How Do Consumers Use Firm Disclosure? Evidence from a Randomized Field Experiment

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Abstract

We combine a large-scale field experiment with a customized survey to study whether and how consumers use firm disclosure. In a sample of more than 24,000 U.S. households, we first establish several stylized facts: (i) the average consumer has a moderate preference to purchase from ESG-responsible firms; (ii) consumers typically have no preference for more or less profitable firms; (iii) consumers rarely consult ESG reports and virtually never use financial reports to inform their purchase decisions. In our field experiment, we then inform households about real firm-disclosed profitability and ESG activities through seven randomized information treatments. Consumers increase their purchase intent when exogenously presented with firm-disclosed positive signals about environmental, social, and—to a lesser extent—governance activities. Full ESG reports only have an impact on consumers who choose to view them, whereas financial reports and earnings information do not have an effect. After the experiment, consumers increase their actual product purchases, but these effects are small, short-lived, and only materialize for viewed ESG reports and positive social signals. Through a follow-up survey, we provide explanations for why consumers (do not) change their shopping behavior after our information experiment.

Keywords: Consumers; Disclosure; Field Experiment; Financial Reporting; ESG Reporting; Earnings Announcements; Financial Information; Non-Financial Information

JEL Classification: C93; D12; D90; G10; M31; M41

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1. **Introduction**

When firms communicate their corporate practices and performance through public disclosures, external stakeholders can use these disclosures to allocate economic resources to certain firms and away from others. Although firm disclosures are traditionally geared toward investors, they are also available to consumers who may inform their *purchase* decisions using these disclosures (Graham et al. 2005; Leuz and Wysocki 2016; Christensen et al. 2021). This notion is not new; in motivating initial attempts at financial disclosure regulation in the U.S. during the early 1900s, regulators took the standpoint that the general public—and consumers in particular—could use and benefit from information about firm profitability (U.S. Congress 1914; Lipton 2020). Nowadays, a similar point is made in discussions about firms’ non-financial disclosures. Numerous anecdotes suggest that consumers increasingly care about companies’ environmental, social, and governance (ESG) practices (e.g., PwC 2021; Forbes 2022), and both firms and regulators posit that a natural place for consumers to obtain information about ESG activities is firms’ ESG disclosures (see Internet Appendix 1 for illustrative examples on statements by regulators such as the EU Commission and firms such as PepsiCo or Nestlé). However, there is no systematic evidence on whether consumers use corporate disclosures to inform their purchase decisions, which disclosures they use, what their underlying motives are, which information frictions they face, and how firm disclosures compare to other information sources.

In this paper, we combine a new large-scale survey with a randomized information experiment to examine how U.S. retail consumers use and respond to different types of financial and non-financial firm disclosure. To implement our project, we collaborate with *Numerator*, one of the largest marketing-research firms in the United States. Numerator collects demographic characteristics and transaction-level consumption data for U.S. households that scan their purchase receipts and link their e-commerce accounts through a mobile app. For our study, we rely on Numerator’s Test Panel (NTP), which major consumer-facing companies typically use for idea screening and product testing. Numerator provides test panelists with various incentives to ensure
they respond to surveys truthfully and report their shopping activities comprehensively and without bias (see Section 2.1 for details).

Our customized survey experiment for the NTP has three key features: (i) a set of descriptive questions about consumers’ preferences, information frictions, and information acquisition behaviors, (ii) an information experiment in which we test the causal effects of various types of firm disclosure on consumers’ purchase intentions, and (iii) a field component with data on consumers’ actual product purchases after our experiment. Thus, we can also test the causal effects of firm disclosure on consumers’ real purchase behavior. We fielded the survey experiment in March 2023 and 24,675 test panelists responded, implying a high response rate of 49%.

In the first part of the paper, we establish several new descriptive facts about how consumers make purchase decisions and their demand for firm-level information in this process. When we ask survey participants about the relative importance of certain product or firm attributes, respondents indicate that, by far, the two most important purchase considerations are product quality and price. ESG activities of the producing company also matter, especially working conditions (S) and carbon footprint (E), but to a much lesser extent than product quality and price. The firm’s financial performance is the least important consideration for consumers when making their purchase decisions. In terms of information acquisition, consumers primarily use referrals by friends/family (69% of responses) and customer reviews (62%) to inform their product purchases. The most frequently consulted company disclosure is the firm’s website (18%). In contrast, only 9% of consumers directly use ESG reports as an information source and annual reports (3%) are practically irrelevant for consumers’ information gathering. This result is supported by the fact that 78% (63%) of consumers are unaware of the existence of ESG reports (annual reports).

When asked directly, most consumers convey a moderate preference for purchasing products from ESG-responsible firms. The most pervasive friction in purchasing from ESG-responsible firms is that consumers do not know about the ESG activities firms engage in (35% of responses). In addition, almost 30% of respondents are unaware of which firm produces a given product and over 20% indicate that they have financial and/or time constraints. Only a small share
of consumers (12%) choose not to purchase products from ESG-responsible firms because they distrust firms’ disclosed ESG activities. Therefore, although consumers have a preference to purchase products from ESG-responsible firms, they rarely obtain ESG information directly from corporate disclosures and they also face significant frictions in gathering and deploying firm-level information otherwise.

In contrast to moderate preferences for firms’ ESG characteristics, 73% of consumers do not have any preference to buy from either profitable or unprofitable firms. In terms of information constraints, most consumers do not know or do not care about firm profitability when making their purchase decisions. Somewhat comparable to ESG, more than 20% of consumers either have time constraints when buying from (un-)profitable firms or are unaware of the firm producing a particular product, and about 15% of consumers distrust firms’ disclosed profits.

To complement these descriptive insights, in the second part of the paper, we examine how the randomized provision of actual firm-disclosed ESG and financial information affects consumers’ purchase intentions. Our experimental methodology is inspired by recent advances in the economics literature (Kessler et al. 2019; Coibion et al. 2022; Stantcheva 2022; Colonnelli et al. 2023a and 2023b). Specifically, we design a variation of the experimental approach used by Colonnelli et al. (2023b).¹ We show consumers 15 profiles of actual products and ask for their intent to purchase each product over the next six months (using a Likert scale from 1 to 7). Each of our product profiles shows the name of the specific product, the name and industry of the producing company, the average selling price, and a picture of the product. If the product profile is randomly assigned to one of seven treatment groups, we provide additional content in the form of the producing company’s ESG report, annual report, short summaries of the firm’s self-disclosed ESG activities (by E, S, and G separately), earnings surprise information, or consumer

¹ Colonnelli et al. (2023b) use randomized hypothetical job profiles to first recover ESG preferences of Brazilian job seekers and then examine how firms’ ESG practices affect talent allocation in the Brazilian labor market based on a structural model. In contrast, we randomize over firm-disclosed information and examine U.S. consumers’ real purchases after the experiment.
reviews about the product. In Figure 1, we illustrate this randomization strategy, and in Figure 2, we provide examples of our treatment arms for the same product. In total, we generate 51,250 distinct product profiles for 6,440 different products. To maximize the relevance of product profiles for each participant, we select both previously purchased and competing products (i.e., substitutes) on an individual basis using the actual purchase history of each household. We stratify the randomization of the product profiles by participant and ensure that our treatment arms are balanced across important covariates in the respondent pool (e.g., average product price, product type, or manufacturer). We then estimate consumer responses to the provision of different types of financial and ESG disclosure by regressing the assigned rating on the set of treatment indicators.

Our main result is that consumers react to certain types of firm-level ESG information, but not to firm-level financial information. Specifically, respondents have a significantly higher purchase intent when they exogenously learn about firms’ social or environmental activities. This result is modest in terms of magnitude, but comparable to providing consumers with positive product review information. We also find that consumers react to governance information with an effect size that is approximately half that of the positive social activity treatment. Moreover, the direct provision of a link to firms’ ESG report leads, on average, to no effect on consumers’ purchase intentions. However, consumers who choose to view the full ESG report (i.e., an endogenous choice) exhibit the largest increase in purchase intent (about three times larger than the average response to a positive product review). Additional tests reveal that consumers with strong ESG preferences, stock portfolios, and/or a general distrust of firms’ ESG disclosures are more likely to view the provided reports. In contrast to our results on ESG information, we do not find any significant treatment effects for firms’ financial information, irrespective of whether we provide consumers with a link to a full annual report or inform them about (positive or negative)

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2 For example, an excerpt from an environmental treatment arm is “To minimize the footprint of its packaging operations, Tyson Foods has increased the use of renewable and recycled materials.” An excerpt from a social treatment arm for the same company is “Tyson Foods offers financial grants and food product donations to regional food banks serving its communities.” An example of profitability information is “At its most recent earnings report, Tyson Foods reported earnings per share (EPS) of $8.73, which was $0.11 less than analyst expectations of $8.84.”
earnings surprises. These results are consistent with our descriptive findings and robust when estimated within participant and within product.

We then exploit multiple levels of variation in our large sample to assess heterogeneity in the estimated purchase intention effects. We find that younger and politically-liberal consumers respond more strongly to the provision of firm-level ESG information. Furthermore, consumers who are financially sophisticated in that they are aware of corporate reporting and engage in retail investing also respond more strongly to ESG information. Finally, the positive response to the provision of ESG information is stronger for substitute products than for previously purchased products.

Although these results provide insights on how firm-disclosed information—if directly delivered—affects purchase intentions, they do not necessarily shed light on how this information maps into real purchase behavior. In this context, our experiment offers a unique advantage: we are able to observe the actual purchase behavior of respondents after our experiment. Therefore, in the third and final part of the paper, we examine whether and how our randomized information experiment changes real consumption decisions. Assessing actual product purchases of survey participants after the experiment, we find positive—albeit economically small and short-lived—consumption effects only for viewed ESG reports and positive social information, as well as small negative consumption effects for less-than-stellar consumer reviews. In addition, we examine spillover effects, but our information experiment does not have any meaningful impact on the purchase of other products from the same firm.

To understand the reasons behind these modest real effects, we conducted a follow-up survey among the respondents of our original survey experiment. Although 70% of the 16,350 follow-up respondents recall participating in our original survey experiment, 65% of these consumers convey that the survey experiment did not change their shopping behavior. When asked why, these respondents primarily point to not remembering the provided information and not having the time to consider firm-level information in product purchase decisions. Other common answers include not having sufficient financial resources to purchase the featured products, not
caring about firms’ profitability, or not knowing which firms produce which products. As for the remaining respondents who indicate they did change their behavior, 73% convey that the information provided in the experiment helped them increase their understanding and awareness of product and firm characteristics or improved their purchase planning.

Overall, our evidence—from descriptive insights to elicited purchase intentions and real consumption behavior—paints the picture of an average consumer who has preferences for select firm-level characteristics (especially ESG activities), but faces significant frictions in directly applying firm-disclosed information to those preferences and into their everyday product purchases.

Our paper contributes to the existing literature in two ways. First, we contribute to the emerging literature on the role of financial and non-financial firm information in consumer markets. Several concurrent studies use primarily archival approaches to examine how consumers respond to firm events, such as earnings announcements (Kimbrough et al. 2023; Noh et al. 2023) or ESG scandals (Asay et al. 2023; Christensen et al. 2023; Dube et al. 2023; Houston et al. 2023; Meier et al. 2023). For example, Noh et al. (2023) find increases in consumer foot traffic after earnings announcements, particularly for announcements that garner high attention and for firms that sell durable goods, and Christensen et al. (2023) show that consumer reactions to highly visible social scandals are transitory and cannot fully explain analyst reactions to the same events. We complement these studies by taking a different approach, speaking instead to consumers’ (heterogeneous) use of firm disclosure in purchasing (primarily non-durable) goods. Our large-scale customized survey provides novel descriptive evidence on consumers’ information preferences, frictions, and acquisition behaviors. Our randomized field experiment allows us to further isolate the role of information while holding other factors constant (e.g., firm attention or visibility) and can simultaneously test and benchmark the causal effects of various types of real
firm disclosure (e.g., financial vs. ESG disclosure or full reports vs. summarized information).³ Since our setting further allows us to observe actual product purchases after the experiment, we can uniquely examine the entire causal chain of how corporate disclosure—if directly delivered—shapes purchase intentions (first stage) and how these exogenously changed purchase intentions then map into real product purchases (second stage). With our descriptive evidence and follow-up survey, we provide direct evidence on the forces and frictions that lead to these (ultimately modest) mappings.⁴ Our new insights on consumers’ use of firm disclosure are important in the context of recent calls for increased ESG disclosure and a better understanding of the use thereof by various stakeholders (e.g., European Commission 2014; Christensen et al. 2021; Starks 2023). In particular, requiring firms to disclose more ESG information does not necessarily imply that consumers will use this information in their purchase decisions.

Second, we contribute to the interdisciplinary literature on consumer responses to sustainability and nutritional information. Compared to papers that focus on the provision of product-level information through product labeling or product advertising (e.g., Banerjee et al. 1995; Borin et al. 2011; Leonidou et al. 2013; Green and Peloza 2014; Groening et al. 2018; Schmuck et al. 2018; White et al. 2019; Ikonen et al. 2020; Kronthal-Sacco et al. 2020; Dubois et al. 2021; Adalja et al. 2022; Bollinger et al. 2022; Beyer et al. 2023), we instead focus on corporate disclosure of firm-level activities. Both our descriptive and causal analyses highlight how firm disclosure is a distinct construct. Specifically, consumers are largely unaware that firms produce disclosures relevant to their preferences, and they face various frictions in applying firm-level

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³ Lawrence et al. (2018) take a field experiment approach to examine the effect of media attention on retail investors’ reaction to earnings announcements. Blankespoor et al. (2019), Moss et al. (2023), and Li et al. (2023) study retail investors’ responses to earnings information, the publication of firms’ ESG disclosures, and ESG news, respectively. We complement these studies by assessing how retail consumers use firm disclosures in their purchase decisions, and in cross-sectional tests, we explore how the subset of consumers who are also retail investors utilize firm-level information to guide their product purchase decisions (rather than their investment decisions).

⁴ In this way, our paper also adds descriptive and causal insights to the literature on disclosure processing costs (see Blankespoor et al. 2020 for a review). For example, we provide new evidence that consumers generally do not rely on corporate disclosures as they are mostly unaware of them or find them too costly to process. In addition, we find that consumers who were previously aware of corporate reporting or are retail investors tend to exhibit stronger treatment responses.
information to actual product-level purchases (even after our information experiment in which we
directly deliver corporate disclosure to them). Unlike product labels (e.g., CO2 labels as in Beyer
et al. 2023), firm-disclosed information is typically not provided at the time of purchase, and hence,
consumers generally must choose to acquire information in firm disclosures. Our descriptive
insights on disclosure use and related frictions along with our ability to characterize consumers
who choose to view corporate reports allows us to shed light on the role of endogenous information
acquisition in shaping the impact of firm disclosure (Capozza et al. 2021).  

2. Setting

2.1 Numerator Panel

Our project implementation partner is Numerator, one of the largest marketing-research
firms in the U.S. that collects omni-channel consumer data for more than 1 million households.
Numerator covers both e-commerce and in-store purchases of consumer goods and electronics
across more than 44,000 retailers and 1 billion shopping trips. U.S. residents join via Numerator’s
Receipt Hog app, which is freely available for iOS and Android devices. Individuals take pictures
of their purchase receipts in the app and directly link their email and Amazon account to record
online purchases. Numerator then uses image recognition software to parse shopping information
from uploaded receipts (e.g., prices, quantities, product names, UPC product codes).

For our study, we rely on Numerator’s Test Panel (NTP), which is typically used for idea
screening, product testing, and advertising design by consumer goods companies. Numerator runs
both descriptive and experimental surveys on the test panel for the specific evaluation needs of its

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5 The large-sample scale of our field experiment allows us to simultaneously benchmark the effects of various types
of firm-level information. In this context, we also contribute to (i) the literature on consumer responses to specific
firm-level CSR information (e.g., charitable giving) in small samples (e.g., Brown and Dacin 1997; Sen and
Bhattacharya 2001; Bhattacharya and Sen 2004; Mohr and Webb 2005; Feldman and Vasquez-Parraga 2013; Grimmer
and Bingham 2013; Chernev and Blair 2015; Habel et al. 2016; Falcão and Roseira 2022) and (ii) the literature on
consumers’ CSR preferences (e.g., Osterhus 1997; Crowe and Simon 2000; Mohr et al. 2001; Brunk 2010; Öberseder
et al. 2013; Egels-Zanden and Hansson 2016; Nickerson et al. 2022). Our ability to document both intended and actual
purchase behavior is important given recent calls for a better understanding of the mapping between consumers’
preferences, purchase intentions, and actual consumption behavior (Ikonen et al. 2020; Falcão and Roseira 2022).
The NTP consists of approximately 50,000 U.S. consumers who report to Numerator (i) their static demographic characteristics (e.g., gender, age, marital status, income, ZIP code of residence, household size, education, etc.), (ii) their purchases over time (i.e., which products they purchase at which stores and prices), and (iii) their static psychographic attributes and preferences (e.g., financial attitudes, dietary restrictions, etc.). Numerator asks test panelists to update their demographic information every six months to reflect changes in household income, size, or marital status. Test panelists belong to Numerator’s most engaged core shoppers and must meet minimum receipt upload and app participation requirements. Specifically, to qualify for the test panel, households must actively use the Receipt Hog app and record a large amount of their purchases for at least three consecutive months. In Section 3.4, we discuss how well the NTP represents the population of U.S. consumers.

Numerator provides test panelists with several incentives to ensure they truthfully respond to surveys and comprehensively report their shopping activities without bias. First, consumers earn coins for uploading receipts and completing surveys within the app, which they can exchange for cash (via PayPal) or gift cards (Amazon or Visa). Numerator also organizes monthly sweepstakes among test panelists where they can win additional coins. Second, only test panelists are invited to participate in surveys for which the compensation is substantially higher than just uploading receipts. Third, individuals that do not report a minimum amount of purchasing over the past three consecutive months are dropped from the panel and Numerator conveys this information to panelists. Fourth, as a general rule, Numerator keeps all incentives independent of survey content to make sure respondents do not answer questions in a way that they think will earn them a higher reward.

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6 The Numerator Test Panel is cycled in a way that, at any given point in time, roughly 90% of panelists have not been exposed to any concept test or survey yet. Due to our randomization, the treatments are anyway orthogonal to potential prior experimentation. Additionally, by using individual fixed effects, we can rule out any confounders at the participant level in the analyses, which is an identification advantage of our within-subject design (Breuer and deHaan 2023).
2.2 Experimental Survey

We designed a customized experimental survey with 28 questions for the NTP. The first part of the survey features a single ranking question about the relative importance of various product and company characteristics for consumers. With this question, we gauge the consumer’s preference for ESG and financial attributes of products and their producing companies.

