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# Who Cares about Investing Responsibly? Attitudes and Financial Decisions

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# WHO CARES ABOUT INVESTING RESPONSIBLY? ATTITUDES AND FINANCIAL DECISIONS *

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**Abstract**

The aim of this paper is twofold. Firstly, we investigate the determinants of individual's attitudes towards investing responsibly, based upon Environmental, Social, and Governance (ESG) considerations. Secondly, we look at how important ESG considerations are, over and above socio-economic characteristics including financial literacy and risk attitudes, in explaining whether individuals hold shares and/or equity, and the amount invested in financial assets. Using the UK Financial Lives Survey data which is collected by the Financial Conduct Authority, our analysis reveals that, firstly, individual characteristics have little explanatory power in terms of explaining responsible investments, except for: education; gender; age; and financial literacy. Secondly, those individuals who are interested in future responsible investments are approximately 7 percentage points more likely to hold shares/equity, and have around 77% more money invested in financial assets (i.e. just under twice the amount). We also undertake several sensitivity checks, including the role of selection on unobservables and the extent to which the exogeneity assumption regarding interest in future responsible investments can be relaxed, as well as matching estimation techniques to move beyond mere statistical associations.

**Keywords:** ESG Attitudes; Financial Literacy; Portfolio Investment.
**JEL Classification:** D81; G11; D14.

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# 1. Introduction

Environmental, social, and governance (ESG) considerations have gained increased attention as investors have grown more aware of the potential effects that their financial decisions may have on the world at large.[1] ESG factors cover a broad spectrum of topics, such as how a business treats its workers and the community in which it operates, as well as its corporate governance procedures. There is now a lively discussion among academics, practitioners, and policymakers over the incorporation of ESG criteria into investment decision-making processes. Starting from this premise, we enter the debate by providing novel evidence on individuals' attitudes towards ESG investment using unique data for the United Kingdom (UK) collected from the Financial Conduct Authority.

We contribute to the literature in several ways. We disentangle the personal and socio-economic characteristics of an individual's attitude towards ESG. There are two important reasons why this is a pertinent issue. Socioeconomic and personal factors may influence views on ESG concerns and behaviour, e.g. Gutsche et al. (2023). Location, age, education, and money play significant roles. Individuals living in urban areas tend to be younger, better educated have higher incomes and tend to be more aware of environmental issues. On the other hand, the emphasis on governance issues can be influenced by professional background, whereas the prioritizing of social factors can be influenced by gender. Moreover, political affiliation might coincide with ESG concerns, and being exposed to environmental hazards might increase awareness of associated issues. While cultural background might influence total ESG engagement, socioeconomic level may influence the emphasis on social elements. Individuals from lower socioeconomic backgrounds are more likely to prioritize social factors (e.g., labour practices, and income

[1]For example, evidence from the Pacific Investment Management Company (Pimco) shows that investing within an ESG framework is now the fastest-growing segment of the asset management industry, see https://www.pimco.com/en-us/investments/esg-investing/. To be specific, assets in ESG funds grew 53 per cent year-on-year to $2.7 trillion in 2021. Moreover, corporate earnings calls mentioning ESG grew from around 5% in 2020 to just under 25% by 2022. However, between May 2005 and May 2018, ESG considerations had only been mentioned in less than 1% of earnings calls. In addition, it is projected that ESG investments will comprise approximately 15% of all investments by 2025 (Dow Jones, 2022).

equality) in ESG considerations. Hence, unpicking these different facets is important to appreciate the potential drivers of the three elements of responsible investing. This is particularly important given that recently various populist movements have framed the green transition, depicting it as an elitist and woke agenda.

Our analysis uses a comprehensive survey for the UK, at the time global ESG investing peaked during 2020-22, that explores all three aspects of ESG: the environment, society and governance. Evidence from another country which has its own set of cultural and social norms, which have been found to play a role in shaping ESG attitudes, is therefore also of relevance, see Dyck et al. (2019). As far as we are aware this is the first paper based upon a large-scale random sample survey of the UK population to undertake such exploratory analysis. Moreover, research exploring ESG issues and financial decisions using representative samples of private households is relatively scarce, see Rossi et al. (2019). The use of such data is important as opinions regarding responsible investments may not be randomly allocated across households, consequently, understanding the key drivers behind such investments is crucial before we go on to explore the role of ESG investment on different financial outcomes, which forms the second part of our empirical analysis.

In addition, much of the existing literature, see Section 2, tends to focus upon retail clients of specific banks or fund providers who already invest in sustainable products, i.e. they are active investors engaging in financial markets. Conversely, in our analysis we explore the preferences for sustainable investments for a representative random sample of the entire population of financial decision makers, i.e. incorporating investors and non-investors alike. Hence a broader group of potential investors is covered and observed in the analysis, where ultimately the external validity of our results may be more reliable than focusing upon specific investor groups. For example, the characteristics of customers of certain banks and their motives for ESG investments may differ substantially to that of the underlying population. The same argument is applicable for when we move on to explore how ESG considerations influence the financial decisions of households. Hence, making

general inferences using bespoke data is arguably not as credible to using random sample surveys, which also has implications for any resulting recommendations for policymakers or practitioners.

Finally, we investigate whether ESG considerations are associated with the likelihood of investing in shares and/or equity and the amount invested in financial assets, i.e. exploring whether there are any effects on either the extensive and/or intensive margins. In doing so, we also incorporate several sensitivity checks, including the role of selection of unobservables and statistical matching techniques to move beyond statistical associations and assess the robustness of the baseline results. In addition, we also explore whether heterogeneity exists by contrasting the effect of interest in future responsible investing by gender across age; education; financial literacy; and risk tolerance, in order to ascertain the existence of differential effects at the extensive and intensive margins on financial decisions.

Our analysis reveals that individual socio-economic characteristics are largely insignificant in explaining attitudes toward ESG, except for gender, educational attainment, and financial literacy (as found in the existing literature). Whether individuals are interested in ESG investments increases the probability of holding shares/equity by around 7 percentage points and increases the amount of financial assets held by over two-thirds (77%). The sign and statistical significance of the estimates are robust to several sensitivity checks, as well as matching estimation techniques. Considering heterogeneity, variation is revealed between the sexes across key characteristics, which are found to play a role in determining ESG preferences, and influencing financial behaviour. There is evidence of a gender gap in responsible investments due to financial literacy which impinges upon female investors.

## 2. Overview of the existing literature

A sizable body of literature has explored the relationship between individuals' investment choices and their ESG attitudes. Several studies have found that investors are willing to accept lower returns or bear the higher risk to align their portfolios with their ethical and social values (e.g. Riedl and Smeets, 2017; Hartzmark and Sussman, 2019). This phenomenon, known as the "ESG preference", suggests that investors derive non-financial utility from investing in companies that demonstrate strong ESG performance. Using a dataset comprising portfolio holdings of a sample of Dutch investors, Riedl and Smeets (2017) highlight the importance of social preferences in driving ESG investment decisions, while Hartzmark and Sussman (2019) find that investors are willing to sacrifice up to 3.8% in annual returns to invest in funds with higher sustainability ratings. This indicates that for many investors, the firm's objectives extend beyond mere profit maximization and encompass broader societal and environmental considerations. Similarly, a study by Barber et al. (2021) provides micro-level evidence on the investment behaviour and motivations of socially conscious investors. They reveal that impact investors are willing to accept lower expected returns to increase their portfolios' impact scores. The authors estimate that impact investors are willing to sacrifice around 3% per year in performance for each standard deviation increase in impact. Using flows and expenses of ESG and non-ESG Index Funds, Baker et al. (2022) find that firms with higher aggregate ESG ratings command higher valuations, as measured by Tobin's Q. This valuation premium is driven primarily by the governance component of the ESG ratings, rather than the environmental or social components. Moreover, the positive relationship between ESG ratings and firm valuations is stronger for firms with greater institutional ownership and analyst coverage, suggesting sophisticated investors place more weight on ESG factors. While the traditional view of business often emphasizes profit maximization, the consideration of ESG criteria introduces a broader perspective that encompasses sustainability, social responsibility, and good governance. However, other research has challenged the notion that ESG preferences

are widespread among individual investors. For instance Moss et al. (2023) conducted a study using data on retail investors' security positions and found no evidence that ESG disclosures influence retail investors' buy and sell decisions.

There is also a lively debate on whether investors prioritize financial performance over social or environmental impact. Some research suggests a focus on returns, while others show a willingness to sacrifice some return for positive ESG practices. For instance, Hong and Kacperczyk (2009) argue that *sin stocks*, which are stocks of companies involved in industries like tobacco, alcohol, and gambling, tend to be shunned by certain investors due to societal norms or ethical views. This exclusion from some investors' portfolios leads to a depressed demand and valuations for these stocks. As a result, the authors find that sin stocks deliver higher average returns compared to comparable stocks, as investors who are willing to hold them are compensated for bearing this societal norm risk. Blitz and Fabozzi (2017) challenge the notion that sin stocks systematically outperform. Their analysis suggests that the out-performance of sin stocks documented in earlier studies like Hong and Kacperczyk (2009) is largely incidental and can be attributed to other well-known risk factors, such as the value and size effects. Once they control for these factors, the authors find no significant difference in the performance of *sin stocks* compared to other stocks. The plethora of studies on the subject have not reached a unanimous conclusion (e.g. Bolton and Kacperczyk, 2021; Barber et al., 2021; Friede et al., 2015; Khan et al., 2016). Ultimately, the conflicting evidence highlights the complexity of disentangling the impact of societal norms or ethical considerations on stock returns.

The heterogeneity in ESG preferences among individual investors has been linked to various demographic and socioeconomic factors. For instance, studies have shown that women, younger investors, and those with higher levels of education and income tend to exhibit stronger ESG preferences (e.g. Riedl and Smeets, 2017; Hartzmark and Sussman, 2019). Dyck et al. (2019) adds that cultural and social norms have also been found to play a role in shaping ESG attitudes.

Notably, researchers have increasingly recognized the importance of financial literacy

in shaping individuals' ESG investment decisions. Anderson and Robinson (2022) argue that a lack of financial literacy can be a significant barrier to the adoption of ESG investing strategies.[2] They suggest that individuals with limited financial knowledge may struggle to understand the complexities of ESG factors and their potential impact on investment performance, leading them to prioritize traditional financial metrics over ESG considerations.

Furthermore, the literature has explored the impact of ESG disclosure and transparency on individual investment decisions. A key finding is that individual investors are more likely to invest in companies that provide clear and comprehensive ESG reporting, as it reduces information asymmetry and enables better evaluation of ESG performance (e.g. Eccles and Krzus, 2010; Grewal et al., 2020). However, the effectiveness of ESG disclosure can be influenced by factors such as the quality and credibility of the information, as well as investors' ability to interpret and integrate ESG data into their decision-making processes. This latter point underscores the importance of financial literacy in facilitating the effective use of ESG information in investment decisions.

Our research further aligns with recent studies employing diverse methodologies, including field surveys Bauer et al. (2021), field experiments (e.g. Heeb et al., 2023; Gutsche et al., 2023), and laboratory experiments Humphrey et al. (2021), which demonstrate investors' favourable inclination towards sustainable or impact investments. Additionally, it complements investigations into investors' motivations for ESG investments through the analysis of investment flows (e.g. Renneboog et al., 2011; Döttling and Kim, 2024).

In addition to individual investors, the literature has examined the ESG attitudes and practices of institutional investors, such as mutual funds, pension funds, and sovereign wealth funds. Bollen (2007) investigates why investors hold socially responsible mutual funds and finds that both social and financial motivations play a role. They find that, although investors want socially conscious funds to have competitive financial performance,

[2]Interestingly, whilst Gutsche et al. (2023) find evidence that financial literacy is associated with individual sustainable investing, Rossi et al. (2019) find no relationship between financial literacy and socially responsible investment decisions.

they are also ready to tolerate lesser returns. Renneboog et al. (2008) explore the drivers of socially responsible investment fund participation, highlighting the importance of investor characteristics, such as age, gender, and social norms, in shaping Socially Responsible Investing (SRI) preferences. Several studies have highlighted the growing adoption of ESG integration strategies by institutional investors, driven by factors such as regulatory pressures, stakeholder demands, and a recognition of the potential financial benefits of ESG investing, see for example Amel-Zadeh and Serafeim (2018); Eccles and Klimenko (2019). Pástor et al. (2021) propose a theoretical model for sustainable investment in equilibrium. Their model suggests some interesting testable hypotheses: investors with a stronger-than-average preference for ESG factors tilt their portfolios towards "green" assets, deviating from the market portfolio composition. Conversely, investors with a weaker-than-average ESG preference tilt their portfolios towards "brown" or less sustainable assets. The magnitude of these green and brown tilts increases when investors' risk aversion is lower. Stronger ESG preferences among investors result in poorer anticipated returns, particularly in situations when risk aversion is low and average ESG preferences are high. However, to maintain their ideal portfolio, these investors forfeit less return than they are prepared to. Moreover, these investors are willing to accept a larger reduction in returns to maintain their desired portfolio alignment with ESG principles.

A part of the literature has also explored the societal impacts of ESG investing. Dimson et al. (2020) argue that responsible investing represents the "ESG frontier", as it has the potential to drive positive change in corporate behaviour and contribute to the achievement of sustainability goals. However, they also acknowledge the challenges associated with measuring and quantifying the non-financial impacts of ESG investing.

Overall, the existing literature paints a complex picture of ESG attitudes and their influence on individual and institutional investment decisions. While a segment of investors demonstrates a strong preference for ESG-aligned investments, driven by social preferences, financial motivations, and demographic factors, others prioritize financial returns over ESG considerations. Factors such as financial literacy, ESG disclosure practices, and

regulatory frameworks have been identified as potential drivers or barriers to the adoption of ESG investing strategies. As the integration of ESG factors into investment decision-making continues to evolve, further research is needed to fully understand the dynamics, implications, and potential societal impacts of this emerging trend, as well as the role of financial literacy in facilitating informed and effective ESG investment decisions.

The papers mentioned above show a lot of ground has been covered regarding the possible costs and benefits of ESG investing. However, the real reasons and factors that influence individual retail investors to allocate their investments into ESG assets are still poorly understood.[3] It is this gap that we seek to provide empirical evidence and in addition examine the effect of ESG considerations on financial decision making.

# 3. Data

Our empirical analysis is based on data from the Financial Lives Survey (FLS) conducted by the Financial Conduct Authority (FCA). This is a repeated cross-sectional random household survey for the United Kingdom which is representative of the underlying population. The FLS measures the personal and economic well-being of individuals and households by assessing levels of assets, debt, savings, and planning for retirement. The FLS also provides information on a host of socio-demographic factors that we control for in our analysis, as detailed below. The first wave of the survey is in 2017 and covers the United Kingdom: England; Wales; Scotland; and Northern Ireland. From the second wave onwards, the FLS has collected detailed information regarding individual investors' attitudes towards ESG and such investments. For this reason, we analyze information from waves 2 and 3 collected between 2020 and 2022 (which accords with the period of rapid growth in global ESG investments, see above Section 1). This yields a sample size of 35,129 individuals which is nationally representative of the population.

We control for the following individual socio-economic characteristics included in the

[3] A notable exception is the recent paper by Giglio et al. (2023) who explore ESG beliefs and preferences in a large panel of retail investors linked to administrative data on their investment portfolios.

vector, $X_{it}$: whether the individual is highly financially literate;[4] whether highly risk-tolerant;[5] age; gender; the number of adults in the household (excluding the respondent); the number of children in the household; housing tenure, specifically - whether own on a mortgage, rent or another type of housing tenure (where own outright is the omitted category); labour market status, whether the individual is - an employee, self-employed, unemployed, a student, sick/disabled, or another state (retired is the reference group); marital status, i.e. whether single; the natural logarithm of household income; and highest educational attainment, specifically - GCSE or apprenticeship, A'levels or vocational qualification, other higher qualification (e.g. teaching or nursing), undergraduate degree, and post-graduate degree e.g. masters or Ph.D. (no qualifications is the omitted category). We also incorporate regional identifiers and year of interview fixed effects.[6]

The FLS also contains detailed information measuring the attitudes towards ESG issues, the primary focus of our analysis, and the relationship with investment risk-performance trade-offs. This part of the FLS questionnaire asks a random selection of all adults (1 in $N$) in the survey, initially just over 4,500 before the removal of observations with missing values on key covariates. The raw statistics in the data are reported as a proportion of all relevant UK adults from the nationally representative sample.[7]

[4]This is defined as a binary variable when the respondent obtains three correct answers from the questions: *Suppose you put £100 into a savings account with a guaranteed interest rate of 2% per year. There are no fees or tax to pay. You don't make any further payments into this account and you don't withdraw any money. (1) How much would be in the account at the end of five years (remembering that there are no fees or tax deductions)?; (2) If the inflation rate is 5% and the interest rate you get on your savings is 3%, will your savings have more, less, or the same amount of buying power in a year?; and (3) Buying shares in a single company usually provides a safer return than buying shares in a range of companies?*

[5]We define high-risk attitude binary indicator from the responses to the following question: *Are you a person who is generally willing to take risks?*, where the responses are: *(0) Not at all willing to take risks*, through to *(10) Very willing to take risks.* The indicator is equal to unity if the respondent selects 9 or 10, and zero otherwise.

