Investor Democracy

Finance Working Paper N° 1125/2026
May 2026

Rob Bauer
Maastricht University, ECCE and ECGI

Emmeline Cooper
Cranfield University

Bram van der Kroft
Massachusetts Institute of Technology

Paul Smeets
University of Amsterdam

ECGI Working Paper Series in Finance

Investor Democracy

Working Paper N° 1125/2026

May 2026

Rob Bauer
Emmeline Cooper
Bram van der Kroft
Paul Smeets

We thank Pensioenfonds Detailhandel, and in particular Henk Groot and Louise Kranenburg, for their cooperation in our research. We thank Mathijs van Dijk, Caroline Flammer, Graham Smith, and Laura Starks for serving as the Academic Advisory Group to our deliberative mini-public. We thank Gonzalo Arrieta, Florian Berg, Sebastien Betermier, Jules van Binsbergen, Aoife Fitzpatrick, Melissa Fitzpatrick, Oliver Hart, Luca Henkel, Harry Hummels, Zwetelina Iliewa, Peiran Jiao, Torsten Jochem, Julian Koebel, Lajos Kossuth, Emilio Marti, Roberto Rigibon, Paulo Rodrigues, Jan Stoop, Spyridon Terovitis, Stefan Thewissen, Vladimir Vladimirov, David Zerbib, Siqi Zheng, and seminar participants of the MIT Aggregate Confusion Project, University of Zurich, University of St Gallen, University of Amsterdam, University of Mannheim, Goethe University, Maastricht University, ICPM, and Porto University for feedback. The second study of this paper is pre-registered at https://www.socialscienceregistry.org/trials/15994. Bram van der Kroft gratefully acknowledges funding from the NWO (Dutch Science Foundation) Rubicon Grant 2023-3: 019.233SG.006. Paul Smeets also acknowledges financial support from the NWO under grant number VI.Vidi.221E.011. This publication is part of the project ”Clarifying the Dutch pension sector’s role in the sustainability transition” with file number KICH2. V4CS.24.003 of the KIC V4C S research program, which is (partly) funded by NWO under grant https://doi.org/10.61686/USEJK68982.

Abstract

Investment decisions are often delegated to financial intermediaries, yet beneficiaries rarely have meaningful influence over how their capital is invested. This creates a democratic deficit, especially when investment choices involve trade-offs between financial returns and social impact. We study how considered social preferences can be revealed in the field using deliberative democracy. Partnering with a large Dutch pension fund, we conduct two field experiments that combine a deliberative mini-public with a binding maxi-public vote. In the mini-public, 49 randomly selected members participate in a three-day, in-person process of structured peer deliberation and balanced expert briefings on sustainable investing. After deliberation, participants formulate and vote on recommendations for the pension board. Deliberation does not change how much financial return members are willing to sacrifice for sustainable investing. What changes is how members reason about the trade-off. Deliberation increases self-reported investment knowledge and, consistent with this, participants shift from rule-based reasoning about principles toward a focus on concrete societal outcomes. Consequentialist views rise from 20.9% to 44.2%, while deontological views fall from 34.9% to 9.3%. Mini-public members recommend expanding impact investing. To test whether this reflects the broader membership, the board puts the question to a binding vote among all members, of which 13,619 participate, choosing between stopping, maintaining, or expanding impact investing under the explicit understanding that the outcome determines actual portfolio allocations. We communicate to participants that impact investing can lower participants' pension payments at retirement but may have a positive environmental and social impact. Despite the financial trade-off, a clear plurality of 47.9% favors expansion, against only 15.6% who favor stopping. The board commits to increasing impact investments by 300 million to 1.2 billion euros. The mini-maxi-public elicits considered social preferences, translates them into consequential investment decisions, and builds support across political divides.

Keywords: Deliberative Democracy, Sustainable Finance, Experimental Economics, Impact investing
JEL Classifications: G11, M14, Q56

Rob Bauer*
Professor of Finance, Institutional Investors chair
Maastricht University
P.O. Box 616
Maastricht, 6200 MD, Netherlands
e-mail: r.bauer@maastrichtuniversity.nl

Emmeline Cooper
Senior Research Fellow and Lecturer
Cranfield University
College Road
Cranfield MK43 0AL Bedfordshire, UK
e-mail: Emmeline.Cooper@cranfield.ac.uk

Bram van der Kroft
Researcher
Massachusetts Institute of Technology
77 Massachusetts Avenue
Cambridge, MA 02139-4307, USA
e-mail: bramvdk@mit.edu

Paul Smeets
Professor of Philanthropy and Sustainable Finance
University of Amsterdam
Plantage Muidergracht 12
1001 NL Amsterdam, Netherlands
e-mail: p.m.a.smeets@uva.nl

*Corresponding Author

Investor Democracy

Rob Bauer
Maastricht University
Emmeline Cooper
Cranfield University
Bram van der Kroft
Massachusetts Institute of Technology
Paul Smeets
University of Amsterdam

May 5, 2026

Abstract

Investment decisions are often delegated to financial intermediaries, yet beneficiaries rarely have meaningful influence over how their capital is invested. This creates a democratic deficit, especially when investment choices involve trade-offs between financial returns and social impact. We study how considered social preferences can be revealed in the field using deliberative democracy. Partnering with a large Dutch pension fund, we conduct two field experiments that combine a deliberative mini-public with a binding maxi-public vote. In the mini-public, 49 randomly selected members participate in a three-day, in-person process of structured peer deliberation and balanced expert briefings on sustainable investing. After deliberation, participants formulate and vote on recommendations for the pension board. Deliberation does not change how much financial return members are willing to sacrifice for sustainable investing. What changes is how members reason about the trade-off. Deliberation increases self-reported investment knowledge and, consistent with this, participants shift from rule-based reasoning about principles toward a focus on concrete societal outcomes. Consequentialist views rise from 20.9% to 44.2%, while deontological views fall from 34.9% to 9.3%. Mini-public members recommend expanding impact investing. To test whether this reflects the broader membership, the board puts the question to a binding vote among all members, of which 13,619 participate, choosing between stopping, maintaining, or expanding impact investing under the explicit understanding that the outcome determines actual portfolio allocations. We communicate to participants that impact investing can lower participants' pension payments at retirement but may have a positive environmental and social impact. Despite the financial trade-off, a clear plurality of 47.9% favors expansion, against only 15.6% who favor stopping. The board commits to increasing impact investments by 300 million to 1.2 billion euros. The mini-maxi-public elicits considered social preferences, translates them into consequential investment decisions, and builds support across political divides.

Key words: Deliberative Democracy, Sustainable Finance, Experimental Economics, Impact Investing

JEL codes: G11, M14, Q56

Contact information: r.bauer@maastrichtuniversity.nl, emmeline.cooper@cranfield.ac.uk, bramvdk@mit.edu, and p.m.a.smeets@uva.nl.
We thank Pensioenfonds Detailhandel, and in particular Henk Groot and Louise Kranenburg, for their cooperation in our research. We thank Mathijs van Dijk, Caroline Flammer, Graham Smith, and Laura Starks for serving as the Academic Advisory Group to our deliberative mini-public. We thank Gonzalo Arrieta, Florian Berg, Sebastien Betermier, Jules van Binsbergen, Aoife Fitzpatrick, Melissa Fitzpatrick, Oliver Hart, Luca Henkel, Harry Hummels, Zwetelina Iliewa, Peiran Jiao, Torsten Jochem, Julian Koebel, Lajos Kossuth, Emilio Marti, Roberto Rigibon, Paulo Rodrigues, Jan Stoop, Spyridon Terovitis, Stefan Thewissen, Vladimir Vladimirov, David Zerbib, Siqi Zheng, and seminar participants of the MIT Aggregate Confusion Project, University of Zurich, University of St Gallen, University of Amsterdam, University of Mannheim, Goethe University, Maastricht University, ICPM, and Porto University for feedback. The second study of this paper is pre-registered at `https://www.socialscienceregistry.org/trials/15994`. Bram van der Kroft gratefully acknowledges funding from the NWO (Dutch Science Foundation) Rubicon Grant 2023-3: 019.233SG.006. Paul Smeets also acknowledges financial support from the NWO under grant number VI.Vidi.221E.011. This publication is part of the project "Clarifying the Dutch pension sector's role in the sustainability transition" with file number KICH2. V4CS.24.003 of the KIC V4C S research program, which is (partly) funded by NWO under grant `https://doi.org/10.61686/USEJK68982`.

1 Introduction

Financial intermediaries manage vast sums on behalf of millions of savers. In many settings, beneficiaries have no influence over how their capital is invested. This is particularly the case in defined-benefit and collective defined-contribution pension funds, where individuals can neither exit the arrangement nor alter the investment strategy. When boards decide how to invest, they face a fundamental question: are members willing to trade off financial returns for social or environmental impact, and if so, by how much? This trade-off reflects whether members value not only their own material payoffs but also those of others, their social preferences (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000; Charness and Rabin, 2002; Fehr and Charness, 2025). Making this trade-off on behalf of members requires boards to have a reliable understanding of members' social preferences. Obtaining that understanding is the central challenge this paper addresses.

Two distinct problems prevent boards from faithfully representing member social preferences. The first is a classic agency problem: boards may have private incentives that cause them to deviate from member welfare. Trustees may hold political or ideological views that color investment decisions (Hong and Kostovetsky, 2012). They may also exploit their discretion in ways that benefit themselves or political affiliates at members' expense (Bergstresser, Desai and Rauh, 2006; Andonov, Bauer and Cremers, 2017; Andonov, Hochberg and Rauh, 2018). These frictions are well-documented in financial intermediation and imply that board decisions need not reflect members' preferences.

The second problem is that even boards acting in good faith face genuine difficulty eliciting their members' social preferences. Pension investment decisions are complex. They require members to reason about trade-offs between financial and non-financial outcomes in an unfamiliar domain. Financial literacy is limited across the population (Van Rooij, Lusardi and Alessie, 2012; Lusardi and Mitchell, 2014; Anderson and Robinson, 2022). This hinders individuals' ability to evaluate complex investment choices and to articulate their social preferences (Beshears, Choi, Laibson and Madrian, 2008). Stated social preferences may not reflect considered preferences in the sense of Rawls (1971). Where members have a limited understanding of the relevant context, their expressed views may differ from those they would hold given adequate information and a structured opportunity for reflection. This poses a challenge for any board that wants to know what value-versus-values trade-offs its members actually want to make.

We propose deliberative mini-publics as a tool for measuring considered preferences. Mini-publics are structured, multi-day processes in which a randomly selected, representative group of citizens or members receives expert information, deliberates with peers, and produces collective recommendations (Dryzek, 2002; Goodin and Dryzek, 2006; Smith, 2009; Landemore, 2020; Flanigan et al., 2021; Bardhi and Bobkova, 2023). Rooted in ancient Greek sortition practices, they have gained renewed prominence in modern policymaking. Citizen assemblies in Ireland produced constitutional recommendations on abortion and same-sex marriage, and climate

mini-publics informed deliberations preceding COP26. Mini-publics inform participants before they express social preferences and structure their reflections on trade-offs, reducing distortions from complexity and limited knowledge. Recent work explores whether deliberative tools can address democratic deficits in financial intermediation (Cooper, 2021; Hart, Landemore and Zingales, 2024). We build on these contributions and implement them in a large-scale field setting, with real and binding financial consequences for a pension fund with over a million members.

We partner with Pensioenfonds Detailhandel, a large Dutch collective defined-contribution pension fund, to test how deliberation can reveal considered social preferences. We conduct two complementary field experiments. Figure 1 provides a schematic overview. In the first experiment, we organized a three-day in-person deliberative mini-public with 49 randomly selected fund members, embedded within pre- and post-surveys. The mini-public was moderated by independent deliberative democracy experts and focused on sustainable investing, an investment approach encompassing a range of strategies such as divestment from unsustainable firms (Teoh, Welch and Wazzan, 1999; Hong and Kacperczyk, 2009), portfolio tilting toward sustainable firms (Berk and Van Binsbergen, 2025; Pástor, Stambaugh and Taylor, 2025), shareholder engagement (Dimson, Karakaş and Li, 2015; Naaraayanan, Sachdeva and Sharma, 2026), and impact investing (Barber, Morse and Yasuda, 2021; Cole et al., 2023).