In the second part of the survey, we conduct our information experiment. Specifically, each survey participant views 15 different product profiles with varying degrees of information depending on the treatment assignment (see Section 3). After viewing each product profile, participants are required to indicate their intent to purchase that product over the next six months using a Likert scale (from 1 to 7). Due to the random assignment of the treatment information, this setup allows us to infer the importance of financial and non-financial information for consumers. For example, if consumers are more likely to purchase products from profiles which contain (exogenously provided) environmental information of the producing company, we can infer that consumers react positively to firms’ non-financial information.

The third part of the survey contains a series of direct questions about the importance of financial and non-financial information when purchasing products, allowing us to quantify consumers’ information constraints and information acquisition behaviors. The survey then concludes with two demographic questions about political leanings and stock investments. Finally, we offer participants the option to save product profiles for future reference. We show survey screenshots in Internet Appendix 2 and report the full survey in Internet Appendix 3.

3. Field Experiment

3.1 Treatments and Conceptual Underpinnings

The core part of our survey is the experimental section with the 15 product profiles. We use a within-subject and within-product design for our experiment and randomize the content of the 15 product profiles to recover consumer preferences for financial and ESG information. Our experimental methodology is inspired by Coibion et al. (2022), who conduct an inflation experiment in the Nielsen consumer panel, and Colonnelli et al. (2023b), who conduct an
incentivized survey experiment with job seekers. In Figure 1 Panel A, we visually illustrate our treatment arms. All product profiles show the name of the specific product, the name and industry of the producing company, the average selling price, and a picture of the product. If the product profile is assigned to one of seven treatment groups, the following additional content is displayed: (1) environmental information, (2) social information, (3) governance information, (4) ESG report link, (5) annual report link, (6) profitability information, or (7) consumer reviews.

Every survey participant receives information about 15 different products. Presented to consumers in a randomized order, five profiles contain firm-level ESG information (treatments 1-4), four profiles contain firm-level financial information (treatments 5-6), two profiles contain product review information (treatment 7), and four profiles contain only basic information (control group). For (1)-(3), we use firm-disclosed information collected and aggregated by Moody’s ESG database. (4) and (5) provide links to firms’ actual and complete ESG and annual reports, respectively, which we collected from firms’ corporate websites. For (6), we collect firms’ most recent earnings per share information from I/B/E/S to measure firm profitability. Lastly, for (7), we collect consumer reviews from Target Corporation’s website. In Figure 2, we provide an example of how these different product profiles look like for the same product depending on the treatment assignment. For our experiment, we create 51,250 distinct product profiles for 6,440 different products. This setup ensures that our inferences are broadly applicable and not specific to a small subset of products.

Due to our randomization, we are able to measure the effect of ESG and financial information on participants’ intended and actual purchases relative to other products for which the individual did not receive this information (within-subject design). Simultaneously, as different participants will view the same product but with a different treatment assignment, we are also able to measure the impact of this information for the same product across participants (within product design). Therefore, we are able to causally estimate the impact of ESG and financial information on consumers’ purchase behavior while holding participant and product characteristics constant.

The design of our treatment arms is motivated by several conceptual constructs of how
consumers respond to information. As information provision can simply increase consumer attention regardless of the type of information provided (e.g., Stephen and Galak 2012; Reiley et al. 2012; Hartmann and Klapper 2018; Noh et al. 2023; Kimbrough et al. 2023), we design the control profiles to include the product name, producing company name, and price to endogenize this attention effect into the baseline. This control arm allows us to understand how then additional information of various types could impact consumer behavior relative to this profile.

In the case of ESG information, consumers could have non-monetary preferences and expect that, in addition to generating profits, companies should actively try to help the environment or society more broadly (e.g., Bénabou and Tirole 2006; John and Klein 2003; Chavis and Leslie 2009; Wang et al. 2018; Financial Times 2020). In addition, ESG information could allow consumers to assess the probability of facing shame (whether personal or vis-a-vis family and friends) from purchasing products of companies with poor social performance (e.g., Antonetti and Maklan 2014; The Guardian 2015; World Economic Forum 2019). The provision of positive ESG information could also make consumer demand more resilient to negative information shocks; however, consumers could be skeptical when companies with a generally negative reputation are involved in ESG activities (Bhattacharya and Sen 2004). More generally, awareness of ESG activities and perceived genuineness of ESG activities could serve as key moderators for the consumption responses to ESG information (e.g., Bhattacharya and Sen 2004; Servaes and Tamayo 2013).

Firm-level financial information, particularly on profitability, could also influence consumer behavior. Consumers could harbor big-business discontent, making products of high-profitability firms less desirable (Cowen 2019; Colonnelli et al. 2022). On the other hand, high profitability could reflect good business performance and low bankruptcy risk (Hortaçsu et al. 2011 and 2013; Noh et al. 2023; Antill and Hunter 2023).7

Finally, consumers generally perceive that reviews provide relevant information on

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7 Relatedly, recent research shows that non-traditional stakeholders, such as employees, react to firms’ financial reporting (e.g., Choi et al., 2023; deHaan et al., 2023).
product satisfaction. Thus, we use product reviews to inform consumers about general product quality (e.g., Chevalier and Mayzlin 2006; Chintagunta et al. 2010; Nga Ho-Dac et al. 2014; Babić Rosario et al. 2016). This product review treatment serves as another benchmark to evaluate the impact of firms’ financial and ESG information.

3.2 Randomization Strategy

We choose products on an individual basis using the actual purchase history of each household between June and December 2022. Observing an individual’s complete purchase history has two advantages from a research design perspective. First, it allows us to only select products that are potentially relevant for a given household (e.g., showing dog food products only to dog owners). Second, by pre-selecting products, we can feature both recently consumed and competing products. Specifically, we include profiles for up to five previous purchases (i.e., products that a household bought between June and December 2022) and ten substitutes. For substitute products, we either obtain direct substitutes (i.e., products we manually identified as valid substitutes for a household purchase) or category substitutes (i.e., products we manually identified as valid substitutes for a particular product category that the household purchased). Since we require that each product is produced by a different firm (because our primary treatment arms consist of firm-level information) and we can only use products for which we have the necessary information for all treatment arms (e.g., we always require consumer reviews from Target), we are not always able to obtain five direct purchases and ten substitute products for each household. In those cases, products are chosen from the overall most purchased products in the sample. Using this strategy, the mean number of products per category across households is 4.45 previous purchases, 8.01 direct substitutes, 2.37 category substitutes, and 0.17 general products.

We stratify the randomization of the product profiles by participant. To further improve the precision of our estimated treatment effects, we use a re-randomization strategy to ensure that our treatment arms are balanced across important variables (e.g., average product price, product type, or manufacturer of a given product). Specifically, we follow Banerjee et al. (2020) and re-randomize profile allocations 500 times before selecting the allocation with the best covariate
For each re-randomization, we compute the Mahalanobis distance between covariates of each pairwise treatment combination and take the mean of these distances as a measure of overall covariate balance (Morgan and Rubin 2012; Yang et. al. 2023). This procedure ensures that our different treatment arms have a satisfactory balance in terms of important covariates (e.g., average prices of products across all treatment arms) and makes it less likely that random imbalances threaten the validity of our experiment. In Table 1, we present the covariate balance of the final product allocations for the test panelists who completed our survey and form the analysis sample to ensure that ex-post balance is achieved (McKenzie 2017). The observed differences in the means of our covariates are close to zero and almost always statistically insignificant, indicating that our randomization was successful (see Table 1 Panel B). Specifically, out of 84 possible comparisons only three are significantly different, which is a lower percentage than the alpha level of the test (10%). Additionally, even in cases for which there is a statistically significant difference, the differences are economically negligible (e.g., Percent High Ratings of 87.926 versus 88.051). Such small differences are unlikely to impact the inferences of our experiment (McKenzie 2017). Finally, our within-subject and within-product design allows us to precisely control for any differences across subjects (e.g., different age or education) or products (e.g., different customer reviews or prices) via fixed effects in our regressions.

3.3 Mitigating Survey Demand Effects

Survey demand effects are a primary concern in survey experiments. That is, due to being exposed to treatment, respondents may form views of the experimenter’s expectations and bias their responses accordingly (Stantcheva 2022). We mitigate survey demand effects in multiple

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8 The optimal number of re-randomizations requires trading off increasing the subjective value of the experiment (i.e., improved precision of estimated effects) with reduced robustness due to a more deterministic allocation. Banerjee et al. (2020) suggest using 100 randomizations as a rule of thumb. Given our large sample size, we choose 500 re-randomizations because, in our view, the potential improvement in precision is worth the robustness tradeoff. In our case, we have a 99% chance of drawing from the set of the 1% most balanced assignments, whereas with 100 re-randomizations there is a 99% chance of drawing from the set of the 5% most balanced assignments.

9 We compute the Mahalanobis distances based on the following covariates: log of product price, log of household purchases, log of purchases in the entire sample, product review score, assignment hierarchy level (i.e., direct purchase, direct substitute, category substitute, or general product), product category, and producing firm.
ways. First, our online survey format retains anonymity, therefore relieving some of the social pressures involved with in-person surveys. Second, we take steps to obfuscate the purpose of the survey experiment. Specifically, we provide information in product profiles not directly related to the constructs of interests (such as price and company industry) and include questions about non-experiment related topics such as past purchases or demographics. Similarly, the within-subject design exposes the respondent to multiple types of information (e.g., product reviews). Third, our question for preference elicitation is posed in a non-leading and neutral fashion by simply asking respondents about their intent to purchase a given product within the next six months. Fourth, we are able to observe the real consumption behavior of test panelists immediately after our survey experiment. This unique feature of our consumer panel allows us to observe a real willingness-to-pay metric that is less subject to survey demand concerns and hypothetical response biases (Schmidt and Bijmolt 2019).

In untabulated tests, we corroborate the validity of the survey responses in two different ways. First, we compare the ESG preference ranking elicited in our survey to measures of general environmental concerns, green product preferences, and organic product preferences collected independently by Numerator. For the subset of consumers for which all measures are available, there is a positive correlation of about 0.25 between our measure and the three independently-measured proxies. The magnitude is comparable to the correlation between Numerator’s environmental concerns proxy and Numerator’s organic product proxy (0.29), which mitigates concerns that our study induces survey demand effects so severe that our preference measures are heavily biased toward overstating or understating certain preferences. Second, we exploit the fact that, after each product profile, we displayed a question on whether a respondent has purchased a given product in the past six months. If respondents try to portray themselves in a more positive light, then they might claim that they already purchased products for which positive (non-)financial information is displayed. However, inconsistent with such a social desirability bias, we do not find
comparable effects of the different treatment arms on consumers’ stated past purchase behavior.

3.4 Sample and Descriptive Statistics

In Figure 1 Panel B, we illustrate the timeline of our experiment. We fielded the survey in March 2023.\textsuperscript{10} The maximum achievable sample was 49,999 U.S. consumers from the NTP and 24,675 individuals responded. This response rate of 49\% compares favorably to other consumer panel studies (e.g., Coibion et al. 2022). The median time to complete the survey was 11 minutes and 18 seconds. We drop respondents who took less than 30\% of the median time to complete the survey (i.e., 203 seconds or 3 minutes and 23 seconds) to remove inaccurate responses by individuals who rush through the survey, resulting in a final sample of 24,422 responses (e.g., Prescott et al. 2016, Barrero et al. 2021).\textsuperscript{11} In Internet Appendix Figure IA4.1, we map respondents by their U.S. location, indicating good coverage across the entire United States.

Table 2 Panel A provides descriptive statistics for the survey participants. 15\% of our sample identify as males and 83\% identify as females (the remainder identifies as neither female nor male), and the median age category is 45-54 years. Almost half of the sample has moderate political views, with 20\% and 30\% identifying as liberal and conservative, respectively. About 73\% of our sample identifies as White, 8\% as Black or African American, 9\% as Hispanic or Latino, and 6\% as Asian. The median income category is $40,000 - $60,000 and the education level of the median respondent is at least some college exposure.

In Table 3, we compare our sample to U.S. Census data from the American Community Survey (ACS) and Current Population Survey (CPS).\textsuperscript{12} Our sample primarily differs from the general population in terms of gender; in particular, we have fewer males in our sample than

\textsuperscript{10} Between August and October 2022, we first conducted three pilot studies among 1,514 U.S. consumers with the commercial online survey company Dynata. The goal of these pilots was to obtain detailed feedback on the product profiles in terms of structure, information content, and visual appearance, which allowed us to fine-tune the profiles accordingly.

\textsuperscript{11} In Tables IA4.3 and IA4.4 of the Internet Appendix, we show that our results remain robust when we use the full raw sample, i.e., including respondents with a completion time of less than 203 seconds.

\textsuperscript{12} Some of the variables in our survey sample cannot be exactly replicated using Census data, which can contribute to differences between the two samples. For example, age categories or education are binned differently in the Census. In addition, the Census allows for multiple indicators of race and/or ethnicity.
indicated by census data. However, the majority of products that we analyze are grocery and household items, and among couples in the United States, grocery shopping is more likely to fall on a partner who identifies as female (Schaeffer 2019). Thus, our unweighted survey sample is likely more representative of the average non-durable goods shopper than the average citizen. Nevertheless, we also reweight our sample based on gender, age, education, and income (categories) using entropy balancing. As shown in Column (3) of Table 3, we then obtain a reweighted sample that is representative of the U.S. population in terms of key demographic characteristics. In Tables IA4.1 and IA4.2 of the Internet Appendix, we find that our results remain robust when we use this re-weighting technique.

Table 2 Panel B shows descriptive statistics for our regression variables. The treatment variables indicate that the actual assignment of treatment arms closely corresponds to the randomization strategy as displayed in Figure 1 Panel A. In addition, we report descriptive statistics for four disaggregated treatment arms. Specifically, we split the sub-treatment arms Annual Report and ESG Report based on whether the individual chose to view the report. Finally, we differentiate between good and bad information for the sub-treatment arms Profitability Information and Consumer Review; the majority of the information shown to participants is positive. Panel C shows descriptive statistics for the type of products used in the rating exercise. The majority of products are classified as Grocery (83%). Other product categories with a relatively larger share of products in the rating exercise are Health & Beauty (11%), Pet (4%), and Household (2%). The remaining product types appear less frequently.

4. How Do Consumers Use Firm Disclosure?

4.1 Descriptive Evidence

Our survey offers insights into the purchase preferences of consumers, the information sources they rely on when making purchase decisions, and the potential frictions they face during the decision-making process. In our first question, which we displayed before the experiment, our respondents indicate that the two most important considerations for their product purchases are the price and quality of the product (see Figure 3). These considerations are significantly more
important than any other listed product or firm characteristic, including ESG activities such as working conditions or carbon footprints. On average, the firm’s financial performance is ranked last, indicating that—among the possible choices—it is the least important consideration for consumers when making their purchase decisions. Figure 4 shows that more than 60% of our participants use information from friends and family and/or customer reviews for their consumption choices while about a quarter of participants use expert reviews and social media. The most frequently consulted firm disclosure is the firm’s website (about 18% of consumers). In contrast, only 9% of consumers directly use ESG reports as an information source and annual reports (3%) are practically irrelevant for consumers’ information gathering. This result is supported by the fact that 78% (63%) of consumers are unaware of the existence of ESG reports (annual reports), as shown in Figure 5.

In follow-up questions after the experiment, we explore consumers’ preferences for ESG and financial information in greater depth. Most consumers have a moderate preference for good ESG practices by firms, with the majority of our participants ranking their preference as a three on a scale of one through five (see Figure 6). Still, about 33% of all consumers indicate a strong or very strong preference. Free text answers suggest that respondents who have preferences for good ESG practices seek firms with ESG values that align with their own or associate good ESG practices with high quality products (see Figure IA4.5).\(^\text{13}\) Figure 7 shows that the most frequently encountered friction in buying from ESG-responsible firms is that consumers do not know about the ESG activities firms engage in. In addition, over 20% of respondents indicate that they have financial and/or time constraints or are unaware of which firm produces a given product. Lastly, a small share of consumers (about 12%) indicate that they do not trust firms’ ESG activities.

Figure 8 shows that over 70% of consumers do not have a preference to buy from either profitable or unprofitable firms. Respondents who indicate a preference for high profits seem to

\(^{13}\) To elicit the motives behind consumer preferences (Figure IA4.5 to Figure IA4.7), we rely on open-ended survey questions. Following Ferrario and Stancheva (2022), open-ended questions are effective in eliciting first-order opinions from participants without constraining or priming them.
use profits as a signal for product quality while respondents who indicate a preference for low profits indicate preferences for fair prices and supporting small businesses (see Figures IA4.6 and IA4.7). Figure 9 shows that the largest frictions in buying from profitable or unprofitable firms are that consumers do not know and/or do not care about firm profitability. In fact, 36% of participants state that they do not care about firms’ profitability at all when making their consumption decisions, which is considerably larger than the share of consumers not caring about firm ESG activities (less than 20%). Similar to the results above, over 20% of consumers face time constraints and/or are unaware of which firm produces a given product. About 15% of consumers indicate that they do not trust firms’ disclosed profits, which is slightly larger than the share of consumers not trusting firms’ ESG activities.

Taken together, these descriptive survey results show that both ESG and financial disclosures are not of first order relevance for consumers. Although consumers have a moderate preference to purchase products from sustainable firms, our survey evidence indicates that they struggle with acquiring and applying corporate information to individual product purchases. Thus, accessing and processing firm-level disclosure seems to be more challenging than, for example, relying on information provided by product labels.