[6]Binary regional identifiers are defined at the Government Office Region level with London as the reference category.

[7]Table A.I in the appendix tests for the equality of the mean of each of the $k = 1, 2, ..., K$ covariates $(x_1, x_2, ..., x_K) \in X$ across the full FLS sample and the ESG sub-sample, based upon t-tests of unpaired data with unequal variances. This is shown in Panel A where the only variable which differs between the two groups at conventional levels of statistical significance is high risk tolerance. In Panel B, a multivariate F-test is shown for equality of the mean of the covariate vector $(X)$ across the two samples allowing for unequal variances, where the null hypothesis can-not be rejected. Hence, the ESG sub-sample asked to a random selection of adults from the full FLS sample would appear to be randomly allocated

The first set of questions aims to capture attitudes towards ESG issues among all the respondents. The individual is asked whether they agree or disagree with the following statements (question AT18 in the FLS): *(1) Environmental issues are really important to me*; *(2) Businesses should control executive pay*; *(3) Businesses have a wider social responsibility than simply making a profit*; *(4) It is important to me that the vulnerable in society are protected.* The respondent then has six possible responses: *1.Strongly agree; 2. Slightly agree; 3. Neither agree nor disagree; 4 Slightly disagree; 5. Strongly disagree; 6. Don't know.* For each question, we then construct a dummy variable, which takes the value of one if the respondent answered either that they *strongly agreed* or *slightly agreed* with the above statements, zero otherwise.

The second set of questions tries to capture the individual's willingness to sacrifice investment performance to achieve some ESG objective. The questions are only asked to individuals that have some form of investment. The question (ESG5) in the FLS is: *Thinking now in a bit more detail about how your money, e.g. money invested through your pension or other investments, could be used for responsible investment, to what extent do you agree or disagree with the following statements?* Where the following randomised alternatives are available: *(1) I would like the way my money is invested to do some good as well as provide me with a financial return; (2) I would like to invest in a way that is protecting the environment; (3) I would be prepared to take greater financial risk with a responsible investment than I would with a traditional investment; and (4) I would be prepared to accept higher costs with a responsible investment than I would with a traditional investment.* As with the AT18 questions the respondent has the same six possible responses available and so for each question we then define a dummy variable, which takes the value of one if the respondent answered either that they *strongly agreed* or *slightly agreed* with the above statements.

The respondents' level of interest in responsible investment issues is also captured in the FLS. These questions are split among investors (ESG4) and potential investors

based upon our set of controls, giving confidence in ultising data for this sub-group of individuals.

(ESG6). Investors are asked the following question (ESG4): *How interested are you in investing in responsible investments in the future?* The responses are: *1. Very interested; 2. Somewhat interested; 3. Not very interested; 4 Not at all interested; 5. Don't know.* From this, we create a binary indicator equal to unity if the response is (1) or (2), zero otherwise. We also consider the responses to potential investors (ESG6): *Imagine you were in a position to invest some money tomorrow, e.g. in a pension or an investment product like a stocks and shares ISA. How likely or unlikely would you be to invest your money in Responsible Investments?* The possible responses are on a five-point scale: *1. Very likely; 2. Quite likely; 3. Neither likely nor unlikely; 4 Very unlikely; 5. Don't know.* We then a binary indicator if the respondent answered (1) or (2), i.e. *Very likely* or *Quite likely.*

Table I shows the summary statistics of the ESG variables. For AT18 around 90% think that it is important to protect the vulnerable in society, compared to approximately 80% who report that environmental issues are really important to them. Of those respondents who currently have investments, 64% are interested in responsible investments in the future (ESG4). Considering ESG5, wanting to do good with any money invested and/or ensuring that the environment is protected when investing money is important to respondents at 82% and 77% respectively, whilst being willing to accept higher risks and/or higher costs than a typical investment, is around 40%.

The FLS also contains information on financial investments. We focus on responses to the following: *Which, if any, of these investments do you currently have, either in your own name or in joint names? Shares/equities*, responses to this question are used to define investments in shares/equity at the extensive margin. In terms of the amount invested (the intensive margin) this information is taken from the following question: *How much in total do you currently have in investments at current market value? If you hold any investments jointly, only include the amount you consider to be yours within this.*[8] Table I shows the summary statistics for these two variables, where on average

[8]Responses to the question are given in monetary bands which we convert into a continuous variable

respondents currently have investments in shares and/or equity and the amount invested in financial assets are 23% and £26,469 (4.218 log units) respectively.

Table I also provides summary statistics of the demographic and socio-economic characteristics that are used as control variables. The average age is 49, just under 50% of respondents own their home outright, most are employees, approximately 40% have educational attainment of at least undergraduate degree level, and the mean household income is £58,391.

# 4. The determinants of responsible investment

As far as we are aware there is no evidence from the UK to date that has explored what individual and socio-demographic factors influence environmental, social, and governance (ESG) issues. Hence, we start by ascertaining the socio-economic characteristics associated with attitudes towards ESG and ESG investment. Note that the set of ESG questions are asked to both investors and non-investors alike.[9] Given each aspect of ESG may not be randomly allocated across households, understanding the drivers behind responsible investments is important before we go on to explore the role of ESG investment on different financial outcomes in Section 5.[10] Our empirical approach is as follows:

$$ESG_{it} = \alpha + X'_{it}\lambda + \zeta_{it} \tag{1}$$

by taking the mid-point.

[9]Table A.II in the appendix shows tests for the equality of the mean of each ESG variable across two groups comprising investors and non-investors, based upon t-tests of unpaired data with unequal variances. The only covariate where the null hypothesis can be rejected is $ESG4$, i.e., whether the individual is interested in investing in responsible investments in the future.

[10]Although not the focus of our analysis, the FLS also contains information on whether investors, i.e., those with financial assets, have received regulated financial advice at the time of purchasing the investment (if this occurred during the past 12 months). Based upon a sub-sample of 889 investors, Table A.III in the appendix mirrors that of Table A.II showing tests of the equality of the mean of each ESG variable across two groups of investors - those who received and those who were not in receipt of regulated financial advice when purchasing assets. Those who received financial advice have statistically significant different means for a number of facets ESG attitudes (5/11), and with the exception of active ESG experience, the averages reported are lower for those who took out financial advice. This is an interesting finding and is worth exploring in future work if larger samples or alternative data become available.

where all ESG outcomes are binary, hence we model the probability of ESG attitudes and ESG investments via a binary linear probability model (LPM), where $ESG_{it} \in (0, 1)$.[11] The subscripts $i$ and $t$ denote the individual and FLS wave, respectively. The alternative outcomes are conditioned on a set of explanatory variables $X_{it}$, as shown in Table I.[12] All LPM regressions incorporate FLS sampling weights and report heteroscedastic robust standard errors. The results are shown in Tables II to VI where we also condition each ESG outcome on financial literacy and the results which follow are not sensitive to its exclusion.[13]

In Tables VII and VIII we report the results from modelling passive and active ESG investors, respectively, as in Anderson and Robinson (2022). Active ESG investment is defined as a binary variable equal to unity if the respondent answers "*yes*" to the following question which is asked in the context of responsible investments: *Have you ever invested in this way before, either with your pension money, e.g. through a workplace pension or private pension, or with another investment?*. Passive ESG investment is constructed as a binary indicator if the respondent answered "*no*" to the previous question and indicate that they are interested in future investments in ESG. Table I reveals that around 75% of individuals invest either passively or actively in ESGs.[14]

## 4.1. Attitudes towards responsible investing

Table II presents the results from exploring whether any demographic or socio-economic characteristics can explain an individual's sensitivity to different ESG themes (AT18). There is an important message appearing, the higher the level of education, the stronger the support for the ESG investment. We find very limited support for any other socio-

[11] All estimations incorporate FLS sampling weights and heteroscedastic robust standard errors. The results are robust to using a probit specification.

[12] All of the results which follow the analysis are robust to allowing for non-linearity in age and income.

[13] Hence, for brevity, we only show specifications which include financial literacy.

[14] This is comparable to figures reported by Saltus Wealth Management Services where in 2021 just under 70% of people (1,000 respondents) in the UK with investable assets had exposure to ESG products, see https://www.saltus.co.uk/wealth-index. Similarly, Anderson and Robinson (2022) find 67% of Swedish investors made an active ESG choice.

economic characteristics. An exception to this is the role of financial literacy which is correlated with Q2 (controlling executive pay), Q3 (attitudes towards aspects beyond profitability) and Q4 (protecting the vulnerable in society), where the coefficients are of the expected sign and highly statistically significant - being effects over and above educational attainment. However, these estimates are dominated by the role of highest educational attainment, e.g. the degree coefficient is over 5, 2 and 3 times the size of that stemming from financial literacy, when considering the association with Q2, Q3 and Q4. The results also suggest that there is some evidence of gender division when considering environmental (Q1) and societal issues (Q4). Males are reported to have negative and statistically significant coefficients, suggesting that females have a higher preference than men for those particular issues. We do not find any age trend suggesting that the issues covered by the ESG label are just of importance for the younger generation of adults. Also, income does not seem to play a factor here.

Table III shows the analysis of the set of questions that are well placed to understand whether there is an "ESG preference", which captures whether individual investors are willing to sacrifice investment performance when investing in ESG-compliant assets. The analysis in column 1 reveals that male (single) individuals are less (more) likely to be willing for their investment to do some good as well as provide a financial return. In column 2, we see which individual characteristics explain the trade-off between investment and *environment*. There are three statistically significant coefficients; the level of financial literacy and the level of education both enter positively, suggesting that individuals with those types of characteristics are more inclined towards "impact investing". On the other hand, male investors seem less sensitive to this type of investing. Columns 3 and 4 investigate the willingness to take on a higher risk or higher cost when investing responsibly, respectively. We notice that higher costs are only accepted by highly educated individuals (i.e. individuals with a post-graduate qualification).

## 4.2. Whether interested in future responsible investment

Moving to Tables IV and V, we report results from a question asking current investors whether they are potentially interested in ESG investment (ESG4). Starting with Table IV, alongside the covariates that aim to capture the individual's socio-economic characteristics, we include the attitudes towards ESG issues (AT18). These are reported individually in columns 2 to 5 and simultaneously in column 6. Some interesting patterns emerge. Firstly, the role of education and financial literacy is in line with the results in Tables II and III. For example, a highly financially literate individual is around 16 percentage points (pp) more likely to show an interest in future responsible investments, where the magnitude is in accordance with that stemming from education. Second, investors who rent or have a mortgage are less likely to show intent for this type of investment. Third, males are more likely to be interested in making future responsible investments, by around 6pp. Fourth, the attitudes towards ESG, i.e. the AT18 covariates, are individually positive and statistically significant at the usual level of confidence. However, when all of them are included (column 6) environmental issues dominate. Interestingly, in terms of economic magnitude, this coefficient dominates those of both financial literacy and educational attainment.

Table V presents the results on whether investors are interested in future responsible investing (ESG4) and how money should be used for such investment. The education and financial literacy themes are confirmed as key indicators. We also find, as in Table IV, that housing tenure matters. Furthermore, life-cycle effects are apparent where ESG investment is inversely related to age when one controls for the individual's trade-off between ESG and return and/or risk, which is consistent with Bauer et al. (2021) who find that older people are less in favour of sustainable investments. For example, an additional year of age decreases the likelihood that the respondent is interested in future responsible investing by approximately 0.6pp.

Whether the respondent is interested in future responsible investing (ESG4) is the

primary variable reflecting ESG attitudes that we focus on when exploring financial outcomes (we explain the justification for this in the next section). As such, we investigate heterogeneity across the sexes along the lines of two continuous covariates that were found to be important in explaining ESG4 (see Table V) - namely age and household income. The results are shown in Figure 1 where the left (right) pane focuses on differences across age (household income) between males and females. There are no significant income differences across the sexes when considering the effect upon the likelihood of future responsible investing, the only borderline significant effect is for household income of £40,000 albeit the estimate is very small. However, males aged 36-45 and 56-65 (compared to females of the same age) are around 10pp more likely to be interested in future ESG investments, whilst the opposite is apparent for those males aged 75 and above (15pp less likely relative to females).

In Tables IV and V the question is asked to individual investors, whilst in Table VI a similar question is asked solely of those individuals who do not have any investment at the time of the survey (ESG6). As previously stated, education is positively correlated, but in this context, housing tenure characteristics do not matter. Similar findings are also revealed for attitudes towards ESG investments. To be specific, when entered individually these variables are positive and statistically significant, but also noticeably larger in magnitude than the corresponding estimates in Table IV.

## 4.3. Passive and active ESG investors

Considering passive ESG investment, the results of Table VII show that few individual-level characteristics hold explanatory power, except for financial literacy and income. In contrast to Anderson and Robinson (2022), there is no evidence of life-cycle effects. The same picture is also evident for the determinants of active ESG investment as can be seen from Table VIII, although there is no income effect. Following Anderson and Robinson (2022), we explore the role of the ESG5 variables and AT18Q1 (i.e. environmental con-

cerns) on both passive and active ESG. Due to concerns over multicollinearity, given that such covariates are likely to be correlated, we enter them one by one in columns (1) to (4) and then all simultaneously in column (5) in both tables. Column (6) then adds the environmental concern variable (AT18). Interestingly, where statistically significant, the ESG5 variables have a positive (negative) association with passive (active) ESG investment, as can be seen from Table VII (VIII). For example, individuals who state, *I would like the way my money is invested to do some good as well as provide me with a financial return*, are around 48pp more likely to want to passively invest in ESG, but 6pp less likely to actively hold ESG investments. The differences in statistical significance and direction of impact of the ESG5 variables on passive and active ESG investment is consistent with Anderson and Robinson (2022).

# 5. ESG and financial investments

Having contributed to the literature which has examined who is likely to be concerned with different aspects of ESG, we now explore whether individuals who are interested in future ESG investments: (i) have a higher probability of owning shares and/or equity, $y_{it} \in (0, 1)$; and/or (ii) a larger amount of money invested in financial assets, $y_{it} \in (0, +\infty)$. Each financial outcome $y_{it}$ is modelled via LPM/OLS regressions incorporating FLS sampling weights and heteroscedastic robust standard errors. Our empirical approach is as follows:

$$y_{it} = \phi + \beta ESG_{it} + X'_{it}\theta + \epsilon_{it} \tag{2}$$

We start by exploring a number of aspects of ESG upon the extensive and intensive margins, where Tables IX and X show the results, respectively, excluding control variables, i.e. $\theta = 0$. However, all of the ESG variables (with the exception of interest in future ESG investing - ESG4), such as *'I would like the way my money is invested to do some good as well as provide me with a financial return'* and *'I would be prepared to accept higher costs with a responsible investment than I would with a traditional investment'*,

have no significant effect on either the likelihood of owning shares/equity or the amount of money invested in financial assets. This is consistent with the findings of Anderson and Robinson (2022) for Swedish households. Whilst some of the attitudinal questions (AT18) are statistically significant, once controls are added into the specification, all aspects of ESG5 and AT18 become insignificant.[15]

Consequently, in what follows, we focus solely upon ESG4 *'Whether interested in investing in responsible investments in the future'*, where we condition each outcome on a range of controls given in vector $X_{it}$ (as defined above in Section 3), where the multiple regression analysis identifies conditional correlations. A causal interpretation of $\beta$ is only possible under the assumption of conditional mean independence (or unconfoundedness), i.e. $E[\epsilon_{it} \mid ESG_{it}, X_{it}] = E[\epsilon_{it} \mid X_{it}]$. The vector of controls also includes financial literacy and the results which follow are not sensitive to its exclusion.[16]

The results of estimating Equation (2) are shown in Table XI for the determinants of the likelihood of investing in shares/equity (columns 1 and 2) and/or the amount invested in financial assets (columns 3 and 4). In columns 2 and 4 we consider arguably more stringent specifications, where the key covariate is now redefined for people who have never previously invested responsibly. To be specific, we use the responses to the following question (ESG2), which is asked in the context of responsible investments: *'Have you ever invested in this way before, either with your pension money, e.g. through a workplace pension or private pension, or with another investment?'*, where if the respondent answered "*no*" the ESG4 variable *'Whether interested in investing in responsible investments in the future'* is recoded to zero.

The findings are consistent with those found in the existing literature, e.g. van Rooij et al. (2011); Gomes et al. (2021); Anderson and Robinson (2022); and Kaiser and Lusardi

[15] As an additional financial outcome, we have also considered financial engagement by modelling the likelihood that respondents have not checked the value of their pension pot over the past 12 months. Consistent with Anderson and Robinson (2022), high financial literacy respondents are much less likely to have not checked their retirement balances. Moreover, none of the ESG variables (ESG4, ESG5 or the AT18 questions) are statistically significant. Hence, there is some evidence to suggest that retirement planning responses point to disengagement with financial markets, as was found for Swedish households.

