Investor Preferences for Green Investments*

Forthcoming in the Elgar Encyclopedia of Experimental Social Science

Christoph Siemroth†

October 10, 2025

1 Introduction

Finance textbooks teach us that investors care about the financial aspects of an investment. A higher return of the investment is better, because it increases wealth. A lower risk of the investment is better, because this avoids large swings of wealth in the future, thus making large losses less likely. And more liquidity—the ability to quickly and without much loss convert the investment into cash— is better, because it provides flexibility. This entry reviews the experimental evidence on the more recent questions of (1) whether investors care if their investments benefit good causes and (2) if so, why investors make green investments in the first place.

What does it mean to have "sustainable" or "environmental" preferences, in short, *green preferences*? Investors with green preferences prefer an investment benefiting an environmental cause over an investment not benefiting (or even harming) such causes, all else equal. For example, an investor with green preferences prefers an investment to install new photovoltaic panels (and to sell the clean energy) over an investment building a new shopping centre, all else equal.

The "all else equal" part means that all other parameters which determine the attractiveness of the investment—such as expected return—have to be identical. And this "all else equal" part is important. Because it means that an investor with green preferences might very well prefer a conventional (non-green) investment over a green one if that conventional investment has more attractive conditions to compensate for its "non-greenness."

Thus, we cannot simply look at field behavior, observe an investor choosing a conventional over a green investment, and conclude that the investor does not have green preferences. It could just as well be that this investor *has* green preferences, but believes that the conventional investment is more profitable or much safer than the green investment.

*I thank Avesta Abdulrahman for valuable comments. This work was supported by the Economic and Social Research Council [grant number ES/T015357/1].

†University of Essex, Department of Economics, Wivenhoe Park, Colchester, CO4 3SQ, UK.

Due to these difficulties with field observations, experiments are a powerful tool to investigate the motives of investors, because experiments can ensure the "all else equal" condition. The experimental literature summarized below largely finds that many retail investors (i.e., non-professionals) have green preferences and are willing to sacrifice some return if that helps an environmental cause. The experimental evidence on professional investors is insufficient to make a determination.[1]

2 Framing experiments

2.1 The basic idea

Framing refers to the way information is presented or described, which can influence how people perceive and interpret that information. In the context of these experiments, framing involves varying the language, context, or writing style used to describe an investment opportunity, while keeping the underlying financial characteristics the same. This can potentially change investors' perceptions of that investment.

For example, one group of investors might see an investment opportunity described as:

> "Invest into the power infrastructure in the booming residential sector."

Another group of investors might see the same investment described as

> "Invest into rooftop photovoltaic panels to sell the generated green energy."

The same financial numbers are given to both groups, to ensure the "all else equal" part. And as in a medical drug trial, investors have to be randomly assigned to one or the other frame, otherwise the two investor groups might be different, and we cannot attribute observed differences in behavior to the framing.

Notice that the first frame is without hint to the sustainable nature of the investment, instead hinting at a profitable opportunity, whereas the second frame is about the environmental benefit of the investment. If investors value supporting an environmental cause, then the second frame makes the investment more appealing to them . Thus, if investors respond more to the second frame—for example by investing more—then it can be viewed as evidence that investors have green preferences.

The different frames do not change investor preferences, but rather, they induce different behaviors depending on the existing investor preferences. Hence, an investor without green preferences is not going to respond positively to flowery language about environmental benefits (indeed, that person might get annoyed and have an adverse reaction), whereas someone with green preferences responds positively. This is the key to uncovering the motivations of investors using framing.

[1] The high salaries and long hours of professional investors make it hard to get them to join an experiment.

2.2 Findings

Døskeland and Pedersen (2016) ran a framing experiment with customers of a bank. On the online presence of the bank, investment options were presented with financial numbers, and a new ethical labeling system. The labeling consisted of three levels for the "ethical quality" of the investment. Investment options of the lowest quality were marked with a red warning symbol (with an explanation why this investment was red). Investment options of medium quality level were not marked. And the options of the highest quality were marked with a green leaf symbol. The researchers then sent email newsletters to different groups of investors to announce the new ethical labeling system of investment opportunities. One version of the newsletter—the wealth framing—highlighted the financial benefits of ethical investments. Another version of the newsletter—the moral framing—described ethical investments as an opportunity to "contribute to a just and sustainable economy."