On the first day, participants are introduced to the Dutch pension system, investing in general, and sustainable investing. Participants also vote on which topics they would like to hear about on the second day. On the second day, participants receive information from the seven most selected topics, including oil and gas investing, corporate governance, and impact investing. An independent scientific advisory board helps select the experts to ensure balance across perspectives. On the third day, participants formulate and vote on recommendations for the pension board. A comprehensive overview of the mini-public is provided in Section III. For the rationale underlying the design and a discussion of its legitimacy in a pension fund context, we refer the reader to Cooper and Bauer (2024). All expert contributions are publicly available online.[1]

As a result of the three days of deliberation during the mini-public, members made different sustainable investment choices. Before participation, 23.8% of participants supported expanding sustainable investing. After three days of deliberation, this share rose to 62.8%.[2] This shift is accompanied by participants reporting increased investment knowledge and a sharp decline

[1]Crosby, Kelly and Schaefer (2015) recommends as best practice that mini-publics publish abstracts of all expert talks and mini-public setup. Accordingly, we invite readers to consult `https://pensioenfondsdetailhandel.nl/publication/rapport-voor-dialoogmakers` for all materials exchanged between experts and participants during the mini-public, as well as further organizational information. The remit of the mini-public was formulated as follows: *"You can help shape Pensioenfonds Detailhandel's future investment approach! What should we focus on in responsible investing?"*. Complete survey instruments are provided in Appendices D, E, and F.

[2]The share is statistically significantly different at the 1% level compared to the pre-mini-public share of 23.8%. Individuals voted for the recommendations in private to reduce the potential influence of social pressure.

in "no opinion" responses, from 66.7% to 16.3%. The pattern is consistent with deliberation resolving uncertainty regarding sustainable investing. Particularly, we find that participants expressed less ambiguity surrounding the financial return expectations and environmental social impact beliefs associated with sustainable investing, while their expectations remained roughly unchanged.

We investigate the deeper motivations underlying sustainable investment choices through the lens of moral views. We define those as the mode of ethical reasoning individuals bring to their social preference judgments, specifically whether they reason deontologically or consequentially. Recent literature shows that individuals hold a plurality of moral views, combining deontological and consequentialist modes of reasoning, with the relative weight of each varying across individuals and contexts (Cappelen, Hole, Sørensen and Tungodden, 2007; Landier and Thesmar, 2025; Bénabou, Falk and Henkel, 2026). Deontological reasoning evaluates actions by their conformity to principles or rules, independently of their consequences (Kant, 1785). Applied to sustainable investing, a deontological investor might conclude that the fund should divest from any company with potential negative externalities as a matter of principle, regardless of the real-world impact or the portfolio cost of divestment. Consequentialist reasoning, by contrast, evaluates actions by their outcomes (Bentham, 1789; Sen, 1979). A consequentialist investor would assess the actual environmental or social impact of a given strategy and weigh it against the financial implications.[3]

We hypothesize that in complex settings where individuals lack sufficient knowledge, moral views as expressed may take a deontological form not because of principled rule-following, but because the complexity of consequentialist reasoning places it beyond reach. When the causal chain from an investment decision to its social impact is opaque, and when the financial trade-offs are difficult to evaluate, individuals may fall back on simple categorical rules as cognitive shortcuts (Enke and Graeber, 2023; Enke, Graeber, Oprea and Yang, 2024; Gabaix and Graeber, 2024; Arrieta and Nielsen, 2025). Heeb, Kölbel, Paetzold and Zeisberger (2023) make a related conjecture in the sustainable investing context, suggesting that limited knowledge may underlie investors' apparent insensitivity to impact. These rules may look deontological even when they reflect a limited understanding rather than principled reasoning. We therefore expect that deliberation that improves knowledge shifts moral views toward consequentialism. This finding leaves room for genuine deontological commitments among better-informed individuals. Some participants may reach principled rules through careful deliberation rather than in spite of it, and moral reasoning may also vary across contexts beyond those we study. Our inquiry responds to Landier and Thesmar's (2025) call for research on when and why people lean on

[3]Another motivation for other-regarding preferences often mentioned in economics is warm glow (Andreoni, 1989, 1990). Warm glow describes impure altruism. It comprises a potential second term of a deontological or consequentialist utility function that provides utility when an individual personally contributes to the provision of a public good or others' welfare. It generates utility from the act of giving itself rather than solely from the resulting outcome. The moral view on which this giving is based, however, can be either deontological or consequentialist. For this reason, we refrain from adopting a warm glow perspective in this study.

principles to guide their moral behavior and when they think in terms of effectiveness.

Our results support the hypothesis that, in complex settings, limited knowledge leads individuals to express deontological moral views. Deliberation moves moral views toward consequentialism as knowledge increases. Participants' social preferences, regarding their willingness to sacrifice financial returns for social or environmental impact, do not change materially between the pre- and post-deliberation surveys. What changes is how participants reason within their values. Specifically, consequentialist views rise from 20.9% to 44.2%, while deontological views decline from 34.9% to 9.3%. Consistent with the proposed mechanism, these shifts are associated with individual-level gains in knowledge over the three days.[4] The broader pattern is striking: deliberation does not alter the value-versus-values trade-off, but it reshapes moral views. Participants move from rules to outcomes. A one-year follow-up indicates that the shift from deontological to consequentialist views persists for most participants. The change appears persistent.

These shifts in individual moral views carry real portfolio implications because the mini-public is designed to translate them into collective recommendations. At the close of the mini-public, participants drafted and voted on 49 recommendations, all of which were formally submitted to the fund board. The board responded to each recommendation in one of three ways. It may accept and implement the recommendation. It may reject it with an explanation of why it is not feasible or desirable. Or it may determine that a decision of sufficient importance warrants broader democratic legitimation from the full membership before it can be acted upon (see Figure 1). The board accepted several recommendations outright, including portfolio tilts toward companies with stronger records on human and labor rights, enhanced engagement strategies with portfolio companies on environmental issues, and allocations to investments in Dutch social housing.[5]

One recommendation required further inquiry. Participants recommended expanding impact investing, defined as allocating capital to projects with explicit positive social or environmental objectives alongside a financial return. The board considers this feasible and believes it could contribute positively to society. However, impact investments may generate substantially lower expected financial returns and carry higher risk than conventional investments (Barber et al., 2021). Because this trade-off bears directly on the retirement incomes of all fund members, the board concludes that a decision of this magnitude requires broader support from the general membership. The fund therefore puts the question to its full membership in a binding vote with

[4]Specifically, we observed that a one-point increase in sustainable investing knowledge (on a 7-point Likert scale) decreased the likelihood that participants express deontological views by 10.4 percentage points and increased the probability of consequentialist views by 11.7 percentage points.

[5]Not all recommendations were in favor of sustainable investing, indicating that participants understood the trade-off to financial performance. Examples of such recommendations are "Spreads investments over many companies, to reduce risk and provide a secure pension on which members can live", " Aims to decrease risk and increase security as a member approaches retirement age", "Ensures that the pensions of participants who have started working in another sector continue to perform well financially", and " Maintains a good balance between financial performance and sustainability with a significant share for both".

real portfolio consequences.

This constitutes our second field experiment. We conduct a maxi-public vote among all the fund's members. Participants choose between stopping, maintaining, or expanding impact investing, under the explicit understanding that the most chosen outcome will determine actual portfolio allocations. The results are striking. Members express clear social preferences in favor of expanding impact investing. The plurality (47.9%) favors expansion, while only 15.6% favors stopping. 38.6% favor maintaining the current allocation, meaning that more than four in five members who expressed an opinion want to either maintain or expand impact investing.[6] Crucially, the vote is binding and consequential. Its outcome results in an additional €300 million to €1.2 billion allocated to impact investing, directly affecting the retirement savings of over a million fund members.[7] This is, to our knowledge, one of the largest democratically determined portfolio reallocations ever conducted by a pension fund.

The maxi-public vote also uncovers the channel behind investors' support for impact investments. Sustainable investment motives play a central role. They alone explain 28.5% of the variation in willingness to vote for expansion, a large share for a single survey measure. Consequentialist participants are 41.2 percentage points more likely to support expansion than profit-oriented participants, and 4.9 percentage points more likely than deontological participants. These patterns hold controlling for political affiliation, return expectations, impact beliefs, age, gender, education, and income. Moral views thus emerge as the dominant driver of high-stakes non-pecuniary investment decisions. The strong correlation of the survey item with field behavior also validates our survey instrument.

We further use the maxi-public vote to run an embedded information experiment. Members are randomly assigned to one of three conditions. The control group receives no information about the mini-public or its recommendation. A second group is informed about the mini-public's recommendation on impact investing and told explicitly that it emerged from an intensive three-day deliberative process involving 49 randomly selected fund members who received expert input and deliberated extensively. A third group receives the same information about mini-public participants' recommendations on impact investing. Yet, this information is simply presented as peer information, without reference to the deliberative process through which it was generated. This design allows us to separately identify how much maxi-public voters care about the recommendations of the mini-public. Following the provided information, members exposed to the mini-public recommendation are 8.6 percentage points more likely to support the expansion of impact investing. Responses to the peer information treatment are statistically indistinguishable in magnitude, at 7.6 percentage points. This suggests that maxi-public voters value the mini-public as a source of peer information but place little additional weight on the deliberative process behind mini-public recommendations.

[6]These percentages exclude "I do not know" responses, which account for 14.0% of the population.

[7]For a public declaration of this investment decision, see: `https://pensioenfondsdetailhandel.nl/deelnemers-willen-meer-positieve-impact`.

The paper makes three contributions. The first contribution is to bring deliberative democratic methods into financial intermediation. Recent work argues for democratizing investment decisions in pension and mutual funds (Cooper, 2021; Hart, Landemore and Zingales, 2024). We provide the first large-scale field implementation of deliberative democracy in financial intermediation. We show that the mini-maxi-public elicits considered social preferences that differ in identifiable ways from those produced by standard preference elicitation. The design combines expert information, structured peer deliberation, and binding consequences through adopted recommendations and member votes Beshears et al. (2008) show that reducing decision complexity narrows the gap between what people choose and what they truly value. We extend this insight to the elicitation of social preferences, showing that deliberation performs a similar role and yields measurements that differ in identifiable ways from those produced by conventional preference elicitation methods, including surveys, laboratory experiments, and field experiments (Harrison and List, 2004; Cappelen et al., 2007; Falk and Heckman, 2009; Levitt and List, 2009; Gneezy and Imas, 2017; Johnston et al., 2017; Falk et al., 2023; Stantcheva, 2023; Fehr and Charness, 2025). The tool is suited to any setting where considered preferences over complex trade-offs are needed, whether over sustainable investments, risk-taking, retirement income, or other consequential choices.

Second, we contribute to the foundations of moral views. Landier and Thesmar (2025) and Bénabou et al. (2026) document that individuals display a plurality of moral views and exhibit limited consistency between deontological and consequentialist judgments. We propose that part of this heterogeneity reflects differences in the *expression* of moral views rather than differences in underlying values. Decision complexity induces reliance on deontological heuristics, thereby obscuring consequentialist views. Consistent with this mechanism, participants reason more consequentially and less deontologically as their knowledge of sustainable investing increases. We contribute to the broader literature on complexity and heuristic reasoning (Enke and Graeber, 2023; Enke et al., 2024; Gabaix and Graeber, 2024; Arrieta and Nielsen, 2025) by showing that complexity produces more deontological and less consequentialist views in a high-stakes setting. These insights speak directly to the sustainable finance literature, where a growing body of evidence shows that investors hold social preferences and are willing to accept lower financial returns for positive environmental and social impact (Heinkel, Kraus and Zechner, 2001; Riedl and Smeets, 2017; Hartzmark and Sussman, 2019; Bauer, Ruof and Smeets, 2021; Pástor, Stambaugh and Taylor, 2021; Pedersen, Fitzgibbons and Pomorski, 2021; Zerbib, 2022; Aron-Dine, Beutel, Piazzesi and Schneider, 2025; Giglio et al., 2025). Yet within this literature, a puzzle remains: individuals who invest sustainably often show limited sensitivity to actual impact (Heeb et al., 2023; Bonnefon, Landier, Sastry and Thesmar, 2025; Brodback, Günster and Pouget, 2025). Our findings help explain this puzzle. When knowledge is low, moral views take a deontological form. Impact sensitivity is not absent. It is obscured.

Third, we contribute to the literature on polarization and economic decision-making (Callander and Carbajal, 2022; Gethin, Martínez-Toledano and Piketty, 2022; Kish Bar-On, Dimant,

Lelkes and Rand, 2024; Dechezleprêtre et al., 2025). In our setting, attitudes toward impact investing are politically polarized: support among left-wing members substantially exceeds that among right-wing members. A natural concern is that expert information and peer deliberation might fail to bridge this divide, or even entrench it. In polarized contexts, information provision can backfire, leading individuals to reinforce prior views rather than update in response to evidence (Andreoni and Mylovanov, 2012; Bowen, Dmitriev and Galperti, 2023). We find the opposite. In the mini-public, participants across the political spectrum converge in opinion, with 85% voting to expand impact investing following expert consultation and peer deliberation.[8] This 85% support after mini-public is substantially higher than the 47.9% population level of support in the maxi-public, highlighting the depolarizing role of deliberation. Moreover, exposure to mini-public outcomes in the maxi-public increases support among both left-wing and right-wing members, with right-wing members showing the largest relative increase. Deliberative democracy can build broad-based support across political divides, what the Financial Times (2024) has characterized as a potential repair tool for polarized political culture.