[16] Hence, for brevity we only show specifications which include financial literacy.

(2024). Both the extensive and intensive margins are positively associated with: financial literacy; whether male; degree level education; and conversely, negatively associated with: all types of housing tenure relative to owned outright; whether an employee (compared to retired); and income. For example, a 1% increase in income increases the probability of owning shares/equity by around 5pp and increases the amount invested by 0.87%, i.e. income inelastic. Whether the individual is a risk taker and age also have a positive impact on the amount invested in financial assets. Focusing on the key parameter of relevance, those individuals who are interested in future responsible investments are approximately 7pp more likely to hold shares/equity, and have around 77% more money invested in financial assets (i.e. just under twice the amount).[17] The effects are roughly half the magnitude of whether the individual has a degree and/or is highly financially literate.[18] Moreover, the parameter estimates increase in magnitude for those who are interested in future responsible investments, but haven't invested in this way before, as can be seen from columns 2 and 4 of Table XI.

In the final part of the table, we test to see whether ESG4 is exogenous using a robust score test and a robust regression-based test, see Wooldridge (1995). We do this by instrumenting on AT18Q1, i.e. whether the individual responds that environmental issues are really important to them, as *a priori* there is no reason why this variable should influence financial decisions at either the intensive or extensive margins (indeed, statistically, they do not, as can be seen from Tables IX and X respectively). However, as required in the first stage of 2SLS analysis, they are found to influence whether individuals are interested in future responsible investments, as reported in Table IV. The results of the tests shown in the final rows of Table XI show that the null hypothesis of exogeneity cannot be rejected at conventional levels of statistical significance.

[17] Excluding covariates, $X_{it}$, the corresponding estimates for columns 1 and 3 are 0.116 and 1.473 respectively, and are statistically significant at the 1% level, as can be seen from Tables IX and X respectively.

[18] Given the statistical insignificance of the ESG5 and AT18 variables, in what follows we focus solely upon ESG4 *'Whether interested in investing in responsible investments in the future'* in terms of sensitivity analysis and heterogeneity.

## 5.1. Sensitivity analysis

In this section, we undertake a number of robustness checks in order to: firstly, examine how sensitive the coefficients are to selection effects; and secondly, establish average treatment effects.

### 5.1.1. Selection on unobservables

Following the seminal work of Altonji et al. (2005) it is now common in applied work for researchers to assess the sensitivity of empirical findings to omitted variable bias. In this section, we assess the robustness of our results using the approaches developed Oster (2019) and Diegert et al. (2023). Treatment effects and the relative degree of selection under proportional selection of observables and unobservables is calculated in order to assess the role of omitted variable bias. In the event of omitted variable bias the model in Equation (2) could yield biased coefficients if there are omitted covariates that are correlated with $ESG_{it}$.[19]

Both the approach of Oster (2019) and Diegert et al. (2023) start from the same baseline model. Omitting subscripts for brevity, let $W = (X, X_2)$, where $X$ is a vector of observed covariates (as defined above) and $X_2$ is a vector of unobserved covariates. Then:

$$y = \beta ESG + \gamma_1' X + \gamma_2' X_2 + y^{\perp ESG,W} \tag{3}$$

where $y^{\perp ESG,W}$ is the OLS residual and so is uncorrelated with each component of $(ESG, W)$ by construction. The parameter of interest is $\beta$, i.e. the association between whether the respondent has an interest in responsible investments and financial outcomes.

[19]For example, omitted variables such as regulated financial advice, which for individuals exhibiting *future interest in responsible investing* (ESG4) was found to be significantly different at the 5% level across those groups of investors who did and did not take out financial advice at the time of purchase (albeit based on a limited sample size), see Table A.III in the appendix. Hence, financial advice could have an indirect effect via ESG4, but also a direct influence on financial outcomes, e.g. Von Gaudecker (2015). Moreover, Brown et al. (2024) show that financial advice influences multiple aspects of household portfolios in the context of Great Britain. Hence, exploring the sensitivity of the analysis reported thus far for such omitted variables is paramount in order to establish the robustness of the key parameter of interest $\beta$.

The next step is to consider the OLS estimand of $ESG$ on $(1, X, X_2)$, as follows:

$$ESG = \pi_1' X + \pi_2' X_2 + ESG^{\perp^W} \tag{4}$$

where $ESG^{\perp^W}$ is the OLS residual and is uncorrelated with $W$. The parameters $\pi_1$ and $\pi_2$ represent selection on observables and unobservables respectively. If $\pi_2 = 0$ then there is no selection on unobservables.

The approach proposed by Oster (2019) method takes into account the R-squared obtained from OLS to establish a range from a controlled treatment effect to an unbiased treatment effect. Suppose that $R_{max}$ indicates the R-squared value of a theoretical specification that includes all observed and unobserved variables, both time-variant and time-invariant, i.e. obtained from Equation (3), and $\tilde{R}$ denotes the R-squared value of a fully controlled specification, i.e. Equation (2). Oster (2019) suggests that a bias-adjusted treatment effect is equal to $R_{\max} = 1.3\tilde{R}$.[20] The calculation of the bias-adjusted estimator is as follows:

$$\beta^* \approx \tilde{\beta} - \delta[\dot{\beta} - \tilde{\beta}]\frac{R_{max} - \tilde{R}}{\tilde{R} - \dot{R}} \tag{5}$$

where: (i) $\delta$ is the degree of unobserved selection relative to observed selection; (ii) parameters (R-squared) $\dot{\beta}$ ($\dot{R}$) relate to a bivariate OLS regression of the outcome, $y_{it}$, regressed against the treatment, $ESG_{it}$, only; and (iii) parameters (R-squared) $\tilde{\beta}$ ($\tilde{R}$) correspond to an OLS regression with observable characteristics, $X_{it}$, incorporated in the model. Oster (2019) defines the degree of unobserved selection relative to observed selection, i.e. the coefficient of proportionality, as follows:

$$\delta = \frac{cov\left(ESG, \gamma_2' X_2^{\perp^X}\right)}{var\left(\gamma_2' X_2^{\perp^X}\right)} \Big/ \frac{cov\left(ESG, (\gamma_1 + \rho)' X\right)}{var\left((\gamma_1 + \rho)' X\right)} \tag{6}$$

[20] Given that randomized results might provide a bounding value, Oster (2019) used a sample of randomized academic papers in order to derive the cut-off value of 1.3, which would allow for at least 90% of randomized results to survive.

where $\rho = var(X)^{-1}cov(X, \gamma_2' X_2)$. The numerator of Equation (6) is a measure of selection on unobservables, whilst the denominator is a measure of selection on observables, where the metric allows for endogeneity.

The estimated values of $\delta$ for each dependent variable required to drive the effect of interest in future ESG investment to insignificance, i.e., $\beta = 0$, are shown in Table XII Panel A. For both outcomes, the proportion of variation explained by unobservables would need to be approximately 3 times as large as that of the share of variation explained by observable characteristics to drive the $\beta$ to zero. These are implausible degrees of variation to attribute to unobservables and hence it would imply selection bias is not sufficient to explain the results in Table XI.

Next we explore the sensitivity of the estimate of ESG by reporting Oster bounds, i.e. the bias-adjusted treatment effect $\beta^*$. The results are shown in Table XII Panel B for alternative values of $\delta$.[21] The first row of Panel B shows the OLS estimates for the effect of investing in responsible investments in the future, i.e. $\beta$ from Table XI. The results show that regardless the assumptions made about $\delta$ the bias-adjusted treatment effect $\beta^*$ is in line with the estimates of interest in making future ESG investments, i.e. $\beta$, reported in Table XI in terms of sign, magnitude and statistical significance.

Both Masten et al. (2024) and Diegert et al. (2023) have recently criticised the approach of Oster (2019) in terms of its robustness to different assumptions. Diegert et al. (2023) provide a new approach to sensitivity analysis, whilst allowing omitted variables to be correlated with the included controls, as well as varying the calibration of sensitivity parameters by comparing the magnitude of selection on observables with the magnitude of selection as in previous methods. Hence, we also adopt this methodology as an additional sensitivity check for the impact of selection on unobservables in our analysis thus far. Diegert et al. (2023) define the relative variation in selection as the ratio of the selection in unobservables to the selection in observables, defined as:

[21] Where: $\delta = 0.5$ selection in unobservables is smaller than selection on observables; $\delta = 1$ selection in unobservables is equal to selection in observables; and $\delta = 1.5$ selection in unobservables is larger than selection on observables.

$$r_{ESG} \equiv \frac{\sqrt{var(\pi_2' X_2)}}{\sqrt{var(\pi_1' X)}} \tag{7}$$

They assume that the association between the treatment $ESG$ and a one standard deviation increase in the index of unobservables is at most $\overline{r}_{ESG}$ times the association between the treatment and a one standard deviation increase in the index of observables, i.e.:

$$\sqrt{var(\pi_2' X_2)} \leq \overline{r}_{ESG} \cdot \sqrt{var(\pi_1' X)} \tag{8}$$

They then define the breakpoint as the largest amount of selection on unobservables which still yields a statistically significant estimate, i.e. the extent to which the exogeneity assumption can be relaxed before the hypothesis that $\beta > 0$ is rejected.

$$\overline{r}_{ESG}^{bp} = \left( \frac{R^2_{y \sim ESG \bullet X}}{\frac{R^2_{ESG \sim X}}{1 - R^2_{ESG \sim X}} + R^2_{y \sim ESG \bullet X}} \right) \tag{9}$$

Diegert et al. (2023) show that the breakpoint, $\overline{r}_{ESG}^{bp}$, is dependent on just two features of the observed data:[22] (i) the relationship between treatment and the outcome, after adjusting for the observed covariates, i.e., Equation (3) with $\gamma_2 = 0$, given by the R-squared value on the numerator, and (ii) the first stage relationship between treatment and the observed covariates, given by the R-squared from Equation (4) with $\pi_2 = 0$, shown on the denominator. As the relationship between treatment and covariates strengthens, the breakdown point decreases. Diegert et al. (2023) show that restrictions on the joint distribution of $(y, ESG, X, X_2)$ are governed by three scalar sensitivity parameters, namely: $\overline{r}_{ESG}$; $\overline{r}_y$; and $\overline{c}$. When the covariates are mutually uncorrelated, hence exogeneity holds, then $\overline{c} = 1$, and the unconfoundedness assumption holds. When the covariares are correlated then generally $\overline{c} \neq 1$. The relative impact of unobservables and observations on outcomes (which is analogous to $r_{ESG}$) is given by $r_y \equiv \frac{\sqrt{var(\gamma_2' X_2)}}{\sqrt{var(\gamma_1' X)}}$, where $r_y \leq \overline{r}_y$ for a known value of $\overline{r}_y$.

[22] The numerator is the R-squared from Equation (3) and on the denominator $R^2_{ESG \sim X}$ is the R-squared from Equation (4) that only includes $X$, i.e. $\pi_2 = 0$.

The breakdown point in Equation (9) is calculated holding $\bar{c} = 1$ and $\bar{r}_y = +\infty$. Diegert et al. (2023) note that the breakdown point $\bar{r}^{bp}_{ESG}$ is a conservative measure of robustness to omitted variables since it does not restrict the impact of omitted covariates on outcomes. Hence, they also advocate the use of $\bar{r}^{bp}$ which restricts the omitted variables' impact on treatment and on outcomes. The final two rows of Table XII shown in panel C report both breakdown point metrics, $\bar{r}^{bp}_{ESG}$ and $\bar{r}^{bp}$, which represent the largest amount of selection on unobservables, as a percentage of selection on observables, allowed for until it is no longer possible to conclude that $\beta > 0$. Both of these metrics hold for arbitrarily endogenous covariates. From Table XII panel C we see that the breakdown point is larger for $\bar{r}^{bp}$ compared to $\bar{r}^{bp}_{ESG}$ for both the probability of holding shares/equity and the amount invested in financial assets. The breakdown point estimates for the amount invested are more robust at 44% (67%) than the likelihood of owning shares/equity where the respective breakdown estimate is 29% (54%). Hence, focusing on the amount invested, we can conclude that $\beta > 0$ provided that the selection on unobservables is at most 44% as large as the selection on observables. Based upon the alternative $\bar{r}^{bp}$ statistic, the evidence suggests that the selection on unobservables needs to be 67% as large as the selection on observables to overturn our conclusion that $\beta > 0$. Both breakdown statistics reveal a consistent pattern; hence, the analysis shows that, at both the extensive and intensive margins, the effect of whether the respondent is interested in investing responsibly in the future upon financial behaviour is relatively robust to selection on unobservables.

We now relax the assumption that $\bar{c} = 1$, i.e., allowing for correlation between the covariates (observed and unobserved). The results are shown in Figure 2 for the probability of investing in shares/equity and Figure 3 for the amount of money invested in financial assets, respectively. In both figures, the blue line denotes a zero effect of $\beta$ and the dashed red line for the original assumption that $\bar{c} = 1$. The breakpoint is when the frontier intersects the horizontal zero. For the likelihood of investing in shares/equity regardless of the value of $\bar{c}$ the breakdown point remains at around 30%, whilst for the amount invested in financial assets the breakdown is between 44% and 50% depending on

the value of $\bar{c}$. Hence, the results appear to be robust to alternative assumptions about the degree of correlation amongst the covariates, given that the bounds on the parameter estimates of $\beta$ are very similar regardless of the value of $\bar{c}$, see Figures 2 and 3, and are positive in line with the OLS results up until the breakdown point.

Overall, both the Oster (2019) and Diegert et al. (2023) approaches to selection on unobservables show that the OLS estimates of the treatment effect of the respondent signalling that they are interested in future responsible investments upon both the extensive and intensive margins are generally robust and move beyond a mere statistical association.

### 5.1.2. Matching estimators and inverse probability weighted regression adjustment

In this section, we assess the robustness of our results using matching techniques as well as inverse probability weighted regression adjustment (IPWRA). The model in Equation (2) could generate biased coefficient estimates because the treatment and control groups are intrinsically different.

We match on observable characteristics, where, as above, the treatment group comprises those individuals who receive financial advice. Using both propensity score (PS) and nearest neighbour (NN) matching methods enables the ATEs of the effect of interest in future ESG investment on the two household finance outcomes to be estimated, as defined in Imbens (2003). The IPWRA is an alternative approach to estimating unbiased treatment effects in the presence of confounding. This approach magnifies the treatment of individuals, who otherwise look like they would not have selected treatment, and, conversely, magnifies control individuals, who otherwise look like they would have selected treatment. Therefore, the IPWRA is arguably more stringent than the OLS estimator, as it accounts for two levels of selection – in both the treatment and outcome.[23]

Let $y(ESG)$, for $ESG \in (0, 1)$, denote the outcome for either the probability of

[23] An additional important feature of IPWRA is that of double robustness, where the estimator is still consistent if either the treatment equation or the outcome equation is misspecified.

owning shares/equity or the amount invested in financial assets when the treatment that the respondent is interested in future responsible investing is applied. For a given set of covariates, $X$ the exogeneity assumption, or unconfoundedness, is given by:

$$y(0), y(1) \perp ESG \mid X \tag{10}$$

The average effect of the treatment average over the distribution of covariates can then be defined as:

$$\tau \equiv E[y(1) - y(0)] = E[\tau(X)] \tag{11}$$

Table XIII reports the ATEs corresponding to the effects of whether the individual is interested in future responsible investments on the likelihood of owning shares/equity and the amount invested in financial assets. The results shown in row 1 are based on PS matching, row 2 on NN matching and row 3 on the IPWRA estimator. Figure 4 produces a box plot, which checks for balance in matched samples after PS and NN matching and reveals that the matching balanced all the covariates based on the plot of the estimated propensity score. Similarly, for the IPWRA estimates reported in Table XIII row 3, the null hypothesis that the covariates are balanced cannot be rejected at conventional levels of statistical significance for both outcomes. Comparing the ATEs across each panel with the OLS $\beta$ estimates reported in Table XI, they are generally equivalent in terms of sign, magnitude and statistical significance.

## 5.2. Heterogeneity analysis

Heterogeneity in ESG preferences among individual investors has been linked to a number of demographic and socioeconomic factors, as discussed in Section 2, and as revealed in our empirical analysis of the determinants of opinions regarding responsible investments, see Section 4, where gender, age, education, and financial literacy were found to play a role. We now consider such heterogeneity by contrasting the effect of future responsible

investment by gender across age; education; financial literacy; and risk tolerance, in order to ascertain the existence of differential effects on the probability of holding shares/equity and the amount invested in financial assets.