4.2 Effects on Purchase Intent

After establishing these descriptive facts, we now turn our focus to the product rating experiment. In this experiment, we randomly vary information provision across certain products for each participant. By then observing the participant’s product rating conditional on the exogenous treatment assignment, we are able to obtain causal estimates on how financial and ESG information shape consumers’ intended purchase behavior. Specifically, to estimate the treatment effects of our randomized field experiment, we use the following OLS regression model:

\[ \text{Purchase Intent}_{i,p} = \beta_1 \text{Environment}_{i,p} + \beta_2 \text{Social}_{i,p} + \beta_3 \text{Governance}_{i,p} + \beta_4 \text{ESG Report}_{i,p} + \beta_5 \text{Annual Report}_{i,p} + \beta_6 \text{Profitability Information}_{i,p} + \beta_7 \text{Consumer Review}_{i,p} + \sum \beta_i \text{Fixed Effects}_{i,p} + \varepsilon_{i,t} \]
where subscript $i$ captures the survey respondent and $p$ captures the product. The dependent variable is Purchase Intent which is the value participants assign to the question, “How likely are you to purchase this product in the next six months?” and ranges from one to seven with one corresponding to “extremely unlikely” and seven corresponding to “extremely likely”. The independent variables (Environment, Social, etc.) are binary indicators for the treatment groups and equal one if a given observation at the participant-product level was assigned to the respective treatment. Depending on the specification, we include a combination of individual, product category, firm, and/or product fixed effects. We cluster standard errors at the participant level.\textsuperscript{14}

The results are reported in Table 4. We estimate the treatment effects using the full survey sample, which comprises 366,330 observations on the respondent-product level.\textsuperscript{15} The first specification in Column (1) does not include any controls or fixed effects. For the non-financial treatments, we find that consumers have a stronger intent to purchase after being exposed to Environment, Social and Governance information. Among the E, S, and G sub-treatment arms, Social has the largest positive effect, increasing the purchase intent by 0.09 points (which is about 4\% of the standard deviation). The effect of Environment is statistically indistinguishable from Social and increases the purchase intent by 0.07 points. The effect of the Governance treatment arm is 0.04 and significantly smaller than the coefficients for Environment and Social (p<0.1). On the other hand, the treatments for ESG Report, Annual Report, and Profitability Information do not significantly affect participants’ purchase intent. We have narrow standard errors for these variables, suggesting a precisely estimated null result (with 95\% certainty, the treatment effect lies within the intervals [-0.046, 0.013], [-0.039, 0.019], and [-0.019, 0.022], respectively). These findings suggest that, on average, neither receiving a link for an ESG or annual report nor directly receiving specific financial information impacts consumers’ intended purchase behavior. Finally,

\textsuperscript{14} In untabulated analyses, we assess whether our statistical inferences are robust to multiple hypothesis testing concerns (e.g., Floyd and List 2016). Specifically, we follow previous literature (e.g., Anderson 2008; Allcott et al. 2020; Field et al. 2021) and control for the false discovery rate, that is, the expected proportion of rejections that are Type I errors, through the sharpened q-value approach (Benjamini et al. 2006). Statistical inferences are very similar.

\textsuperscript{15} The number of observations can vary depending on the fixed effects specification because we exclude singletons from our analyses.
we document a positive effect of Consumer Review on Purchase Intent, which is plausible given that the typical product review displayed is very positive (average of 88% recommendation rate according to Table 1). The coefficient (0.05 points) is not statistically distinguishable from Environment or Governance, but is significantly smaller than the coefficient on Social.

In Column (2), we add individual and product category fixed effects as well as a control for the natural logarithm of the product’s median price. Our estimates for the main treatment effects remain largely unchanged, consistent with personal and product characteristics being orthogonal to the treatment assignment. Moreover, as suggested by basic economic theory, price is inversely related to consumers’ purchase intent. In Column (3), we additionally include firm fixed effects to control for any potential imbalance of our treatments across manufacturers. Again, the economic magnitudes and t-statistics for our key treatments remain stable. Lastly, in our preferred specification in Column (4), we further add product fixed effects. These fixed effects absorb the controls for price as well as the product category and firm fixed effects. In this specification, we are able to estimate effect sizes for our information treatments while holding the respondent and product constant. For example, the coefficient for Social in Column (4) suggest that respondents increase their purchase intent by 0.09 relative to i) the assessment of other products by the same individual and ii) the assessment of the same product by other individuals.

In our next set of analyses, we further explore the null result for ESG reports and financial information. Specifically, we estimate the following OLS regression model:

\[
\text{Purchase Intent}_{i,p} = \beta_1 \text{Environment}_{i,p} + \beta_2 \text{Social}_{i,p} + \beta_3 \text{Governance}_{i,p}
+ \beta_4 \text{ESG Report Viewed}_{i,p} + \beta_5 \text{ESG Report Not Viewed}_{i,p} + \beta_6 \text{Annual Report Viewed}_{i,p}
+ \beta_7 \text{Annual Report Not Viewed}_{i,p} + \beta_8 \text{Profitability Information Good}_{i,p}
+ \beta_9 \text{Profitability Information Bad}_{i,p} + \beta_{10} \text{Consumer Review Good}_{i,p}
+ \sum \beta_j \text{Controls}_{p} + \sum \beta_l \text{Fixed Effects}_{i,p} + \epsilon_{i,t}.
\]

This specification is a variant of Equation (1) with the following two adjustments: (i) ESG Report and Annual Report are split based on whether a given respondent chose to view the respective
report or not; (ii) Profitability Information and Consumer Review are split based on whether the information provided to the respondent is positive or negative (using Percent High Ratings of 85% and positive or zero earnings surprises as the respective thresholds). Making adjustment (i) allows us to unpack why, on average, participants do not react to links to ESG or annual reports in Table 4. The purpose of adjustment (ii) is two-fold. First, by conditioning Profitability Information on the type of news, we are able to discern whether consumers have a preference for positive or negative firm profitability. Second, by splitting Consumer Review into products with good and bad (i.e., less-than-stellar) reviews, we can set a higher benchmark for our ESG treatments.

In Table 5, we report the corresponding results. We follow the same fixed effects structure as in the regressions of Table 4. The tenor of the results is consistent across all specifications, and we focus on our preferred specification with product fixed effects in Column (4) for the interpretation. We also present these results graphically in Figure 10. Compared to Equation (1), we find largely consistent results for our E, S and G treatments. Notably, the largest positive treatment effect comes from the ESG Report sub-treatment arm in this analysis: when the respondent receives the ESG report treatment and chooses to view the report, their purchase intent increases by 0.18 points (about 8% of the standard deviation). Thus, the insignificant main effect in Table 4 can be explained by most participants simply choosing to not view the ESG report. In fact, when respondents do not open the ESG report, their purchase intent slightly decreases by 0.03 points. We observe a different pattern for Annual Report for which both coefficients are insignificant. Therefore, consumers’ purchase intent does not seem to depend on whether they open the annual report or not, consistent with firm financial information not impacting purchase considerations. Finally, we find insignificant results for both Profitability Information treatments, i.e., the average consumer does not take into consideration whether a firm has good or bad earnings

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16 In Columns (1) to (3), we additionally include the necessary main effects for Profitability Information Good and Consumer Review Good. In Column (4), the main effects are fully subsumed by the product fixed effects.
17 Only about 5% of respondents open the ESG report. This finding is consistent with our descriptive survey results. Specifically, about 78% of respondents indicate that they were not aware of the existence of ESG reports and only about 12% of individuals actually read an ESG report before participating in our survey (see Figure 5).
news when making a purchase decision.

Given the strong effects observed for respondents who choose to view ESG reports, in Internet Appendix Table IA4.5, we explore the characteristics of consumers that click on ESG or annual financial reports. We find that “acquirers” of firm-level information tend to be older, have lower income, and are more highly educated than the median respondent in our sample. Individuals who choose to view corporate reports are also more likely to convey strong preferences for firms’ ESG activities, prefer unprofitable firms, convey some distrust of firms’ ESG disclosures, be generally aware of corporate disclosure, and engage in stock investing. These correlations are stronger for ESG reports. The results from Table 5 and Table IA4.5 imply that the choice to view corporate reports reveals a cohort of consumers who care about firm-level characteristics—especially ESG characteristics—and therefore respond more strongly to the provision thereof.\(^\text{18}\)

Overall, our findings indicate that consumers who are randomly presented with firm-level information consistently react to Environment, Social, and Governance treatments. Thus, consumers seem to care about firms’ ESG activities, at least when presented in digestible form or when they choose to view an ESG report. In contrast, we do not find evidence of consumers reacting to financial information about producing firms. This evidence is consistent with the descriptive survey results we discuss in Section 4.1.

4.3 **Heterogeneity**

It is likely that our estimated treatment effects vary based on characteristics of the individuals in our experiment. Specifically, consumers’ responses to ESG and financial information might depend on socio-demographic factors and behavioral characteristics.

To examine the heterogeneity of our results, we re-run our preferred specification from Table 5 Column (4) but split the sample based on various cross-sectional characteristics. We report

\(^{18}\) In untabulated tests, we limit the estimation sample to those individuals who choose to click on ESG reports. Just as they conveyed high purchase intent with the ESG report, these consumers react in a similarly strong fashion to the exogenous provision of the summarized E and S (and, to a lesser extent, G) information, establishing that these consumers are particularly responsive to firm-level information (rather than just ESG reports).
the results for the socio-demographic cross-sections in Figure 11 Panel A.\textsuperscript{19} We select gender, age, income, education, political orientation, race/ethnicity, and population density as characteristics that might alter how consumers react to firm (and in particular ESG) disclosures.\textsuperscript{20} Overall, we find that individuals who are younger and have liberal political views react more strongly to our ESG disclosure treatments. In terms of economic magnitude, the cross-sectional differences are most pronounced for political orientation with the coefficients increasing by a factor of two to three. On the other hand, we find limited response heterogeneity between groups based on gender, income, education, and population density.

Next, we focus on various behavioral characteristics. In Figure 11 Panel B, we find that consumers who have prior experience investing in firms and/or were already aware of ESG and annual reports before taking the survey react more strongly to the ESG treatments. The findings are intuitive as these consumers are likely more financially sophisticated and uniquely equipped to process the information we provide them with. Importantly, observing stronger results for disclosure-aware consumers implies that, even if consumers know corporate disclosures exist, they likely face significant acquisition and integration costs in mapping information from those disclosures into their purchase intentions. Moreover, consumers who indicate a preference for ESG information after the experiment react more strongly to the \emph{Environment} and \emph{Social} treatments. For the small subset of consumers who prefer higher-profit firms, we find a more negative reaction to firms reporting negative earnings information. In terms of purchase behavior, we find that the effects for the ESG treatments are on average larger for product substitutes compared to previously purchased products. The larger ESG treatment effects for potential substitutes are consistent with a greater updating of consumers’ priors. When consumers have previously purchased a product, they are more likely to be familiar with the product and could face a “ceiling effect” in upgrading

\textsuperscript{19} While the specification includes all variables from Table 5 Column (4), for parsimony, we only report the main coefficients of interest: \emph{Environment}, \emph{Social}, \emph{Governance}, \emph{ESG Report Viewed}, \emph{Annual Report Viewed}, \emph{Profitability Information Good} and \emph{Profitability Information Bad}.

\textsuperscript{20} All of these cross-sectional variables, except for political orientation, were measured by Numerator outside the context of this survey. In Internet Appendix Figures IA4.8, we perform heterogeneity splits based on survey response time and individuals’ trust in firms.
their preferences. Note that financial information (in particular, Profitability Information) does not have a positive effect for either product type.

Finally, we focus on the content of non-financial disclosure in a more granular fashion. Although our main tests separate non-financial disclosure into E, S, and G domains, Moody’s classification system further separates corporate reporting into various subdomains, allowing us to understand whether specific subtopics within E, S, and G disclosure have differential impacts on consumers’ purchase preferences. To foster conditional support in our within-individual and within-product specification (based on Table 5 Column 4), we separately estimate coefficients for 12 of the more populated subdomains (biodiversity, waste management, energy, water, societal impact, career management, economic development, diversity and inclusion, product safety, board experience, anti-corruption, and executive compensation) and pool the remaining subdomains into one category. In Figure IA4.9, we plot the coefficients for the 12 specific subdomains. Of note are the especially strong coefficients for biodiversity, waste and energy management, societal impact, (local) economic development, and career management, as well as the particularly weak effects for information on non-product-safety-related governance topics. These results suggest that certain types of social and environmental information are more relevant and comprehensible to consumers than governance information, such as anti-corruption efforts and executive compensation.21

4.4 Real Consumption Effects

Although the above results provide important insights on how firm-level information affects purchase intentions, they do not necessarily shed light on how this information maps into real purchase behavior. To understand the effects of information provision on actual purchase behavior, we leverage data on real product purchases after our experiment. Specifically, for all households in the NTP sample, we can observe product purchases in the four weeks subsequent to

21 In untabulated tests, we also consider the readability (e.g., FOG score) of the E, S, and G summaries. We do not find significant variation in the treatment effects based on readability. This is arguably unsurprising because the highly summarized nature of our E, S, and G treatments yields limited variation in readability. Nonetheless, our subdomain analysis provides an alternative approach to understand how the content of ESG disclosure matters in forming consumers’ purchase intentions.
their participation in the survey experiment.\textsuperscript{22} We limit the sample of product purchases to those products featured in our survey experiment, aggregate the post-experiment purchase data at the individual\times product level, and impute zeros when an individual does not purchase a given product. We summarize the distribution of the resulting count variable, \textit{Quantity Purchased}, in Table 2 Panel B, and estimate the following OLS regression:

\[\text{asinh(Quantity Purchased)}_{i,p} = \beta_1 \text{Environment}_{i,p} + \beta_2 \text{Social}_{i,p} + \beta_3 \text{Governance}_{i,p}\]

\[+ \beta_4 \text{ESG Report Viewed}_{i,p} + \beta_5 \text{ESG Report Not Viewed}_{i,p} + \beta_6 \text{Annual Report Viewed}_{i,p}\]

\[+ \beta_7 \text{Annual Report Not Viewed}_{i,p} + \beta_8 \text{Profitability Information Good}_{i,p}\]

\[+ \beta_9 \text{Profitability Information Bad}_{i,p} + \beta_9 \text{Consumer Review Good}_{i,p}\]

\[+ \beta_{10} \text{Consumer Review Bad}_{i,p} + \sum \beta_j \text{Controls}_{i,p} + \sum \beta_1 \text{Fixed Effects}_{i,p} + \epsilon_{i,t}.\]

Note that this specification mirrors Equation (2) with the exception that the outcome variable is the inverse hyperbolic sine of the number of actual purchases of a product after the experiment, rather than the respondent’s reported purchase intent.\textsuperscript{23} Given that \textit{Quantity Purchased} is a sparse count variable, we also conduct pseudo-Poisson maximum likelihood estimations as a robustness test (Cohn et al. 2022).\textsuperscript{24}

In Table 6, we report the regression results from estimating Equation (3). We document five key results. First, in the two weeks after the survey experiment (Columns 1 to 4), consumers only increase their actual product purchases when they are either provided with information about firms’ positive social activities or given a link to an ESG report which they choose to view. These

\textsuperscript{22} Based on our post-experiment consumption data, we infer that virtually all households of our original respondent pool are still actively participating in the NTP in the month after our experiment. Nevertheless, the extent to which we observe actual product purchases after the experiment is inherently constrained by how comprehensively NTP participants upload their purchase receipts. However, in our follow-up survey, over 70\% of respondents indicate that they upload 60\% or more of their receipts, with most of these respondents reporting that they upload more than 80\% of their receipts (see Figure IA5.3 of the Internet Appendix).

\textsuperscript{23} For ease of exposition, we only estimate the specification for the conditional treatment arms (Equation 2) in the paper. However, for completeness, we also tabulate the real consumption effects for the unconditional treatment arms specification (Equation 1) in Table IA4.6 of the Internet Appendix and find consistent results.

\textsuperscript{24} A key limitation of using a Poisson estimation method with high-dimensional fixed effects is that the estimation sample is limited to observations for which there is some within-fixed effect variation in the outcome variable. This is often not the case in our sample, as there is a preponderance of zero purchases. Therefore, the OLS specification is our preferred one, as the inverse hyperbolic sine transformation closely mirrors a natural log transformation while still admitting zero values.
results are in line with the results from Table 5, in which the largest positive increases in purchase intent materialize for these two treatment arms. Second, the real consumption effects are small in terms of economic magnitude. On average, households in our sample increase their number of product purchases by 1.2% when viewing an ESG report and by 0.3% when being informed about the social activities of the producing company. Third, in Column (5), we find that these real effects are short lived and dissipate during weeks 3 and 4 after the survey experiment. Fourth, we document that “bad news” information, both in the form of low profitability and less-than-stellar consumer reviews, leads to similarly modest decreases in actual product purchases. Fifth, our results remain similar when we estimate the effects using Poisson instead of OLS (see Columns 7 and 8).\(^{25}\)

We then assess whether our provision of firm-level information through a specific product has spillover effects on purchases of other products by the same firm. To do so, we re-aggregate the consumption data of firms’ other products into three broader categories. Specifically, we aggregate purchases to the brand level (i.e., Honest Kids Fruit Punch is part of the Honest Kids brand), the parent brand level (i.e., Honest Kids is a brand under the Honest Tea parent brand), and the firm level (i.e., Honest Tea and Diet Coke are both brands of the Coca-Cola Company), respectively. In Table 7, we find that our information experiment does not generate consumption spillover effects for treated firms’ other products. The estimated coefficients are close to zero and almost always statistically insignificant.

Overall, the observed real effects are consistent with our descriptive findings. While consumers do show some preference for firm-disclosed ESG activities, they encounter important frictions when trying to incorporate this information into their everyday purchases.

4.5 Follow-up Survey

To better understand and contextualize the effects of our information experiment, we

\(^{25}\) Given the already sparse nature of our outcome variable in the real consumption analysis, it is econometrically difficult to split the analysis and reliably estimate interpretable cross-sectional parameters. Therefore, we rely on our purchase intention data to explore the heterogeneity of our results (see Section 4.3).
fielded a follow-up survey in mid-May 2023 (about 7 weeks after the end of our main survey). The follow-up survey contains a series of qualitative questions to the respondents of our original survey. We collected 16,350 responses, representing 67% of our initial group of respondents.

First, we ask the *same* initial question about purchase considerations. Doing so allows us to understand the information experiment’s effect on consumers’ rank order of various product and firm characteristics. In Figure 1A5.1 of the Internet Appendix, we document, on average, no change in the overall rank order of consumers’ purchase considerations around the experiment, consistent with consumer preferences remaining consistent over time and not being easily altered by our experiment. Second, we ask consumers whether they recall our initial survey and 70% of consumers do. Third, we ask those consumers with recall whether the survey impacted their shopping behavior in any way. 35% of the consumers who recall the survey state that the experiment did change their purchase behavior; of these consumers, the vast majority indicate in open-ended responses that the provided information helped them increase their understanding and awareness of product and firm characteristics and/or improved their purchase planning.

However, 65% of consumers convey that the survey experiment did not impact their shopping. In Figure 13, we document that consumers’ primary reasons for the survey *not* impacting their purchase behavior are that they do not remember the provided information (44%), do not have the time to consider the provided information (26%), do not care about firms’ profitability (25%), do not have the financial resources to purchase the products featured in the experiment (21%), or do not know which firms produce which products (21%). These responses are consistent with our modest and short-lived real consumption effects and highlight the frictions consumers face when mapping firm-disclosed information to actual product purchases.