Døskeland and Pedersen (2016) find that investors exposed to the wealth framing are more likely to make a green investment afterwards, compared to investors exposed to the moral framing. Hence, their experiment indicates that investors are on average more motivated by wealth concerns than moral concerns to invest sustainably. However, the experiment is not evidence against green preferences, which would have required: (1) Another newsletter version where green investments were neither framed as better financially nor morally superior, (2) this newsletter version generating at least as many investments as with the moral framing. But the researchers did not have such a newsletter version.

Hornuf and Siemroth (2023) ran another framing experiment. Investors on an online investment platform received an email newsletter about every new investment project, such as installing a set of new photovoltaic panels. The online platform is focused on social and environmental investment projects, so this platform should attract more investors with green preferences. The experiment varied the framing in the newsletter, either describing the new project in favorable social and environmental terms, in favorable financial and business terms, or in a balanced way with both.

Hornuf and Siemroth (2023) find that the social and environmental framing leads to more clicks to the project website than the balanced framing. This finding indicates the presence of green preferences among some investors, as investors on average get more interested when more of the social and environmental benefits are highlighted. The financial and business framing generates the same number of clicks as the balanced framing.

Thus, the two existing experiments of this kind disagree on whether a financial or an environmental framing is better to attract more interest and investments. One reason for the difference could be the subjects: The first experiment studies bank customers, typically a conservative clientele. The second experiment studies investors from a green investment platform, likely a very progressive clientele. Hence, the best way to market green investment may depend on the audience.

Since the comparison is between different groups of investors, framing experiments can only tell us something about the average investor in the sample, not something about an individual investor. This is what the next kind of experiment can achieve.

3 Individual decision experiments

3.1 The basic idea

In decision experiments, the experimenter gives one or several choices to the investor, and these choices trade off the financial dimension of the investment (typically the return) with the environmental dimension. Thus, the investor is forced to choose between better financials or more sustainability, and hence the choice reveals something about investor motives.[2] For example, an experiment could present an investor with a series of choices between two options, as displayed in the following table (each line is a choice the investor has to make):

	Option A		**Option B**
Choice 1	1000€ investment at 1% return	or	1000€ investment at 1% return and 1t of CO_2 emissions saved
Choice 2	1000€ investment at 1.5% return	or	1000€ investment at 1% return and 1t of CO_2 emissions saved
Choice 3	1000€ investment at 2% return	or	1000€ investment at 1% return and 1t of CO_2 emissions saved
...	...	...	...
Choice 19	1000€ investment at 10% return	or	1000€ investment at 1% return and 1t of CO_2 emissions saved

Across these choices, option A keeps changing while option B remains the same. The first choice is between two investments with the same return, but B delivers some CO_2 abatement in addition, thus doing a small part in easing global warming.[3] Since taking the environmental benefit involves no financial sacrifice, most investors would choose B. If they have green preferences, they might also prefer B in the second choice, but here taking the environmental benefit means sacrificing 0.5 percentage points of return (equivalent to 5€ when investing 1000€).

Skipping ahead, choice 19 is between a 10% return and a 1% return plus the environmental benefit. This is a difference of 90€ in terms of return, so even some investors with green preferences might prefer option A without the environmental benefit. The stronger the green preference, the later an investor switches from option B to option A. Thus, the

[2]The trade-off is important. If one option would offer both a more attractive investment and a better outcome for the environment, then investors who have green preferences and those who do not care about the environment would both choose this option. Hence, the choice would not tell us much about their motives.

[3]To get a sense for the tradeoff in financial terms: Atmosfair, a German CO_2 carbon offset NGO, currently prices 1t of CO_2 offsets at 30€. Prices at other carbon offset services vary.

switching point—e.g., whether the investor takes the higher return already for a minor difference in choice 2 or for a larger difference in choice 17—is a measure of how strong the investor preference is for supporting the environment.

But why would investors or subjects tell the truth about their motives in such experiments? After all, there might be a social or societal expectation that one should be willing to help a good cause. Thus, there might be a resistance to admitting that one would rather take the money than support the environment (this is called a "social desirability bias"). These economic experiments overcome the issue by turning the choice from hypothetical into real: One of the 19 choices is randomly selected and then actually implemented, so the investor has to live with it. Hence, saying one wants to support the environment by sacrificing some return would lead to actually leaving money on the table, which incentivizes truth-telling. This contrasts with unincentivized survey questions, where an investor could lie without material consequence, thus providing a worse defense against social desirability bias and other threats to accurate responses.[4]

3.2 Findings

This section is divided into the questions that the decision experiments seek to answer.