Firstly, we explore whether the results of Table XI differ by gender across age and education by contrasting the linear prediction, at both the extensive and intensive margins, over whether the individual is interested in future ESG investments. For example, the existing literature has shown that women, younger investors, and those with higher levels of education tend to exhibit stronger ESG preferences, e.g. Riedl and Smeets (2017) and Hartzmark and Sussman (2019), and this might therefore translate into heterogeneous effects on financial decisions.

The results are presented graphically in Figure 5. Panels A and B contrast the predictive margins between ESG=0/1 (i.e. control and treatment) across age groups and by gender, at the extensive and intensive margins, respectively. The most noticeable differences are that females aged between 56 and 65 (in comparison to other age groups) who respond that they are interested in future responsible investments are more likely to hold shares/equity, the same effect is apparent for males at two extreme points of the age distribution (see Panel A). The youngest and oldest groups of males who respond that they are interested in future responsible investing have a greater amount of money currently invested in financial assets, for the former group, around £55 (Panel B),[24] whilst those females aged between 56 and 75 have a higher monetary value of financial assets, by approximately £7.

Panels C and D of Figure 5 contrast the predictive margins between ESG=0/1 (i.e. control and treatment) across levels of highest educational attainment and by gender. Interestingly, considering the extensive margin, males with no education who signify an interest in future ESG investment are the only educational group to show a positive and significant association with the probability of owning shares/equity (Panel C). For

[24]The monetary amount is found by taking the anti-log of the linear prediction, which is in natural logarithmic units, i.e. $exp(4) = £54.60$.

females, the corresponding educational groups associated with a positive impact on the extensive margin when the individual is interested in future ESG investments are GCSE and/or apprenticeships and other higher qualifications, e.g. nursing or teaching. Turning to the intensive margin and the amount invested in financial assets, shown in Panel D, males with higher levels of educational attainment, i.e. other higher qualifications and/or degrees, who signal an interest in ESG investments are found to have more money in their financial portfolio.

Finally, we explore whether the results found in Table XI differ by gender across financial literacy and risk tolerance by contrasting the linear prediction (again at the extensive and intensive margins) over whether the individual is interested in future ESG investments. For example, generally, women exhibit lower levels of financial literacy than men (see Lusardi and Mitchell (2008) and Tinghog et al. (2021)); and risk-tolerance also tends to differ across the sexes, e.g. Charness and Gneezy (2012). Hence, we might expect *a priori* to observe differential effects by gender of the impact of future ESG investments upon financial decisions across such traits.

The results are presented graphically in Figure 6. Panels A and B contrast the predictive margins between ESG=0/1 (i.e. control and treatment) across low through to high financial literacy and by gender.[25] Interestingly, both females and males with higher financial literacy who are interested in future responsible investments have a higher likelihood of owning shares/equity, at approximately 10pp and 15pp respectively albeit the former is only significant at the 10% level, where the gender difference is statistically significant at the 5% level being higher for males, as can be seen from Panel A. In terms of the amount invested in financial assets, male individuals with lowest level of financial literacy in the treated group have more money invested in financial assets, at around £20 and this is statistically different from females, (see Panel B).

[25]Note that in these estimates for heterogeneity we have replaced the binary indicator of high financial literacy with the original 4-point index which is increasing the degree of literacy, i.e. 0=lowest through to 3=highest.

Turning to risk tolerance,[26] focusing upon the extensive margin in Panel C across the sexes higher risk individuals who signal an interest in future ESG investments are more likely to invest in shares and/or equity. However, these effects are dominated by the impact from males with the highest-risk tolerance who are interested in investing responsibly in the future, where the probability of owning shares/equity is increased by 25pp, and such individuals have approximately £20 more invested in financial assets (see Panel D). Interestingly, considering the those individuals with the lowest risk seeking behaviour interested in future ESG investing, females have a higher amount invested in financial assets at around £12 and this is significantly different to the level of investment by males in the same risk category.

The heterogeneity analysis has revealed considerable variation between the sexes across key characteristics, which we previously found to play a role in determining ESG preferences in Section 4, upon financial behaviour at both the extensive and intensive margins. In particular, there is evidence in support of a gender gap in responsible investments across key demographics and traits (e.g. financial literacy).[27]

# 6. Conclusion

We have explored a range of factors which may be associated with different aspects of attitudes towards ESG investments. Using data from the UK Financial Lives Survey the analysis revealed that individual socio-economic characteristics have little explanatory power in determining responsible investments. The key exceptions to this are education, gender and financial literacy, with individuals exhibiting such characteristics being more inclined

[26]Note that in these estimates for heterogeneity we have replaced the binary indicator of high risk preference with a 4-point index which is increasing the degree risk tolerance, i.e. 0=lowest through to 3=highest, derived from the original 12-point index (0, 1, 2 or 3 if the initial risk index equals 0-2, 3-5, 6-8 or 9-10 respectively) see Section 3.

[27]The gender gap in financial literacy is evident for around 94% of the 144 countries covered in the S&P Ratings Service Global Financial Literacy survey, see Klapper and Lusardi (2020). Moreover, a substantial differential remains unexplained even after controlling for observable socio-economic characteristics, e.g. Fonseca et al. (2012). Hence, it is conceivable that this could potentially influence financial behaviour which is consistent with the evidence we have shown.

towards *impact investing*. Moreover, single individuals and females are more likely to be willing for their investment to do some good in addition to providing financial return by sacrificing investment performance, hence displaying *ESG preference*, implying that such investors derive non-financial utility from investing in companies that demonstrate strong ESG performance. The second part of the analysis investigated whether future interest in responsible investing was associated with the likelihood of owning shares/equity, and the amount invested in financial assets. The results showed a positive impact on both extensive and intensive margins, effects over and above a range of controls, including income, financial literacy and educational attainment. Moreover, the results were robust to wide range of tests for omitted variable bias and matching estimation techniques.

Detailed household survey evidence can provide valuable information on how people form opinions and beliefs regarding ESG considerations and, ultimately, how such concepts and ESG attitudes influence the financial behaviour of households and investors. Moreover, such analysis can also reflect informational constraints associated with certain households in regard to the use of ESG information when undertaking investment decisions, e.g. Amel-Zadeh and Serafeim (2018). Moreover, investing in ESG assets is a fairly recent phenomenon and is likely to be of both contemporary and future importance in terms of changes in both government policy and industry practice to promote responsible investing.

For example, the Bank of America, has recently suggested that ESG investing could rise by $15 trillion to $20 trillion over the next decade. In the context of the UK economy, the government published an updated Green Finance Strategy, reinforcing its ambition for the UK to continue as a global leader in green finance, HM Treasury (2023). Stemming from this, it was announced by the Chancellor of the Exchequer in the Spring Budget 2024 that the government will regulate the provision of ESG ratings to make sure they are reliable and credible, where these metrics are used for investment decisions. Hence, on both sides of the Atlantic ESG considerations, and how they impinge on financial decision making of investors (both individual and corporate), are likely to remain topical issues of

importance.

# References


Altonji, J., T. Elder, and C. Taber (2005). Selection on observed and unobserved variables: Assessing the effectiveness of Catholic schools. *Journal of Political Economy 113*(1), 151–184.

Amel-Zadeh, A. and G. Serafeim (2018). Why and how investors use ESG information: Evidence from a global survey. *Financial Analysts Journal 74*(3), 87–103.

Anderson, A. and D. T. Robinson (2022). Financial literacy in the age of green investment. *Review of Finance 26*(6), 1551–1584.

Baker, M., M. L. Egan, and S. K. Sarkar (2022). How do investors value ESG? Working Paper 30708, National Bureau of Economic Research.

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

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

Blitz, D. and F. J. Fabozzi (2017). Sin stocks revisited: Resolving the sin stock anomaly. *Journal of Portfolio Management 44*(1), 105–111.

Bollen, N. P. (2007). Mutual fund attributes and investor behavior. *Journal of Financial & Quantitative Analysis 42*(3), 683–708.

Bolton, P. and M. Kacperczyk (2021). Do investors care about carbon risk? *Journal of Financial Economics 142*(2), 517–549.

Brown, S., A. Bucciol, M. Montagnoli, and K. Taylor (2024). Financial advice and household financial portfolios. *Oxford Bulletin of Economics and Statistics*, forthcoming, https://doi.org/10.1111/obes.12613.

Charness, G. and U. Gneezy (2012). Strong evidence for gender differences in risk taking. *Journal of Economic Behavior & Organization 83*, 50–58.

Diegert, P., M. A. Masten, and A. Poirier (2023). Assessing omitted variable bias when the controls are endogenous. Working paper, arXiv preprint.

Dimson, E., P. Marsh, and M. Staunton (2020). Divergent ESG ratings. *Journal of Portfolio Management 47*(1), 9–24.

Dow Jones (2022). ESG investment expected to more than double in the next three years new research from dow jones shows. Technical report, https://www.dowjones.com/press-room/esg-investment-expected-to-more-than-double-in-the-next-three-years-new-research-from-dow-jones-shows/.

Dyck, A., K. V. Lins, L. Roth, and H. F. Wagner (2019). Do institutional investors drive corporate social responsibility? International evidence. *Journal of Financial Economics 131*(3), 693–714.

Döttling, R. and S. Kim (2024). Sustainability preferences under stress: Evidence from COVID-19. *Journal of Financial & Quantitative Analysis 59*(2), 435–437.

Eccles, R. G. and S. Klimenko (2019). The investor revolution. *Harvard Business Review 97*(3), 106–116.

Eccles, R. G. and M. P. Krzus (2010). *One report: Integrated reporting for a Sustainable Strategy*. John Wiley & Sons.

Fonseca, J, K., G. Mullen, G. Zamarro, and J. Zissimopoulos (2012). What explains the gender gap in financial literacy? The role of household decision making. *Journal of Consumer Affairs 46*(1), 90–106.

Friede, G., T. Busch, and A. Bassen (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment 5*(4), 210–233.

Giglio, S., M. Maggiori, J. Stroebel, Z. Tan, S. K. Utkus, and X. Xu (2023). Four facts about ESG beliefs and investor portfolios. Working Paper 31114, National Bureau of Economic Research.

Gomes, F., M. Haliassos, and T. Ramadorai (2021). Household finance. *Journal of Economic Literature 59*(3), 919–1000.

Grewal, J., C. Hauptmann, and G. Serafeim (2020). Material sustainability information and stock price informativeness. *Journal of Business Ethics 171*, 513–544.

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

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

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

HM Treasury (2023). Future regulatory regime for environmental, social, and governance (ESG) ratings providers. Technical report, https://www.gov.uk/government/consultations/future-regulatory-regime-for-environmental-social-and-governance-esg-ratings-providers.

Hong, H. and M. Kacperczyk (2009). The price of sin: The effects of social norms on markets. *Journal of Financial Economics 93*(1), 15–36.

Humphrey, J., S. Kogan, J. Sagi, and L. Starks (2021). The asymmetry in responsible investing preferences. Working Paper 29288, National Bureau of Economic Research.

Imbens, G. (2003). Sensitivity to exogeneity assumptions in program evaluation. *American Economic Review 93*(2), 126–132.

Kaiser, T. and A. Lusardi (2024). Financial literacy and financial education: An overview. Working Paper No. 16926, IZA Bonn.

Khan, M., G. Serafeim, and A. Yoon (2016). Corporate sustainability: First evidence on materiality. *The Accounting Review 91*(6), 1697–1724.

Klapper, L. and A. Lusardi (2020). Financial literacy and financial resilience: Evidence from around the world. *Financial Management 49*(2), 589–614.

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

Masten, M. A., A. Poirier, and L. Zhang (2024). Assessing sensitivity to unconfoundedness: Estimation and inference. *Journal of Business & Economic Statistics 42*(1), 1–13.

Moss, A., J. P. Naughton, and C. Wang (2023). The irrelevance of environmental, social, and governance disclosure to retail investors. *Management Science 70*(4), 2626–2644.

Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics 37*(2), 187–204.

Pástor, Ł., R. F. Stambaugh, and L. A. Taylor (2021). Sustainable investing in equilibrium. *Journal of Financial Economics 142*(2), 550–575.

Renneboog, L., J. Ter Horst, and C. Zhang (2008). Socially responsible investments: Institutional aspects, performance, and investor behavior. *Journal of Banking & Finance 32*(9), 1723–1742.

Renneboog, L., J. Ter Horst, and C. Zhang (2011). Is ethical money financially smart?

Nonfinancial attributes and money flows of socially responsible investment funds. *Journal of Financial Intermediation 20*(4), 562–588.

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

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

Tinghog, G., A. Ahmed, K. Barrafrem, T. Lind, K. Skagerlund, and D. Vastfjall (2021). Gender differences in financial literacy: The role of stereotype threat. *Journal of Economic Behavior & Organization 192*, 405–416.

van Rooij, M., A. Lusardi, and R. Alessie (2011). Financial literacy and stock market participation. *Journal of Financial Economics 101*(2), 449–472.

Von Gaudecker, H.-M. (2015). How does household portfolio diversification vary with financial literacy and financial advice? *Journal of Finance 70*(2), 489–507.

Wooldridge, J. M. (1995). Score diagnostics for linear models estimated by two stage least squares. In *Advances in Econometrics and Quantitative Economics: Essays in Honor of Professor C. R. Rao*, pp. 66–87. Oxford: Blackwell: Maddala, G. S. and Phillips, P. C. B. and Srinivasan, T. N. (Eds.).

Table I: Summary statistics

| | Mean | Std. dev. | Min | Max |
|---|---|---|---|---|
| AT18Q1: *Environmental issues are really important to me.* | 0.806 | 0.395 | 0 | 1 |
| AT18Q2: *Businesses should control executive pay.* | 0.866 | 0.340 | 0 | 1 |
| AT18Q3: *Businesses have a wider social responsibility than simply making a profit.* | 0.864 | 0.343 | 0 | 1 |
| AT18Q4: *It is important to me that the vulnerable in society are protected.* | 0.884 | 0.320 | 0 | 1 |
| ESG4: *Whether interested in investing in responsible investments in the future.* | 0.641 | 0.480 | 0 | 1 |
| ESG5 Return: *I would like the way my money is invested to do some good as well as provide me with a financial return.* | 0.817 | 0.387 | 0 | 1 |
| ESG5 Protect Env.: *I would like to invest in a way that is protecting the environment.* | 0.769 | 0.421 | 0 | 1 |
| ESG5 More Risk: *I would be prepared to take greater financial risk with a responsible investment than I would with a traditional investment.* | 0.355 | 0.479 | 0 | 1 |
| ESG5 Higher Cost: *I would be prepared to accept higher costs with a responsible investment than I would with a traditional investment.* | 0.390 | 0.488 | 0 | 1 |
| ESG6: *If in a position to invest some money tomorrow, whether likely to invest your money in Responsible Investments?* | 0.500 | 0.499 | 0 | 1 |
| ESG Active: If individual has invested in responsible investments before. | 0.746 | 0.435 | 0 | 1 |
| ESG Passive: If individual does not hold a responsible investment, but is interested in such investments in the future (ESG Active=0 and ESG4=1). | 0.763 | 0.403 | 0 | 1 |
| Whether invest in shares and/or equity, $y_{it}$ | 0.235 | 0.424 | 0 | 1 |
| Natural logarithm of amount invested in financial assets, $y_{it}$ | 4.218 | 4.937 | 0 | 12.429 |
| High Fin. Lit. | 0.575 | 0.494 | 0 | 1 |
| Risk High | 0.032 | 0.176 | 0 | 1 |
| Age | 49.238 | 17.688 | 18 | 97 |
| Male | 0.502 | 0.500 | 0 | 1 |
| Adults | 2.165 | 0.973 | 1 | 8 |
| Children | 0.521 | 0.921 | 0 | 7 |
| Mortgage | 0.346 | 0.476 | 0 | 1 |
| Rent | 0.275 | 0.447 | 0 | 1 |
| Other type of tenure | 0.086 | 0.281 | 0 | 1 |
| White | 0.884 | 0.321 | 0 | 1 |
| Employed | 0.577 | 0.494 | 0 | 1 |
| Self-employed | 0.064 | 0.244 | 0 | 1 |
| Unemployed | 0.034 | 0.182 | 0 | 1 |
| Students | 0.023 | 0.151 | 0 | 1 |
| Sick/disabled | 0.025 | 0.156 | 0 | 1 |
| Other | 0.031 | 0.173 | 0 | 1 |
| Single | 0.324 | 0.468 | 0 | 1 |
| GCSE/apprent | 0.127 | 0.333 | 0 | 1 |
| A'lev/voc | 0.190 | 0.392 | 0 | 1 |
| Oth higher | 0.122 | 0.328 | 0 | 1 |
| Degree | 0.197 | 0.398 | 0 | 1 |
| Post-grad | 0.193 | 0.395 | 0 | 1 |
| Natural logarithm of household annual income | 10.527 | 1.013 | 8.923 | 12.525 |