### 4.6 Discussion of Economic Magnitudes

In essence, our study of actual shopping behavior reveals that the impact of firm disclosure on consumer purchases is relatively modest. There could be a concern that these modest effects derive from features of the field experiment itself. However, our combined evidence suggests that
the effect sizes are truly modest.

First, although effect sizes in field experiments can be attenuated due to “weak” treatments (whereas a “strong” treatment capturing the same construct would yield larger effects), our results likely do not reflect this concern. We tailored our field experiment to deliver firm-disclosed information to consumers through products based on their individual purchase history. By design, we explicitly focus on frequently purchased products, ensuring that consumers receive relevant information about products they are likely to consider after the experiment.26 In assessing the strength of the firm disclosure treatments, the inclusion of consumer reviews as a treatment arm allows us to benchmark the effects of firm-disclosed information against an information source that consumers report to be a primary consideration in their purchase decisions (see Figure 4). Importantly, the effects on actual purchase behavior for positive social information and viewed ESG reports are comparable or larger in economic magnitude (in the opposite direction) than the effect of less-than-stellar product review information. Moreover, our results that firm-disclosed information leads to economically small and short-lived real effects—even if materially increasing purchase intentions and consumer understanding—is similar to conclusions of recent meta-studies regarding the differential effects of front-of-package nutrition labeling (Ikonen et al. 2020). Finally, our effect sizes are comparable in magnitude to recent field experiments on the provision of generalized macroeconomic information to consumers (Coibion et al. 2021; Coibion et al. 2022).

Second, the modest effects for consumers’ actual purchase behavior are consistent with our descriptive evidence and purchase intention results. Specifically, our descriptive evidence indicates that consumers have a moderate preference to purchase products from sustainable companies, but they have difficulties acquiring and processing corporate information, making any large effects for consumers’ actual purchase behavior unlikely. In addition, our actual purchase

26 One caveat in this regard is the limited window in which we are able to observe actual purchase behavior. However, given that most of our real effects materialize during the two weeks directly subsequent to the field experiment and attenuate in weeks 3 and 4, it seems implausible that a longer post-experiment window would yield materially different inferences.
behavior results align well with the relative change in consumers’ intended purchase behavior. In both set of analyses, Social and ESG Report Viewed are the most impactful treatment arms. Our somewhat smaller effect sizes for consumers’ actual purchase behavior are consistent with consumers facing additional frictions when applying this information in a real-world setting (e.g., recall the information at the point of sale).

Third, the large sample nature of our field experiment likely mitigates power concerns. With our sample of over 24,000 consumers and over 300,000 viewed product profiles, we can comfortably detect small real effects for our main treatment arms. Specifically, using standard parameters of a 95% confidence level and an alpha of 80% (e.g., Gassen and Muhn 2023), the minimum detectable effect size equals 0.002 in our real purchase analysis. Put differently, if the true effect sizes are at least 0.002, then we would have an 80% chance to detect a significant effect (with a confidence level of 95%) when running our experiment.

5. Conclusion

We combine a large-scale field experiment with a customized survey to study how consumers use and respond to different types of financial and non-financial firm disclosure in a sample of more than 24,000 U.S. households that are part of a major consumer panel. Our approach allows us to establish several stylized new facts about consumers’ demand for firm-level information and to provide causal estimates on the effects of firm disclosure on consumers’ intended and actual purchase behavior. Overall, our evidence—from descriptive insights to elicited purchase intentions and real consumption behavior—paints the picture of an average consumer who has preferences for select firm-level characteristics (especially ESG activities), but faces significant frictions in directly applying firm-disclosed information to those preferences and into their everyday product purchases. Our results shed light on a unique stakeholder’s disclosure use and inform regulatory initiatives to increase ESG disclosure.

The findings of this paper should be interpreted with three caveats in mind. First, by design, our information experiment leads to a focus on the effects of direct information provision only in a short time period. Put differently, our analyses cannot speak fully to real-world settings such as
earnings announcements or ESG scandals, where factors like firm attention and repeated media dissemination play important roles (Asay et al. 2023; Christensen et al. 2023; Dube et al. 2023; Houston et al. 2023; Meier et al 2023; Kimbrough et al. 2023; Noh et al. 2023). Second, our product sample for the field experiment consists mostly of non-durable goods. Note that, in terms of economic importance, non-durable goods account for the majority of personal consumption expenditures in the United States. Specifically, in March 2023 when our study was fielded, non-durable goods accounted for approximately $3,800 billion of spending, whereas durable goods accounted for approximately $2,200 billion of spending (U.S. Bureau of Economic Analysis 2023). Nonetheless, our focus on non-durable goods hampers our ability to speak to how the provision of firm information affects the demand for durable goods. Such effects could be large with the provision of profitability information, as firm performance and bankruptcy risk could be especially important for owners of durable goods (e.g., Antill and Hunter 2023; Noh et al. 2023). Third, although our findings suggest that consumers find it challenging to directly use information provided by firms, this finding does not rule out the possibility that such information can have indirect effects and benefit consumers. For instance, other stakeholders like investors might use this information to shape firms’ activities in ways that align with consumer preferences. In addition, regulators could use firm-disclosed information to design certifications and labels that better cater to consumer needs. In this way, consumers with specific preferences for certain firm-level characteristics can still indirectly benefit from the information disclosed by firms.
References


Colonnelli, E., McQuade, T., Lobato Ramos, G., Rauter, T., & Xiong, O. (2023b). “Polarizing Corporations: Does Talent Flow to ‘Good’ Firms?”


Figure 1: Experimental Design and Timeline

(A.) Randomization Strategy

<table>
<thead>
<tr>
<th>Treatment Group</th>
<th>Non-Financial Information</th>
<th>Financial Information</th>
<th>Product Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>(11 profiles, ~ 73%)</td>
<td>(5 profiles, ~ 33%)</td>
<td>(4 profiles, ~ 27%)</td>
<td>(2 profiles, ~ 13%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-Treatment Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment (1.33 profiles, ~ 9%)</td>
</tr>
<tr>
<td>Social (1.33 profiles, ~ 9%)</td>
</tr>
<tr>
<td>Governance (1.33 profiles, ~ 9%)</td>
</tr>
<tr>
<td>ESG Report (1 profile, ~ 7%)</td>
</tr>
<tr>
<td>Annual Report (1 profile, ~ 7%)</td>
</tr>
<tr>
<td>Profitability Information (3 profiles, ~ 20%)</td>
</tr>
<tr>
<td>Consumer Reviews (2 profiles, ~ 13%)</td>
</tr>
</tbody>
</table>

(B.) Timeline of Field Experiment

Pre-period
- June 1, 2022
- August 29, 2022

Post-period
- October 20, 2022
- March 1, 2023
- April 2, 2023
- April 29, 2023
- May 18, 2023

Starting date:
First day of consumption data

Pilot Study:
1,514 participants over three waves (separate panel from a different company)

Notes: This figure illustrates the experimental design of the study. Panel A provides details on the randomization strategy, including the relative frequency of the three treatment arms and the sub-treatment groups within the treatment arms. Panel B provides details on the timeline of the experiment, including the pilot studies, main experiment, participant consumption data acquisition, and follow-up survey.
Figure 2: Illustration of Product Rating Exercise

(A.) Environment Treatment Card

Product Information
Jimmy Dean Frozen Meat Lovers Breakfast Bowl - 70g is a product made by Tyson Foods, a company in the Food Products industry. The average selling price of the product is $2.82.

Environmental Information on the Producing Company
- To minimize the footprint of its packaging operations, Tyson Foods has increased the use of renewable and recycled materials. Its corrugated boxes are produced from 100% renewable materials and contain 29.9% postconsumer recyclable packaging.
- The company has also joined the Sustainable Packaging Coalition (SPC), which is a membership-based collaborative that promotes sustainable packaging.

How likely are you to purchase this product in the next six months?

<table>
<thead>
<tr>
<th>Extremely unlikely</th>
<th>Neither likely nor unlikely</th>
<th>Extremely likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Have you purchased this product within the past six months?

Yes
No

---

(B.) Social Treatment Card

Product Information
Jimmy Dean Frozen Meat Lovers Breakfast Bowl - 70g is a product made by Tyson Foods, a company in the Food Products industry. The average selling price of the product is $2.82.

Social Information on the Producing Company
- Tyson Foods offers financial grants and food product donations to regional food banks serving its communities. The company also has collaborative partnerships with hunger-related organizations such as Hunger Relief.
- In addition, Tyson Foods has launched the “Miles That Matter” program in which for each walk, run, or cycle logged by employees, the company donates a pound of food to a local food bank.
- The company also launched the Community Pantry Initiative program which aims to increase the provision of high-quality protein and other foods in the community, enabling Tyson Foods to donate products more directly to people facing food insecurity in its communities.

How likely are you to purchase this product in the next six months?

<table>
<thead>
<tr>
<th>Extremely unlikely</th>
<th>Neither likely nor unlikely</th>
<th>Extremely likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Have you purchased this product within the past six months?

Yes
No

---

(C.) Governance Treatment Card

Product Information
Jimmy Dean Frozen Meat Lovers Breakfast Bowl - 70g is a product made by Tyson Foods, a company in the Food Products industry. The average selling price of the product is $2.82.

Governance Information on the Producing Company
- Tyson Foods partners with FoodLogiQ, a Software as a Service (SaaS) provider of food safety compliance tools. This partnership provides Tyson Foods with supply chain traceability and transparency solutions.
- Specifically, the “Connect Manager+Monitor” tool helps Tyson Foods improve its global supply chain visibility, quality issue tracking, and reporting.
- The company also has product safety and quality certifications, which include Safe Quality Foods (SQF), Global Food Safety Initiative (GFSI), British Retail Consortium (BRC) and Food Safety System Certification (FSSC) 22000.

How likely are you to purchase this product in the next six months?

<table>
<thead>
<tr>
<th>Extremely unlikely</th>
<th>Neither likely nor unlikely</th>
<th>Extremely likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Have you purchased this product within the past six months?

Yes
No

---

(D.) ESG Report Treatment Card

Product Information
Jimmy Dean Frozen Meat Lovers Breakfast Bowl - 70g is a product made by Tyson Foods, a company in the Food Products industry. The average selling price of the product is $2.82.

ESG Report of the Producing Company
Tyson Foods recently published its ESG report, which describes the company’s environmental, social, and governance (ESG) activities. Please take a look at their ESG report by clicking on the link below.

View ESG Report

How likely are you to purchase this product in the next six months?

<table>
<thead>
<tr>
<th>Extremely unlikely</th>
<th>Neither likely nor unlikely</th>
<th>Extremely likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

Have you purchased this product within the past six months?

Yes
No

---
Figure 2: Illustration of Product Rating Exercise (continued)

(E.) Annual Report Treatment Card

Product Information
Jimmy Dean Frozen Meat Lovers Breakfast Bowl - 70z is a product made by Tyson Foods, a company in the Food Products industry. The average selling price of the product is $2.82.

Financial Report of the Producing Company
Tyson Foods recently published its annual financial report, which describes the company’s financial performance over the past year. Please take a look at their annual report by clicking on the link below.

View Annual Financial Report

How likely are you to purchase this product in the next six months?

<table>
<thead>
<tr>
<th>Extremely unlikely</th>
<th>Neither likely nor unlikely</th>
<th>Extremely likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How likely are you to purchase this product in the next six months?

<table>
<thead>
<tr>
<th>Extremely unlikely</th>
<th>Neither likely nor unlikely</th>
<th>Extremely likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Have you purchased this product within the past six months?

Yes

No

Notes: This figure presents examples of the treatment cards used in the product rating exercise. All treatment cards state the name of the product, the name of the firm, the industry the firm operates in, and the average price of the product. The treatment cards also always include a picture of the product. The remaining information shown to the participants depends on the randomly assigned treatment. After reading the treatment card, we ask participants to score their intent to purchase this product on a scale of 1 (“extremely unlikely”) to 7 (“extremely likely”) using the slider displayed and we ask them to indicate whether they have purchased the product in the last six months.
Figure 3: Purchase Considerations by U.S. Consumers

Notes: This figure captures the relative importance of product or firm attributes that respondents consider when making their purchase decision. The data stem from the question “How important are the following characteristics when you are making a purchase decision about a product?” where respondents rank topics according to relative importance from 1 (most important) to 9 (least important). The figure presents the order based on the mean rank for each attribute and 90% confidence intervals.

Figure 4: Information Sources Used to Make Product Purchases

Notes: This figure captures the external information sources participants consider when purchasing a product. The data stem from the question “Which of the following sources of information do you reference when considering purchasing a product? Select all that apply.” The figure captures the percentage of respondents considering a given external information source and 90% confidence intervals.
Figure 5: Awareness of Firm Disclosure

Notes: This figure captures whether respondents are aware of Annual and ESG Reports. Conditional on being aware of the firm disclosure, we capture whether respondents have previously read the respective disclosure. The data stem from the question “Companies often voluntarily provide corporate environmental, social, and governance (ESG) reports. In these ESG reports, companies outline their ESG practices. Other than the ESG reports provided to you in this survey, were you aware of the existence of these ESG reports before taking this survey?” and “Companies often provide annual reports summarizing their financial performance for the year. Other than the annual financial reports provided to you in this survey, were you aware of the existence of these annual financial reports before taking this survey?” If respondents answer with “Yes”, we ask “Other than the ESG [annual financial] reports provided to you in this survey, have you ever read an ESG [annual financial] report?” The figure captures the percentage of respondents in each category.
**Figure 6: Preferences to Purchase Products from ESG-Responsible Firms**

Notes: This figure presents respondents’ preferences for purchasing from ESG-responsible firms. The data stem from the question “How strong is your preference to purchase products from firms with good environmental, social, or governance (ESG) practices?” The figure captures the percentage of respondents selecting a given answer.

**Figure 7: Frictions in Purchasing Products from ESG-Responsible Firms**

Notes: This figure presents the frictions faced by respondents when trying to purchase products from ESG-responsible firms. The figure summarizes the responses to the question “In trying to buy products from companies that are more responsible in their environmental, social, or governance (ESG) activities, which of the following issues do you face? Please check all that apply.” The results show the percentage of respondents facing a given friction in their purchase behavior and 90% confidence intervals.
Figure 8: Preferences to Purchase Products from (Un-)Profitable Firms

Notes: This figure presents respondents’ preferences for purchasing from (un-)profitable firms. The data stem from the question “Do you have a preference to purchase products from firms with high or low profits?” The figure captures the percentage of respondents selecting a given answer.

Figure 9: Frictions in Purchasing Products from (Un-)Profitable Firms

Notes: This figure presents the frictions consumers face when trying to purchase products from firms with their preferred profitability profile. The figure summarizes the responses to the question “In trying to buy products from companies with high or low profits, which of the following issues do you face? Please check all that apply.” The results show the percentage of respondents facing a given friction in their purchase behavior and 90% confidence intervals.
Figure 10: Effects on Purchase Intent

(A.) Environment, Social, Governance, and ESG Report

(B.) Annual Report, Profitability Information, and Consumer Reviews

Notes: This figure plots the coefficient estimates and 90% confidence intervals for the main treatment effects on purchase intent using the specification in Table 5 Column (4). Panel A shows the coefficients for the Environment, Social, Governance, and ESG Report treatment arms. Panel B shows the coefficients for the Annual Report, Profitability Information, and Consumer Reviews treatment arms. The coefficients for ESG Report and Annual Report are split based on whether the participant viewed the report or not. The coefficients for Profitability Information and Consumer Reviews are split on whether the provided information is positive or negative. For definitions of these variables, see the notes to Table 2.
Figure 11: Heterogeneity in Treatment Effects
(A.) Socio-Demographic Characteristics

(i) Gender

(ii) Age

(iii) Income

(iv) Education

(v) Political Orientation

(vi) Population Density
Figure 11: Heterogeneity in Treatment Effect (continued)
(B.) Behavioral Characteristics

(i) Investing Activity

(ii) Annual/ESG Report Awareness

(iii) ESG Preference

(iv) Profit Preference

(v) Product Familiarity
Figure 11: Heterogeneity in Treatment Effects (continued)

Notes: This figure shows the heterogeneity in treatment effects using the specification in Table 5 Column (4) as the basis. The figures show the coefficients and 90% confidence intervals for the Environmental, Social, Governance, ESG Report, Annual Report, and Profitability Information treatment arms. For ESG Report and Annual Report we only show heterogeneity for participants who view the report. Panel A shows sample splits using socio-demographic characteristics. Sub-figure i splits the sample by Gender using an indicator for participants identifying as male or female. Sub-figure ii splits the sample by Age at the median, which is 45 - 54 years. Sub-figure iii splits the sample by Income at the median, which is US $40,000 - $60,000. Sub-figure iv splits the sample by Education at the median, which is a College degree. Sub-figure v splits the sample by political orientation using indicators for liberal, moderate, and conservative. Sub-figure vi splits the sample into urban and rural areas. Panel B shows splits based on participants’ behavioral characteristics. Sub-figure i splits the sample based on respondents’ investing activity. Sub-figure ii splits the sample based on participants’ awareness of corporate disclosure. Sub-figure iii splits the sample based on participants’ preferences for good ESG activities. Sub-figure iv splits the sample into participants with preferences for high and low profits. Sub-figure v splits the sample on whether a participant has bought the product on the treatment card during a six month period before the experiment or whether it is a substitute product for those purchases. Shaded regions indicate coefficients that are significantly different (p-value < 0.1).
Figure 12: Real Effects on Actual Product Purchases

(A.) Environment, Social, Governance, and ESG Report

(B.) Annual Report, Profitability Information, and Consumer Reviews

Notes: This figure shows a plot of the coefficient estimates and 90% confidence intervals for the main treatment effects on future quantity purchased using the specification in Table 6 Column (4). Panel A shows the coefficients for the Environment, Social, Governance, and ESG Report treatment arms. Panel B shows the coefficients for the Annual Report, Profitability Information, and Consumer Reviews treatment arms. The coefficients for ESG Report and Annual Report are split based on whether the participant viewed the report or not. The coefficients for Profitability Information and Consumer Reviews are split on whether the provided information is positive or negative. For definitions of these variables, see the notes to Table 2.
Figure 13: Frictions in Using Information from Survey Experiment

Notes: This figure presents the frictions faced by respondents after the survey experiment. The data stem from the follow-up survey and include respondents who remember taking the survey but indicate that it did not impact their purchase behavior ($N = 7,442$). The results show the percentage of respondents facing a given friction in their purchase behavior in this sample and 90% confidence intervals.
### Table 1: Covariate Balance