2 Institutional setting of Mini- and Maxi-publics

Our study introduces a novel design to the field of deliberative democracy by combining a mini-public with a maxi-public, real consequences, binding vote in the field of financial intermediation. Deliberative mini-publics are democratic mechanisms that help a representative group of citizens form considered preferences and produce collective, advisory recommendations on policy questions (Goodin and Dryzek, 2006; Ryan and Smith, 2014). Common formats include citizens' assemblies and juries (Crosby and Nethercut, 2005) as well as Deliberative Polls (Fishkin, 2009). Most mini-publics begin when a governing institution defines the forum's scope and remit. Organizers then invite a large pool of citizens to participate and select a sample as representative as possible of the population's average through sortition (Flanigan et al., 2021). During the mini-public process, participants learn about the issue by engaging with experts and deliberating with one another (Dahl, 1980; Smith, 2009; Niemeyer, Veri, Dryzek and Bächtiger, 2024). The final stage of mini-publics involves participants crafting recommendations, and sometimes, internally voting on them. Mini-publics provide a way to generate considered and shared recommendations on complex policy matters. Mini-publics offer an alternative way of engaging the public in governance, and were adopted to supplement representative electoral government as early as the founding of the Council of Five Hundred in Athens, 507 BCE

[8] During this process, at least 90% of participants agreed or strongly agreed that they and others had a fair opportunity to express their views, that everyone's stance was heard, that participants treated each other with respect even when disagreeing, and that the final recommendations reflected diverse opinions.

(Landemore, 2026).[9]

Our design choice speaks to an ongoing debate: can a descriptively representative mini-public legitimately speak on behalf of the broader population, the "maxi public" (Parkinson, 2006; Smith, 2009; Lafont and Urbinati, 2024)? Some argue that mini-public recommendations should serve as input to system-level maxi-public deliberative processes by synthesizing issues or clarifying recommendations (Parkinson and Mansbridge, 2012). Others suggest that mini-publics can feed directly into further representative procedures within a wider maxi-public (Deligiaouri and Suiter, 2023), creating a hybrid representative democracy that combines sortition with electoral representation. In both, mini-publics are integrated into wider, dynamic, democratic processes and procedures among the maxi-public, enhancing their overall legitimacy (Cooper and Bauer, 2024; Lafont and Urbinati, 2024).[10]

Cognizant of these critiques, our design combines the strengths of 1) informed deliberation to develop member recommendations on sustainable investing through the mini-public, 2) elite deliberation guided by fiduciary duties through board trusteeship, and 3) wider mass participation through a maxi-public survey on one of these recommendations. Figure 1 provides a schematic overview of this three-staged design.

Drawing on the discussion in Fishkin (2020) of democratic forms, our design reflects the democratic principles of informed deliberation, political equality, and elite deliberation. In line with informed deliberation, participants are provided with balanced information and opportunities for structured discussion, enabling them to form considered preferences rather than relying on uninformed judgments. Consistent with political equality, the procedures are designed to approximate equal opportunities for participation within a sampling framework, ensuring that no participant disproportionately influences the process.[11] Finally, reflecting the role of

[9] An example of a mini-public is the Global Assembly on Climate Change, which preceded COP26 in Glasgow in 2021. The focus of this mini-public was to deliberate on climate policy in a global setting as input for official COP26 negotiations. Accordingly, the mini-public comprised an international sample of 100 participants, selected through a sortition process. They were representative in terms of geography, gender, age, and income. Participants met virtually over several months to learn from experts, discuss with peers, and produce recommendations for climate action. They produced recommendations on climate justice and mitigation strategies, which were presented at COP26 to policymakers. See `https://globalassembly.org/index.html` and `https://www.democracywithoutborders.org/36645/global-citizens-assemblies/`for more details.

[10] One example of a procedure linking a mini-public to a wider electorate is the Oregon Citizens' Initiative Review. This institution seeks a more informed electorate on ballot measures in Oregon general elections (Gastil and Knobloch, 2019). Around 24 citizens deliberate on the issues involved in a ballot measure. The key findings and argument of this mini-public are disseminated to voters, effectively functioning as a form of 'deliberative media' (Gastil et al., 2018; Broghammer and Gastil, 2021). This process has informed the electorate on a wide range of polarized topics involving a normative trade-off, including medicinal marijuana, affordable housing, and GMO labeling. See `https://sites.psu.edu/citizensinitiativereview/` and Knobloch, Barthel and Gastil (2020) for more details.

[11] We acknowledge that the design involves sampling and random selection, rather than full participation across the whole membership. A randomly selected sample were sent invitations to participate in the Member Dialogue, and the sortition process for selecting registered members, whilst being as random as possible, involved a limited set of socio-demographic and attitudinal quotas. In the maxi public survey, a sample was used (along with publicizing the survey to the wider membership to increase participation), and survey results were re-weighted to ensure results represented the fund in terms of socio-demographic characteristics. Survey participants were informed of this re-weighting procedure.

elite deliberation, the design incorporates expert input to enrich participants' understanding while ensuring that all expressed preferences are given equal weight in aggregation. The use of the trustee Board as a mediating step between these mechanisms brings an important additional component of elite fiduciary deliberation to the model. By reviewing the mini-public recommendations and identifying one specific recommendation on impact investing that required further mass approval before implementation, the trustee Board's deliberation played an important role in ensuring that the member recommendations adopted do not have a detrimental impact on any particular groups and are in line with fiduciary duties. In terms of democratic theory, this three-step design sequentially weaves together 1) democratic deliberation, 2) elite deliberation, and 3) mass aggregation of preferences.

3 Study 1: Mini-public Design

This section discusses the design choices of the mini-public. We first describe our recruitment process and demonstrate the representativeness of the sample. Subsequently, we provide more information on the mini-public procedure, including logistics, the independence of the facilitators, and the information provided. Last, we detail the surveys conducted before and after the mini-public. Here, we explain how survey questions can be translated into participants' utility function for sustainable investing.

3.1 Recruitment and Participant representativeness

We recruited participants through a sortition approach in collaboration with the Sortition Foundation. The Sortition Foundation is an NGO that has aided over 40 mini-publics worldwide to attain representative samples (Landemore, 2026). They do so using the Flanigan et al. (2021) sortition approach: a method similar to stratified random sampling that also weights giving participants an equal opportunity to partake. Providing participants an equal opportunity to join the mini-public is important from a democratic perspective.

The Sortition Foundation sent 20,000 invitations to randomly selected members of Pensioenfonds Detailhandel. Recognizing the significant time commitment and ensuring that participants with limited financial means could participate, we communicated that participation would be compensated with €360, travel expenses, and child care. The Sortition Foundation received 154 responses of pension beneficiaries who expressed interest in participating. Among those, the Sortition Foundation selected 53 participants, matched for age, income, ethnicity, location, gender, and World Values Survey–based environmental or economic prioritization.[12] Of the 53 selected participants, 49 attended on the first day, 47 completed the first-day survey, and 43

[12]For the World Values Survey environmental or economic prioritization question, we calibrate representativeness to the Dutch population rather than to the pension fund specifically, as Pensioenfonds Detailhandel does not collect this information from its participants. Including this criterion nonetheless meaningfully improves the representativeness of our sample.

completed the final-day survey.[13] Deliberative mini-publics inherently rely on smaller samples to facilitate meaningful deliberation, with numbers frequently ranging from 25 in the Oregon Citizens Initiative Review to 100 for abortion in Ireland.

Participants in our sample closely match the pension fund's average membership. Table 2, Column (4), presents the formal test of representativeness. We detect no statistically significant differences in gender, age, ethnicity, or preferences over economic growth versus environmental prioritization.[14] To assess geographic representativeness, we grouped participants into eight ZIP-code regions and found no statistically significant differences in seven of the eight. Income differed modestly: mini-public participants earned on average €379 less per month. Taken together, these tests show that our sample is largely representative of the fund's membership.

3.2 Mini-public logistics

On February 26, March 11, and March 18, 2024, we conducted a deliberative mini-public in collaboration with Pensioenfonds Detailhandel. Each day, participants traveled in person to Utrecht, a centrally located city in the Netherlands, where they engaged in full-day sessions from 9:00 a.m. to 5:00 p.m. The program included informational briefings and structured deliberations on sustainable investing, interspersed with daily coffee breaks and lunches. The description below highlights the operationalization of the mini-public. Please see Cooper and Bauer (2024) for its rationale, detailed methodological considerations, and an analysis of its outcomes and their legitimacy.[15]

We relied heavily on external parties to minimize our research team's direct involvement in the execution of the mini-public. The G1000 Netherlands Foundation, and Energized facilitated and moderated the deliberative process. These moderators are leaders in deliberative mini-publics and supported the Global Assembly in preparation for the 2021 COP26 in Glasgow, along with over 30 mini-publics across the Netherlands. Their role was central in maintaining the independence of the mini-public: professional moderators from these institutions led small-group discussions and took notes throughout the deliberative phases.

Five measures ensured that the information provided by the mini-public experts was as

[13] We find no statistical differences in participants' age, income, or gender between the first-day and last-day surveys. We achieve response rates of 95.9% and 87.8% on the first and last days of the mini-public, respectively. The pension fund informed us that attrition was due to a flu epidemic. These response rates are comparable to other assemblies: the Irish Citizens Assembly on Biodiversity Loss had an average response rate of 84%, see `https://citizensassembly.ie/report-of-the-citizens-assembly-on-biodiversity-loss-report-launches/`.

[14] World Values Survey Question Wave 8 Q122: "Here are two statements people sometimes make when discussing the environment and economic growth. Which of them comes closer to your own point of view? (Read out and code one answer): 1. Protecting the environment should be given priority, even if it causes slower economic growth and some loss of jobs. 2. Economic growth and creating jobs should be the top priority, even if the environment suffers to some extent."

[15] For additional details, see the report: `https://pensioenfondsdetailhandel.nl/publication/rapport-voor-dialoogmakers`. A short video with highlights from the mini-public is available at `https://pensioenfondsdetailhandel.nl/deelnemersdialoog`

balanced as possible. First, we received feedback from an Academic Advisory Board comprising Mathijs van Dijk, Caroline Flammer, Graham Smith, and Laura Starks, ensuring that the mini-public's design was informed by experts in financial economics and democratic innovations. Among others, our academic advisory board helped identify and select the expert speakers for the mini-public. Second, we allowed participants to select which sustainable investing topics they wanted to learn more about beyond the fundamentals of investing, thereby reducing our influence over the information provided. We invited speakers on the chosen topics after the vote. Third, participants were explicitly asked to report their perceptions of the stances of both experts and peers regarding sustainable investing. Participants perceived experts as equally positive to peers on sustainable investing (see Appendix A). Fourth, participants indicated that they updated their views on sustainable investing through discussions with peers as well as experts (see Appendix A). Finally, neither the experts nor the pension fund promised that sustainable investing is generally profitable; instead, they repeatedly emphasized the trade-off between financial value and personal values. The emphasis on trade-offs is reflected in participants' financial return expectations, which remain unchanged before and after the mini-public, indicating that participants did not become more optimistic about the financial performance of sustainable investments (see Section 4).

On the first day of the mini-public, participants were introduced to the functioning of pension funds and foundational sustainable investing concepts. In the Netherlands, most employees have no choice of pension provider and are assigned to a monopolistic occupational pension fund. Dutch pension funds can best be described as collective defined contribution pension plans with mandatory monthly employee contributions and no possibility to switch pension providers. Pensioenfonds Detailhandel serves the retail sector, where participants' financial literacy tends to be limited. Most participants self-assess their knowledge of investing and sustainable investing as below average. Moreover, anecdotal evidence from focus groups before the mini-public suggests that participants were unaware of their pension contributions being invested. Accordingly, the objective of the mini-public's first day was to inform participants on how pension funds operate and their role in managing retirement savings.

The first day began with an introduction by the pension fund outlining the purpose of the deliberative mini-public, its objectives, the representativeness of participants, and the role it would play in shaping the fund's sustainable investing policy. Following this introduction, participants attended the first of three expert presentations designed to build foundational knowledge on pensions, investments, and sustainable investing. This initial session explained the structure of the Dutch pension system, distinguishing between the state pension, occupational pensions, and individual arrangements. It also introduced core concepts of sustainable investing and highlighted the trade-offs between financial performance and addressing environmental and social concerns. Participants could ask questions to clarify and deepen their understanding.

The second expert presentation built on this foundation by defining ESG criteria and outlining the financial trade-offs across different sustainable investment strategies, including divestment,

shareholder engagement, portfolio tilting, and impact investing. The presentation also elaborated on the environmental, social, and governance dimensions of sustainability, discussing examples such as climate change, biodiversity loss, human rights, labor conditions, tax fairness, and anti-corruption.