Table II: Attitudes towards environmental and responsible investment - AT18

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | Environment (AT18Q1) | Control Pay (AT18Q2) | More than Profit (AT18Q3) | Protect Vulnerable (AT18Q4) |
| High Fin. Lit. | 0.025 | 0.022** | 0.033*** | 0.031*** |
| | (0.02) | (0.01) | (0.01) | (0.01) |
| Risk High | -0.022 | -0.015 | -0.024 | 0.019 |
| | (0.05) | (0.03) | (0.04) | (0.03) |
| Age | -0.000 | 0.001 | 0.001 | 0.002* |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Male | -0.066*** | 0.001 | -0.005 | -0.033** |
| | (0.02) | (0.01) | (0.01) | (0.01) |
| Adults | 0.006 | -0.012 | -0.008 | 0.003 |
| | (0.01) | (0.01) | (0.01) | (0.01) |
| Children | 0.002 | -0.007 | -0.008 | 0.009 |
| | (0.01) | (0.01) | (0.01) | (0.01) |
| Mortgage | -0.062* | -0.021 | -0.015 | -0.016 |
| | (0.02) | (0.02) | (0.02) | (0.02) |
| Rent | -0.079* | -0.015 | -0.036 | 0.002 |
| | (0.03) | (0.03) | (0.03) | (0.02) |
| Other | -0.184*** | -0.067 | -0.060 | -0.050 |
| | (0.05) | (0.04) | (0.04) | (0.03) |
| White | 0.025 | 0.050 | 0.005 | 0.044 |
| | (0.03) | (0.03) | (0.03) | (0.03) |
| Employed | -0.006 | 0.028 | 0.038 | 0.003 |
| | (0.03) | (0.03) | (0.02) | (0.02) |
| Self-employed | -0.018 | -0.017 | 0.020 | -0.027 |
| | (0.04) | (0.04) | (0.03) | (0.03) |
| Unemployed | -0.033 | -0.024 | -0.004 | -0.054 |
| | (0.05) | (0.05) | (0.05) | (0.04) |
| Students | -0.007 | 0.012 | 0.084 | 0.028 |
| | (0.07) | (0.06) | (0.05) | (0.05) |
| Sick/disabled | -0.102 | -0.089 | -0.094 | -0.091 |
| | (0.07) | (0.06) | (0.06) | (0.05) |
| Other | 0.005 | 0.046 | 0.097* | 0.077** |
| | (0.06) | (0.04) | (0.04) | (0.03) |
| Single | 0.030 | 0.010 | -0.008 | 0.030 |
| | (0.02) | (0.02) | (0.02) | (0.02) |
| GCSE/apprent | -0.007 | 0.098** | 0.026 | 0.020 |
| | (0.04) | (0.03) | (0.03) | (0.03) |
| A'lev/voc | 0.034 | 0.097** | 0.070* | 0.054* |
| | (0.03) | (0.03) | (0.03) | (0.02) |
| Oth higher | 0.057 | 0.098** | 0.069* | 0.040 |
| | (0.03) | (0.03) | (0.03) | (0.03) |
| Degree | 0.079** | 0.135*** | 0.093*** | 0.069** |
| | (0.03) | (0.03) | (0.03) | (0.02) |
| Post-grad | 0.100*** | 0.111*** | 0.083** | 0.067** |
| | (0.03) | (0.03) | (0.03) | (0.02) |
| Income | 0.013 | 0.008 | -0.008 | 0.007 |
| | (0.01) | (0.01) | (0.01) | (0.01) |
| Constant | 0.690*** | 0.482*** | 0.801*** | 0.644*** |
| | (0.13) | (0.14) | (0.13) | (0.11) |
| Obs. | 4,238 | 4,238 | 4,238 | 4,238 |
| Adj. R-sqr. | 0.037 | 0.087 | 0.028 | 0.023 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout. AT18Q1: Environmental issues are really important to me. AT18Q2: Businesses should control executive pay. AT18Q3: Businesses have a wider social responsibility than simply making a profit. AT18Q4: It is important to me that the vulnerable in society are protected.

Table III: Attitudes towards ESG issues and investments (ESG5)

| | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | ESG5 Return | ESG5 Protect Env. | ESG5 More Risk | ESG5 Higher Cost |
| High Fin. Lit. | 0.026 | 0.067** | 0.038 | 0.056* |
| | (0.02) | (0.02) | (0.02) | (0.03) |
| Risk High | -0.005 | 0.029 | 0.021 | 0.011 |
| | (0.04) | (0.04) | (0.05) | (0.06) |
| Age | -0.000 | -0.000 | -0.003* | -0.002 |
| | (0.00) | (0.00) | (0.00) | (0.00) |
| Male | -0.060** | -0.064** | -0.004 | -0.024 |
| | (0.02) | (0.02) | (0.02) | (0.02) |
| Adults | 0.002 | 0.001 | -0.004 | -0.016 |
| | (0.01) | (0.01) | (0.02) | (0.02) |
| Children | 0.000 | -0.019 | 0.013 | 0.013 |
| | (0.01) | (0.01) | (0.01) | (0.02) |
| Mortgage | 0.003 | -0.006 | -0.012 | -0.056 |
| | (0.03) | (0.03) | (0.03) | (0.04) |
| Rent | -0.041 | -0.044 | 0.008 | -0.057 |
| | (0.04) | (0.04) | (0.04) | (0.04) |
| Other | -0.089 | -0.122* | -0.086 | -0.109 |
| | (0.05) | (0.06) | (0.05) | (0.06) |
| White | 0.024 | 0.034 | -0.038 | -0.004 |
| | (0.03) | (0.04) | (0.05) | (0.05) |
| Employed | -0.013 | -0.021 | -0.009 | -0.048 |
| | (0.03) | (0.04) | (0.04) | (0.04) |
| Self-employed | 0.015 | 0.018 | -0.006 | -0.041 |
| | (0.04) | (0.04) | (0.05) | (0.05) |
| Unemployed | -0.057 | 0.050 | -0.027 | 0.078 |
| | (0.08) | (0.07) | (0.11) | (0.10) |
| Students | -0.077 | -0.022 | 0.105 | 0.076 |
| | (0.09) | (0.09) | (0.10) | (0.10) |
| Sick/disabled | 0.079 | 0.103 | 0.112 | 0.061 |
| | (0.09) | (0.11) | (0.14) | (0.13) |
| Other | 0.041 | 0.070 | 0.066 | 0.062 |
| | (0.06) | (0.06) | (0.11) | (0.11) |
| Single | 0.065** | 0.042 | 0.018 | 0.046 |
| | (0.02) | (0.03) | (0.03) | (0.03) |
| GCSE/apprent | -0.016 | -0.018 | -0.060 | -0.051 |
| | (0.05) | (0.05) | (0.05) | (0.05) |
| A'lev/voc | 0.021 | 0.049 | -0.010 | 0.016 |
| | (0.04) | (0.05) | (0.05) | (0.05) |
| Oth higher | 0.024 | 0.072 | -0.018 | 0.032 |
| | (0.05) | (0.05) | (0.05) | (0.06) |
| Degree | 0.067 | 0.089* | 0.056 | 0.111* |
| | (0.04) | (0.04) | (0.05) | (0.05) |
| Post-grad | 0.066 | 0.135** | 0.078 | 0.135** |
| | (0.04) | (0.05) | (0.05) | (0.05) |
| Income | -0.011 | -0.002 | 0.009 | 0.020 |
| | (0.01) | (0.01) | (0.01) | (0.02) |
| Constant | 0.951*** | 0.739*** | 0.433* | 0.385* |
| | (0.15) | (0.17) | (0.19) | (0.19) |
| Obs. | 2,849 | 2,849 | 2,849 | 2,849 |
| Adj. R-sqr. | 0.024 | 0.037 | 0.026 | 0.035 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout.

Table IV: Whether interested in future responsible investments (ESG4) and attitudes towards such investments (AT18)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| High Fin. Lit. | 0.030*** | 0.168*** | 0.170*** | 0.171*** | 0.167*** | 0.169*** |
| | (0.00) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Risk High | 0.000 | -0.018 | -0.015 | -0.026 | -0.029 | -0.011 |
| | (0.01) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Age | -0.000 | -0.001 | -0.002 | -0.002* | -0.002* | -0.002* |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Male | 0.004 | 0.063*** | 0.049** | 0.048** | 0.056** | 0.059*** |
| | (0.00) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Adults | -0.001 | -0.013 | -0.011 | -0.009 | -0.011 | -0.012 |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Children | 0.001 | 0.001 | 0.004 | 0.003 | -0.000 | 0.004 |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Mortgage | -0.007* | -0.063* | -0.074** | -0.071** | -0.073** | -0.063* |
| | (0.00) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Rent | -0.012*** | -0.089*** | -0.105*** | -0.100*** | -0.107*** | -0.092*** |
| | (0.00) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Other | -0.018*** | -0.129*** | -0.162*** | -0.156*** | -0.160*** | -0.129*** |
| | (0.01) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| White | -0.005 | -0.030 | -0.033 | -0.020 | -0.031 | -0.027 |
| | (0.01) | (0.03) | (0.04) | (0.04) | (0.04) | (0.04) |
| Employed | 0.005 | 0.082** | 0.074* | 0.072* | 0.079** | 0.075* |
| | (0.00) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Self-employed | -0.000 | 0.052 | 0.057 | 0.052 | 0.055 | 0.059 |
| | (0.01) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Unemployed | -0.005 | -0.029 | -0.032 | -0.039 | -0.031 | -0.027 |
| | (0.01) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| Students | -0.007 | -0.001 | -0.014 | -0.022 | -0.002 | -0.015 |
| | (0.01) | (0.06) | (0.06) | (0.07) | (0.06) | (0.06) |
| Sick/disabled | -0.015** | -0.057 | -0.066 | -0.061 | -0.056 | -0.049 |
| | (0.00) | (0.04) | (0.04) | (0.05) | (0.04) | (0.05) |
| Other | -0.005 | -0.016 | -0.025 | -0.031 | -0.033 | -0.025 |
| | (0.01) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| Single | 0.005 | 0.022 | 0.028 | 0.030 | 0.023 | 0.019 |
| | (0.00) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| GCSE/apprent | -0.020** | 0.001 | -0.017 | -0.006 | -0.001 | -0.013 |
| | (0.01) | (0.03) | (0.03) | (0.04) | (0.03) | (0.04) |
| A'lev/voc | 0.004 | 0.090** | 0.082* | 0.084* | 0.091** | 0.075* |
| | (0.00) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Oth higher | 0.001 | 0.026 | 0.023 | 0.026 | 0.034 | 0.012 |
| | (0.00) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Degree | 0.010** | 0.117*** | 0.109*** | 0.114*** | 0.123*** | 0.096** |
| | (0.00) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Post-grad | 0.018*** | 0.156*** | 0.158*** | 0.158*** | 0.170*** | 0.136*** |
| | (0.00) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Income | 0.006*** | 0.053*** | 0.054*** | 0.054*** | 0.054*** | 0.051*** |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Environment (AT18Q1) | | 0.223*** | | | | 0.190*** |
| | | (0.02) | | | | (0.02) |
| Control Pay (AT18Q2) | | | 0.154*** | | | 0.053 |
| | | | (0.02) | | | (0.03) |
| More than Profit (AT18Q3) | | | | 0.162*** | | 0.026 |
| | | | | (0.02) | | (0.03) |
| Protect Vulnerable (AT18Q4) | | | | | 0.174*** | 0.033 |
| | | | | | (0.02) | (0.03) |
| Constant | -0.079*** | -0.373** | -0.274* | -0.314* | -0.322* | -0.370** |
| | (0.02) | (0.13) | (0.13) | (0.14) | (0.13) | (0.14) |
| Obs. | 35,129 | 4,344 | 4,275 | 4,318 | 4,344 | 4,238 |
| Adj. R-sqr. | 0.044 | 0.184 | 0.159 | 0.160 | 0.165 | 0.179 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout.

Table V: Whether interested in future responsible investments (ESG4) and how money should be used for such investments (ESG5)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| High Fin. Lit. | 0.030*** | 0.139*** | 0.115*** | 0.131*** | 0.120*** | 0.105*** |
| | (0.00) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Risk High | 0.000 | -0.021 | -0.038 | -0.036 | -0.035 | -0.047 |
| | (0.01) | (0.05) | (0.05) | (0.05) | (0.05) | (0.04) |
| Age | -0.000 | -0.004*** | -0.004*** | -0.003** | -0.004*** | -0.004*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Male | 0.004 | 0.044* | 0.042* | 0.008 | 0.015 | 0.032 |
| | (0.00) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Adults | -0.001 | -0.001 | -0.001 | 0.002 | 0.010 | 0.004 |
| | (0.00) | (0.01) | (0.02) | (0.01) | (0.01) | (0.01) |
| Children | 0.001 | 0.015 | 0.024 | 0.013 | 0.015 | 0.022 |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Mortgage | -0.007* | -0.077* | -0.069* | -0.075* | -0.060 | -0.070* |
| | (0.00) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Rent | -0.012*** | -0.091* | -0.095* | -0.112** | -0.092* | -0.088* |
| | (0.00) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Other | -0.018*** | -0.101* | -0.082 | -0.113* | -0.104* | -0.065 |
| | (0.01) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| White | -0.005 | 0.003 | 0.001 | 0.017 | 0.021 | 0.009 |
| | (0.01) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Employed | 0.005 | -0.034 | -0.038 | -0.036 | -0.036 | -0.032 |
| | (0.00) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Self-employed | -0.000 | -0.051 | -0.046 | -0.029 | -0.016 | -0.033 |
| | (0.01) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| Unemployed | -0.005 | -0.053 | -0.097 | -0.069 | -0.130 | -0.110 |
| | (0.01) | (0.11) | (0.10) | (0.11) | (0.11) | (0.12) |
| Students | -0.007 | 0.119 | 0.084 | 0.032 | 0.031 | 0.037 |
| | (0.01) | (0.09) | (0.09) | (0.09) | (0.09) | (0.08) |
| Sick/disabled | -0.015** | -0.165 | -0.185 | -0.177 | -0.119 | -0.172 |
| | (0.00) | (0.12) | (0.12) | (0.10) | (0.11) | (0.11) |
| Other | -0.005 | -0.049 | -0.080 | -0.067 | -0.083 | -0.100 |
| | (0.01) | (0.09) | (0.09) | (0.10) | (0.10) | (0.10) |
| Single | 0.005 | 0.037 | 0.045 | 0.067* | 0.051 | 0.043 |
| | (0.00) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| GCSE/apprent | -0.020** | 0.010 | 0.024 | 0.027 | 0.012 | 0.030 |
| | (0.01) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| A'lev/voc | 0.004 | 0.072 | 0.061 | 0.080 | 0.070 | 0.057 |
| | (0.00) | (0.05) | (0.05) | (0.05) | (0.05) | (0.04) |
| Oth higher | 0.001 | 0.019 | -0.004 | 0.042 | 0.020 | 0.007 |
| | (0.00) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| Degree | 0.010** | 0.113* | 0.100* | 0.117** | 0.098* | 0.078 |
| | (0.00) | (0.04) | (0.05) | (0.04) | (0.04) | (0.04) |
| Post-grad | 0.018*** | 0.168*** | 0.136** | 0.162*** | 0.145** | 0.112* |
| | (0.00) | (0.05) | (0.05) | (0.05) | (0.05) | (0.04) |
| Income | 0.006*** | 0.043** | 0.040** | 0.035** | 0.030* | 0.034** |
| | (0.00) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| ESG5 Return | | 0.437*** | | | | 0.152*** |
| | | (0.02) | | | | (0.04) |
| ESG5 Protect Env. | | | 0.458*** | | | 0.282*** |
| | | | (0.02) | | | (0.04) |
| ESG5 More Risk | | | | 0.315*** | | 0.148*** |
| | | | | (0.02) | | (0.03) |
| ESG5 High Cost | | | | | 0.309*** | 0.100*** |
| | | | | | (0.02) | (0.03) |
| Constant | -0.079*** | -0.132 | -0.049 | 0.182 | 0.227 | -0.090 |
| | (0.02) | (0.19) | (0.19) | (0.18) | (0.18) | (0.18) |
| Obs. | 35,129 | 3,010 | 3,000 | 2,935 | 2,938 | 2,883 |
| Adj. R-sqr. | 0.044 | 0.207 | 0.242 | 0.184 | 0.180 | 0.295 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout.