**Panel A: Means by Treatment Sub-Group**

<table>
<thead>
<tr>
<th>Treatment:</th>
<th>Control</th>
<th>Environment</th>
<th>Social</th>
<th>Governance</th>
<th>ESG Report</th>
<th>Profitability Information</th>
<th>Annual Report</th>
<th>Consumer Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>ln(Median Price)</td>
<td>1.561</td>
<td>1.564</td>
<td>1.57</td>
<td>1.564</td>
<td>1.564</td>
<td>1.560</td>
<td>1.560</td>
<td>1.558</td>
</tr>
<tr>
<td>ln(Purchases Household)</td>
<td>0.330</td>
<td>0.329</td>
<td>0.331</td>
<td>0.330</td>
<td>0.328</td>
<td>0.332</td>
<td>0.328</td>
<td>0.330</td>
</tr>
<tr>
<td>Percent High Ratings</td>
<td>88.051</td>
<td>88.061</td>
<td>88.008</td>
<td>87.960</td>
<td>87.960</td>
<td>87.961</td>
<td>87.977</td>
<td>87.926</td>
</tr>
<tr>
<td>ln(Reviews)</td>
<td>5.852</td>
<td>5.849</td>
<td>5.857</td>
<td>5.845</td>
<td>5.859</td>
<td>5.847</td>
<td>5.856</td>
<td>5.846</td>
</tr>
<tr>
<td>Previous Purchase</td>
<td>0.299</td>
<td>0.298</td>
<td>0.299</td>
<td>0.297</td>
<td>0.298</td>
<td>0.301</td>
<td>0.297</td>
<td>0.297</td>
</tr>
<tr>
<td>Product Substitute</td>
<td>0.689</td>
<td>0.689</td>
<td>0.688</td>
<td>0.690</td>
<td>0.690</td>
<td>0.686</td>
<td>0.691</td>
<td>0.689</td>
</tr>
<tr>
<td>Grocery</td>
<td>0.828</td>
<td>0.828</td>
<td>0.824</td>
<td>0.827</td>
<td>0.831</td>
<td>0.831</td>
<td>0.827</td>
<td>0.827</td>
</tr>
<tr>
<td>Health &amp; Beauty</td>
<td>0.108</td>
<td>0.107</td>
<td>0.109</td>
<td>0.109</td>
<td>0.106</td>
<td>0.106</td>
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<tr>
<td>Household</td>
<td>0.018</td>
<td>0.019</td>
<td>0.020</td>
<td>0.017</td>
<td>0.018</td>
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<tr>
<td>Pet</td>
<td>0.038</td>
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<td>0.039</td>
<td>0.037</td>
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<tr>
<td>Other</td>
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<td>0.008</td>
<td>0.008</td>
<td>0.010</td>
<td>0.007</td>
<td>0.008</td>
<td>0.009</td>
<td>0.008</td>
</tr>
</tbody>
</table>

**Panel B: Difference in Means compared to Control Group**

<table>
<thead>
<tr>
<th>Treatment:</th>
<th>Control</th>
<th>Environment</th>
<th>Social</th>
<th>Governance</th>
<th>ESG Report</th>
<th>Profitability Information</th>
<th>Annual Report</th>
<th>Consumer Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>ln(Median Price)</td>
<td>0.002</td>
<td>0.005</td>
<td>0.003</td>
<td>0.002</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.003</td>
</tr>
<tr>
<td>ln(Purchases)</td>
<td>0.001</td>
<td>-0.001</td>
<td>-0.017</td>
<td>0.001</td>
<td>0.000</td>
<td>0.006</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>ln(Purchases Household)</td>
<td>-0.002</td>
<td>0.001</td>
<td>-0.001</td>
<td>-0.002</td>
<td>0.002</td>
<td>-0.003</td>
<td>-0.003</td>
<td>-0.001</td>
</tr>
<tr>
<td>Percent High Ratings</td>
<td>0.010</td>
<td>-0.043</td>
<td>-0.082</td>
<td>-0.092</td>
<td>-0.091</td>
<td>-0.074</td>
<td>-0.125</td>
<td>-0.125</td>
</tr>
<tr>
<td>ln(Reviews)</td>
<td>-0.003</td>
<td>0.005</td>
<td>-0.007</td>
<td>0.007</td>
<td>-0.005</td>
<td>0.003</td>
<td>-0.006</td>
<td>-0.006</td>
</tr>
<tr>
<td>Previous Purchase</td>
<td>-0.001</td>
<td>0.000</td>
<td>-0.001</td>
<td>-0.001</td>
<td>0.003</td>
<td>-0.002</td>
<td>-0.002</td>
<td>-0.001</td>
</tr>
<tr>
<td>Product Substitute</td>
<td>-0.000</td>
<td>-0.000</td>
<td>0.002</td>
<td>0.001</td>
<td>-0.002</td>
<td>0.002</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Grocery</td>
<td>-0.000</td>
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**Notes:** This table shows the covariate balance for the assignment of treatment and products to each household. Before running the experiment, we use purchasing data from a six month period before the experiment to select products for each household and assign a treatment to a given product. Panel A shows the mean for the variables used for covariate balancing by treatment sub-group. Panel B shows the difference between the mean for the control group and a given treatment sub-group. \( \text{ln(Median Price)} \) is the natural logarithm of the median product price. \( \text{ln(Purchases)} \) is the natural logarithm of the total number of purchases of a given product during a six month period before the experiment from all households in the sample. \( \text{ln(Purchases Household)} \) is the natural logarithm of the total number of purchases of a given product during a six month period before the experiment for a household. \( \text{Percent High Ratings} \) is the percent of consumers who provide a high rating to the product. \( \text{ln(Reviews)} \) is the number of consumer reviews for the product. \( \text{Previous Purchase} \) indicates products that the participant bought during a six month period before the experiment and \( \text{Product Substitute} \) captures either direct substitutes or substitutes within the same product category for those products. \( \text{Grocery, Health & Beauty, Household, and Pet} \) shows the percent of products of a given type. \( \text{Other} \) captures the percentage of products of other product types combined.
Table 2: Descriptive Statistics

Panel A: Characteristics of Survey Respondents

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Table 2: Descriptive Statistics (continued)

Panel C: Product Categories Covered in Rating Exercise

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<td>0.002</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tools &amp; Home Improvement</td>
<td>366,330</td>
<td>0.000</td>
<td>0.009</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Toys</td>
<td>366,330</td>
<td>0.001</td>
<td>0.033</td>
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<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

Notes: Panel A presents summary statistics for characteristics of survey respondents. Panel B presents summary statistics for regression variables. Panel C presents summary statistics for product categories covered in the rating exercise. Purchase Intent captures the respondent’s intent to purchase a product in the next six months on a scale of 1 (“extremely unlikely”) to 7 (“extremely likely”). Quantity Purchased is the total quantity a household buys of a given product over the two weeks following the survey experiment. Environment is a binary indicator equal to one if the treatment card contains environmental information about the firm. Social is a binary indicator equal to one if the treatment card contains information related to social activities. Governance is a binary indicator equal to one if the treatment card contains information related to governance practices. ESG Report is a binary indicator equal to one if the product card provides a link to the ESG report of the firm. ESG Report Viewed is a binary indicator equal to one if the respondent is presented with an ESG report treatment card and chooses to view the report. ESG Report Not Viewed is a binary indicator equal to one if the treatment card contains information related to social activities. Governance is a binary indicator equal to one if the treatment card contains information related to governance practices. ESG Report is a binary indicator equal to one if the product card provides a link to the ESG report of the firm. ESG Report Viewed is a binary indicator equal to one if the respondent is presented with an ESG report treatment card and chooses to view the report. ESG Report Not Viewed is a binary indicator equal to one if the respondent is presented with an ESG report treatment card and does not choose to view the report. Annual Report is a binary indicator equal to one if the product card provides a link to the annual report of the firm. Annual Report Viewed is a binary indicator equal to one if the respondent is presented with an annual report treatment card and chooses to view the report. Annual Report Not Viewed is a binary indicator equal to one if the respondent is presented with an annual report treatment card and does not choose to view the report. Consumer Review is a binary indicator equal to one if the product card shows consumer reviews of the product. Consumer Review Good is a binary indicator equal to one if the treatment card contains a consumer review treatment with a product recommendation rate above or equal to 85%. Consumer Review Bad is a binary indicator equal to one if the treatment card contains a consumer review treatment with a product recommendation rate below 85%. Profitability Information is a binary indicator equal to one if the product card shows the earnings announcement of the firm. Profitability Information Good is a binary indicator equal to one if the treatment card contains an earnings announcement wherein the producing firm’s actual EPS met or exceeded the expected EPS. Profitability Information Bad is a binary indicator equal to one if the treatment card contains an earnings announcement wherein the producing firm’s actual EPS did not meet the expected EPS. Panel C shows the types of products used in the product rating exercise, with the mean capturing the percent of products from a given type in the sample. We report the number of observations (N), mean (Mean), standard deviation (SD), 1st percentile (p1), 10th percentile (p10), 25th percentile (p25), 50th percentile (p50), 75th percentile (p75), 90th percentile (p90), and 99th percentile (p99).
<table>
<thead>
<tr>
<th>Category</th>
<th>Survey Sample (1)</th>
<th>U.S. Census (2)</th>
<th>Weighted Survey (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>0.153</td>
<td>0.495</td>
<td>0.495</td>
</tr>
<tr>
<td>Female</td>
<td>0.833</td>
<td>0.505</td>
<td>0.505</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 - 34</td>
<td>0.266</td>
<td>0.325</td>
<td>0.325</td>
</tr>
<tr>
<td>35 - 54</td>
<td>0.391</td>
<td>0.311</td>
<td>0.311</td>
</tr>
<tr>
<td>55+</td>
<td>0.343</td>
<td>0.364</td>
<td>0.364</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black/African American</td>
<td>0.080</td>
<td>0.118</td>
<td>0.118</td>
</tr>
<tr>
<td>Asian</td>
<td>0.057</td>
<td>0.057</td>
<td>0.057</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>0.090</td>
<td>0.188</td>
<td>0.188</td>
</tr>
<tr>
<td>Other</td>
<td>0.047</td>
<td>0.056</td>
<td>0.056</td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>0.726</td>
<td>0.581</td>
<td>0.581</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than $20,000</td>
<td>0.222</td>
<td>0.364</td>
<td>0.364</td>
</tr>
<tr>
<td>$20,000 - $40,000</td>
<td>0.234</td>
<td>0.210</td>
<td>0.217</td>
</tr>
<tr>
<td>$40,000 - $60,000</td>
<td>0.143</td>
<td>0.151</td>
<td>0.144</td>
</tr>
<tr>
<td>$60,000 - $80,000</td>
<td>0.136</td>
<td>0.094</td>
<td>0.090</td>
</tr>
<tr>
<td>$80,000 - $100,000</td>
<td>0.096</td>
<td>0.054</td>
<td>0.070</td>
</tr>
<tr>
<td>More than $100,000</td>
<td>0.170</td>
<td>0.127</td>
<td>0.115</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School or less</td>
<td>0.301</td>
<td>0.379</td>
<td>0.363</td>
</tr>
<tr>
<td>College Student or Degree</td>
<td>0.583</td>
<td>0.493</td>
<td>0.539</td>
</tr>
<tr>
<td>Graduate Student or Degree</td>
<td>0.116</td>
<td>0.128</td>
<td>0.098</td>
</tr>
<tr>
<td>Household Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>0.810</td>
<td>0.913</td>
<td>0.833</td>
</tr>
<tr>
<td>Multi-Person Household</td>
<td>0.836</td>
<td>0.715</td>
<td>0.788</td>
</tr>
<tr>
<td>Children</td>
<td>0.364</td>
<td>0.258</td>
<td>0.315</td>
</tr>
</tbody>
</table>

Notes: This table presents a comparison of the unweighted Survey Sample (used in our main analyses), Census statistics and the re-weighted Survey Sample (used in supplementary tests). For the variables in the categories Gender, Age, Race/Ethnicity, Income and Education Level, we show the share of the survey respondents in a given category for the survey sample and the overall shares of the population for the Census data. The Census data stem from the American Community Survey (ACS) and Current Population Survey (CPS). The variables in the category Household Characteristics are at the household level. Urban captures the share of households in urban areas and equals 1 if a household is located in a metropolitan statistical area. Multi-Person Household equals 1 if the household contains more than one person, and 0 otherwise. Children equals 1 when there is at least one child in the household, and 0 otherwise. Column (3) shows the re-weighted survey sample. We use Gender, Age, Race/Ethnicity and coarse Income as matching variables to entropy balance the sample to the U.S. Census and report results of a weighted analysis in Internet Appendix Tables IA4.1 and IA4.2. The Census only includes the genders Female and Male, so we do not include other genders in the weighted analyses.
Table 4: Effects on Purchase Intent (Unconditional Treatment Arms)

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purchase Intent</strong></td>
<td>0.066***</td>
<td>0.066***</td>
<td>0.065***</td>
<td>0.067***</td>
</tr>
<tr>
<td>Environment</td>
<td>(4.92)</td>
<td>(4.96)</td>
<td>(5.08)</td>
<td>(5.91)</td>
</tr>
<tr>
<td>Social</td>
<td>0.089***</td>
<td>0.092***</td>
<td>0.092***</td>
<td>0.091***</td>
</tr>
<tr>
<td>Governance</td>
<td>0.035**</td>
<td>0.036***</td>
<td>0.038***</td>
<td>0.044***</td>
</tr>
<tr>
<td>Governance</td>
<td>(2.57)</td>
<td>(2.71)</td>
<td>(2.97)</td>
<td>(3.94)</td>
</tr>
<tr>
<td>ESG Report</td>
<td>-0.016</td>
<td>-0.017</td>
<td>-0.019</td>
<td>-0.016</td>
</tr>
<tr>
<td>Annual Report</td>
<td>(-1.10)</td>
<td>(-1.15)</td>
<td>(-1.32)</td>
<td>(-1.31)</td>
</tr>
<tr>
<td>Profitability Information</td>
<td>0.001</td>
<td>-0.000</td>
<td>-0.002</td>
<td>0.001</td>
</tr>
<tr>
<td>Profitability Information</td>
<td>(0.14)</td>
<td>(-0.04)</td>
<td>(-0.19)</td>
<td>(0.11)</td>
</tr>
<tr>
<td>Consumer Review</td>
<td>0.046***</td>
<td>0.046***</td>
<td>0.045***</td>
<td>0.055***</td>
</tr>
<tr>
<td>Consumer Review</td>
<td>(3.97)</td>
<td>(3.99)</td>
<td>(4.05)</td>
<td>(5.63)</td>
</tr>
<tr>
<td>ln(Price)</td>
<td>-0.262***</td>
<td>-0.105***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ln(Price)</td>
<td>(-44.67)</td>
<td>(-15.65)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Difference in Coefficients (p-value):

| Environment - Social      | 0.165     | 0.103     | 0.098     | 0.078     |
| Environment - Governance  | 0.061     | 0.070     | 0.090     | 0.103     |
| Social - Governance       | 0.001     | 0.001     | 0.001     | 0.001     |
| Social - ESG Report       | 0.000     | 0.000     | 0.000     | 0.000     |
| Social - Annual Report    | 0.000     | 0.000     | 0.000     | 0.000     |
| Social - Profitability Information | 0.000 | 0.000 | 0.000 | 0.000 |
| Social - Consumer Review  | 0.004     | 0.002     | 0.001     | 0.004     |

Fixed Effects:

| Individual | No   | Yes  | Yes  | Yes  |
| Product Category | No   | Yes  | Yes  | Implied |
| Firm       | No   | No   | Yes  | Implied |
| Product    | No   | No   | No   | Yes   |

Adjusted R^2 | 0.000 | 0.140 | 0.189 | 0.398 |

Used Observations | 366,330 | 366,328 | 366,328 | 364,746 |

Notes: This table provides OLS regression results from the product rating exercise. The dependent variable is Purchase Intent, which is the value participants assign to the question “How likely are you to purchase this product in the next six months?” and ranges from 1 to 7 with 1 meaning “extremely unlikely” and 7 meaning “extremely likely.” The independent variables are the binary indicators for the treatment sub-groups and are defined in the notes to Table 2. ln(Price) is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
Table 5: Effects on Purchase Intent (Conditional Treatment Arms)

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Intent</td>
<td>0.066***</td>
<td>0.065***</td>
<td>0.065***</td>
<td>0.067***</td>
</tr>
<tr>
<td></td>
<td>(4.90)</td>
<td>(4.95)</td>
<td>(5.06)</td>
<td>(5.91)</td>
</tr>
<tr>
<td>Environment</td>
<td>0.089***</td>
<td>0.092***</td>
<td>0.091***</td>
<td>0.091***</td>
</tr>
<tr>
<td></td>
<td>(6.61)</td>
<td>(6.92)</td>
<td>(7.07)</td>
<td>(8.09)</td>
</tr>
<tr>
<td>Social</td>
<td>0.035***</td>
<td>0.036***</td>
<td>0.038***</td>
<td>0.044***</td>
</tr>
<tr>
<td></td>
<td>(2.59)</td>
<td>(2.72)</td>
<td>(2.95)</td>
<td>(3.94)</td>
</tr>
<tr>
<td>Governance</td>
<td>0.359***</td>
<td>0.247***</td>
<td>0.231***</td>
<td>0.179***</td>
</tr>
<tr>
<td></td>
<td>(6.49)</td>
<td>(4.44)</td>
<td>(4.35)</td>
<td>(3.67)</td>
</tr>
<tr>
<td>ESG Report Viewed</td>
<td>-0.036**</td>
<td>-0.031**</td>
<td>-0.032**</td>
<td>-0.027**</td>
</tr>
<tr>
<td></td>
<td>(-2.37)</td>
<td>(-2.03)</td>
<td>(-2.20)</td>
<td>(-2.14)</td>
</tr>
<tr>
<td>Annual Report Viewed</td>
<td>0.192***</td>
<td>0.072</td>
<td>0.070</td>
<td>0.028</td>
</tr>
<tr>
<td></td>
<td>(3.22)</td>
<td>(1.24)</td>
<td>(1.22)</td>
<td>(0.54)</td>
</tr>
<tr>
<td>Annual Report Not Viewed</td>
<td>-0.021</td>
<td>-0.016</td>
<td>-0.013</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(-1.41)</td>
<td>(-1.08)</td>
<td>(-0.87)</td>
<td>(0.08)</td>
</tr>
<tr>
<td>Profitability Information Good</td>
<td>0.003</td>
<td>0.001</td>
<td>-0.002</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(0.28)</td>
<td>(0.05)</td>
<td>(-0.17)</td>
<td>(0.28)</td>
</tr>
<tr>
<td>Profitability Information Bad</td>
<td>-0.004</td>
<td>-0.003</td>
<td>-0.001</td>
<td>-0.009</td>
</tr>
<tr>
<td></td>
<td>(-0.16)</td>
<td>(-0.12)</td>
<td>(-0.05)</td>
<td>(-0.42)</td>
</tr>
<tr>
<td>Consumer Review Good</td>
<td>0.054***</td>
<td>0.057***</td>
<td>0.055***</td>
<td>0.064***</td>
</tr>
<tr>
<td></td>
<td>(4.12)</td>
<td>(4.42)</td>
<td>(4.45)</td>
<td>(5.86)</td>
</tr>
<tr>
<td>Consumer Review Bad</td>
<td>0.023</td>
<td>0.012</td>
<td>0.013</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td>(1.01)</td>
<td>(0.57)</td>
<td>(0.64)</td>
<td>(1.27)</td>
</tr>
<tr>
<td>ln(Price)</td>
<td>-0.241***</td>
<td>-0.192***</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>(-40.91)</td>
<td>(-15.28)</td>
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Difference in Coefficients (p-value):

