of all persons currently living permanently in your household:**(Household income is the sum of the income of all persons living together in a household and can be made up of various sources of income. Please refer to the current net monthly amount, e.g., after deduction of taxes and social security contributions, and add regular payments such as pensions, unemployment benefits, housing allowances, child support, alimony, etc. If you are not sure, please estimate the monthly amount). *[income]* ○ below 1.000 euros [1] ○ 1001 to 2000 euros [2] ○ 2001 to 3000 euros [3] ○ 3001 to 4000 euros [4] ○ 4001 to 5000 euros [5] ○ 5001 to 6000 euros [6] ○ 6001 to 7000 euros [7] ○ 7001 to 8000 euros [8] ○ 8001 euros or more [9] ○ no answer [99]	Gutsche et al. (2023)
Household size	**How many people including you live permanently in your household?** *[household_size]* ○ 1 person [1] ○ 2 persons [2] ○ 3 persons [3] ○ 4 persons [4] ○ 5 or more persons [5]	
Household_children	**How many of the people in your household are under 18?** *[household_children]* ○ none [0] ○ 1 person [1] ○ 2 persons [2] ○ 3 persons [3] ○ 4 persons [4] ○ 5 or more persons [5]	
Relevance Incentive (only in population sample)	**To me 600 euros is …** *[relevance_incentive]*	1 = no significant amount of money; 7 = *a* significant amount of money
Best of Knowledge	**I have answered in this study to the best of my knowledge and belief and my data may be processed** *[best_of_knowledge]*	1 = totally disagree; 7 = totally agree

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PAGE	TEXT (Participants' View)	Scale
Email-Address	Among all participants, [10/5] will be randomly selected whose investment decision will actually be implemented and paid out. **If you would like to participate in this prize draw, please enter your email address now**: [open with check for correct input] *[email_adress]*	
Send results	**Would you like to receive the results of the study?** *[mail_results]* ○ yes [1] ○ no [2]	
End of Survey		
Thanks	Thank you very much for your participation! Your contribution helps us a lot. The questionnaire is now closed, you can now close this window. Contact: xxx@xxx.com	

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