Table VI: How likely to invest in responsible investment if had money available (ESG6) and attitudes towards such investments (AT18)

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| High Fin. Lit. | 0.189*** | 0.176*** | 0.178*** | 0.162*** | 0.170*** | 0.163*** |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Risk High | -0.024 | -0.039 | -0.044 | -0.055 | -0.056 | -0.057 |
| | (0.09) | (0.09) | (0.09) | (0.09) | (0.09) | (0.09) |
| Age | 0.001 | 0.002 | 0.001 | 0.001 | 0.001 | 0.001 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Male | -0.081* | -0.053 | -0.077* | -0.096* | -0.071 | -0.069* |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Adults | -0.001 | -0.003 | 0.001 | 0.001 | 0.000 | -0.003 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Children | -0.015 | -0.013 | -0.003 | -0.009 | -0.014 | -0.009 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Mortgage | 0.039 | 0.071 | 0.031 | 0.041 | 0.042 | 0.055 |
| | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) |
| Rent | -0.075 | -0.048 | -0.045 | -0.041 | -0.072 | -0.024 |
| | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) |
| Other | -0.098 | -0.020 | -0.075 | -0.061 | -0.076 | -0.005 |
| | (0.09) | (0.09) | (0.09) | (0.09) | (0.09) | (0.09) |
| White | -0.131 | -0.114 | -0.123 | -0.137 | -0.125 | -0.132* |
| | (0.08) | (0.08) | (0.08) | (0.07) | (0.07) | (0.08) |
| Employed | 0.044 | 0.073 | 0.034 | 0.006 | 0.059 | 0.033 |
| | (0.07) | (0.08) | (0.07) | (0.07) | (0.07) | (0.07) |
| Self-employed | 0.253* | 0.241* | 0.233* | 0.190 | 0.241* | 0.192* |
| | (0.11) | (0.12) | (0.11) | (0.11) | (0.11) | (0.11) |
| Unemployed | 0.126 | 0.156 | 0.110 | 0.090 | 0.152 | 0.102 |
| | (0.10) | (0.10) | (0.10) | (0.10) | (0.10) | (0.10) |
| Students | 0.178 | 0.175 | 0.194 | 0.084 | 0.172 | 0.146 |
| | (0.13) | (0.13) | (0.13) | (0.12) | (0.12) | (0.13) |
| Sick/disabled | 0.085 | 0.140 | 0.075 | 0.065 | 0.113 | 0.100 |
| | (0.10) | (0.10) | (0.10) | (0.09) | (0.10) | (0.09) |
| Other | 0.169 | 0.178 | 0.113 | 0.095 | 0.132 | 0.114 |
| | (0.12) | (0.13) | (0.12) | (0.12) | (0.11) | (0.13) |
| Single | 0.025 | 0.023 | 0.040 | 0.024 | 0.023 | 0.026 |
| | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| GCSE/apprent | 0.093 | 0.065 | 0.054 | 0.076 | 0.083 | 0.041 |
| | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) |
| A'lev/voc | 0.161* | 0.122 | 0.110 | 0.138* | 0.143* | 0.103 |
| | (0.07) | (0.06) | (0.07) | (0.06) | (0.06) | (0.06) |
| Oth higher | 0.055 | 0.032 | 0.011 | 0.038 | 0.037 | 0.010 |
| | (0.07) | (0.07) | (0.07) | (0.08) | (0.07) | (0.06) |
| Degree | 0.166** | 0.125* | 0.116 | 0.143* | 0.150* | 0.096 |
| | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) |
| Post-grad | 0.204** | 0.146* | 0.161* | 0.188** | 0.169** | 0.140** |
| | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) |
| Income | -0.009 | -0.019 | -0.005 | -0.003 | -0.013 | -0.010 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Environment (AT18Q1) | | 0.308*** | | | | 0.217*** |
| | | (0.04) | | | | (0.06) |
| Control Pay (AT18Q2) | | | 0.247*** | | | 0.059 |
| | | | (0.05) | | | (0.06) |
| More than Profit (AT18Q3) | | | | 0.310*** | | 0.144** |
| | | | | (0.05) | | (0.06) |
| Protect Vulnerable (AT18Q4) | | | | | 0.320*** | 0.065 |
| | | | | | (0.05) | (0.06) |
| Constant | 0.398 | 0.244 | 0.208 | 0.170 | 0.168 | 0.106 |
| | (0.30) | (0.29) | (0.30) | (0.29) | (0.29) | (0.29) |
| Obs. | 1,123 | 1,110 | 1,085 | 1,096 | 1,112 | 1,067 |
| Adj. R-sqr. | 0.077 | 0.130 | 0.096 | 0.116 | 0.114 | 0.176 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout.

Table VII: Passive ESG

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| High Fin. Lit | 0.085** | 0.092** | 0.111** | 0.103** | 0.073* | 0.073* |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Risk High | 0.033 | 0.005 | 0.001 | 0.003 | -0.023 | -0.023 |
| | (0.08) | (0.09) | (0.08) | (0.08) | (0.09) | (0.09) |
| Age | -0.004 | -0.004 | -0.002 | -0.002 | -0.003 | -0.003 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Male | -0.060 | -0.070 | -0.083* | -0.088* | -0.051 | -0.051 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.03) | (0.03) |
| Adults | 0.010 | 0.005 | 0.012 | 0.020 | 0.009 | 0.009 |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Children | 0.022 | 0.038 | 0.035 | 0.041 | 0.023 | 0.023 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Mortgage | -0.007 | -0.038 | -0.001 | 0.008 | -0.001 | -0.001 |
| | (0.05) | (0.05) | (0.05) | (0.06) | (0.05) | (0.05) |
| Rent | 0.043 | 0.011 | 0.014 | 0.038 | 0.030 | 0.030 |
| | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) |
| Other | -0.108 | -0.117 | -0.038 | -0.035 | -0.041 | -0.041 |
| | (0.11) | (0.10) | (0.10) | (0.10) | (0.08) | (0.08) |
| White | 0.008 | -0.003 | 0.013 | -0.005 | -0.021 | -0.021 |
| | (0.07) | (0.07) | (0.06) | (0.06) | (0.06) | (0.06) |
| Employed | -0.028 | -0.004 | -0.012 | 0.009 | 0.005 | 0.004 |
| | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) | (0.07) |
| Self-employed | 0.073 | 0.104 | 0.072 | 0.126 | 0.076 | 0.076 |
| | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) |
| Unemployed | -0.318 | -0.330 | -0.410* | -0.368 | -0.447* | -0.447* |
| | (0.18) | (0.19) | (0.19) | (0.19) | (0.21) | (0.21) |
| Students | -0.350 | -0.335 | -0.350 | -0.312 | -0.387 | -0.387 |
| | (0.27) | (0.28) | (0.32) | (0.31) | (0.28) | (0.28) |
| Sick/disabled | 0.246* | 0.231 | 0.125 | 0.231* | 0.137 | 0.138 |
| | (0.11) | (0.12) | (0.11) | (0.12) | (0.11) | (0.11) |
| Other | 0.349* | 0.324* | 0.241 | 0.323 | 0.233 | 0.233 |
| | (0.16) | (0.15) | (0.16) | (0.21) | (0.13) | (0.13) |
| Single | 0.069 | 0.075 | 0.120** | 0.101* | 0.069 | 0.069 |
| | (0.05) | (0.05) | (0.05) | (0.05) | (0.04) | (0.04) |
| GCSE/apprent | -0.041 | 0.034 | -0.056 | -0.068 | -0.044 | -0.044 |
| | (0.10) | (0.10) | (0.10) | (0.10) | (0.09) | (0.09) |
| A'lev/voc | -0.053 | 0.000 | -0.030 | -0.035 | -0.083 | -0.083 |
| | (0.09) | (0.09) | (0.08) | (0.08) | (0.08) | (0.08) |
| Oth higher | -0.161 | -0.112 | -0.162 | -0.150 | -0.213* | -0.213* |
| | (0.11) | (0.11) | (0.10) | (0.10) | (0.10) | (0.10) |
| Degree | -0.053 | 0.008 | -0.040 | -0.054 | -0.099 | -0.099 |
| | (0.09) | (0.09) | (0.08) | (0.08) | (0.08) | (0.08) |
| Post-grad | 0.075 | 0.104 | 0.065 | 0.049 | -0.000 | -0.000 |
| | (0.09) | (0.08) | (0.08) | (0.07) | (0.07) | (0.07) |
| Income | 0.064* | 0.057* | 0.060* | 0.051* | 0.042 | 0.042 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| ESG5 Return | 0.481*** | | | | 0.232* | 0.232* |
| | (0.06) | | | | (0.09) | (0.09) |
| ESG5 Protect Env. | | 0.485*** | | | 0.294*** | 0.295*** |
| | | (0.06) | | | (0.08) | (0.09) |
| ESG5 More Risk | | | 0.231*** | | 0.133*** | 0.133*** |
| | | | (0.03) | | (0.04) | (0.04) |
| ESG5 Higher Cost | | | | 0.201*** | 0.046 | 0.046 |
| | | | | (0.04) | (0.04) | (0.04) |
| Environment (AT18Q1) | | | | | | -0.002 |
| | | | | | | (0.07) |
| Constant | -0.208 | -0.155 | 0.085 | 0.116 | -0.039 | -0.038 |
| | (0.34) | (0.34) | (0.32) | (0.33) | (0.31) | (0.31) |
| Obs. | 632 | 632 | 617 | 622 | 613 | 613 |
| Adj. R-sqr. | 0.253 | 0.267 | 0.204 | 0.180 | 0.329 | 0.328 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout.

Table VIII: Active ESG

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| High Fin. LIt. | 0.038 | 0.043** | 0.036 | 0.043** | 0.043** | 0.044** |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Risk High | -0.017 | -0.015 | -0.019 | -0.019 | -0.018 | -0.017 |
| | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) | (0.05) |
| Age | -0.000 | -0.000 | -0.000 | -0.001 | -0.000 | -0.000 |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Male | 0.019 | 0.017 | 0.031 | 0.025 | 0.024 | 0.025 |
| | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) | (0.02) |
| Adults | -0.001 | -0.000 | -0.001 | -0.001 | 0.001 | 0.001 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Children | 0.007 | 0.008 | 0.004 | 0.007 | 0.006 | 0.006 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| Mortgage | -0.047 | -0.047 | -0.043 | -0.043 | -0.045 | -0.044 |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Rent | 0.054 | 0.053 | 0.050 | 0.043 | 0.039 | 0.042 |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Other | -0.001 | 0.004 | 0.018 | 0.015 | 0.009 | 0.011 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| White | -0.039 | -0.033 | -0.042 | -0.034 | -0.036 | -0.036 |
| | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) | (0.03) |
| Employed | -0.017 | -0.017 | -0.012 | -0.019 | -0.017 | -0.017 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Self-employed | 0.006 | 0.011 | 0.010 | 0.004 | 0.017 | 0.018 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Unemployed | 0.008 | 0.011 | 0.022 | 0.023 | 0.023 | 0.020 |
| | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) | (0.08) |
| Students | 0.099 | 0.099 | 0.114 | 0.109 | 0.108 | 0.107 |
| | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) | (0.06) |
| Sick/disabled | 0.014 | 0.012 | 0.011 | -0.012 | -0.017 | -0.014 |
| | (0.10) | (0.10) | (0.10) | (0.11) | (0.12) | (0.12) |
| Other | 0.123* | 0.124* | 0.128* | 0.128* | 0.128* | 0.129* |
| | (0.05) | (0.05) | (0.05) | (0.05) | (0.06) | (0.06) |
| Single | -0.014 | -0.008 | -0.022 | -0.019 | -0.014 | -0.015 |
| | (0.03) | (0.02) | (0.03) | (0.03) | (0.03) | (0.03) |
| GCSE/apprent | -0.021 | -0.024 | -0.040 | -0.034 | -0.028 | -0.027 |
| | (0.05) | (0.04) | (0.05) | (0.04) | (0.05) | (0.05) |
| A'lev/voc | -0.006 | -0.005 | -0.007 | -0.015 | -0.001 | -0.001 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Oth higher | -0.007 | -0.008 | -0.022 | -0.029 | -0.017 | -0.017 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Degree | -0.033 | -0.038 | -0.044 | -0.045 | -0.035 | -0.035 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Post-grad | -0.023 | -0.020 | -0.034 | -0.033 | -0.019 | -0.019 |
| | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) | (0.04) |
| Income | -0.011 | -0.013 | -0.011 | -0.012 | -0.013 | -0.013 |
| | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) | (0.01) |
| ESG5 Return | -0.055* | | | | 0.022 | 0.017 |
| | (0.02) | | | | (0.03) | (0.03) |
| ESG5 Protect Env. | | -0.078*** | | | -0.086*** | -0.094*** |
| | | (0.02) | | | (0.03) | (0.03) |
| ESG5 More Risk | | | -0.031 | | 0.009 | 0.008 |
| | | | (0.02) | | (0.02) | (0.02) |
| ESG5 Higher Cost | | | | -0.058** | -0.044 | -0.045 |
| | | | | (0.02) | (0.02) | (0.02) |
| Environment (AT18Q1) | | | | | | 0.028 |
| | | | | | | (0.03) |
| Constant | 1.054*** | 1.070*** | 1.024*** | 1.054*** | 1.090*** | 1.074*** |
| | (0.15) | (0.15) | (0.15) | (0.15) | (0.15) | (0.15) |
| Obs. | 3,010 | 3,000 | 2,935 | 2,938 | 2,883 | 2,880 |
| Adj. R-sqr. | 0.024 | 0.028 | 0.023 | 0.024 | 0.028 | 0.028 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout.

Table IX: Probability of shares/equity (excluding controls)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| Whether interested in future responsible investment (ESG4) | 0.116*** | | | | | | | | |
| | (0.02) | | | | | | | | |
| ESG5 Return | | 0.005 | | | | | | | |
| | | (0.02) | | | | | | | |
| ESG5 Protect Env. | | | 0.031 | | | | | | |
| | | | (0.02) | | | | | | |
| ESG5 More Risk | | | | 0.000 | | | | | |
| | | | | (0.02) | | | | | |
| ESG5 Higher Cost | | | | | 0.000 | | | | |
| | | | | | (0.02) | | | | |
| Environment (AT18Q1) | | | | | | 0.034 | | | |
| | | | | | | (0.02) | | | |
| Control Pay (AT18Q2) | | | | | | | 0.092*** | | |
| | | | | | | | (0.02) | | |
| More than Profit (AT18Q3) | | | | | | | | 0.078*** | |
| | | | | | | | | (0.02) | |
| Protect Vulnerable (AT18Q4) | | | | | | | | | 0.030 |
| | | | | | | | | | (0.02) |
| Constant | 0.284*** | 0.350*** | 0.332*** | 0.358*** | 0.359*** | 0.176*** | 0.147*** | 0.157*** | 0.186*** |
| | (0.02) | (0.02) | (0.02) | (0.01) | (0.01) | (0.01) | (0.01) | (0.02) | (0.02) |
| Obs. | 3,539 | 3,820 | 3,809 | 3,711 | 3,716 | 5,799 | 5,674 | 5,747 | 5,792 |
| Adj. R-sqr. | 0.014 | -0.000 | 0.001 | -0.000 | -0.000 | 0.003 | 0.006 | 0.005 | 0.001 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Columns (1) to (9) refer to the probability of holding shares/equity. All models incorporate individual weights.

Table X: Amount invested in financial assets (excluding controls)

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| Whether interested in future responsible investment (ESG4) | 1.473*** | | | | | | | | |
| | (0.24) | | | | | | | | |
| ESG5 Return | | 0.077 | | | | | | | |
| | | (0.28) | | | | | | | |
| ESG5 Protect Env. | | | 0.455 | | | | | | |
| | | | (0.26) | | | | | | |
| ESG5 More Risk | | | | 0.075 | | | | | |
| | | | | (0.23) | | | | | |
| ESG5 Higher Cost | | | | | 0.194 | | | | |
| | | | | | (0.23) | | | | |
| Environment (AT18Q1) | | | | | | 0.401 | | | |
| | | | | | | (0.28) | | | |
| Control Pay (AT18Q2) | | | | | | | 0.937*** | | |
| | | | | | | | (0.24) | | |
| More than Profit (AT18Q3) | | | | | | | | 0.666** | |
| | | | | | | | | (0.25) | |
| Protect Vulnerable (AT18Q4) | | | | | | | | | 0.319 |
| | | | | | | | | | (0.26) |
| Constant | 4.382*** | 5.169*** | 4.884*** | 5.278*** | 5.261*** | 2.962*** | 2.738*** | 2.927*** | 3.221*** |
| | (0.19) | (0.26) | (0.23) | (0.14) | (0.14) | (0.18) | (0.22) | (0.24) | (0.25) |
| Obs. | 2,888 | 3,081 | 3,074 | 3,003 | 3,001 | 4,392 | 4,318 | 4,366 | 4,387 |
| Adj. R-sqr. | 0.021 | -0.000 | 0.001 | -0.000 | 0.000 | 0.003 | 0.004 | 0.002 | 0.000 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Columns (1) to (9) refer to the amount of money invested in financial assets. All models incorporate individual weights.