After this presentation, participants joined small-group discussions reflecting on their vision of the world in 2034. The exercise encouraged forward thinking and helped surface participants' underlying values. Common themes included peace and conflict, migration, quality of life, technology, care for family, inter-generational equity, justice, equality, poverty, housing, loneliness, and sustainability.

Later in the afternoon, participants attended a third expert presentation focusing on the practical implementation of sustainable investment strategies within a pension fund. The talk emphasized goal setting, measurable outcomes, and the importance of collaboration. It explained that sustainable investing typically begins with engagement and other forms of voice before potentially progressing to divestment or portfolio tilting. The speaker noted two main limitations: first, that investing for positive social or environmental impact can involve financial trade-offs, and second, that one pension fund alone cannot reshape the broader economy.

To conclude the day, participants were presented with a list of potential speakers for the second day and invited to vote for their preferred topics. This process ensured participant autonomy over the information they received, minimizing our influence as researchers. We invited relevant scientists and private-sector experts for seven out of the fourteen most chosen topics.[16] The complete list of topics is reported in Appendix A.

On the second day, participants attended small round-table sessions on the seven selected topics. Each participant attended four of these 20-minute sessions, allowing them to focus on the areas they found most relevant, given time constraints. The speakers explicitly emphasized the financial trade-offs involved in sustainable investing. Moreover, participants themselves also desired additional information on value-values trade-offs. Their second-most chosen talk primarily addressed the trade-off, and the third-most chosen talk focused on good corporate governance, not sustainability. After these discussions, participants deliberated in small groups on the values essential for investment decisions. In the afternoon, the pension fund presented its current sustainable investment policy, outlining key trade-offs among strategies. Participants were encouraged to ask questions and critically assess the presentation.

The final day focused on developing concrete recommendations for the board of the pension fund. The day began with small-group discussions in which participants reflected on their values and considered whether and to what extent they wanted their pension fund to pursue sustainable investments. Participants then drafted recommendations in smaller groups, refining them through peer feedback before voting on a final set of proposals. One recommendation was to increase the

[16]Experts included Mark van Baal (Follow This), Laure Wessemius-Chibrac (Netherlands Advisory Board on Impact Investing), Frank Wagemans (Achmea Investment Management), Ellen Kunst (MN), Will-Jan Jacobs (Pension Federation Netherlands), Kees Gootjes (ABN AMRO), and Rik Teeuwen (UN Principles for Responsible Investing). See `https://pensioenfondsdetailhandel.nl/deelnemersdialoog` for details.

share of impact investments. Participants also assessed the deliberative process itself, reporting that they had sufficient opportunity to express their opinions, that diverse perspectives were represented, and that the process was transparent and fair.[17]

3.3 Survey designs

We asked participants in our deliberative mini-public to complete two surveys: one before the mini-public began on the first day and another after the third day concluded. The first survey consisted of three parts; see Appendix D for the full transcript.

In the first part, we gathered their prior self-assessed knowledge and motives for sustainable investing. Self-assessed investment knowledge is strongly correlated with actual investment knowledge (Van Rooij, Lusardi and Alessie, 2011; Lusardi and Mitchell, 2017). We asked participants to self-assess their knowledge of investing and sustainable investing instead of objectively testing it to preserve the integrity of the mini-public. In particular, a key feature of deliberative mini-publics is that democratic deliberation can improve participants' knowledge and lead to considered preferences. Since we invited a representative sample of participants, not all were expected to be knowledgeable about sustainable investing. Quizzing them before information provision risked discouraging less knowledgeable participants from engaging in the deliberative process due to fear of not knowing the "correct" answers before the mini-public. Participants could answer the question on a 7-point Likert scale.

In the second part, we ask participants to choose the statement that best reflects their sustainable investment motives. Our design distinguishes between profit-oriented, consequentialist, and deontological motives following recent experimental work (e.g., Heeb et al., 2023; Brodback et al., 2025; Bonnefon et al., 2025; Bénabou et al., 2026). This distinction allows us to test whether support for sustainable investing is driven by its perceived impact on outcomes or by adherence to moral rules. In addition, we include response options capturing opposition to sustainability or indifference, recognizing that not all participants hold social preferences. Specifically, we asked participant: "*Which of the following statements best reflects your preference regarding sustainable investing? I would like Pensioenfonds Detailhandel to invest sustainably...*" The answer options are: "*If this increases my expected pension payments at retirement age*" (profit-oriented); "*If sustainable investing has a direct positive impact on the environment or society. I don't mind if this potentially leads to a reduction in my pension payments at retirement*" (consequentialist); "*Based on social norms or moral reasons. I am determined not to invest in companies that negatively impact the environment or society. I don't mind whether this actually affects the impact of my investments or potentially lowers my pension payments at retirement*" (deontological); "*I do not want Pensioenfonds Detailhandel to invest*

[17] Appendix A provides survey evidence showing that a large majority of participants agreed or strongly agreed that they had fair opportunities to contribute, that differing opinions were respected, and that the process and influence of the mini-public were transparent. See `https://pensioenfondsdetailhandel.nl/deelnemersdialoog` for the full list of recommendations and their level of support.

sustainably" (no sustainable investing); and "*I have no opinion*". The order of answer options is randomized in the survey.

We establish the validity of this survey question. In the second study of this paper, we ask participants to vote on a high-stakes impact investment decision. Sustainable investment motives alone explain 28.5% of the variation in this decision. They carry a greater influence than political affiliation, return expectations, age, gender, education, or income. This strong correlation of the survey question to behavior in the field validates the question's accuracy. The upcoming paragraphs map answer options to their underlying moral views.

From a moral philosophy perspective, individuals with deontological views prioritize duties, rules, or moral principles over outcomes or consequences (Kant, 1785; Rawls, 1971; Alexander and Moore, 2007). They evaluate actions based on their conformity to a moral code rather than on whether they produce the best overall consequences.

In our sustainable finance context, we define deontological participants as those motivated to pursue sustainable investing in accordance with principles, irrespective of whether such choices benefit society. We capture the principle-based nature of this moral view with: "Based on social norms or moral reasons. I am determined not to invest in companies that negatively impact the environment or society". We further reflect the independence from consequences in: "I don't mind whether this actually affects the impact of my investments" and participants' willingness to sacrifice returns with " or potentially lowers my pension payments at retirement".

Alongside deontology, individuals can have consequentialist views. Consequentialists evaluate actions solely based on their consequences (Bentham, 1789; Mill, 1863; Kahane et al., 2018). In other words, actions are morally correct if they lead to the best overall outcomes among available alternatives, subject to given moral constraints. Utilitarianism is a prominent form of consequentialism, according to which individuals choose actions that maximize the well-being of all persons, regardless of personal, emotional, spatial, or temporal distance.

In our sustainable finance context, we define consequentialist participants as those motivated to pursue sustainable investing because it generates positive environmental and social impact. We capture the emphasis on impact in the answer option: "If sustainable investing has a direct positive impact on the environment or society". We incorporate participants' willingness to sacrifice financial returns with: "I don't mind if this potentially leads to a reduction in my pension payments at retirement".

In the last part of the first survey, we informed participants of the definition of sustainable investing. Following this, we asked participants whether they wanted their pension fund to expand its sustainable investing, maintain the current level, or reduce it. To gain a deeper understanding of the mechanisms driving participants' choices, we investigated: 1) return expectations on a 5-point Likert scale: their anticipated financial outcomes from sustainable investing on pension payments, 2) impact beliefs on a 5-point Likert scale: their perceived environmental and social impacts compared to conventional investing, and 3) their sustainable investment motives (see above). Peer deliberation and expert information during mini-publics

can help participants generate considered social preferences and shape return expectations and impact beliefs by highlighting the trade-offs in sustainable investing.

Furthermore, we also collected participants' demographic information, including income and political leanings. We asked this at the end to prevent anchoring sustainable investment decisions to political leaning. Additionally, participants may be more inclined to disclose their political views or income after completing the survey, given the sensitive nature of the information.

After the mini-public on day three, we conducted a post-mini-public survey to reassess participants' knowledge, motives, beliefs, and expectations regarding sustainable investing. Furthermore, we again asked participants whether they would like to invest their pension funds sustainably. Alongside a general willingness to adopt sustainable investing, we inquired about implementing impact investing, engagement, portfolio tilting, and divestment. To ensure participants understood the terms, we provided a brief explanation of these sustainable investment approaches. We finished the survey with validity questions on the mini-public procedure, focusing on participants' ability to express their views and the equitable discussion of recommendations. Moreover, we ask participants which stakeholder group (experts, peers, or other stakeholders) most affected their views on sustainable investing.

3.4 Describing sustainable investing choices using survey questions

This subsection describes how the above survey questions interlace participants' sustainable investment choices. After deliberation, it is plausible that participants become more knowledgeable about sustainable investing and update their sustainable investment choices. We introduce a utility function as a framework for discussing how developments of participants' return expectations, impact beliefs, and sustainable investment motives before and after the mini-public may drive shifts in sustainable investment choices. The purpose of this utility function is illustrative: we will not calibrate utility using this function.

Participants can update their beliefs throughout the mini-public by acquiring additional knowledge through expert presentations and peer deliberation. The experimental economics literature shows that beliefs can change when participants are treated with information (Haaland, Roth and Wohlfart, 2023). For instance, Andre, Boneva, Chopra and Falk (2024) show that a lack of information on the perceived willingness of others to address climate change leads to lower support for climate policy; Dechezleprêtre et al. (2025) show that targeted information on climate policy mechanisms increases support for climate policies; and Bauer, Gödker, Smeets and Zimmermann (2024) show that financial experts update their beliefs about the pricing of climate change when informed about the beliefs of their peers. Accordingly, participants might revisit their beliefs on the consequences of sustainable investing after the mini-public

Alongside changes to beliefs, the mini-public can also lead participants to update their sustainable investment motives. When faced with complex decisions, participants tend to use more heuristic, procedure-based reasoning (Enke and Graeber, 2023; Enke et al., 2024; Gabaix

and Graeber, 2024; Arrieta and Nielsen, 2025). As participants become more knowledgeable, complexity recedes, and they might express fewer deontological sustainable investment motives.

Let us be more precise about how participants' sustainable investment motives can drive decision-making, given their financial expectations and impact beliefs. We present a utility function below that builds on the work of Pástor et al. (2021), Zerbib (2022), Hart, Thesmar and Zingales (2024), Bonnefon et al. (2025), and Bénabou et al. (2026). We propose a simplified constant-elasticity-of-substitution (CES) utility function in which participants maximize expected utility by choosing between conventional and sustainable investments in the risky part of their portfolio. In this utility function, participants trade off a "value" and a "values" component associated with sustainable investment. Participants' sustainable investment motives can differ in two dimensions: 1) their social preferences dictating a stance on the value-values trade-off, and 2) their moral views varying in the extent to which participants value impact. Regarding beliefs, participants may hold different return expectations and impact beliefs associated with sustainable investing. We employ a CES function to ensure that the "value" and "values" components complement one another, as captured by exponents involving ρ. More formally, we adopt:

$$U_i(s) = E\Bigg(\Bigg[(1-\alpha)^{\frac{1}{\rho}} \Big(s\Delta R + R_c \Big)^{\frac{\rho-1}{\rho}} + \alpha^{\frac{1}{\rho}} \big(s\big((1-\eta) + \eta\,(\Delta I)\big) + I_c \big)^{\frac{\rho-1}{\rho}} \Bigg]^{\frac{\rho}{\rho-1}} \Bigg) \qquad (1)$$

To keep the debate surrounding survey questions transparent and easy to interpret, we adopt a parsimonious single-period framework that focuses on the risky part of an investor's portfolio rather than a richer multi-period model with consumption, investment, and terminal wealth or a complete portfolio-choice model with a risk-free asset. While such extensions are applicable for other settings, they would add complexity without materially affecting the central trade-off between sustainable and conventional investing that we study. Moreover, our framework does not explicitly address the role of risk or a partial internalization of externalities. One could revise the interpretation of our financial return parameters to account for these factors without

affecting the narrative and explanation of results below.[18,19]

In the utility function, we express the share of sustainable investments as $s \in [0,1]$. Participants' utility depends on their assessment of the difference in financial returns between sustainable and conventional investing, $\Delta R \equiv R_s - R_c$. Here, R_c reflects the return of conventional investing, and R_s the return of sustainable investing. Some participants also value the difference in environmental and social impacts across these investment approaches, denoted by $\Delta I \equiv I_s - I_c$ with I_s the impact of sustainable investing and I_c the impact of conventional investing. Both return expectations and, in some cases, impact beliefs scale with the share of sustainable investments. In our experimental design, we measure participants' preferred share of sustainable investments (s) relative to the status quo, asking whether they prefer to reduce, maintain, or increase their share of sustainable investments in their pension fund.