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment - Social</td>
<td>0.152</td>
<td>0.100</td>
<td>0.095</td>
<td>0.078</td>
</tr>
<tr>
<td>Environment - Governance</td>
<td>0.067</td>
<td>0.073</td>
<td>0.090</td>
<td>0.103</td>
</tr>
<tr>
<td>Social - Governance</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Social - Annual Report Viewed</td>
<td>0.089</td>
<td>0.728</td>
<td>0.704</td>
<td>0.219</td>
</tr>
<tr>
<td>ESG Report Viewed - Annual Report Viewed</td>
<td>0.034</td>
<td>0.023</td>
<td>0.031</td>
<td>0.029</td>
</tr>
<tr>
<td>Social - Profitability Information Good</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Social - Consumer Review Good</td>
<td>0.029</td>
<td>0.026</td>
<td>0.020</td>
<td>0.043</td>
</tr>
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</table>

Main Effects: Yes Yes Yes Implied

Fixed Effects:

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<tr>
<th></th>
<th>Individual</th>
<th>Product Category</th>
<th>Firm</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Implied</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Yes</td>
<td>Implied</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Adjusted R²: 0.007 0.147 0.192 0.398

Used Observations: 366,330 366,328 366,328 364,746

Notes: This table provides OLS regression results from the product rating exercise. The dependent variable is Purchase Intent, which is the value participants assign to the question “How likely are you to purchase this product in the next six months?” and ranges from 1 to 7 with 1 meaning “extremely unlikely” and 7 meaning “extremely likely”. The independent variables are the binary indicators for the treatment subgroups and are defined in the notes to Table 2. ln(Price) is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. Where needed, we include the main effects for Good Consumer Reviews of the product and/or Good Profitability Information of the firm. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
## Table 6: Real Effects on Actual Product Purchases

<table>
<thead>
<tr>
<th>Dependent Variable: Quantity Purchased</th>
<th>Post Weeks 1-2</th>
<th>Post Weeks 3-4</th>
<th>Post Weeks 1-4</th>
<th>Poisson Post Weeks 1-4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Environment</strong></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(0.66)</td>
<td>(0.55)</td>
<td>(0.45)</td>
<td>(0.93)</td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>0.003**</td>
<td>0.003**</td>
<td>0.003**</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(2.14)</td>
<td>(2.41)</td>
<td>(2.33)</td>
<td>(2.24)</td>
</tr>
<tr>
<td><strong>Governance</strong></td>
<td>-0.000</td>
<td>-0.000</td>
<td>0.000</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(-0.05)</td>
<td>(-1.14)</td>
<td>(0.13)</td>
<td>(-1.05)</td>
</tr>
<tr>
<td><strong>ESG Report Viewed</strong></td>
<td>0.007</td>
<td>0.012**</td>
<td>0.012**</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>(1.30)</td>
<td>(2.22)</td>
<td>(2.20)</td>
<td>(2.23)</td>
</tr>
<tr>
<td><strong>ESG Report Not Viewed</strong></td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(1.08)</td>
<td>(0.83)</td>
<td>(0.76)</td>
<td>(1.29)</td>
</tr>
<tr>
<td><strong>Annual Report Viewed</strong></td>
<td>-0.003</td>
<td>0.001</td>
<td>0.000</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(-0.66)</td>
<td>(0.22)</td>
<td>(0.10)</td>
<td>(-0.31)</td>
</tr>
<tr>
<td><strong>Annual Report Not Viewed</strong></td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.000</td>
</tr>
<tr>
<td></td>
<td>(-0.45)</td>
<td>(-0.64)</td>
<td>(-0.58)</td>
<td>(0.36)</td>
</tr>
<tr>
<td><strong>Profitability Information Good</strong></td>
<td>-0.000</td>
<td>-0.000</td>
<td>-0.000</td>
<td>-0.000</td>
</tr>
<tr>
<td></td>
<td>(-0.34)</td>
<td>(-0.31)</td>
<td>(-0.44)</td>
<td>(-0.32)</td>
</tr>
<tr>
<td><strong>Profitability Information Bad</strong></td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.004***</td>
</tr>
<tr>
<td></td>
<td>(-0.45)</td>
<td>(-0.87)</td>
<td>(-0.81)</td>
<td>(-0.74)</td>
</tr>
<tr>
<td><strong>Consumer Review Good</strong></td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>-0.000</td>
</tr>
<tr>
<td></td>
<td>(1.07)</td>
<td>(1.19)</td>
<td>(1.19)</td>
<td>(1.28)</td>
</tr>
<tr>
<td><strong>Consumer Review Bad</strong></td>
<td>-0.003*</td>
<td>-0.003*</td>
<td>-0.003**</td>
<td>-0.003*</td>
</tr>
<tr>
<td></td>
<td>(-1.79)</td>
<td>(-1.95)</td>
<td>(-2.10)</td>
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</tr>
<tr>
<td><strong>ln(Price)</strong></td>
<td>-0.002**</td>
<td>-0.002**</td>
<td>-0.001</td>
<td>-0.002**</td>
</tr>
<tr>
<td></td>
<td>(-3.71)</td>
<td>(-3.71)</td>
<td>(-0.85)</td>
<td>(-0.85)</td>
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</table>

### Difference in Coefficients (p-value):

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment - Social</td>
<td>0.227</td>
<td>0.556</td>
<td>0.072</td>
<td>0.240</td>
<td>0.151</td>
<td>0.028</td>
<td>0.364</td>
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<td>Environment - Governance</td>
<td>0.130</td>
<td>0.572</td>
<td>0.057</td>
<td>0.709</td>
<td>0.124</td>
<td>0.016</td>
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<td>Social - Governance</td>
<td>0.127</td>
<td>0.621</td>
<td>0.042</td>
<td>0.638</td>
<td>0.109</td>
<td>0.015</td>
<td>0.330</td>
</tr>
<tr>
<td>Social - Annual Report Viewed</td>
<td>0.281</td>
<td>0.510</td>
<td>0.081</td>
<td>0.390</td>
<td>0.057</td>
<td>0.023</td>
<td>0.418</td>
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<tr>
<td>ESG Report Viewed - Annual Report Viewed</td>
<td>0.049</td>
<td>0.968</td>
<td>0.041</td>
<td>0.309</td>
<td>0.181</td>
<td>0.023</td>
<td>0.143</td>
</tr>
<tr>
<td>Social - Profitability Information Good</td>
<td>0.051</td>
<td>0.587</td>
<td>0.032</td>
<td>0.295</td>
<td>0.987</td>
<td>0.061</td>
<td>0.414</td>
</tr>
<tr>
<td>Social - Consumer Review Good</td>
<td>0.077</td>
<td>0.875</td>
<td>0.010</td>
<td>0.273</td>
<td>0.121</td>
<td>0.025</td>
<td>0.203</td>
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### Fixed Effects:

<table>
<thead>
<tr>
<th></th>
<th>Individual</th>
<th>Product Category</th>
<th>Firm</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
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<td>Yes</td>
<td>Yes</td>
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<td></td>
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<td>No</td>
<td>No</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Adjusted/Pseudo R²

|         | 0.001 | 0.036 | 0.047 | 0.112 | 0.129 | 0.147 | 0.012 | 0.490 |

### Used Observations

|         | 366,330 | 366,328 | 366,328 | 364,746 | 364,746 | 364,746 | 366,330 | 93,060 |

### Notes:

This table provides OLS and Poisson regression results from the product rating exercise, estimating the effect of the experiment on future real consumption. The dependent variable is Quantity Purchased, which is the quantity of a given product purchased by a given household over the specified time period. Columns (1) - (6) are OLS specifications for which we transform the dependent variable using the inverse hyperbolic sine. Columns (7) and (8) are Poisson specifications and the dependent variable is not transformed. The independent variables are the binary indicators for the treatment sub-groups and are defined in the notes to Table 2. ln(Price) is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. Where needed, we include the main effects for Good Consumer Reviews of the product and/or Good Profitability Information of the firm. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
Table 7: Consumption Spillovers

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Brand Weeks 1-4</th>
<th>Parent Brand Weeks 1-4</th>
<th>Firm Weeks 1-4</th>
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<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Quantity Purchased</td>
<td>-0.002</td>
<td>-0.002</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>(-0.97)</td>
<td>(-1.19)</td>
<td>(1.21)</td>
</tr>
<tr>
<td></td>
<td>-0.001</td>
<td>-0.002</td>
<td>-0.006</td>
</tr>
<tr>
<td></td>
<td>(-0.55)</td>
<td>(-0.82)</td>
<td>(-1.11)</td>
</tr>
<tr>
<td>Environment</td>
<td>-0.001</td>
<td>0.001</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(-0.37)</td>
<td>(0.00)</td>
<td>(1.21)</td>
</tr>
<tr>
<td>Social</td>
<td>0.001</td>
<td>0.001</td>
<td>-0.006</td>
</tr>
<tr>
<td></td>
<td>(0.51)</td>
<td>(0.99)</td>
<td>(-1.11)</td>
</tr>
<tr>
<td>Governance</td>
<td>-0.001</td>
<td>-0.000</td>
<td>-0.009</td>
</tr>
<tr>
<td></td>
<td>(-0.37)</td>
<td>(-0.04)</td>
<td>(-1.64)</td>
</tr>
<tr>
<td>ESG Report Viewed</td>
<td>-0.004</td>
<td>0.001</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(-0.45)</td>
<td>(0.10)</td>
<td>(0.12)</td>
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<tr>
<td>ESG Report Not Viewed</td>
<td>0.001</td>
<td>0.001</td>
<td>0.008</td>
</tr>
<tr>
<td></td>
<td>(0.42)</td>
<td>(0.34)</td>
<td>(1.27)</td>
</tr>
<tr>
<td>Annual Report Viewed</td>
<td>0.009</td>
<td>0.007</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.80)</td>
<td>(0.65)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Annual Report Not Viewed</td>
<td>-0.004*</td>
<td>-0.005</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(-1.67)</td>
<td>(-1.83)</td>
<td>(0.22)</td>
</tr>
<tr>
<td>Profitability Information Good</td>
<td>-0.002</td>
<td>-0.003</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>(-1.08)</td>
<td>(-1.85)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Profitability Information Bad</td>
<td>-0.002</td>
<td>-0.001</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(-0.93)</td>
<td>(-0.36)</td>
<td>(0.47)</td>
</tr>
<tr>
<td>Consumer Review Good</td>
<td>0.004</td>
<td>0.004</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(1.64)</td>
<td>(1.45)</td>
<td>(0.55)</td>
</tr>
<tr>
<td>Consumer Review Bad</td>
<td>-0.001</td>
<td>0.003</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>(-0.33)</td>
<td>(0.38)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Difference in Coefficients (p-value):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment - Social</td>
<td>0.229</td>
<td>0.149</td>
<td>0.279</td>
</tr>
<tr>
<td></td>
<td>0.279</td>
<td>0.144</td>
<td>0.062</td>
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<td>Environment - Governance</td>
<td>0.062</td>
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<td>0.062</td>
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<td>Social - Governance</td>
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<td>0.354</td>
<td>0.635</td>
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<td></td>
<td>0.317</td>
<td>0.021</td>
<td>0.219</td>
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<tr>
<td>Social - Annual Report Viewed</td>
<td>0.470</td>
<td>0.598</td>
<td>0.539</td>
</tr>
<tr>
<td></td>
<td>0.629</td>
<td>0.656</td>
<td>0.665</td>
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<tr>
<td>ESG Report Viewed - Annual Report Viewed</td>
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<td>0.598</td>
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<td>0.314</td>
<td>0.812</td>
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<td>Social - Profitability Information Good</td>
<td>0.360</td>
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<td>0.500</td>
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<td>0.726</td>
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<td>Social - Consumer Review Good</td>
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<td>0.913</td>
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<td>Yes</td>
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<tr>
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<td>Yes</td>
</tr>
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<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Brand</td>
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<td>Yes</td>
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</tr>
<tr>
<td>Parent Brand</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Firm</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.005</td>
<td>0.144</td>
<td>0.006</td>
</tr>
<tr>
<td>Used Observations</td>
<td>366,330</td>
<td>366,138</td>
<td>366,228</td>
</tr>
</tbody>
</table>

Notes: This table provides OLS regression results from the product rating exercise, estimating the effect of the experiment on future real consumption. The dependent variable is Quantity Purchased, which is the quantity of a set of products purchased by a given household over the four weeks following the experiment, excluding the focal product. The set of products is determined by brand (e.g., “Honest Kids”), parent brand (e.g., “Honest Tea”), or firm (e.g., “The Coca-Cola Company”). We transform the dependent variable using the inverse hyperbolic sine. The independent variables are the binary indicators for the treatment sub-groups and are defined in the notes to Table 2. The fixed effects structure varies by column and the table indicates which combination of Individual, Brand, Parent Brand and Firm fixed effects is included. All specifications cluster standard errors at the individual level. Where needed, we include the main effects for Good Consumer Reviews of the product and/or Good Profitability Information of the firm. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
How Do Consumers Use Firm Disclosure?
Evidence from a Randomized Field Experiment

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Internet Appendix 5: Additional Figures and Tables related to Follow-Up Survey
Internet Appendix 1: Excerpts related to Consumers and Disclosure

**Figure IA1.1: Historical Examples Regarding Consumers and Firm Financial Disclosure**

It is through the medium of consumers, the purchasers of its products, that the overspecialized combination finds its most extensive and oppressive contact with the public. Successful overspecialization involves the necessity of maintaining a veil of secrecy on the sources of supply and the manufacturing process. The interests of the consumer require that the manufacturer disclose the nature of the materials, the process of manufacture, and the cost of production.

*Source: U.S. Congress. (1914)*

**Notes:** The excerpts show that, during the early 1900s, regulators recognized consumers as key stakeholders in the financial performance of companies and posited that financial disclosures could serve as a valuable tool for consumers.

**Figure IA1.2: CSR Disclosure Directives in the EU**

The excerpt shows a 2014 EU directive emphasizing the importance of non-financial disclosures, notably in the realm of Corporate Social Responsibility (CSR). The directive aims to ensure that consumers can readily access such information.

*Source: Lipton (2020)*

**Notes:** The excerpt shows a 2014 EU directive emphasizing the importance of non-financial disclosures, notably in the realm of Corporate Social Responsibility (CSR). The directive aims to ensure that consumers can readily access such information (European Commission 2014).
Figure IA1.3: Consumers as Stakeholders in ESG Reports

Notes: The excerpts show companies recognizing consumers as vital users of information disclosed in their ESG reports.

Figure IA1.4: Current Examples Regarding Consumers and Firm Non-Financial Disclosure

Notes: The excerpts show that industry experts consider ESG disclosures relevant to consumers’ decision making.
Internet Appendix 2: Survey Screenshots

Figure IA2.1: Survey Display in the Receipt Hog App

(A.) Main Survey Screen

Notes: This figure shows the screens that the participants see in the Receipt Hog App. Panel A shows the main screen for surveys where all available surveys are displayed to the app users. Panel B shows the screen participants see after selecting a survey.
Notes: This figure shows the introduction page of the survey, the first page that respondents see upon clicking the “Earn Coins” button to start the survey. If participants select “Yes”, the survey begins. If they select “No”, the survey will be terminated.
Figure IA2.3: Pre-Experiment Preference Elicitation

Great! Let’s proceed.

How important are the following characteristics when you are making a purchase decision about a product? Please rank the following by dragging and dropping, where 1 indicates most important, and 9 indicates least important.

- The working conditions of the workers where the product ingredients are sourced
- The carbon footprint of the ingredients in the product
- The carbon footprint of the company's overall operations
- The governance practices of the company that makes the product (e.g., rights of shareholders, anti-corruption policies, independence of the board, etc.)
- The company’s involvement in serving communities where it operates
- The financial performance of the company that makes the product
- The working conditions of the company’s overall labor force
- The price of the product
- The quality of the product

Notes: This question is shown if participants consent to starting the survey. The question is displayed before the product rating exercise and allows us to elicit the ex-ante preferences of participants. In particular, we ask them to sort the various product and firm attributes in order of importance by dragging and dropping.

Figure IA2.4: Product Rating Exercise Instructions

We will now show you 15 profiles of products. Each product profile contains information about the product and the producing company. After each product profile, we ask you to state your likelihood to purchase the product over the next 6 months, using a scale from 1 (extremely unlikely) to 7 (extremely likely). We will also ask about your past purchasing behavior.

Before we begin, it is important that you accurately use the full rating scale to rank each product. If you rate all products equally, it means that you think all products are equally appealing and we cannot learn about your product preferences, so please use the full rating scale (from 1 to 7).

Notes: This figure displays the instructions we provide the participants with before starting the experiment. The instructions include information about the extent of the experiment, the information they will see, and instructions on how to convey their purchasing preferences.
Figure IA2.5: Product Rating Exercise Information

Product profiles are presented in a standard format, with information about the product's name, producing company, average price, an actual picture of the product, and more:

- Some product profiles include information about the producing company's Environmental, Social, and Governance (ESG) activities based on the company's disclosures. By disclosing this information, these companies might signal that, in addition to generating profits, they actively try to help the environment or society more broadly.
- Companies also provide information about their financial performance; in particular, earnings per share (EPS) as a measure of firms' profitability.
- Finally, some product profiles contain information on product reviews by consumers, which were gathered from a large US e-commerce website.

Notes: This figure displays the information we provide the participants with before starting the experiment. It includes a brief description of the information they may see in the cards, including ESG activities, financial performance, and product reviews.
Figure IA2.6: Download Links for Treatment Cards

Below, you will find links to each of the 15 product profiles you were shown throughout the survey. These are labeled as the producing company’s name and the type of information shown. Please click on the product profiles that you found most interesting or insightful. Please take screenshots and save the product profiles for your own future reference. These profiles will not be shown again once the survey is completed.