Table XI: Probability of shares/equity and amount invested

| | Probability of shares and/or equity | | Amount invested | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| High Fin. Lit | 0.119*** | 0.120*** | 1.447*** | 1.457*** |
| | (0.02) | (0.02) | (0.22) | (0.22) |
| Risk High | 0.077 | 0.064 | 1.913*** | 1.735*** |
| | (0.05) | (0.05) | (0.40) | (0.41) |
| Age | 0.002 | 0.002 | 0.029** | 0.027* |
| | (0.00) | (0.00) | (0.01) | (0.01) |
| Male | 0.045* | 0.046* | 0.509* | 0.516* |
| | (0.02) | (0.02) | (0.20) | (0.20) |
| Adults | 0.006 | 0.007 | 0.052 | 0.054 |
| | (0.02) | (0.02) | (0.14) | (0.15) |
| Children | -0.013 | -0.011 | -0.005 | 0.015 |
| | (0.01) | (0.01) | (0.12) | (0.12) |
| Mortgage | -0.072* | -0.075* | -2.136*** | -2.161*** |
| | (0.03) | (0.03) | (0.31) | (0.31) |
| Rent | -0.170*** | -0.171*** | -2.746*** | -2.735*** |
| | (0.04) | (0.04) | (0.38) | (0.38) |
| Other tenure | -0.160*** | -0.165*** | -2.018*** | -2.044*** |
| | (0.05) | (0.05) | (0.51) | (0.50) |
| White | 0.022 | 0.016 | 0.304 | 0.208 |
| | (0.04) | (0.04) | (0.42) | (0.41) |
| Employed | -0.103** | -0.104** | -2.036*** | -2.051*** |
| | (0.04) | (0.04) | (0.37) | (0.37) |
| Self-employed | -0.077 | -0.083 | -1.494** | -1.595*** |
| | (0.05) | (0.05) | (0.47) | (0.47) |
| Unemployed | -0.073 | -0.072 | -0.129 | -0.137 |
| | (0.08) | (0.08) | (0.77) | (0.78) |
| Students | -0.024 | -0.017 | 0.613 | 0.667 |
| | (0.09) | (0.09) | (0.86) | (0.84) |
| Sick/disabled | -0.130 | -0.134 | -0.752 | -0.835 |
| | (0.08) | (0.08) | (1.23) | (1.28) |
| Other state | -0.143* | -0.135 | -2.706** | -2.592** |
| | (0.07) | (0.07) | (0.91) | (0.95) |
| Single | 0.021 | 0.024 | 0.444 | 0.470 |
| | (0.03) | (0.03) | (0.25) | (0.24) |
| GCSE/apprent | 0.100* | 0.106* | 0.822 | 0.887 |
| | (0.05) | (0.05) | (0.48) | (0.48) |
| A'lev/voc | 0.060 | 0.065 | 0.533 | 0.612 |
| | (0.04) | (0.04) | (0.43) | (0.43) |
| Oth higher | 0.112* | 0.115** | 0.871 | 0.917* |
| | (0.04) | (0.04) | (0.46) | (0.46) |
| Degree | 0.120** | 0.124** | 1.465*** | 1.511*** |
| | (0.04) | (0.04) | (0.43) | (0.42) |
| Post-grad | 0.090* | 0.092* | 1.747*** | 1.776*** |
| | (0.04) | (0.04) | (0.43) | (0.42) |
| Income | 0.053*** | 0.053*** | 0.871*** | 0.871*** |
| | (0.01) | (0.01) | (0.13) | (0.13) |
| Interested in future responsible investment (ESG4) | 0.065** | | 0.771*** | |
| | (0.02) | | (0.22) | |
| Interested in future resp. inv. & not invested this way before | | 0.104*** | | 0.928*** |
| | | (0.03) | | (0.025) |
| Constant | -0.344* | -0.311 | -5.194** | -4.796* |
| | (0.17) | (0.17) | (1.93) | (1.95) |
| Obs. | 2,827 | 2,827 | 2,583 | 2,583 |
| Adj. R-sqr. | 0.140 | 0.141 | 0.325 | 0.328 |
| $H_0$ : ESG4 Exogenous | | | | |
| Robust score $\chi^2(1)$ | 2.844; *p=0.092* | 0.930; *p=0.335* | 2.326; *p=0.127* | 2.539; *p=0.111* |
| Robust regression $F(1,\infty)$ | 2.095; *p=0.148* | 0.703; *p=0.402* | 1.548; *p=0.214* | 1.507; *p=0.220* |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. All specifications include regional and year fixed effects. All models incorporate individual weights.

## Table XII: The role of selection on unobservables

**Panel A:** Oster delta ($\delta$) values to drive the effect of ESG4 to zero ($\beta = 0$)

| | Probability of Shares/Equity | Amount Invested |
|---|---|---|
| $R_{\max} = 1.3\tilde{R}$, $\delta$ | 3.1167 | 2.7673 |

**Panel B:** Oster bias adjusted treatment: Alternative values of $\delta$

| | Probability of Shares/Equity | Amount Invested |
|---|---|---|
| OLS $\beta$ | 0.065** | 0.771*** |
| | (0.02) | (0.22) |
| $\delta = 0.5$, $R_{\max} = 1.3\tilde{R}$, $\beta^*$ | 0.056*** | 0.643*** |
| | (0.02) | (0.23) |
| $\delta = 1$, $R_{\max} = 1.3\tilde{R}$, $\beta^*$ | 0.046** | 0.511** |
| | (0.02) | (0.23) |
| $\delta = 1.5$, $R_{\max} = 1.3\tilde{R}$, $\beta^*$ | 0.041** | 0.475** |
| | (0.02) | (0.24) |

**Panel C:** Sensitivity analysis DMP

| | Probability of Shares/Equity | Amount Invested |
|---|---|---|
| $\bar{r}^{bp}_{ESG}$ breakdown $\beta > 0$ | 29.4% | 44.3% |
| $\bar{r}^{bp}$ breakdown $\beta > 0$ | 54.3% | 67.1% |

Notes: Obs. column 1 (2) = 2,827 (2,583). In Panel A, the Oster (2019) test of $\delta$'s values to drive the treatment effect to zero (i.e. $\beta = 0$) based upon regressions from Table XI. In Panel B: (i) $\delta = 0.5$, i.e. selection in unobservables is smaller than selection on observables; (ii) $\delta = 1$, i.e. selection in unobservables is equal to selection on observables, and; (iii) $\delta = 1.5$, i.e. selection in unobservables is larger than selection on observables. In Panel C, the results are based Diegert et al. (2023) and show the point at which the estimate of $\beta$ becomes statistically insignificant. All specifications include controls as shown in Table XI as well as regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table XIII: Matching estimation

| | Probability of shares/equity | Amount invested |
|---|---|---|
| 1. Propensity score | 0.039** | 0.964*** |
| | (0.02) | (0.21) |
| 2. Nearest neighbor | 0.054*** | 1.084*** |
| | (0.02) | (0.23) |
| 3. IPWRA | 0.082*** | 1.047*** |
| | (0.02) | (0.22) |
| $H_0$ : covariates are balanced $\chi^2$ (40) | 47.74; *p=0.187* | 30.05; *p=0.874* |
| Obs. | 2,827 | 2,583 |

Notes: IPWRA denotes the inverse probability weighted regression adjustment estimator. In each model the treatment is binary. The outcome is binary in column (1) and continuous in column (2). All specifications include controls as shown in Table XI as well as regional and year fixed effects. All models incorporate individual weights. Standard errors are shown in parentheses throughout. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Figure 1: Heterogeneity by gender - whether interested in future responsible investing (ESG4): age and household income

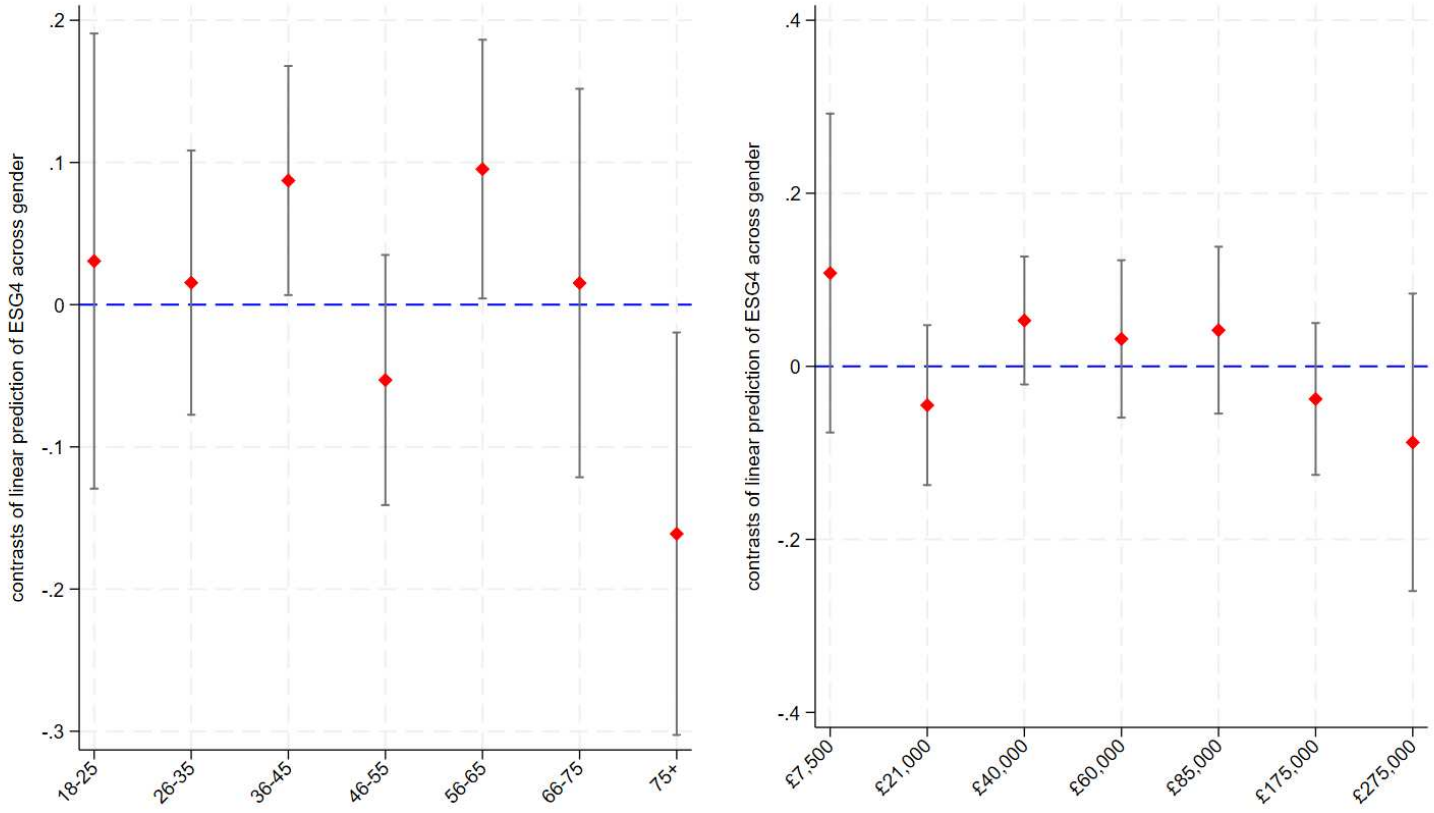


Figure 2: Regression sensitivity analysis DMP bounds:
probability of shares/equity