Participants can differ in their motives to invest sustainably in two dimensions: 1) their social preferences related to the value-values trade-off (Starks, 2023), and 2) their moral views related to the extent to which participants prioritize making an impact. Participants' $\alpha \in [0,1]$ determines the weight they assign to achieving positive environmental and social impacts when investing, relative to financial performance. The higher the α, the more participants value the "values" component of the utility function, the second half. The lower the α, the more they weight their "value" component, the first half. In extreme cases, participants with an α of 1 value only the non-pecuniary dimensions of their investments, whereas participants with an α of 0 are exclusively profit-maximizing.[20]

Participants' $\eta \in [0,1]$ displays their sensitivity to making an impact. The "values" component of the utility function comprises two parts: a deontological component that scales with the share of sustainable investments, and a consequentialist component that also depends on participants' expected impact of sustainable investing. The more participants value making an impact in a consequentialist fashion, the higher their η. As corner solutions, participants with an

[18] For instance, expected returns could be interpreted as Sharpe ratios to account for differences in risk across sustainable and conventional investing. Additionally, our reduced-form approach can accommodate partial internalization externalities associated with conventional investing by treating them as reflected in expected returns.

[19] For parsimony, we assume investors make individual decisions, which implies their choices are pivotal and pro rata in their effects on returns and impact. In collective decision-making settings, such as the mini-public we study, these assumptions need not hold (see Broccardo, Hart and Zingales, 2022). Individual participants may affect only their share of financial consequences while influencing the entire group's impact outcome, and individual choices may not always be pivotal in shifting the collective decision. One can accommodate both features by rescaling the impact and return terms in Equation 1 — multiplying ΔI and I_c by a $\lambda > 1$ to reflect the asymmetric impact multiplier, and multiplying ΔR, ΔI, R_c, and I_c by $p \in (0,1]$ to reflect imperfect pivotality. Neither adjustment changes the structural relationship among return expectations, impact beliefs, and sustainable investment motives (α, η, and ρ), but it can shift the preferred share of sustainable investment. Our analysis of how these three components shift before and after the mini-public is therefore unaffected.

[20] Two boundary conditions safeguard sensible results for the "value" to "values" trade-off. First, we assume that at least some participants expect that returns from sustainable investing will be lower than those from conventional investing. Otherwise, participants face no trade-offs and would invest all sustainably ($s = 1$). Second, participants' utility function should be concave without being perfect complements ($\rho \in (\infty, 0)$). Put differently, participants dislike having a lot of income in a very unsustainable world, or live in a very sustainable world without financial means. They value a mix of "value" and "values" when investing.

η of 0 consider only the process of sustainable investing (deontological), whereas participants with an η of 1 value only its impact and derive no utility from its process (consequentialist). To illustrate, deontological participants could sell stocks that do not align with their ethical values, even though they know this is unlikely to have an impact (Berk and Van Binsbergen, 2025). In contrast, participants with consequentialist views would pursue more impact investing for its environmental and social benefits (Geczy, Jeffers, Musto and Tucker, 2021; Cole et al., 2023). The upcoming section explores participants' survey responses in light of the utility function described above.

4 Study 1: Mini-public Survey Results

4.1 More or less sustainable investing?

Participants become more inclined to invest sustainably with their pension after deliberation. We ask participants, both before and after the deliberative mini-public, whether they prefer the pension fund to increase, maintain, or reduce its sustainable investments (see Figure 3 Panel A). Throughout the mini-public, participants become substantially more willing to invest sustainably. Specifically, the share of participants who wish to increase sustainable investing rose from 23.8% to 62.8%.

A prominent reason participants became more willing to expand sustainable investing is increased knowledge. Participants reported greater knowledge of investing and sustainable investing after the mini-public (see Figure 2). In Panel A, we find that the share of participants expressing no knowledge of investing declined from 39.5% before the mini-public to 9.5% afterwards. Furthermore, only 16.6% of participants reported average or above-average investment knowledge before the mini-public, compared with 58.1% after the mini-public. We find similar effects for sustainable investment knowledge in Panel B.

Participants' opinions on sustainable investing primarily changed when they initially expressed no opinion. In the pre-mini-public survey, 66.7% of participants responded with "I do not know/ no opinion" when being asked about how much their pension fund should invest sustainably. By the mini-public's end, participants expressed more considered views, with only 16.3% reporting no opinion. Among participants who expressed an opinion after the mini-public, most shifted toward favoring expanded sustainable investing.[21] Notably, no participants indicated they wanted to reduce their pension funds' sustainable investing after the mini-public.

Further, participants' opinions on sustainable investing remained positive when they expressed an opinion before the mini-public. In Figure 3 Panel B, we conduct an additional analysis where we exclude participants who answered "I do not know" on whether their pension should be invested sustainably. Within this group, we do not find a statistically significant

[21]This difference is statistically significant (z=4.521) when using a Wilcoxon signed-rank test, assuming "No opinion" and "I do not know" answers can be interpreted as "Unaltered".

difference in participants' willingness to invest sustainably (Wilcoxon signed-rank test, z = 0.621). Together, these findings indicate that deliberative mini-publics enabled participants to form considered preferences but did not substantially change the views of those who already held considered positions. The following sections explain how participants' sustainable investment decisions changed in response to their financial return expectations, impact beliefs, and sustainable investment motives, using Equation 1.

4.2 Financial return expectations

Developments in return expectations could explain participants' drive to increase sustainable investing. Financial expectations tie into how participants perceive the value-values trade-off (Starks, 2023). When financial return expectations become more positive, i.e., ΔR increases in Equation 1, the relative costs per unit of expected environmental or social impact become lower. This increased cost-effectiveness raises the perceived benefits of sustainable investing to participants with deontological or consequentialist moral views. Moreover, some participants might even expect to reap positive returns as financial expectations rise, enabling profit-oriented participants to partake in sustainable investing. Consequently, positive developments in financial return expectations might explain why participants desire to invest more sustainably.

In contrast to this prediction, we do not find that participants positively update their financial return expectations. We asked participants about their return expectations before and after the mini-public, and display responses in Figure 4. The largest shift in return expectations is toward greater clarity rather than a more positive perception of the financial implications of sustainable investing. Before the mini-public in Panel A, most participants (61.0%) indicated that they did not know the financial consequences of sustainable investing. After the mini-public, participants had more precise expectations about the financial implications of sustainable investing, with the share of "I do not know" answers declining to 34.9%.

Enhanced clarity did not lead participants to assume more positive return expectations. Before deliberation, participants with an opinion mostly had neutral (24.4%) to negative (9.8%) return expectations. Only 4.9% expected positive financial consequences, a one-to-two ratio relative to those expecting negative returns. After deliberation, we observe a similar one-to-two ratio of positive to negative return expectations. Specifically, 20.9% expected sustainable investing to reduce financial performance, while only 9.3% expected positive returns. We find further evidence on the stability of financial return expectations in the fact that the subset of participants who initially expressed an opinion on the financial implications of sustainable investing maintained their views on return expectations after deliberation (see Panel B).

The persistence of largely neutral to slightly negative financial return expectations yields an important insight. Participants' financial expectations regarding sustainable investing closely align with the neutral-to-negative equilibrium predictions documented in the literature (Broccardo, Hart and Zingales, 2022; Pástor, Stambaugh and Taylor, 2022; Berk and Van Binsbergen,

2025). Moreover, neutral-to-negative return expectations also reflect how experts conveyed information. After receiving expert information, we find that participants' financial return expectations are stable and that participants still perceived a trade-off between making a positive environmental and social impact and financial performance.

Despite the persistence of return expectations, enhanced clarity could, in and of itself, play a moderating role in sustainable investment decisions. Participants experience lower utility from choices involving ambiguity (Ellsberg, 1961). In a way, a reduction in the share of "I do not know" answers after deliberation suggests that participants perceived the financial consequences of sustainable investing as less ambiguous. Enhanced clarity on return expectations could, in and of itself, shift participants toward more sustainable investment decisions. Given the above, we argue that reduced ambiguity, rather than more positive assessments of financial expectations, could play a role in participants' increased willingness to invest sustainably following the mini-public.

4.3 Impact beliefs

Let us turn to impact beliefs, ΔI in Equation 1. We expect participants to be more willing to increase sustainable investing as their beliefs about its environmental and social impact become more positive. Positive developments in impact beliefs could therefore explain participants' shift to increasing sustainable investing. We perform a similar analysis for impact beliefs as for financial return expectations in Figure 4 Panels C and D.

Participating in the deliberative mini-public led participants to express more positive impact beliefs associated with sustainable investing. In Panel C, 56.1% of participants expected the environmental and social impact of sustainable investing to be higher or much higher than that of conventional investing before the mini-public. This share increased to 90.7% post mini-public, a statistically significant increase *(McNemar test, $p<0.001$)*. Furthermore, not a single participant anticipated that sustainable investing would harm social or environmental issues.

As with financial return expectations, most of this shift is explained by reduced ambiguity. Before the mini-public, 24.4% of participants did not know the environmental and social consequences of sustainable investing. After deliberation, not a single participant expressed ambiguity about its impact. Unlike with financial expectations, we find that participants who declared an opinion on impact beliefs before the mini-public also expressed marginally more positive impact beliefs after deliberation *(McNemar test, $p=0.039$)*. Given the above results, we argue that a more positive and less ambiguous outlook on the environmental and social impact of sustainable investing can help explain why participants desire to increase sustainable investing more strongly after the mini-public.

4.4 Sustainable investment motives

We now turn to participants' sustainable investment motives. The central question is the value-versus-values trade-off (Starks, 2023): are members willing to sacrifice financial return for environmental and social impact, and if so, how do they reason about that trade-off?

Before the mini-public, 55.8% of participants expressed a willingness to sacrifice returns to invest sustainably. This share is consistent with prior evidence that many investors hold social preferences and accept lower returns when investing sustainably (Riedl and Smeets, 2017; Baker, Egan and Sarkar, 2022). A further 25.6% express profit-oriented views, willing to invest sustainably only when it is profitable, consistent with the heterogeneity in financial motives documented by Giglio et al. (2025). 4.7% reject sustainable investing outright, and 14.0% express no opinion. Figure 5 displays the full distribution.

The distribution of value-versus-values preferences is stable across the mini-public. The share willing to sacrifice returns is virtually unchanged afterward, at 53.5% *(McNemar test, p=0.739)*. What deliberation does not change is whether participants are willing to sacrifice returns. What it does change is how participants reason within their values.

Among participants willing to sacrifice returns, deontological views dominate before deliberation. 34.9% of the full sample expresses deontological motives, indicating a willingness to invest sustainably from a principles-based standpoint with limited regard for actual impact. Only 20.9% express consequentialist views, evaluating sustainable investing primarily by its environmental and social outcomes. This pattern is consistent with prior evidence that investors who pursue sustainable investing tend to do so for principle-based rather than impact-based reasons (Heeb et al., 2023; Bonnefon et al., 2025)

After the mini-public, participants shift from deontological to consequentialist views. The share expressing deontological motives falls to 9.3%, a 73.3% decline *(McNemar test, $p = 0.005$)*. Most of these participants reclassify as consequentialist, raising that share from 20.9% to 44.2% *(McNemar test, $p = 0.004$)*.

We trace this shift to gains in knowledge. A one-point increase on the 7-point Likert scale of sustainable-investing knowledge decreases the likelihood that a participant expresses deontological views by 10.4 percentage points *(t-test, $p = 0.032$)* and increases the likelihood of consequentialist views by 11.7 percentage points *(t-test, $p = 0.049$)*. The shift in moral reasoning tracks the shift in understanding.

The shift appears durable. A follow-up survey over a year later, completed by 30 of the 43 original respondents, shows that participants who expressed a given motive immediately after the mini-public most often expressed the same motive a year later (Table 3). No participant answered "no opinion" in the follow-up. The small sample warrants caution, but the pattern suggests that deliberation produces lasting updating of moral views rather than a transient response to the deliberative setting.

4.5 Impact investing: A mini-public recommendation

How does the shift toward consequentialist views influence participants' perspectives on sustainable investment approaches? Impact investing is a sustainable investment approach in which investors provide capital in private markets to sustainable firms that might otherwise face challenges accessing financing. Geczy et al. (2021) and Cole et al. (2023) suggest that impact investing can have positive environmental and social effects. Consistent with the more consequentialist orientation observed after the mini-public, one of 49 mini-public recommendations was to expand impact investing to 10% of assets under management (AUM). A majority (52.4%) supported this recommendation.