- Campbell Soup: Profitability
- General Mills: Product Review
- Keurig Dr Pepper: Profitability
- Conagra Brands: Environment
- Hershey: ESG Report
- McCormick & Co: Product Review
- Kraft Heinz: Profitability
- Tyson Foods
- Kellogg: Governance
- Target
- Hormel Foods: Governance
- Nestle
- Danone: Social
- PepsiCo

Notes: This figure displays the last screen participants see before finishing the survey. When clicking a button, it pulls up the treatment card (or ESG/annual report) and participants can save or screenshot it for their reference.
Internet Appendix 3: Survey Questionnaire

Introduction Page. Q1. See Figure IA2.2.

Pre-Experiment Preference Elicitation. Q2. See Figure IA2.3.

Product Rating Exercise Instructions. See Figure IA2.4.

Information. See Figure IA2.5.

Product Rating Exercise. See Figure 2 for illustrative examples.

Q3 - Q9. We show participants 7 product cards and ask them to rate their purchase likelihood and whether they have bought the product in the last six months.

Prompt. You are already halfway done! There are only 8 more products to go. Please remember that it is important that you accurately use the full rating scale to rank each product. If you rate all products equally, it means that you think all products are equally appealing and we cannot learn about your product preferences.

Q9 - Q17. We show participants 8 more product cards and ask them to rate their purchase likelihood and whether they have bought the product in the last six months.

Prompt. Thank you for completing the product rating exercise! There are only a few questions left in the survey.

Questions about considerations.

Prompt. We would now like to ask you a few questions about factors you consider when deciding to purchase a product.

Q18. Which of the following sources of information do you reference when considering purchasing a product? Select all that apply.
Customer reviews about the product; Environmental, Social, and Governance (ESG) reports of producing company; Website of the producing company; Expert reviews about the product; Friends and family; Financial reports of producing company; News media; Social media (e.g., Instagram); Other (please specify); I do not consider any external sources when considering a product purchase.

Q19. Companies often voluntarily provide corporate environmental, social, and governance (ESG) reports. In these ESG reports, companies outline their ESG practices. Other than the ESG reports provided to you in this survey, were you aware of the existence of these ESG reports before taking this survey?
Yes; No.
Q19.1 (displayed if answer to Q19 is “Yes”) Other than the ESG reports provided to you in this survey, have you ever read an ESG report? Yes; No.

Q20. Companies often provide annual reports summarizing their financial performance for the year. Other than the annual financial reports provided to you in this survey, were you aware of the existence of these annual financial reports before taking this survey? Yes; No.

Q20.1 (displayed if answer to Q20 is “Yes”) Other than the annual financial reports provided to you in this survey, have you ever read an annual financial report? Yes; No.

Q21. How strong is your preference to purchase products from firms with good environmental, social, or governance (ESG) practices? (optional)
Likert-scale from 1 (very weak) to 5 (very strong).

Q21.1 (displayed if answer to Q21 is greater than or equal to 3.) Why do you have a preference to purchase products from companies with good environmental, social, or governance (ESG) practices? Please explain. (optional)
Textbox.

Q22. In trying to buy products from companies that are more responsible in their environmental, social, and governance (ESG) activities, which of the following issues do you face? Please check all that apply.
I don’t know which companies make which products; I don’t care about companies’ ESG activities; I am time constrained in searching for ESG information about companies and products; I am financially constrained in paying for more ESG-responsible products; I don’t know about companies’ responsible ESG-related activities; I don’t trust companies’ disclosed ESG activities; Other (please specify).

Q23. Do you have a preference to purchase products from firms with high or low profits? (optional)
Likert-scale from 1 (low profits) over 4 (no preference) to 7 (high profits).

Q23.1 (displayed if answer to Q23 is smaller than or equal to 3.) Why do you have a preference to purchase products from firms with low profits? Please explain. (optional)
Textbox.

Q23.2 (displayed if answer to Q23 is greater than or equal to 5.) Why do you have a preference to purchase products from firms with high profits? Please explain. (optional)
Textbox.

Q24. In trying to buy products from companies with high or low profits, which of the following issues do you face? Please check all that apply.
I don’t know which companies make which products; I don’t care about companies’ profitability; I don’t know about companies’ profitability; I am time constrained in searching for companies’ profitability information; I don’t trust companies’ disclosed profits; Other (please specify).

Q25 (displayed if participant viewed an ESG report from a treatment card.) We noticed you clicked on an ESG report we provided. Which of the following characteristics of the report, if any, did you find most useful or appealing? Select all that apply.
The text explanations of the company’s ESG activities; The graphical representations of the company’s ESG activities; The quantitative metrics associated with the company’s ESG activities; The overall formatting of the ESG report; The fact that the firm produces an ESG report; Other (please specify); I did not find anything useful or appealing.

Q26 (displayed if participant viewed an annual report from a treatment card.) We noticed you clicked on an annual financial report we provided. Which of the following characteristics of the report, if any, did you find most useful or appealing? Select all that apply.
The text explanations of the company’s financial performance; The graphical representations of the company’s financial performance; The quantitative metrics associated with the company’s financial performance; The overall formatting of the annual financial report; The fact that the firm produces an annual financial report; Other (please specify); I did not find anything useful or appealing.

Demographic Questions.

Q27. Do you directly invest in the stock of individual public companies (excluding ETFs or mutual funds)?
No, Yes; less than $1,000 per year, Yes; between $1,000 and $10,000 per year, Yes; between $10,000 and $25,000 per year, Yes; over $25,000 per year.

Q28. How would you describe your political views?
Liberal; Moderate; Conservative.

Download links. See Figure IA2.6.

Conclusion.

Thank you for your answers. To complete the survey, please click on the right arrow.

We thank you for your time spent taking this survey. Your response has been recorded.
Internet Appendix 4: Additional Figures and Tables related to Main Survey

Figure IA4.1: Location of Survey Respondents

Notes: This figure shows a heatmap of the US, illustrating the distribution of survey participants across counties. The intensity of the color corresponds to the number of participants in each county.
Figure IA4.2: Distribution of Purchase Intent

Notes: This figure shows the distribution of the participants' purchase intent. The data stem from the question “How likely are you to purchase this product in the next six months?” in the product rating exercise. The Likert-scale ranges from 1 to 7, with 1 indicating “extremely unlikely” and 7 indicating “Extremely likely”. The plot displays the relative frequency for each point on the Likert-scale.
**Figure IA4.3: ESG Report Usefulness Factors**

Notes: This figure presents ESG report characteristics that respondents find useful or appealing. The question presented read: “We noticed you clicked on an ESG report we provided. Which of the following characteristics of the report, if any, did you find most useful or appealing? Select all that apply.” The figure presents the percentage of respondents who viewed the report and reported a characteristic to be useful or appealing as well as 90% confidence intervals.

**Figure IA4.4: Annual Report Usefulness Factors**

Notes: This figure presents annual report characteristics that respondents find useful or appealing. The question presented read: “We noticed you clicked on an annual financial report we provided. Which of the following characteristics of the report, if any, did you find most useful or appealing? Select all that apply.” The figure presents the percentage of respondents who viewed the report and reported a characteristic to be useful or appealing as well as 90% confidence intervals.
Figure IA4.5: Motives for ESG Preference

<table>
<thead>
<tr>
<th>Motive</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values Aligned with Self</td>
<td>72.4</td>
</tr>
<tr>
<td>Signal for Product Quality</td>
<td>16.6</td>
</tr>
<tr>
<td>Trust in Firm</td>
<td>4.5</td>
</tr>
<tr>
<td>Purchase Signal</td>
<td>2.7</td>
</tr>
<tr>
<td>Other</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Notes: This figure shows the coded answers for the open-ended question “Why do you have a preference to purchase products from companies with good environmental, social, or governance (ESG) practices? Please explain.” Three coders rated each open-ended question independently (Cronbach’s Alpha of 0.85). This question was displayed if participants indicated strong preferences for firms with good ESG practices.
Figure IA4.6: Motives for High Profit Preference

(A.) All Motives

(B.) Motives for High Profit as Signal for Firm Quality

Notes: This figure shows the coded answers for the open-ended question “Why do you have a preference to purchase products from firms with high profits? Please explain.” This question was displayed if participants indicated preferences for firms with high profits. Three coders rated each open-ended question independently (Cronbach’s Alpha of 0.87 for Panel A, and 0.57 for Panel B). Panel A displays the categorization of the motive for the high profit preference. Panel B shows the underlying reason when participants prefer high profit firms because they believe those firms signal high quality.
Notes: This figure shows the coded answers for the open-ended question “Why do you have a preference to purchase products from firms with low profits? Please explain.” Three coders rated each open-ended question independently (Cronbach’s Alpha of 0.91). This question was displayed if participants indicated preferences for firms with low profits.
Notes: This figure shows additional heterogeneity in treatment effects using the specification in Table 5 Column (4) as the basis. The figures show the coefficients and 90% confidence intervals for the Environmental, Social, Governance, ESG Report, Annual Report, and Profitability Information treatment arms. For ESG Report and Annual Report we only show heterogeneity for participants who view the report. Panel A splits the sample based on the median response time, which is 683 seconds, or 11 minutes and 23 seconds, after excluding speeders. Panel B splits the sample based on participants’ trust in firms’ ESG disclosure. Shaded regions indicate coefficients that are significantly different (p-value < 0.1).
Figure IA4.9: Heterogeneity in Treatment Effects by ESG Topic

(A.) Environmental Topics

(B.) Social Topics

(C.) Governance Topics

Notes: This figure shows a plot of the coefficient estimates and 90% confidence intervals for treatment effects on intended purchase likelihood by ESG sub-topic using the specification in Table 5 Column (4) as the basis. This figure includes the most common sub-topics in our analyses. The remaining ESG topics are aggregated by E, S, and G and included in the regression. Panel A shows the coefficients for the environmental sub-topics Biodiversity, Waste Management, Energy, and Water. Panel B shows the coefficients for the social sub-topics Societal Impact, Career Management, Economic Development, and Diversity and Inclusion. Panel C shows the coefficients for the governance sub-topics Product Safety, Board Experience, Anti-Corruption, and Executive Compensation.
<table>
<thead>
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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purchase Intent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment</td>
<td>0.038*</td>
<td>0.044**</td>
<td>0.049**</td>
<td>0.039**</td>
</tr>
<tr>
<td></td>
<td>(1.88)</td>
<td>(2.21)</td>
<td>(2.50)</td>
<td>(2.22)</td>
</tr>
<tr>
<td>Social</td>
<td>0.079***</td>
<td>0.074***</td>
<td>0.075***</td>
<td>0.068***</td>
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<tr>
<td></td>
<td>(3.90)</td>
<td>(3.76)</td>
<td>(3.96)</td>
<td>(4.06)</td>
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<tr>
<td>Governance</td>
<td>0.033</td>
<td>0.031</td>
<td>0.031</td>
<td>0.029*</td>
</tr>
<tr>
<td></td>
<td>(1.60)</td>
<td>(1.52)</td>
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<td>(1.66)</td>
</tr>
<tr>
<td>ESG Report</td>
<td>-0.019</td>
<td>-0.024</td>
<td>-0.017</td>
<td>-0.012</td>
</tr>
<tr>
<td></td>
<td>(-0.86)</td>
<td>(-1.07)</td>
<td>(-0.78)</td>
<td>(-0.62)</td>
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<tr>
<td>Annual Report</td>
<td>-0.014</td>
<td>-0.017</td>
<td>-0.012</td>
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<tr>
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<td>(-0.77)</td>
<td>(-0.53)</td>
<td>(-0.04)</td>
</tr>
<tr>
<td>Profitability Information</td>
<td>-0.022</td>
<td>-0.025</td>
<td>-0.023</td>
<td>-0.014</td>
</tr>
<tr>
<td></td>
<td>(-1.43)</td>
<td>(-1.63)</td>
<td>(-1.56)</td>
<td>(-1.06)</td>
</tr>
<tr>
<td>Consumer Review</td>
<td>0.033*</td>
<td>0.033*</td>
<td>0.034**</td>
<td>0.028*</td>
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<tr>
<td></td>
<td>(1.86)</td>
<td>(1.89)</td>
<td>(2.02)</td>
<td>(1.84)</td>
</tr>
<tr>
<td>ln(Price)</td>
<td>-0.240***</td>
<td>-0.078***</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(-28.00)</td>
<td>(-7.86)</td>
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</table>

**Difference in Coefficients (p-value):**

<p>| | | | | |</p>
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<th></th>
<th></th>
<th></th>
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</thead>
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<td>Environment - Social</td>
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<td>0.219</td>
<td>0.271</td>
<td>0.167</td>
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<td>Environment - Governance</td>
<td>0.833</td>
<td>0.592</td>
<td>0.462</td>
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<tr>
<td>Social - Governance</td>
<td>0.066</td>
<td>0.072</td>
<td>0.058</td>
<td>0.061</td>
</tr>
<tr>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
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<td>0.000</td>
<td>0.001</td>
<td>0.002</td>
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<tr>
<td>Social - Profitability Information</td>
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<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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<td>Social - Consumer Review</td>
<td>0.046</td>
<td>0.067</td>
<td>0.061</td>
<td>0.039</td>
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**Fixed Effects:**

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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Product Category</td>
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<td>Implied</td>
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<td>Firm</td>
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<td>No</td>
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<td>Implied</td>
</tr>
<tr>
<td>Product</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Adjusted R^2**

| Used Observations | 361,350 | 361,348 | 361,348 | 359,772 |

**Notes:** This table provides OLS regression results from the product rating exercise using our weighted Survey Sample. We weight the sample using the strategy laid out in the notes to Table 3. The dependent variable is Purchase Intent, which is the value participants assign to the question “How likely are you to purchase this product in the next six months?” and ranges from 1 to 7 with 1 meaning “extremely unlikely” and 7 meaning “extremely likely”. The independent variables are the binary indicators for the treatment sub-groups and are defined in the notes to Table 2. ln(Price) is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
Table IA4.2: Effects on Purchase Intent  
(Conditional Treatment Arms, Weighted Sample)

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<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
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<td>Environment</td>
<td>0.037*</td>
<td>0.043**</td>
<td>0.048**</td>
<td>0.039**</td>
</tr>
<tr>
<td></td>
<td>(1.83)</td>
<td>(2.16)</td>
<td>(2.47)</td>
<td>(2.22)</td>
</tr>
<tr>
<td>Social</td>
<td>0.080***</td>
<td>0.076***</td>
<td>0.076***</td>
<td>0.065***</td>
</tr>
<tr>
<td></td>
<td>(3.98)</td>
<td>(3.85)</td>
<td>(3.99)</td>
<td>(4.07)</td>
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<td>Governance</td>
<td>0.030</td>
<td>0.028</td>
<td>0.028</td>
<td>0.029*</td>
</tr>
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<td></td>
<td>(1.50)</td>
<td>(1.40)</td>
<td>(1.45)</td>
<td>(1.66)</td>
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<td>ESG Report Viewed</td>
<td>0.214**</td>
<td>0.126</td>
<td>0.140*</td>
<td>0.139**</td>
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<td>(2.49)</td>
<td>(1.48)</td>
<td>(1.83)</td>
<td>(2.07)</td>
</tr>
<tr>
<td>ESG Report Not Viewed</td>
<td>-0.029</td>
<td>-0.029</td>
<td>-0.023</td>
<td>-0.020</td>
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<td></td>
<td>(-1.28)</td>
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<td>(-1.03)</td>
<td>(-1.03)</td>
</tr>
<tr>
<td>Annual Report Viewed</td>
<td>0.186**</td>
<td>0.059</td>
<td>0.071</td>
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<td>(2.00)</td>
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<td>(-0.76)</td>
<td>(-0.31)</td>
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<td>Profitability Information Good</td>
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<td>-0.026</td>
<td>-0.016</td>
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<td>(-1.63)</td>
<td>(-1.14)</td>
</tr>
<tr>
<td>Profitability Information Bad</td>
<td>-0.017</td>
<td>-0.007</td>
<td>-0.001</td>
<td>-0.002</td>
</tr>
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<td></td>
<td>(-0.42)</td>
<td>(-0.19)</td>
<td>(-0.03)</td>
<td>(-0.06)</td>
</tr>
<tr>
<td>Consumer Review Good</td>
<td>0.034*</td>
<td>0.033*</td>
<td>0.035*</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td>(1.67)</td>
<td>(1.69)</td>
<td>(1.85)</td>
<td>(1.37)</td>
</tr>
<tr>
<td>Consumer Review Bad</td>
<td>0.037</td>
<td>0.038</td>
<td>0.037</td>
<td>0.043</td>
</tr>
<tr>
<td></td>
<td>(1.65)</td>
<td>(1.17)</td>
<td>(1.14)</td>
<td>(1.53)</td>
</tr>
<tr>
<td>ln(Price)</td>
<td></td>
<td>-0.220***</td>
<td>-0.074***</td>
<td></td>
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<tr>
<td></td>
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<td>(-25.59)</td>
<td>(-7.57)</td>
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Difference in Coefficients (p-value):

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<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment - Social</td>
<td>0.089</td>
<td>0.181</td>
<td>0.248</td>
<td>0.167</td>
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<tr>
<td>Environment - Governance</td>
<td>0.797</td>
<td>0.544</td>
<td>0.422</td>
<td>0.655</td>
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<tr>
<td>Social - Governance</td>
<td>0.045</td>
<td>0.047</td>
<td>0.043</td>
<td>0.060</td>
</tr>
<tr>
<td>Social - Annual Report Viewed</td>
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<td>0.852</td>
<td>0.954</td>
<td>0.662</td>
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<td>ESG Report Viewed - Annual Report Viewed</td>
<td>0.814</td>
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<tr>
<td>Social - Consumer Review Good</td>
<td>0.057</td>
<td>0.073</td>
<td>0.079</td>
<td>0.032</td>
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</table>

Main Effects: Yes Yes Yes Implied

Fixed Effects: Individual No Yes Yes Yes
Product Category No Yes Yes Implied
Firm No No Yes Implied
Product No No No Yes

Adjusted $R^2$ 0.007 0.172 0.212 0.396

Notes: This table provides OLS regression results from the product rating exercise using our weighted Survey Sample. We weight the sample using the strategy laid out in the notes to Table 3. The dependent variable is *Purchase Intent*, which is the value participants assign to the question “How likely are you to purchase this product in the next six months?” and ranges from 1 to 7 with 1 meaning “extremely unlikely” and 7 meaning “extremely likely”. The independent variables are the binary indicators for the treatment sub-groups and are defined in the notes to Table 2. *ln(Price)* is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. Where needed, we include the main effects for Good Consumer Reviews of the product and/or Good Profitability Information of the firm. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
Table IA4.3: Effects on Purchase Intent  
(Unconditional Treatment Arms, Full Raw Sample)