Why do investors choose green investments?

Siemroth and Hornuf (2023) ran a decision experiment of the above kind. Their series of choices was between a fixed amount of money for themselves and an increasing amount of money donated to a good cause. The good cause was either carbon offsetting (where a larger donation offsets more emissions), Greenpeace, or the Red Cross. The first two causes are environmental, whereas the Red Cross is a social cause.

The participants in the experiment were retail investors from an online investment platform. Among the three causes, carbon offsetting was valued the most by investors, so investors switched from "money for themselves" to "donation for the cause" earlier as the donation amount increased. About 25% of the investors never chose to donate for any donation amount. But the remaining 75% of investors were willing to choose the donation if the donation amount was large enough. Hence, this is evidence that some retail investors are willing to leave money on the table for a good cause.

The experimental choices classify investors into those with green preferences (when choosing to donate to one of the environmental causes) or not, and those with social preferences (when choosing to donate to the Red Cross) or not. As explained, the switching point

[4]The above table with a series of choices is one way to implement a so-called Becker-DeGroot-Marschak mechanism, a popular tool in experimental economics to elicit a willingness to pay for something (Healy, 2018). In the table above, the switching point from Option B to Option A is effectively the willingness to pay for 1t of CO_2 emissions in terms of investment return. And the reason for its popularity is exactly that it is designed to elicit truthful responses.

measures the intensity of the preferences. Siemroth and Hornuf (2023) combined the experimental choices with investment decisions on the platform. They find that those with stronger green preferences invested more often in green projects. Thus, these experiments can capture something relevant about investor motives that drive investment decisions. They also find that investors invested more often in green projects if they are more optimistic about green returns, so beliefs and not just preferences matter.

Riedl and Smeets (2017) ran a different kind of decision experiment with retail investors. Rather than offering the choice between money/return or furthering a social/environmental cause, they let the investors play a trust game. In the two-player trust game, one takes the role of the sender and the other the role of the receiver. The sender decides what percentage of a pot of money to send to the receiver and what percentage to keep for themselves. Whatever the receiver obtains is tripled. Then the receiver decides how much of the tripled amount to send back to the sender and how much to keep.

This game has fascinated economists for decades, as it allows for very selfish behavior by the receiver (not sending anything back) or mutually beneficial arrangements (the sender sends everything, this is tripled, then the receiver sends half back). Riedl and Smeets (2017) use the amount sent back as the receiver to classify investors from selfish (nothing sent back) to very pro-social (a lot sent back).[5] The receiver could keep all of the money received, and since the experiment was anonymous, there were no adverse reputation consequences. Thus, the receiver behavior is a measure of prosocial (selfless) behavior.

Riedl and Smeets (2017) find that investors who return more as receivers in the trust game are more likely to have green investments. Hence, a higher social concern for others appears to motivate green investments. They also find that investors who talk a lot about their investments are more likely to have green investments, which they interpret as a motive to look good in front of others.[6] Hence, not all green investments might have honorable motives.

Is twice the environmental benefit valued twice as much?

Heeb et al. (2023) ran a decision experiment measuring how much more investors are willing to pay for an investment with environmental benefits, compared to a financially identical investment without environmental benefits. The environmental benefit was either 0.5t CO_2 emission saving or 5t CO_2 emission saving. Their subject pool consisted of both retail investors and high net worth impact investors with a lot of experience in sustainable investing.

Heeb et al. (2023)'s main finding is that the mean willingness to pay for an investment

[5]To avoid the sender's behavior to influence the decisions, they ask receivers how much they would send back for each of the possible amounts received. This is known as the "strategy method" in experimental economics. Then the answer for the actual amount received is used to determine the payments for both investors in the experiment.

[6]However, alternative interpretations are possible, such as knowledgeable investors being more optimistic about green investments and talking more about investments.

with 0.5t of CO_2 emissions saved is positive and substantial. But the willingness to pay for 5t CO_2 emission saving is not higher, even though the impact is 10 times as large. Thus, investors on average appear to want to help the environment, but once they contributed, their willingness to do more is much lower.

Imai et al. (2023) ran a decision experiment with the general public (not investors specifically) in the US. They wanted to find out how much people are willing to pay to mitigate different levels of CO_2 emissions. The experimental choice was effectively between an increasing amount of money for themselves or the mitigation of a specific amount of CO_2 emissions, so the switching point identified their willingness to pay. Imai et al. (2023) find that, on average, investors are willing to pay less for every additional ton of CO_2 emission mitigated. That is, people are willing to pay more to offset the first ton of CO_2 emissions than to offset the sixth ton if five have already been offset. This finding indicates that those who have already done their bit for the environment might be less willing to sacrifice again.