Alongside the formal mini-public recommendation, we conducted two surveys that also indicated a majority support for impact investing. First, we performed a survey at the end of the third day of the mini-public, asking participants whether they wanted to expand, keep unchanged, or decrease impact investing.[22] In this survey, a majority of participants (85%) supported expanding impact investing. Second, we conducted an additional survey 1 year after the mini-public, with the same participants and questions, to test the persistence of support.[23] As before, a majority (70.5%) supported expanding impact investing (see Figure) 6). Further, 16.7% preferred to maintain the current level, 5.9% wanted to discontinue impact investing, and 6.9% were undecided or expressed no opinion. These findings suggest that mini-public participants remain committed to expanding impact investing even a year later.

Participants recommended expanding impact investing, aware that it could affect pension payments at retirement by lowering portfolio returns or increasing risk. They also expected it to deliver greater environmental and social benefits than other sustainable investment approaches, such as divestment, portfolio tilting, engagement, or shareholder proposals.

As illustrated in Figure 1, the board could determine which recommendations to implement directly, which to test for broader support, and which to discard. Prior to this recommendation, the board had already been considering the appropriate level of impact investing, which at the time stood at 1% of AUM. Given the potential costs, risks, and governance complexity associated with impact investing (Barber et al., 2021), the board decided to assess whether broader support existed among the overall population of Pensioenfonds Detailhandel participants. To balance its fiduciary duty and give beneficiaries a voice in the fund's investment strategy, the board asked participants whether they preferred to discontinue impact investing (0% of AUM), maintain the current level (1%), or expand it to 2%-5% of AUM. It specified a range rather than a fixed percentage because impact investments are lumpy, making precise allocation difficult. For fiduciary reasons, the board also capped the maximum expansion at 5%, below the initially

[22] We constructed this survey before participants drafted mini-public recommendations. Consequently, the survey asks for a less explicit expansion of impact investing than the formal recommendation, potentially leading to higher support.

[23] Out of the initial 43 mini-public respondents, 30 completed the second survey. This recontact rate of 69.8% is high compared to the literature (as noted in Stantcheva, 2023, Appendix Table A4).

proposed 10%.

This board's intervention into the scope of the recommendation, combined with allowing the broader population a vote on the recommendation, offers a unique approach to achieving democracy in financial institutions. It facilitates beneficiaries' involvement in normative trade-offs while maintaining the board's role in safeguarding fiduciary duties. We collaborated with the board on this initiative and conducted a follow-up field experiment, discussed below.

Wrapping up Study 1, we find that the deliberative mini-public substantively increased support for sustainable investing. This support is associated with stark increases in (sustainable) investment knowledge and reduced ambiguity in financial return expectations and impact beliefs. Once better informed, we found that participants largely shifted in their sustainable investment motives from deontological to consequentialist moral views. After deliberations, participants drafted considered recommendations to the pension fund board, one of which we will relay to the broader pension fund population in Study 2 below under binding commitment.

5 Study 2: Maxi-public survey design

In democratic terms, Study 2 enhances the legitimacy of the mini-public's recommendations on impact investing among the population of beneficiaries. Study 2 answers two questions. First, we investigate whether the pension fund population is willing to expand impact investing when we communicate the potential costs and increased risks associated with this. Second, we examine how members of the broader pension fund membership population respond to information generated by the deliberative mini-public of Study 1.

5.1 Dissemination and Outline

Between May 14 and June 4, 2025, we invited all beneficiaries of Pensioenfonds Detailhandel to participate in our second study, which included a binding vote on impact investing. Invitations were sent via email to approximately 220,000 individuals. This is everyone for whom the pension fund had a valid email address. Additionally, an invitation to the survey was included in the pension fund's quarterly printed newsletter. The pension fund also informed affiliated employers in the retail sector to encourage employees to complete the survey.

Figure 7 presents an overview of the survey used in Study 2. The survey begins with a recruitment page that outlines how participants can influence the pension fund's impact investment decisions. It also announces a lottery incentive: five €250 Amazon gift cards will be awarded to randomly selected respondents. Following this introduction, participants receive background information on investing and sustainable investing. Specifically, we explain: 1) that the pension fund invests its contributions; 2) the concepts of sustainable and impact investing and its costs; and 3) concrete examples of how the pension fund implements impact investing in practice, and the associated financial trade-offs. Following the information-provision stage,

we ask questions about knowledge, beliefs, and motives for impact investing. Subsequently, we randomly divided the sample into three groups: 30% to a mini-public treatment, 30% to a peer information treatment, and 40% to a control group. Next, we ask three questions on the extent, topic, and location of impact investing, on which the board made a binding commitment to implement the most chosen answer. We wrap up the survey by asking for demographic information and a final attention-check question.

5.2 Commitment Question: How much Impact Investing?

Participants cast a vote on a real-stakes decision regarding the pension fund's impact investment strategy. Incentive compatibility is essential in survey questions (Vossler, Doyon and Rondeau, 2012). Prior research shows that responses to hypothetical questions often differ from those involving real consequences (Cummings, Harrison and Rutström, 1995; Cummings, Elliott, Harrison and Murphy, 1997). The board of the pension fund committed to implementing the most commonly selected answers for three key decisions: 1) the extent of impact investing (ranging from stopping impact investing 0%, keeping it unchanged 1%, or expanding it 2% to 5% of assets), 2) the geographic focus (Netherlands, developed countries, or developing countries), and 3) the thematic focus (environmental vs. social issues). This binding commitment was communicated to participants before voting to ensure participants understood its consequences for their pension. In particular, they were told: "*Your choice matters! The board of Pensioenfonds Detailhandel has promised to carry out the most chosen answer to the following question. This means that your pension will be invested in more impact investments if most participants vote for "expand", will remain the same if participants vote for "keep unchanged," and will no longer be invested in impact investments if participants vote for "stop". We ensure that your opinion has a representative influence within Pensioenfonds Detailhandel.*"

We investigate whether participants vote for expanding impact investing, the first objective of Study 2. Regarding the extent of impact investing, we informed participants that their votes would influence up to 5% of total assets under management. We informed them that this corresponds to approximately €1.5 billion of total assets, equivalent to €15 per month in contributions per person.[24] We asked participants "*What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?*" with answer options "*Stop (0%)*", "*Keep unchanged (1%)*", "*Expand (2% to 5%)*", and "*I have no opinion / Don't know*".

Before the vote, we communicated to participants that the board had committed to implementing the most chosen answer, the plurality vote. No voting scheme with more than two options is perfect, as follows from Arrow's Impossibility Theorem (Arrow, 1950). Black (1948) argues that plurality voting works well when preferences and choices are linear in a single dimension. The choice between more, the same, or less impact investing likely provides

[24]The total assets under management of the pension fund were approximately €30 billion at the end of 2024. Expanding impact investing from the current 1% to the 2% to 5% range results in an increase of €300 million to €1.2 billion. Further, current contributions are roughly €375 per month, of which €15 is 4%.

participants with such a comparison. Further, building on the axioms of May (1952), Goodin and List (2006) argue that plurality votes are easy to understand for participants and ensure a binding outcome always occurs. Such a binding outcome is critical to incentive compatibility. Participants' aggregate voting decisions will always affect pension allocations under plurality voting, providing an incentive to answer in alignment with one's preferences. For these reasons, we adopt a plurality voting scheme.

To mitigate potential anchoring effects based on the order of the answer options, participants randomly saw 2% to 5% or 0% as the first option. When introducing the concept of impact investing, we emphasized that such investments are likely costly, and involve a trade-off between pension payments at retirement and social-environmental impact (Barber et al., 2021). Specifically, we told participants "*Achieving a positive financial return remains important. However, returns may sometimes be lower than expected or lower than typical market outcomes. The risk may also be higher. This can affect the eventual value of your pension.*"

5.3 Mini-public and peer treatments

The second objective of Study 2 is to examine how members of the broader pension fund population respond to information generated by the deliberative mini-public conducted in Study 1. To this end, we expose 60% of participants to the decisions and beliefs expressed by mini-public participants on impact investing before the commitment question. They were informed that fellow pension fund participants voted on whether to expand, maintain, or reduce the impact of impact investing, as well as their financial expectations and impact beliefs. The exact picture shown to them is depicted in Figure 8. We also communicated that this information stemmed from a representative group of participants. The purpose of this treatment is to test whether participants align their voting behavior with those of the mini-public's recommendations, relative to untreated participants.

This treatment introduces two potential effects. First, it creates an informational shock regarding peers' investment decisions. Peer effects are a well-documented factor in financial decision-making, where knowledge about the actions of similar individuals shapes participants' own choices in some but not all settings (Banerjee, 1992; Duflo and Saez, 2003; Brown, Ivković, Smith and Weisbenner, 2008; Allcott, 2011; Beshears, Choi, Laibson, Madrian and Milkman, 2015; Bauer, Eberhardt and Smeets, 2022). Second, it provides participants with knowledge that these peer choices on impact investing were formed in a deliberative setting, where participants received expert input and engaged in multi-day deliberations. In other words, it describes not only the behavior of peers but also of those educated on the topic through expert information and deliberation among peers. Such distinction can matter as the extent to which participants believe information treatments often depends on their credibility (Haaland et al., 2023). In the field of deliberative democracy, scholars have studied the same phenomena, examining the impacts of deliberatively generated 'cues' on a wider public (Már and Gastil, 2020; Suiter, Muradova,

Gastil and Farrell, 2020; Van Reybrouck, 2025). Survey research indicates that the results of mini-publics can, in particular circumstances, influence wider public opinion (Boulianne, 2018; Ingham and Levin, 2018).

We isolate the first effect from the latter by providing some but not all treated individuals with knowledge that the peer recommendations, expectations, and beliefs originated in a deliberative mini-public. Specifically, half of this group (30% of the full sample) received the mini-public treatment. They were informed that fellow pension fund participants had participated in a three-day deliberative mini-public and shared their views on impact investing. The other half received the peer treatment. Treatments differed in the framing of the information source: peers were told the information originated from a 15-minute survey. This information is truthful and accurate: the survey we conducted during the mini-public took about 15 minutes. The only difference in treatment is that we did not mention that the survey took place during a three-day mini-public. We expect that participants who receive information about deliberative mini-public outcomes will be more likely to vote in line with those recommendations because they know their peers made better-informed decisions.

Following the information treatment, participants will receive two control questions to reiterate the presented information. We ask them about the percentage of mini-public/peer participants who voted in favor of expanding impact investing (85%) as well as the medium through which we collect this information (a 3-day deliberative mini-public or a 15-minute survey). After participants answered the comprehension questions, we showed them the correct answers and informed them of their accuracy. As pre-registered, we did not exclude participants on any attention-check question, as a democratic vote requires all participants to have an equal voice, not only those who are better-informed.

5.4 Sample representativeness

In Study 2, we attained a total of 13,691 pension participants who completed the survey. 13,372 of which originated from the email campaign sent through the pension fund, and 319 were collected through the fund's quarterly newsletter. This results in an overall response rate of $\frac{13{,}372}{220{,}000}$ or 6.1% to our email campaign. This rate is comparable to prior estimates studying mutual fund participants (Giglio, Maggiori, Stroebel and Utkus, 2021; Giglio et al., 2025).

After completing the binding commitment questions, participants responded to a series of demographic questions. These included age, education, income, political orientation, and employment status. We also elicited participants' trust in the pension fund using the following question: To what extent do you trust Pensioenfonds Detailhandel in general? Responses were recorded on a 10-point Likert scale ranging from 1 ("no trust") to 10 ("complete trust"). Table 1 Panel B provides summary statistics on these demographic questions. We find that the sample is predominantly male (55.5%), with an average age of 62.6 years. 30.9% of respondents have completed a university degree or a higher vocational qualification. The average reported monthly

household income is €3,567.[25]

Unlike the sortitioned sample of Study 1, we do not expect Study 2 to yield a representative sample due to selection effects stemming from email availability. Selection can occur on the observables and on unobservable dimensions. In the second study, selection might occur because the pension fund does not maintain email addresses for all participants; these are collected only at the time of the first contribution or when retirement benefits are disbursed. Regarding observables, email availability leads to a substantially higher selection of retired and active participants: 51.9% and 36.1% in our sample vs. 13.1% and 20.5% in the population, respectively. Consistent with the over-representation of retired individuals, respondents in Study 2 were, on average, 17 years older, earned 10% less, and were 14.1 percentage points more likely to be male compared to the broader pension fund population (see Table 2).[26] In other words, the sample of Study 2 is not representative of the pension fund average. There appears to be a selection of older, retired, and low-income men who more frequently respond to the survey.

We pre-registered a reweighting procedure to correct for selection bias on observables in Study 2.[27] The correction accounts for all demographic dimensions available to the pension fund: income, age, gender, and participation status (i.e., retired, currently contributing participant, or former participant). The procedure constitutes two steps. First, we regress indicator variables equal to 1 for participants who want to expand, keep unchanged, or stop impact investing on demographic characteristics: pension fund status (with retirees as the reference group), age, gender (coded as male), and income. Second, we calculate the differences between the demographic distribution of the survey sample and that of the pension fund population. These differences are then multiplied by the corresponding regression coefficients to estimate and correct for selection-induced bias in votes.[28] All results presented in this paper reflect these demographic adjustments unless explicitly stated otherwise.