<table>
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<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
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<td>Purchase Intent</td>
<td>0.063***</td>
<td>0.064***</td>
<td>0.063***</td>
<td>0.066***</td>
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<tr>
<td>Environment</td>
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<td>(4.95)</td>
<td>(5.90)</td>
</tr>
<tr>
<td>Social</td>
<td>0.089***</td>
<td>0.092***</td>
<td>0.091***</td>
<td>0.090***</td>
</tr>
<tr>
<td>Governance</td>
<td>0.036***</td>
<td>0.037***</td>
<td>0.039***</td>
<td>0.044***</td>
</tr>
<tr>
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<td>-0.019</td>
<td>-0.020</td>
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<td>Profitability Information</td>
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<td>-0.001</td>
<td>0.002</td>
</tr>
<tr>
<td>Consumer Review</td>
<td>0.046***</td>
<td>0.045***</td>
<td>0.045***</td>
<td>0.054***</td>
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<td>ln(Price)</td>
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Difference in Coefficients (p-value):

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<td></td>
<td>0.127</td>
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Fixed Effects:

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<th>Product Category</th>
<th>Firm</th>
<th>Product</th>
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<th>Used Observations</th>
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<td></td>
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<td>Yes</td>
<td>Yes</td>
<td>0.000</td>
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<td></td>
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<td>Yes</td>
<td>Yes</td>
<td>Implied</td>
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<td>370,123</td>
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<td>No</td>
<td>Yes</td>
<td>Implied</td>
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<td>No</td>
<td>No</td>
<td>Yes</td>
<td>0.397</td>
<td>368,540</td>
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</tbody>
</table>

Notes: This table provides OLS regression results from the product rating exercise using the full raw sample of survey completers (i.e., including survey speeders). The dependent variable is Purchase Intent, which is the value participants assign to the question “How likely are you to purchase this product in the next six months?” and ranges from 1 to 7 with 1 meaning “extremely unlikely” and 7 meaning “extremely likely”. The independent variables are the binary indicators for the treatment sub-groups and are defined in the notes to Table 2. ln(Price) is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
Table IA4.4: Effects on Purchase Intent
(Conditional Treatment Arms, Full Raw Sample)

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>0.063***</td>
<td>0.063***</td>
<td>0.063***</td>
<td>0.066***</td>
</tr>
<tr>
<td></td>
<td>(4.73)</td>
<td>(4.83)</td>
<td>(4.93)</td>
<td>(5.90)</td>
</tr>
<tr>
<td>Social</td>
<td>0.088***</td>
<td>0.091***</td>
<td>0.091***</td>
<td>0.090***</td>
</tr>
<tr>
<td></td>
<td>(6.59)</td>
<td>(6.91)</td>
<td>(7.06)</td>
<td>(8.04)</td>
</tr>
<tr>
<td>Governance</td>
<td>0.036***</td>
<td>0.037***</td>
<td>0.039***</td>
<td>0.044***</td>
</tr>
<tr>
<td></td>
<td>(2.71)</td>
<td>(2.80)</td>
<td>(3.01)</td>
<td>(3.97)</td>
</tr>
<tr>
<td>ESG Report Viewed</td>
<td>0.360***</td>
<td>0.248***</td>
<td>0.232***</td>
<td>0.179***</td>
</tr>
<tr>
<td></td>
<td>(6.52)</td>
<td>(4.45)</td>
<td>(4.36)</td>
<td>(3.68)</td>
</tr>
<tr>
<td>ESG Report Not Viewed</td>
<td>-0.038**</td>
<td>-0.032**</td>
<td>-0.033**</td>
<td>-0.028**</td>
</tr>
<tr>
<td></td>
<td>(-2.48)</td>
<td>(-2.15)</td>
<td>(-2.29)</td>
<td>(-2.21)</td>
</tr>
<tr>
<td>Annual Report Viewed</td>
<td>0.194***</td>
<td>0.076</td>
<td>0.072</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>(3.26)</td>
<td>(1.31)</td>
<td>(1.26)</td>
<td>(0.58)</td>
</tr>
<tr>
<td>Annual Report Not Viewed</td>
<td>-0.021</td>
<td>-0.016</td>
<td>-0.013</td>
<td>0.003</td>
</tr>
<tr>
<td></td>
<td>(-1.40)</td>
<td>(-1.08)</td>
<td>(-0.87)</td>
<td>(0.21)</td>
</tr>
<tr>
<td>Profitability Information Good</td>
<td>0.004</td>
<td>0.001</td>
<td>-0.001</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>(0.34)</td>
<td>(0.14)</td>
<td>(-0.08)</td>
<td>(0.40)</td>
</tr>
<tr>
<td>Profitability Information Bad</td>
<td>-0.003</td>
<td>-0.003</td>
<td>-0.001</td>
<td>-0.011</td>
</tr>
<tr>
<td></td>
<td>(-0.13)</td>
<td>(-0.11)</td>
<td>(-0.06)</td>
<td>(-0.51)</td>
</tr>
<tr>
<td>Consumer Review Good</td>
<td>0.053***</td>
<td>0.056***</td>
<td>0.055***</td>
<td>0.062***</td>
</tr>
<tr>
<td></td>
<td>(4.05)</td>
<td>(4.37)</td>
<td>(4.41)</td>
<td>(5.76)</td>
</tr>
<tr>
<td>Consumer Review Bad</td>
<td>0.026</td>
<td>0.015</td>
<td>0.015</td>
<td>0.025</td>
</tr>
<tr>
<td></td>
<td>(1.15)</td>
<td>(0.68)</td>
<td>(0.71)</td>
<td>(1.38)</td>
</tr>
<tr>
<td>ln(Price)</td>
<td>-0.240***</td>
<td>-0.101***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-40.94)</td>
<td>(-15.20)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Difference in Coefficients (p-value):

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment - Social</td>
<td>0.118</td>
<td>0.082</td>
<td>0.076</td>
<td>0.084</td>
</tr>
<tr>
<td>Environment - Governance</td>
<td>0.111</td>
<td>0.104</td>
<td>0.123</td>
<td>0.111</td>
</tr>
<tr>
<td>Social - Governance</td>
<td>0.002</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Social - Annual Report Viewed</td>
<td>0.081</td>
<td>0.792</td>
<td>0.739</td>
<td>0.240</td>
</tr>
<tr>
<td>ESG Report Viewed - Annual Report Viewed</td>
<td>0.034</td>
<td>0.026</td>
<td>0.032</td>
<td>0.030</td>
</tr>
<tr>
<td>Social - Profitability Information Good</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Social - Consumer Review Good</td>
<td>0.025</td>
<td>0.024</td>
<td>0.018</td>
<td>0.039</td>
</tr>
</tbody>
</table>

Main Effects            | Yes        | Yes        | Yes        | Implied    |

Fixed Effects:

- Individual No Yes Yes Yes
- Product Category No Yes Yes Implied
- Firm No No Yes Implied
- Product No No No Yes

Adjusted R²              | 0.007      | 0.148      | 0.193      | 0.397      |

Notes: This table provides OLS regression results from the product rating exercise using the full raw sample of survey completers (i.e., including survey speeders). The dependent variable is Purchase Intent, which is the value participants assign to the question “How likely are you to purchase this product in the next six months?” and ranges from 1 to 7 with 1 meaning “extremely unlikely” and 7 meaning “extremely likely”. The independent variables are the binary indicators for the treatment sub-groups and are defined in the notes to Table 2. ln(Price) is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. Where needed, we include the main effects for Good Consumer Reviews of the product and/or Good Profitability Information of the firm. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
### Table IA4.5: Determinants for Viewing ESG and Annual Reports

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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Male</td>
<td>-0.003</td>
<td>-0.007</td>
</tr>
<tr>
<td></td>
<td>(-0.65)</td>
<td>(-1.59)</td>
</tr>
<tr>
<td>Above Median Age</td>
<td>0.022***</td>
<td>0.021***</td>
</tr>
<tr>
<td></td>
<td>(6.83)</td>
<td>(6.25)</td>
</tr>
<tr>
<td>White</td>
<td>0.000</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(0.12)</td>
<td>(0.34)</td>
</tr>
<tr>
<td>Above Median Income</td>
<td>-0.013***</td>
<td>-0.014***</td>
</tr>
<tr>
<td></td>
<td>(-3.87)</td>
<td>(-3.89)</td>
</tr>
<tr>
<td>Above Median Education</td>
<td>0.015***</td>
<td>0.013***</td>
</tr>
<tr>
<td></td>
<td>(4.34)</td>
<td>(3.61)</td>
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<tr>
<td>Liberal</td>
<td>0.006</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(1.37)</td>
<td>(0.39)</td>
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<tr>
<td>Conservative</td>
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<td>0.006</td>
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<tr>
<td></td>
<td>(0.92)</td>
<td>(1.56)</td>
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<tr>
<td>Urban</td>
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<tr>
<td></td>
<td>(0.03)</td>
<td>(-0.43)</td>
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<tr>
<td>Multi-Person Household</td>
<td>-0.002</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(-0.54)</td>
<td>(-0.29)</td>
</tr>
<tr>
<td>Previously Purchased</td>
<td>-0.003</td>
<td>-0.002</td>
</tr>
<tr>
<td></td>
<td>(-0.75)</td>
<td>(-0.54)</td>
</tr>
<tr>
<td>Disclosure Awareness</td>
<td>0.012***</td>
<td>0.011***</td>
</tr>
<tr>
<td></td>
<td>(3.59)</td>
<td>(3.38)</td>
</tr>
<tr>
<td>Retail Investor</td>
<td>0.005</td>
<td>0.008**</td>
</tr>
<tr>
<td></td>
<td>(1.24)</td>
<td>(1.97)</td>
</tr>
<tr>
<td>High ESG Preference</td>
<td>0.015***</td>
<td>0.015***</td>
</tr>
<tr>
<td></td>
<td>(4.51)</td>
<td>(4.35)</td>
</tr>
<tr>
<td>Prefer Unprofitable Firms</td>
<td>0.029***</td>
<td>0.030***</td>
</tr>
<tr>
<td></td>
<td>(4.10)</td>
<td>(4.15)</td>
</tr>
<tr>
<td>Don’t Trust ESG</td>
<td>0.022***</td>
<td>0.023***</td>
</tr>
<tr>
<td></td>
<td>(3.93)</td>
<td>(4.06)</td>
</tr>
</tbody>
</table>

**Fixed Effects:**

<table>
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<tr>
<th>Product</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusted R²</td>
<td>0.004</td>
<td>0.006</td>
<td>0.009</td>
<td>0.006</td>
<td>0.005</td>
<td>0.006</td>
</tr>
<tr>
<td>Used Observations</td>
<td>23,209</td>
<td>21,951</td>
<td>21,880</td>
<td>23,214</td>
<td>21,938</td>
<td>21,867</td>
</tr>
</tbody>
</table>
Notes: This table provides OLS regression results capturing the determinants for participants who view annual and ESG reports. The dependent variable is Report Viewed, which is a binary variable indicating whether a given participant viewed the respective report. Columns (1) - (3) show determinants for viewing ESG reports and columns (4) - (6) show determinants for viewing annual reports. The sample is restricted to the observations in the respective treatment arm (i.e., ESG Report and Annual Report treatment arms). Male equals one if the participant identifies as male and zero otherwise. Above Median Age, Above Median Income, and Above Median Education are binary indicators and split the sample based on the median participant age, income, and education groups. White indicates whether a participant identifies as White. Liberal and Conservative capture participants' political views with Moderate being the reference group. Urban equals one if a household is located in a metropolitan statistical area, and zero otherwise. Multi-Person Household equals one if the household contains more than one person, and zero otherwise. Previously Purchased equals one if the participant purchased the product during a six month period before the experiment, and zero otherwise. Disclosure Awareness equals one if the participant indicates that they are aware of ESG and/or annual reports, and zero otherwise. Retail Investor equals one if the participant indicates that they directly invest in individual public companies, and zero otherwise. High ESG Preference equals one if the participant scores their preferences for good ESG preferences as three or above, and zero otherwise. Prefer Unprofitable Firms equals one if the participant scores their preference for (un-)profitable firms as 3 or below, and zero otherwise. Don’t Trust ESG equals one if the participant indicates that a friction for including ESG information in purchase decisions is that they don’t trust companies' disclosed ESG activities, and zero otherwise. The regressions include product fixed effects and our standard errors are heteroskedasticity-robust.

T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
### Table IA4.6: Real Effects on Actual Product Purchases
(Unconditional Treatment Arms)

<table>
<thead>
<tr>
<th>Dependent Variable: Quantity Purchased</th>
<th>Post Weeks 1-2</th>
<th>Post Weeks 3-4</th>
<th>Post Weeks 1-4</th>
<th>Poisson Post Weeks 1-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>0.001</td>
<td>0.001</td>
<td>-0.001</td>
<td>-0.001</td>
</tr>
<tr>
<td></td>
<td>(0.66)</td>
<td>(0.54)</td>
<td>(-0.99)</td>
<td>(-0.03)</td>
</tr>
<tr>
<td>Social</td>
<td>0.003**</td>
<td>0.003**</td>
<td>0.002</td>
<td>0.123**</td>
</tr>
<tr>
<td></td>
<td>(2.16)</td>
<td>(2.44)</td>
<td>(1.45)</td>
<td>(2.21)</td>
</tr>
<tr>
<td>Governance</td>
<td>-0.000</td>
<td>-0.000</td>
<td>-0.001</td>
<td>-0.056</td>
</tr>
<tr>
<td></td>
<td>(-0.05)</td>
<td>(-0.13)</td>
<td>(-1.05)</td>
<td>(-1.02)</td>
</tr>
<tr>
<td>ESG Report</td>
<td>0.002</td>
<td>0.002</td>
<td>0.000</td>
<td>0.057</td>
</tr>
<tr>
<td></td>
<td>(1.31)</td>
<td>(1.28)</td>
<td>(0.05)</td>
<td>(0.87)</td>
</tr>
<tr>
<td>Annual Report</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.057</td>
</tr>
<tr>
<td></td>
<td>(-0.51)</td>
<td>(-0.53)</td>
<td>(-0.50)</td>
<td>(-0.95)</td>
</tr>
<tr>
<td>Profitability Information</td>
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<td>-0.000</td>
<td>-0.001</td>
<td>-0.020</td>
</tr>
<tr>
<td></td>
<td>(-0.41)</td>
<td>(-0.48)</td>
<td>(-0.72)</td>
<td>(-0.49)</td>
</tr>
<tr>
<td>Consumer Review</td>
<td>0.000</td>
<td>0.000</td>
<td>-0.002</td>
<td>-0.030</td>
</tr>
<tr>
<td></td>
<td>(0.31)</td>
<td>(0.32)</td>
<td>(-1.31)</td>
<td>(-0.67)</td>
</tr>
<tr>
<td>ln(Price)</td>
<td>-0.004***</td>
<td>-0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-6.41)</td>
<td>(-9.11)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Difference in Coefficients (p-value):
- Environment - Social: 0.219, 0.123, 0.127, 0.280, 0.050, 0.051, 0.073, 0.026
- Environment - Governance: 0.563, 0.580, 0.620, 0.511, 0.967, 0.875, 0.425, 0.777
- Social - Governance: 0.070, 0.035, 0.042, 0.081, 0.041, 0.032, 0.010, 0.010
- Social - ESG Report: 0.588, 0.436, 0.451, 0.797, 0.291, 0.377, 0.398, 0.090
- Social - Annual Report: 0.037, 0.021, 0.025, 0.135, 0.121, 0.106, 0.014, 0.074
- Social - Profitability Information: 0.019, 0.008, 0.008, 0.014, 0.056, 0.029, 0.015, 0.010
- Social - Consumer Review: 0.091, 0.053, 0.062, 0.105, 0.023, 0.034, 0.014, 0.003

#### Fixed Effects:
- Individual: No, Yes, Yes, Yes, Yes, Yes, No, Yes
- Product Category: No, Yes, Yes, Implied, Implied, Implied, No, Implied
- Firm: No, No, Yes, Implied, Implied, Implied, No, Implied
- Product: No, No, No, Yes, Yes, Yes, No, Yes

Adjusted/Pseudo R\(^2\): 0.000, 0.034, 0.047, 0.112, 0.129, 0.147, 0.000, 0.490

Note: This table provides OLS and Poisson regression results from the product rating exercise, estimating the effect of the experiment on future real consumption. The dependent variable is Quantity Purchased, which is the quantity of a given product purchased by a given household over the specified time period. Columns (1) - (6) are OLS specifications for which we transform the dependent variable using the inverse hyperbolic sine. Columns (7) and (8) are Poisson specifications and the dependent variable is not transformed. The independent variables are binary indicators for the treatment sub-groups and are defined in the notes to Table 2. ln(Price) is a control variable capturing the average selling price of the product, transformed using the natural logarithm. The fixed effects structure varies by column and the table indicates which combination of Individual, Product Category, Firm and Product fixed effects is included. All specifications cluster standard errors at the individual level. T-statistics are displayed in parentheses. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.
Notes: This figure captures the change in relative importance of product or firm attributes that respondents consider when making their purchase decision between the follow up survey (N = 16,350) and baseline survey. The data stem from the question “How important are the following characteristics when you are making a purchase decision about a product?” where respondents rank topics according to relative importance from 1 (most important) to 9 (least important). The figure presents the mean change in the ranking position for each attribute and 90% confidence intervals.
Figure IA5.2: Recall of the Experiment and Consumption Change

Notes: This figure presents data from the follow-up survey and illustrates whether the respondents can recall the survey and whether they perceived a change in consumption because of the information provided in the experiment. Just over 70% of respondents can recall the survey ($N = 11,490$). We asked respondents who could recall the survey whether the information presented in the product profiles impacted their shopping behavior and about 25% of respondents (35% of respondents who recall the survey) perceive a change in their consumption ($N = 4,048$).

Figure IA5.3: Receipt Uploads to Receipt Hog

Notes: This figure captures respondents’ interaction with the app Receipt Hog. Respondents are asked to estimate the share of total consumption receipts they upload to the app which is the basis of our consumption data. Most participants upload the majority of their receipts to the app.
Additional Citations

Regulators Continue Fight Against Greenwashing.”
the Council of 22 October 2014 amending Directive 2013/34/EU as regards Disclosure of
Non-Financial and Diversity Information by Certain Large Undertakings and Groups.”
services.”