On the nature of green preferences

Guenster et al. (2024) ran a lab experiment with student subjects, where the investment was risky and paid off either a lot or nothing. The investment's societal benefit—a donation to Greenpeace, Red Cross, or Transparency International—occurred either in case of the high financial payoff or in case of no financial payoff. These investments were designed to find out if people value the societal benefit more if their financial investment goes well or if it goes poorly.

The main finding is that people value investments more with the societal benefit in case of a good financial outcome, compared to investments with the societal benefit in case of a poor financial outcome. This suggests that people do not value the societal benefit as a consolation prize in case of bad financial performance. Guenster et al. (2024) also find that the average subject values an investment with societal benefit more than an investment without, holding the financial performance constant, thus providing more evidence in favor of the existence of green preferences.

Bonnefon et al. (2022) ran an experiment with members of the public. They measured the willingness to pay for assets that paid the holder and in addition donated to an environmental or social cause, didn't donate, or even reduced the donation. The researchers also varied whether the asset donated only if it was bought, or whether it donated even if the asset was not bought. Thus, the authors wanted to test whether people care about the environmental benefit of the asset—whether they hold it or not—or whether people instead care about holding assets benefiting a good cause in their portfolio. That is, the first motive is about seeking positive impact in the world (independent of who is responsible for it), whereas the

second motive is about aligning one's portfolio with positive values (thus getting the feeling that their own investment helped).[7]

Bonnefon et al. (2022) find that people are willing to pay the same for the asset, whether the charitable donation depends on their purchase or not. Thus, the motive for green investing is not to bring about positive change, but to have the portfolio reflect one's values and to feel good about it.

4 Summary

There is quite consistent evidence that a sizeable share of retail investors have green preferences. This does not mean that every investor does, but enough do, so that the willingness to pay for a green investment is on average higher than for an otherwise identical non-green investment (Heeb et al., 2023). And while the framing experiments disagree on whether green investments are better sold as "more profitable" or "do good," there is evidence that emphasizing the environmental benefits of an investment creates more interest (Hornuf and Siemroth, 2023).

But the investor motives are not completely selfless. Investors choose green to help the environment, but also because they think it can be more profitable (Siemroth and Hornuf, 2023). It is possible that investors choose green investments because it makes them look good (Riedl and Smeets, 2017). And it appears more important for investors to have a green asset in the portfolio, than for the green asset to bring about positive change (Bonnefon et al., 2022). Despite the possible impurity of intentions, since many investors are willing to pay extra for green assets, they might help reduce the costs of the green transition.

References

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

Døskeland, T. and L. J. T. Pedersen (2016): "Investing with brain or heart? A field experiment on responsible investment," *Management Science*, 62, 1632–1644.

Guenster, N., D. Brodback, S. Pouget, and R. Wang (2024): "Investor Valuation for Socially Responsible Assets: A Willingness to Pay Experiment," Working Paper.

[7]To illustrate the difference: Imagine a private wind farm company wants to sell half of its shares to an investor and use the proceeds to build more wind farms. If the sale does not happen, no more wind farms. So investors of either motive should be interested. Now instead imagine the same wind farm company is trading on the stock exchange, and if you buy shares of that company, it is from a rich trader who wants to use the proceeds to buy a private plane. The investor with the first motive would not be interested here, because the purchase of the asset—even though it is a green stock—does not actually have positive environmental impact. The investor with the second motive would still be interested, as it is a green firm.

Healy, P. J. (2018): "Explaining the BDM—or any random binary choice elicitation mechanism—to subjects," https://www.asc.ohio-state.edu/economics/healy/papers/Healy-ExplainingBDM_Note.pdf.

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

Hornuf, L. and C. Siemroth (2023): "A field experiment on attracting crowdfunders," *Economics Letters*, 222.

Imai, T., D. D. Pace, P. Schwardmann, and J. J. van der Weele (2023): "Correcting Consumer Misperceptions about CO2 Emissions," Working Paper.

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

Siemroth, C. and L. Hornuf (2023): "Why Do Retail Investors Pick Green Investments? A Lab-in-the-Field Experiment with Crowdfunders," *Journal of Economic Behavior and Organization*, 209, 74–90.