Alongside demographic comparability, we consider political views when assessing participants' willingness to impact invest. Political ideology is frequently associated with sustainability-related choices, as it reflects underlying views on fairness, redistribution, and social responsibility (Fisman, Jakiela and Kariv, 2017; Kerschbamer and Müller, 2020; Cohn, Jessen, Klašnja and Smeets, 2023; Fehr, Epper and Senn, 2024). Further, Hong and Kostovetsky (2012) and Gutsche and Ziegler (2019) establish a direct relationship between political ideology and sustainable

[25] We winsorised the data based on time spent in the survey at the 1% (3.4 minutes) and 99% (58.9 minutes) levels. We also remove participants who report being younger than 18 (1 participant reported an age of 13) or older than 100 (9 participants reported an age of 125). These data-quality sanity checks are not preregistered but do not affect the findings. We dropped 284 observations out of 13,975, which is less than 2.5% of the total. The response rate already incorporates the dropped observations.

[26] Participants in Study 2 reported their net household monthly income, whereas the pension fund records individual monthly income. To ensure comparability, we adjusted household income by dividing it by 1.49, the Dutch average ratio of household to individual income (CBS, 2022).

[27] See `https://www.socialscienceregistry.org/trials/15994` for the pre-registration, and Appendix B for additional details on the reweighting methodology.

[28] This reweighting approach was developed in consultation with and unanimously approved by the board of the pension fund before the launch of the survey.

investment decisions.

In terms of political orientation, nearly 70% of respondents reported voting for center-right-wing or right-wing parties in the 2023 Dutch general elections. Table 4 compares the political orientation of survey participants with that of the general Dutch population. Of the 13,691 survey participants, 10,826 disclosed their voting behavior. Among these, 69.3% supported right-wing parties, slightly above the national average of 66.6%. If anything, the predominance of right-leaning respondents suggests that our sample may be more conservative toward impact investing than the general population.

6 Study 2: Maxi-Public Results

6.1 Commitment votes on impact investing

Does the broader pension population want more impact investing? The mini-public produced broad support for expansion, but a sample of 49 cannot speak for the full membership. We now turn to the maxi-public to test whether this support holds at scale and to lend democratic legitimacy to the recommendation. To ensure incentive compatibility, we pre-registered a board commitment to implement the plurality vote (the most chosen answer); see `https://www.socialscienceregistry.org/trials/15994`.

The results show that participants voted for more impact investing. As in the mini-public, respondents voted to expand impact investing, see Figure 9 Panel A. The plurality of participants (47.9%) voted to allocate between 2% and 5% of assets under management to impact investments, an increase from the current 1%. Following their commitment, Pensioenfonds Detailhandel will expand its impact investing by €300 million to €1.2 billion, equivalent to an additional 1% to 4% of its AUM. These results indicate that pension members choose to impact invest a greater share of their pension funds when asked democratically.

The second-largest group (38.6%) preferred maintaining the status quo at 1%. The least chosen option among respondents was to stop impact investing, with only 15.6% favoring discontinuing it entirely. Accordingly, more than four out of five of respondents who expressed an opinion supported continuing impact investing in some form. This overall support indicates that the majority of respondents favored continuing or expanding impact investing, even after being explicitly informed of the likely financial consequences of such an approach.

The share of participants who expressed no opinion on impact investing is low. Only 14.0% of participants answered with ”I do not know/ no opinion”. After correcting for those without an opinion, Panel B shows that the plurality of participants still voted to expand impact investing (41.5%). Moreover, stopping impact investing still received the smallest support (13.2%), followed by keeping impact investing unchanged (31.3%).

6.1.1 Return expectations on impact investing

Are participants aware of the financial and impact implications in choosing to expand impact investing? Figure 10 shows the risk, return, and impact expectations of participants of impact investing relative to conventional investing. Among those who expressed an opinion, 50.9% expected impact investing to reduce or strongly reduce their pension payments.[29] Furthermore, 49.5% of those who expressed an opinion expected the risk associated with impact investing to be higher or much higher, compared to 19.8% who expected it to be lower or much lower. In contrast, 62.3% of those who expressed an opinion also expected impact investing to mitigate the environmental and social consequences of their pension investing. In other words, most respondents understood that impact investing could negatively affect their pension payments at retirement, yet they still voted in favor of expansion. Another indication that participants understood the financial trade-offs is that 83.6% of participants could distinguish impact investing from conventional investing.[30]

6.1.2 Motives for impact investing

Do sustainable investment motives predict votes to expand impact investing? We expect they should. Participants with social preferences accept lower returns when investing sustainably. Given that most members expect impact investing to underperform conventional investing (see Section 6.1.1), we expect participants with social preferences to vote in favor of expansion. Among them, consequentialists weigh actual environmental and social outcomes and may therefore favor expansion more strongly than deontologists. Beyond testing this prediction, we also establish the predictive validity of our sustainable investment motives survey question by linking responses to a high-stakes vote with binding portfolio consequences.

Table 5 Column (1) confirms the prediction. Sustainable investment motives alone account for 28.5% of the variation in support for expanding impact investing. Consequentialists are 68.4 percentage points more likely to vote for expansion than participants who oppose sustainable investing, and 50.6 percentage points more likely than profit-oriented participants *(t-tests, p¡0.001 in both cases)*. Moral views also matter within the social-preferences group: consequentialists are 6.7 percentage points more likely to vote for expansion than participants with deontological views *(t-test, p¡0.001)*. These patterns reaffirm that sustainable investment motives, and moral

[29] 41.8% of participants expressed no opinion. Divide the share of participants expecting lower pension payments, 29.6%, by one minus this fraction to get $\frac{29.6\%}{1-0.418} = 50.9\%$.

[30] Specifically, we asked participants: *Impact investing can best be described as investing:*, and were given the following response options: (1) *with impact for your pension payments at retirement. It ensures you have enough income once you retire*; (2) *in firms that strive to have a positive environmental or social impact, while trying to generate financial returns*; (3) *in financially aiding people in developing countries without the purpose of generating financial returns*. This question aims to assess whether respondents can distinguish between conventional investing (Option 1), impact investing (Option 2), and charitable donations (Option 3). Option 2 represents the correct definition aligned with our treatment framing. 67.2% of participants answered a comprehension question on the definition of impact investing correctly. Selecting those who correctly answered the attention question increases the share of votes in favor of expanding impact investing (see Appendix B).

views in particular, drive non-pecuniary investment decisions. The strong link between the survey question and an incentive-compatible field choice establishes the predictive validity of the sustainable investment motive measure across Studies 1 and 2.

We analyze whether sustainable investment motives affect participants' willingness to expand impact investing in Table 5 Column (1). As in Study 1, sustainable investment motives play a large role in participants' willingness to expand impact investing. Specifically, they alone account for 28.5% of the squared variation in participants' willingness to vote for expansion. Consequentialist participants are substantially more likely to vote for expansion: 68.4 percentage points more than those opposing sustainable investing, and 50.6 percentage points more than those with profit-oriented views (t-tests, $p<0.001$ in both cases). Differences between moral views matter too. Consequentialists are 6.75 percentage points more likely to vote for expansion than those with deontological views (t-test, $p<0.001$). Together, these results reaffirm that sustainable investment motives, and moral views in particular, are critical to non-pecuniary investment decisions. This finding also validates our survey measure from Studies 1 and 2 in an incentive-compatible setting.

Other standard predictors also matter.[31] Right-wing voters are 25.9 percentage points less likely to support expansion than left-wing voters (Column 2). Participants with positive return expectations are 21.8 percentage points more likely to support expansion than those expecting negative returns, and positive impact beliefs raise support by 31 percentage points relative to negative beliefs (Column 3). Demographic effects are smaller and reported in Columns (4) and (5): education and gender are positively associated with support, age has a small positive effect, and income shows no effect.

Column (6) reports a multivariate specification with all covariates. Participants with consequentialist moral views remain prominent: they are 41.2 percentage points more likely to vote for expansion than profit-oriented participants, and 4.9 percentage points more likely than deontological participants. The direction of effects is unchanged, but the magnitudes are smaller, consistent with covariates absorbing some of the variation that motives capture on their own.

6.2 Pension beneficiaries follow mini-public recommendations

Does the wider maxi-public population follow mini-public recommendations on impact investing? In democratic theory, the legitimacy of mini-publics depends on whether the broader maxi-public accepts their recommendations (Parkinson, 2006; Smith, 2009; Cooper and Bauer, 2024; Lafont and Urbinati, 2024). Since the purpose of this paper is to democratize investing, it is critical to examine whether mini-public recommendations are accepted by the wider population. Curato, Farrell, Geissel, Grönlund, Mockler, Pilet, Renwick, Rose, Setälä and Suiter (2021) define this dimension of legitimacy as external legitimacy, and Parkinson (2006) argue that it depends on legitimizing linking processes that connect mini-publics to the broader

[31] See Appendix B for variable construction details based on survey responses.

maxi-public. Accordingly, we empirically study mini-public legitimacy in three steps. First, we ask whether the broader public follows the mini-public impact investing recommendation when treated. Second, we investigate whether participants with different dispositions toward impact investing adopt expansion recommendations when informed. Third, we test whether trust in the institution organizing the mini-public moderates the influence of its recommendations.

Respondents follow the mini-public recommendation on impact investing. Panel A of Table 6 presents regressions of a variable indicating support for expanding impact investing on mini-public and peer treatment indicator variables, with the control group as the baseline. It uses a waterfall of controls as described in Table 5. Respondents are significantly more likely to vote in favor of expanding impact investing when exposed to the mini-public recommendation in all specifications. In the most stringent specification, respondents in the mini-public and peer treatment groups are 8.62 (t-test, $p<0.001$) and 7.62 percentage points (t-test, $p<0.001$) more likely to support expansion relative to the control group. This represents an economically relevant 23.4% increase compared to the control group for the mini-public treatment, of which 36.9 percentage points voted for expansion.

However, respondents are agnostic to which treatment information they receive. In contrast to our expectations, we find that they react equally strongly to informed peer treatments as to mini-public treatments. Particularly, the effects of mini-public and peer treatments are statistically indistinguishable from each other (t-test, $p=0.279$). This suggests that while respondents follow mini-public recommendations, they might not consciously distinguish between them and generic peer recommendations.[32]

The legitimacy of deliberative mini-publics is shaped by how their recommendations are received among a broader population with diverse political stances. Are deliberative mini-publics' recommendations only impactful on those who agree with their recommendations, or do they have an impact on those with opposing views? In our sample, there are stark discrepancies in support for impact investing before participants are treated. Specifically, there appears to be a political polarization in participants' votes on expanding impact investing. On average, 51.4% of left-leaning respondents in the control group voted to expand impact investing, see Figure 11. Support for impact investing among right-wing voting participants was almost half that of left-leaning respondents, with only 26.8% voting in favor of expansion.

How do participants with views opposing impact investing react to deliberative mini-public information? The literature on polarization reveals mixed evidence in how information provision shapes polarization and anti-democratic behavior (Andreoni and Mylovanov, 2012; Bowen et al., 2023; Voelkel et al., 2023). Therefore, it is not immediately clear how mini-public information affects votes across the political divide.

Our results suggest that deliberative mini-publics can depolarize decisions, at least within

[32]We observe a similar effect when we rerun the previous analysis on a subset of respondents who correctly remembered whether the information treatment they received stemmed from a 15-minute survey or a three-day deliberative mini-public. 70.1% of participants correctly remembered this information.

the scope of this study. In Table 6 Panel B, we find that left-wing voting participants increase the share of votes for expanding impact investing by 10.8 (t-test, $p<0.001$) and 7.4 (t-test, $p<0.001$) percentage points when exposed to the mini-public and peer treatments, respectively. Mini-public recommendations therefore further increase support among participants whose political stance is already more favorable toward impact investing.[33]

Increasing support for expanding impact investing is not confined to treated participants with political views predisposed to favor impact investing. Specifically, right-wing voting participants experience a 7.0 (t-test, $p<0.001$) and 8.0 (t-test, $p<0.001$) percentage point increase in votes for expanding impact investing in the mini-public and peer treatments, respectively. This increase in support is comparable in absolute and bigger in relative terms, given the 26.8% vs 51.4% a priori support for expansion.[34] Accordingly, mini-public information fosters support for the recommendation among participants across the political spectrum, suggesting mini-publics are legitimate even for those initially less supportive of a recommendation. These findings confirm the second hypothesis: that deliberative mini-public recommendations are adopted by a broader pension fund population when faced with real financial choices in a democratic mechanism.