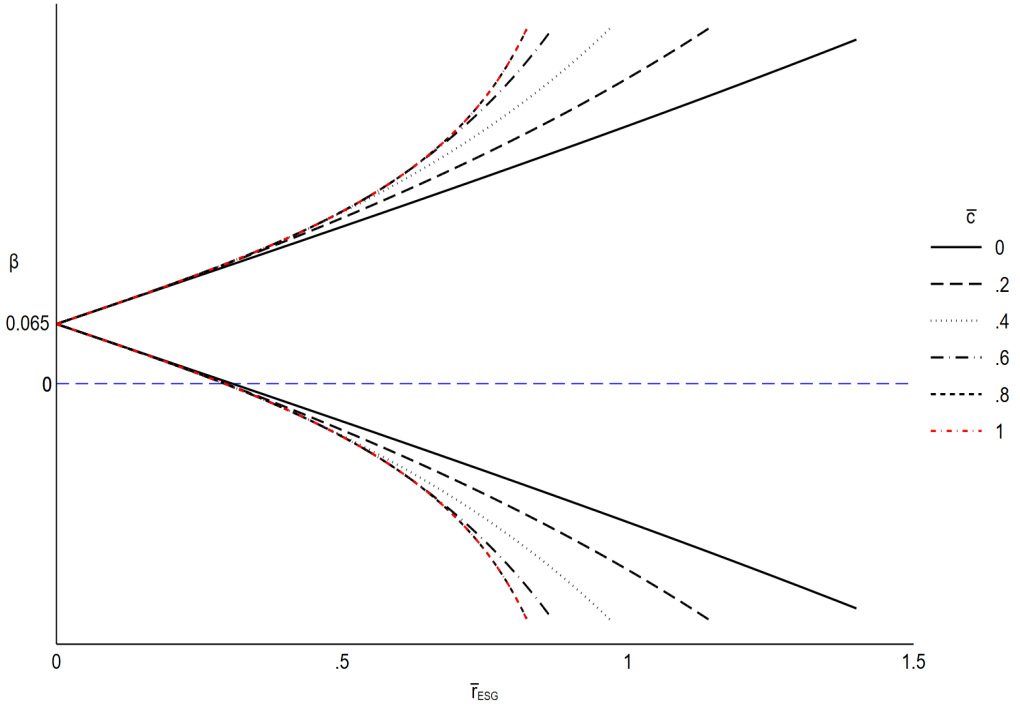



Figure 3: Regression sensitivity analysis DMP bounds:
amount invested

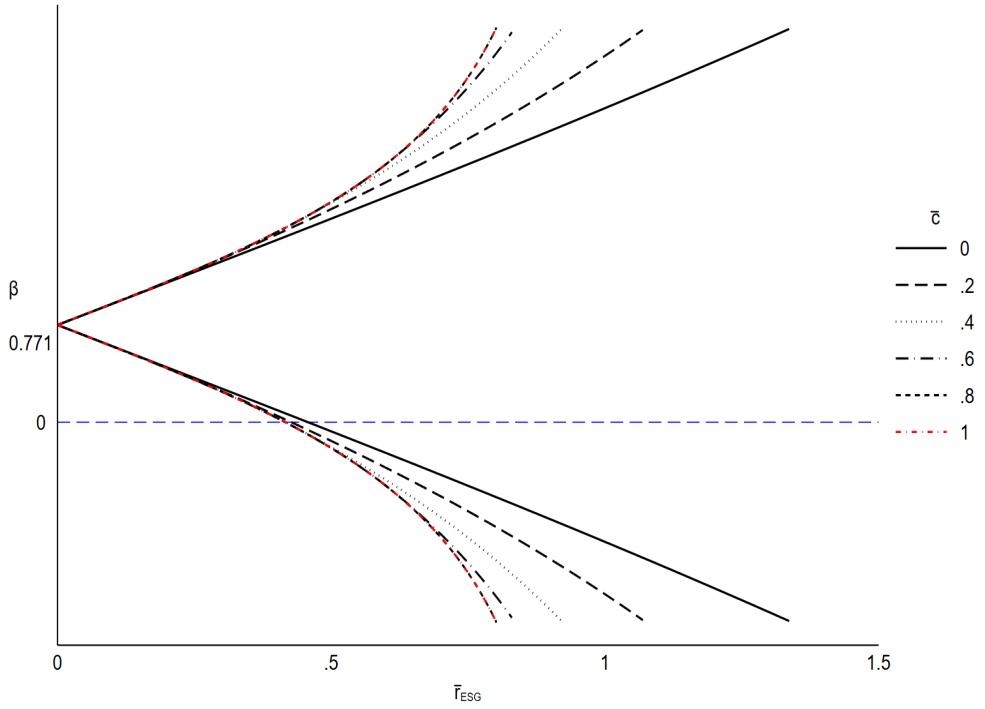


Figure 4: Balance plot of covariates

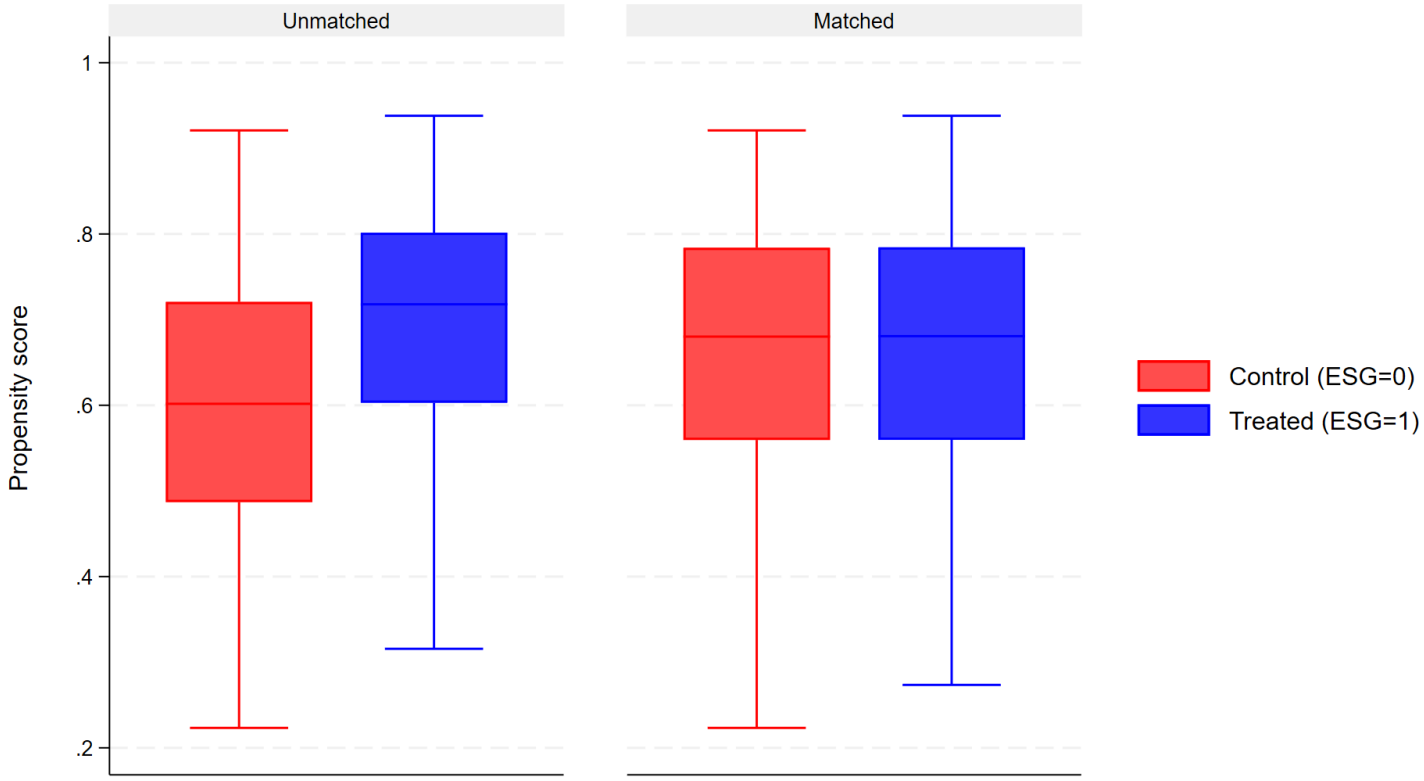


Figure 5: Heterogeneity by gender: age and education - contrasts by ESG

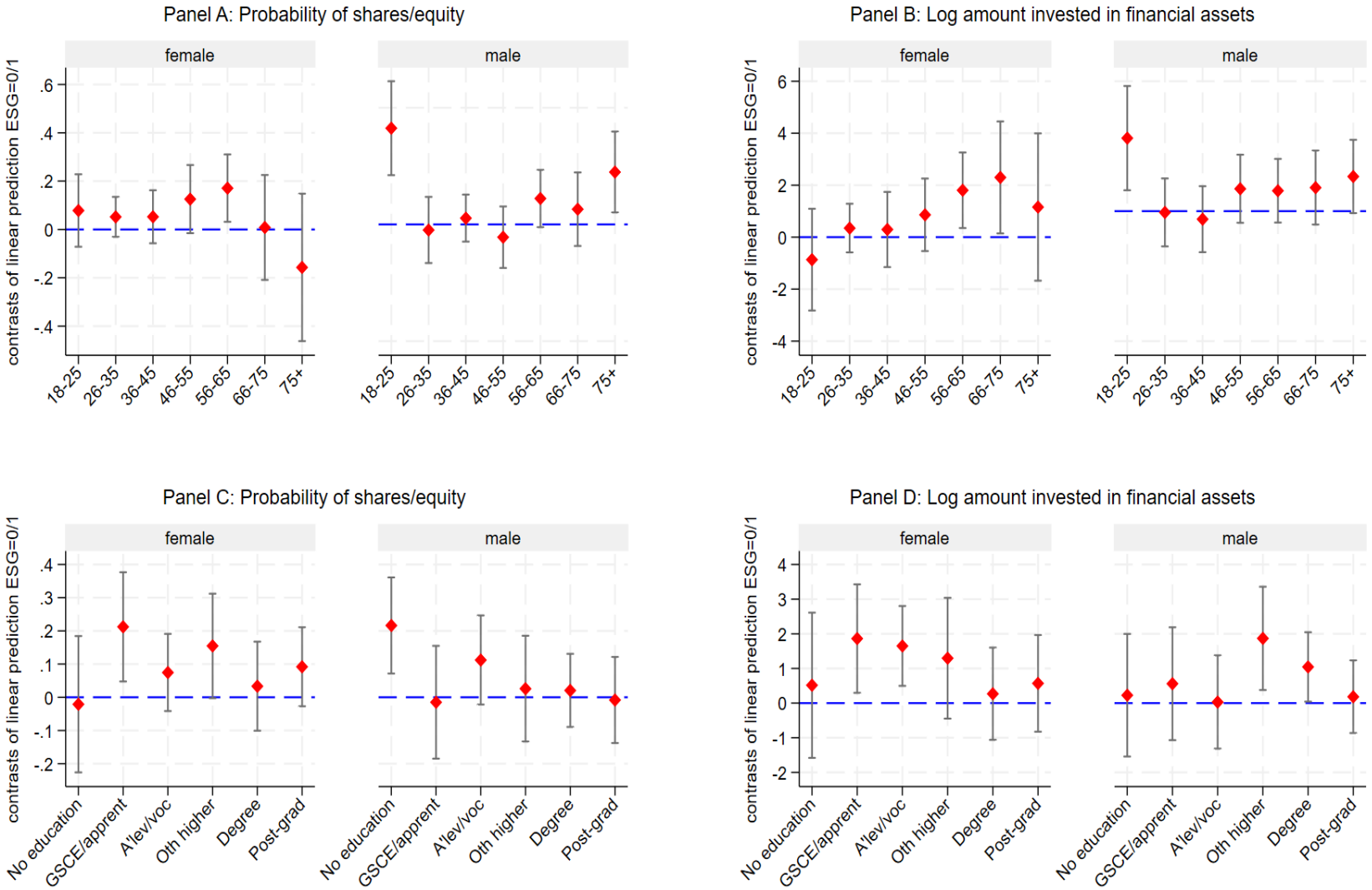
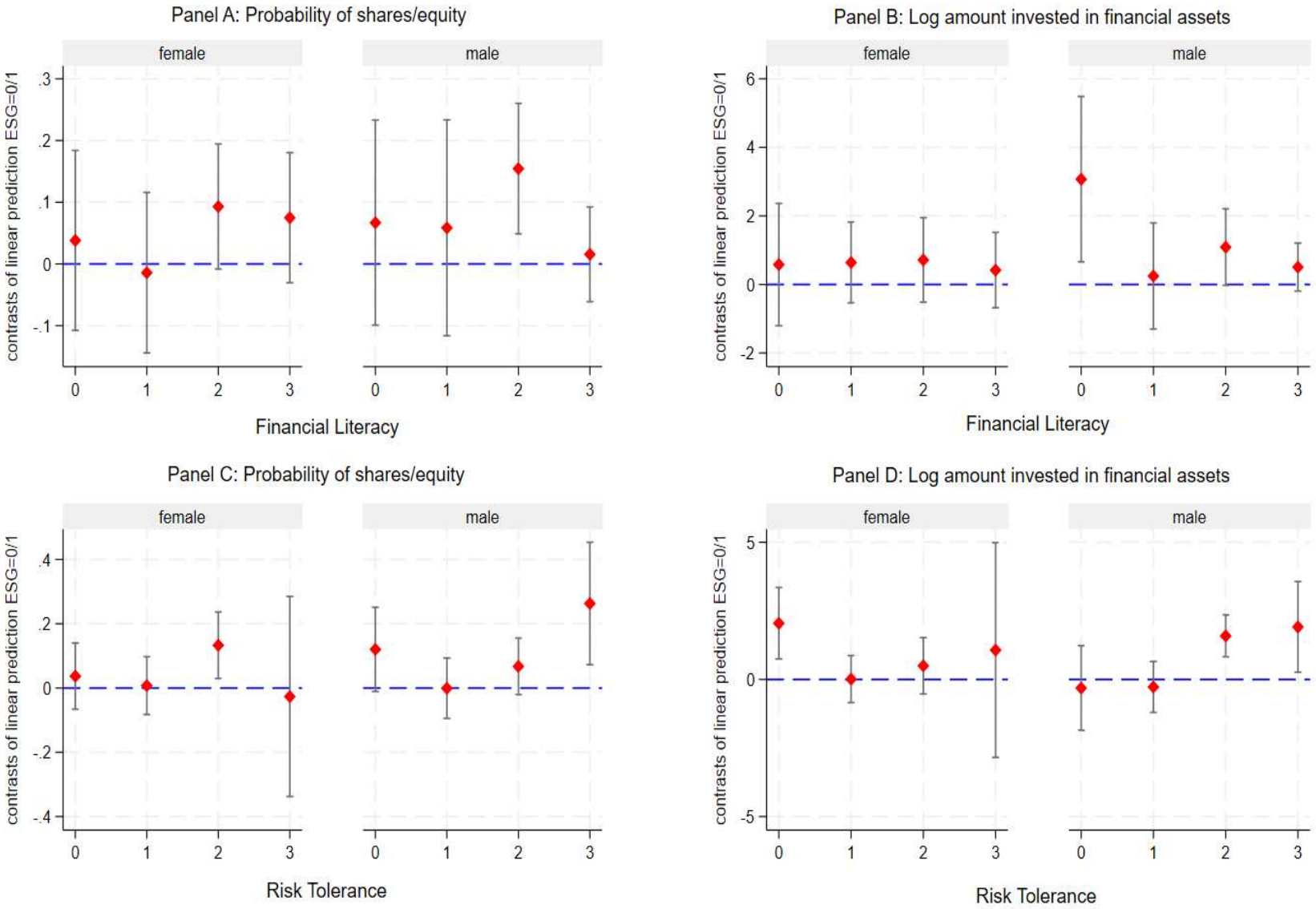


Figure 6: Heterogeneity by gender: financial literacy and risk tolerance - contrasts by ESG




Notes: For financial literacy and risk tolerance, 0 through to 3 represent the lowest and highest values on the 4-point scale respectively.

# A. Appendix: further summary statistics

Table A.I: Test for equality of means for control variables by ESG sub-sample

**Panel A:** T-tests for equality of means for each covariate $x_k$ across samples

| | FLS - full sample $\overline{x}_{k1}$ | FLS - ESG sub-sample $\overline{x}_{k2}$ | $H_0 : \overline{x}_{k1}=\overline{x}_{k2}$ |
|---|---|---|---|
| High Fin. Lit. | 0.6067 | 0.6143 | *p=0.101* |
| Risk High | 0.0319 | 0.0486 | *p=0.000* |
| Age | 49.4343 | 49.7889 | *p=0.299* |
| Male | 0.5106 | 0.5005 | *p=0.174* |
| Adults | 2.0672 | 2.0510 | *p=0.193* |
| Children | 0.4893 | 0.4841 | *p=0.661* |
| Mortgage | 0.3372 | 0.3343 | *p=0.667* |
| Rent | 0.2418 | 0.2375 | *p=0.475* |
| Other type of tenure | 0.0778 | 0.0815 | *p=0.069* |
| White | 0.8961 | 0.8914 | *p=0.271* |
| Employed | 0.5126 | 0.5156 | *p=0.665* |
| Self-employed | 0.0686 | 0.0632 | *p=0.123* |
| Unemployed | 0.0363 | 0.0382 | *p=0.463* |
| Students | 0.0403 | 0.0372 | *p=0.245* |
| Sick/disabled | 0.0284 | 0.0250 | *p=0.135* |
| Other | 0.0378 | 0.0355 | *p=0.379* |
| Single | 0.3011 | 0.3155 | *p=0.074* |
| GCSE/apprent | 0.0861 | 0.1132 | *p=0.051* |
| A'lev/voc | 0.1427 | 0.1504 | *p=0.112* |
| Oth higher | 0.0971 | 0.0945 | *p=0.539* |
| Degree | 0.2365 | 0.2441 | *p=0.196* |
| Post-grad | 0.2246 | 0.2374 | *p=0.062* |
| Natural logarithm of household annual income | 10.5303 | 10.5758 | *p=0.189* |
| Obs. | 35,129 | 4,547 | |

**Panel B:** Multivariate F-test for equality of the mean of covariate vector $X$ across samples

| | |
|---|---|
| $H_0 : \overline{X}_1=\overline{X}_2$; $F(23, \infty)$ | 1.443; *p=0.078* |

Notes: $x_k$ represents an individual covariate from the control vector $X$, where $k = 1, 2, ..., K$. The full FLS sample and ESG sub-samples are denoted by the subscripts 1 and 2 respectively.

Table A.II: Test for equality of means for ESG variables by investor status

| | Investors $\overline{ESG}_{k1}$ | Non-investors $\overline{ESG}_{k2}$ | $H_0 : \overline{ESG}_{k1}=\overline{ESG}_{k2}$ |
|---|---|---|---|
| AT18Q1: *Environmental issues are really important to me.* | 0.8314 | 0.8301 | *p=0.918* |
| AT18Q2: *Businesses should control executive pay.* | 0.8873 | 0.9051 | *p=0.091* |
| AT18Q3: *Businesses have a wider social responsibility than simply making a profit.* | 0.8928 | 0.9013 | *p=0.412* |
| AT18Q4: *It is important to me that the vulnerable in society are protected.* | 0.9101 | 0.9109 | *p=0.925* |
| ESG4: *Whether interested in investing in responsible investments in the future.* | 0.6115 | 0.6885 | *p=0.000* |
| ESG5 Return: *I would like the way my money is invested to do some good as well as provide me with a financial return.* | 0.8297 | 0.8246 | *p=0.695* |
| ESG5 Protect Env.: *I would like to invest in a way that is protecting the environment.* | 0.7751 | 0.7943 | *p=0.179* |
| ESG5 More Risk: *I would be prepared to take greater financial risk with a responsible investment than I would with a traditional investment.* | 0.3767 | 0.3592 | *p=0.298* |
| ESG5 Higher Cost: *I would be prepared to accept higher costs with a responsible investment than I would with a traditional investment.* | 0.4109 | 0.4021 | *p=0.101* |
| ESG Active: If individual has invested in responsible investments before. | 0.7701 | 0.7763 | *p=0.667* |
| ESG Passive: If individual does not hold a responsible investment, but is interested in such investments in the future. | 0.7887 | 0.8084 | *p=0.497* |
| Obs. | 2,162 | 1,377 | |

Notes: $ESG_k$ represents an individual ESG variable, where $k = 1, 2, ..., K$. The sample of investors and non-investors are denoted by the subscripts 1 and 2 respectively.

Table A.III: Test for equality of means for ESG variables by financial advice (FA)

| | Whether received FA<br>*'yes'* FA=1<br>$\overline{ESG}_{k1}$ | <br>*'no'* FA=0<br>$\overline{ESG}_{k2}$ | <br>$H_0 : \overline{ESG}_{k1}=\overline{ESG}_{k2}$ |
|---|---|---|---|
| AT18Q1: *Environmental issues are really important to me.* | 0.8147 | 0.9098 | *p=0.000* |
| AT18Q2: *Businesses should control executive pay.* | 0.8969 | 0.8966 | *p=0.987* |
| AT18Q3: *Businesses have a wider social responsibility than simply making a profit.* | 0.8880 | 0.9052 | *p=0.455* |
| AT18Q4: *It is important to me that the vulnerable in society are protected.* | 0.8988 | 0.9356 | *p=0.076* |
| ESG4: *Whether interested in investing in responsible investments in the future.* | 0.7363 | 0.7983 | *p=0.050* |
| ESG5 Return: *I would like the way my money is invested to do some good as well as provide me with a financial return.* | 0.8135 | 0.8755 | *p=0.020* |
| ESG5 Protect Env.: *I would like to invest in a way that is protecting the environment.* | 0.7978 | 0.8627 | *p=0.019* |
| ESG5 More Risk: *I would be prepared to take greater financial risk with a responsible investment than I would with a traditional investment.* | 0.3916 | 0.4217 | *p=0.427* |
| ESG5 Higher Cost: *I would be prepared to accept higher costs with a responsible investment than I would with a traditional investment.* | 0.4092 | 0.4695 | *p=0.115* |
| ESG Active: If individual has invested in responsible investments before. | 0.8034 | 0.7038 | *p=0.003* |
| ESG Passive: If individual does not hold a responsible investment, but is interested in such investments in the future. | 0.8450 | 0.8841 | *p=0.438* |
| Obs. | 233 | 656 | |

Notes: $ESG_k$ represents an individual ESG variable, where $k = 1, 2, ..., K$. The sample of those investors who received financial advice and those who did not receive financial advice from a regulated advisor, prior to undertaking an investment over the past 12 months, are denoted by the subscripts 1 and 2 respectively.