Alongside prior support, we analyze the role of trust. Trust is a critical element in the legitimacy perceptions of deliberative mini-publics (Germann, Marien and Muradova, 2024). Trust also plays an essential role in stock markets and investing (Guiso, Sapienza and Zingales, 2008). We expect participants to react more strongly to mini-public treatments than peer treatments when they have relatively low trust in the pension fund. We expect this because low-trust participants are likely to be more positively surprised when their pension fund solicits their peers' opinions through a deliberative mechanism. Consequently, the mini-public treatment effects are likely bigger than peer effects for low-trust participants.

Contrary to this expectation, we find that individuals who express higher trust in the pension fund react more strongly, not less, to both types of information treatment. A one-unit increase on the 1–10 World Values Survey trust scale raises the probability of voting to expand impact investing by 2.0 percentage points (t-test, $p<0.001$) under the mini-public treatment and 1.4 percentage points (t-test, $p<0.001$) under the peer treatment. These effects are statistically indistinguishable (F-test, $p=0.195$) and roughly one-quarter in magnitude of the uninteracted treatment effects. Our findings suggest that a limited level of trust in the pension fund is necessary for participants to adopt mini-public or peer information.

Taken together, we observe that mini-public recommendations are adopted by the maxi-public, leading to a reallocation of pension assets toward impact investments. We show that moral views are a critical driver in participants' decisions to invest with impact in this incentive-compatible setting. Further, we find that mini-public recommendations are partially adopted by the maxi-public across the political divide, highlighting their depolarizing nature.

[33] See Table 5 for the general disposition of left-leaning voters to expanding impact investing.

[34] These differences between mini-public and peer treatments are not statistically different at the 10% level, showing broader support for the provided information.

7 Conclusion

This paper brings democracy into investing by integrating a deliberative mini-public (Study 1) with a maxi-public field experiment featuring a binding vote on one of the mini-public's recommendations (Study 2). In partnership with a Dutch collective defined-contribution pension fund, we find that participants' willingness to invest sustainably nearly triples after deliberation (from 23.8% to 62.8%), driven by gains in sustainable-investing knowledge and impact beliefs rather than by revised return expectations. Participants' moral reasoning also shifts, with deontological motives declining and most of these participants moving toward consequentialist views. In the subsequent maxi-public, the broader fund population chose to expand impact investing several-fold, even when potential financial costs were made explicit, and within a sample that votes predominantly center-right or right-wing. Treating 60% of voters with the mini-public's recommendations raised support for expansion by 7.5 percentage points. Right-leaning voters responded more strongly than left-leaning ones, indicating that deliberative input was most influential among those initially furthest from the recommended position.

Methodologically, the mini-maxi-public bridges lab and field experiments. Lab experiments offer controlled information environments that support careful decision-making (Falk and Heckman, 2009), while field experiments deliver real-world stakes and behavioral consequences (Levitt and List, 2009). The mini-maxi-public combines both: participants engage with experts and structured materials in a setting that resembles the laboratory, deliberate with one another, and then cast a binding vote that materially affects how the fund invests its assets.

Three further features make the design valuable for eliciting considered preferences. Deliberation gives participants the time, information, and structured exchange that narrow the gap between expressed and considered preferences, in conditions where Beshears et al. (2008) show that the two can diverge. Sortition produces a sample whose composition matches the underlying population by construction, and because participation is incentivized and structured, representativeness is preserved both during deliberation and at recruitment (Flanigan et al., 2021). The binding nature of the vote means that the considered preferences elicited are consequential, leading to portfolio decisions rather than informal advice. Because mini-maxi-publics are time- and resource-intensive, we expect them to be most valuable in contexts where the trade-off requires substantial knowledge, preferences are politically polarized, or members face acute democratic deficits. Pension funds satisfy all three conditions.

We suggest two avenues for future research. The first is the extension to other financial settings. Hart, Landemore and Zingales (2024) propose investor assemblies at the mutual fund level to determine how funds cast their votes on environmental, social, and political proposals at portfolio companies. Studying whether our results extend to that setting, in which ownership is more diffuse and exit is comparatively easy, would clarify the mechanism's boundary conditions.

The second is the extension to other pension-fund decisions. The value-values trade-off we study is one of several questions that could be democratized. Risk preferences are a natural

candidate: members could be asked whether to increase or decrease the fund's risky share, and how they weigh the magnitude of potential losses against expected returns once they engage with the trade-off. Questions of inter-generational solidarity are similarly well-suited to deliberative elicitation. They are central to ongoing pension reform in the Netherlands and elsewhere, and they involve trade-offs between cohorts that conventional surveys struggle to address.

Three further questions concern the robustness of the mini-public findings themselves. The first is the temporal stability of recommendations. Whether the same population would reach similar conclusions five or ten years from now would test how durable these considered preferences really are. The second is cross-country variation. Value-values trade-offs likely depend on welfare institutions, capital-market structures, and political cultures (Starks, 2023), and replicating mini-maxi-publics across settings would help separate context-specific findings from more general features of investor preferences. The third is the role of experts. The framing and selection of expert input may shape what participants learn and how they reason. We worked with one set of speakers, selected with the help of an independent scientific advisory board to balance perspectives (described in Section III), and other mini-publics would draw on other experts. Future work could examine how sensitive mini-public outcomes are to the composition and content of expert contributions, and how design features such as advisory boards, selection protocols, and adversarial expert panels affect the considered preferences that emerge.

Our finding that deliberation attenuates rather than amplifies political polarization also deserves further study. The result runs counter to evidence that information provision in polarized contexts can entrench prior views (Andreoni and Mylovanov, 2012; Bowen et al., 2023), and it suggests that the structural features of deliberation — peer engagement and shared expert input — do work that information provision alone cannot. Mini-publics on abortion, climate, and constitutional reform have produced qualitative evidence of similar bridging effects. Yet, systematic comparison across questions, populations, and institutional contexts is absent and would clarify when deliberation reduces polarization rather than reinforcing it. Such evidence would also support a broader argument: that mini-publics realize their full democratic potential when their recommendations reach a wider public. Some scholars have made this point in principle, but direct empirical evidence on how maxi-publics respond to mini-public output has been scarce. We provide such evidence.

Several limitations frame these conclusions. We study one pension fund, in one country, on one topic, with one round of deliberation and one set of experts. The maxi-public uses a single vote with a fixed menu of options. Effects of this magnitude in this setting may not generalize to other governance structures, member compositions, or policy stakes. A larger body of mini-maxi-public studies, across funds, countries, and questions, will be needed to characterize the conditions under which the patterns we document are robust.

Within those limits, our findings have implications beyond the specific fund we study. Pension funds, mutual funds, and other intermediaries manage capital on behalf of millions of beneficiaries, and they face growing pressure to make decisions that turn on more than financial

return alone. The conventional alternatives, delegation to trustees, pass-through voting, and product differentiation, each carry well-known drawbacks. Mini-maxi-publics offer a third path that is feasible at scale, that produces decisions members themselves endorse on reflection, and that is less prone to the political backlash that increasingly attends top-down sustainability mandates. Whether this approach becomes a standard instrument in the governance of collective savings will depend on continued experimentation, but our results suggest the path is worth taking.

Bibliography

Akey, P. and Appel, I. (2019). Environmental externalities of activism, *Available at SSRN 3508808* .

Alexander, L. and Moore, M. (2007). *Deontological ethics*, Stanford Encyclopedia of Philosophy.

Allcott, H. (2011). Social norms and energy conservation, *Journal of Public Economics* **95**(9-10): 1082–1095.

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

Andonov, A., Bauer, R. M. and Cremers, K. (2017). Pension fund asset allocation and liability discount rates, *Review of Financial Studies* **30**(8): 2555–2595.

Andonov, A., Hochberg, Y. V. and Rauh, J. D. (2018). Political representation and governance: Evidence from the investment decisions of public pension funds, *Journal of Finance* **73**(5): 2041–2086.

Andre, P., Boneva, T., Chopra, F. and Falk, A. (2024). Globally representative evidence on the actual and perceived support for climate action, *Nature Climate Change* pp. 1–7.

Andreoni, J. (1989). Giving with impure altruism: Applications to charity and ricardian equivalence, *Journal of Political Economy* **97**(6): 1447–1458.

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

Andreoni, J. and Mylovanov, T. (2012). Diverging opinions, *American Economic Journal: Microeconomics* **4**(1): 209–232.

Aron-Dine, S., Beutel, J., Piazzesi, M. and Schneider, M. (2025). Household climate finance: Theory and survey data on safe and risky green assets, *Technical report*, National Bureau of Economic Research.

Arrieta, G. and Nielsen, K. (2025). Procedural decision-making in the face of complexity, *Technical report*, Working Paper.

Arrow, K. J. (1950). A difficulty in the concept of social welfare, *Journal of Political Economy* **58**(4): 328–346.

Baker, M., Egan, M. L. and Sarkar, S. K. (2022). Demand for ESG, *Technical report*, National Bureau of Economic Research.

Bams, D. and van der Kroft, B. (2025). Tilting the wrong firms? Sustainable investing in transitioning firms, *Available at SSRN:* **4126986**.

Banerjee, A. V. (1992). A simple model of herd behavior, *Quarterly Journal of Economics* **107**(3): 797–817.

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

Bardhi, A. and Bobkova, N. (2023). Local evidence and diversity in mini-publics, *Journal of Political Economy* **131**(9): 2451–2508.

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

Bauer, R., Gödker, K., Smeets, P. and Zimmermann, F. (2024). Mental models in financial markets: How do experts reason about the pricing of climate risk?

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

Bénabou, R., Falk, A. and Henkel, L. (2026). Ends versus means: Kantians, utilitarians, and moral decisions.

Bentham, J. (1789). *The principles of morals and legislation*, Clarendon Press.

Bergstresser, D., Desai, M. and Rauh, J. (2006). Earnings manipulation, pension assumptions, and managerial investment decisions, *Quarterly Journal of Economics* **121**(1): 157–195.

Berk, J. B. and Van Binsbergen, J. H. (2025). The impact of impact investing, *Journal of Financial Economics* **164**: 103972.

Beshears, J., Choi, J. J., Laibson, D. and Madrian, B. C. (2008). How are preferences revealed?, *Journal of Public Economics* **92**(8-9): 1787–1794.

Beshears, J., Choi, J. J., Laibson, D., Madrian, B. C. and Milkman, K. L. (2015). The effect of providing peer information on retirement savings decisions, *Journal of Finance* **70**(3): 1161–1201.

Black, D. (1948). On the rationale of group decision-making, *Journal of Political Economy* **56**(1): 23–34.

Bolton, G. E. and Ockenfels, A. (2000). ERC: A theory of equity, reciprocity, and competition, *American Economic Review* **91**(1): 166–193.

Bolton, P. and Kacperczyk, M. (2023). Global pricing of carbon-transition risk, *Journal of Finance* **78**(6): 3677–3754.

Bonnefon, J.-F., Landier, A., Sastry, P. and Thesmar, D. (2025). The moral preferences of investors: Experimental evidence, *Journal of Financial Economics* **163**: 103955.

Boulianne, S. (2018). Mini-publics and public opinion: Two survey-based experiments, *Political Studies* **66**(1): 119–136.

Bowen, T. R., Dmitriev, D. and Galperti, S. (2023). Learning from shared news: When abundant information leads to belief polarization, *Quarterly Journal of Economics* **138**(2): 955–1000.

Broccardo, E., Hart, O. and Zingales, L. (2022). Exit versus voice, *Journal of Political Economy* **130**(12): 3101–3145.

Brodback, D., Günster, N. and Pouget, S. (2025). The valuation of corporate social responsibility: A willingness-to-pay experiment, *Management Science* .

Broghammer, M. and Gastil, J. (2021). Do hostile media perceptions constrain minipublics? A study of how Oregon voters perceive citizens' statements, *Journal of Deliberative Democracy* **17**(2).

Brown, J. R., Ivković, Z., Smith, P. A. and Weisbenner, S. (2008). Neighbors matter: Causal community effects and stock market participation, *Journal of Finance* **63**(3): 1509–1531.

Callander, S. and Carbajal, J. C. (2022). Cause and effect in political polarization: A dynamic analysis, *Journal of Political Economy* **130**(4): 825–880.

Cappelen, A. W., Hole, A. D., Sørensen, E. Ø. and Tungodden, B. (2007). The pluralism of fairness ideals: An experimental approach, *American Economic Review* **97**(3): 818–827.

CBS (2022). Income distribution Netherlands, *Technical report*, Central Statistics Bureau.

Charness, G. and Rabin, M. (2002). Understanding social preferences with simple tests, *Quarterly Journal of Economics* **117**(3): 817–869.

Cohn, A., Jessen, L. J., Klašnja, M. and Smeets, P. (2023). Wealthy americans and redistribution: The role of fairness preferences, *Journal of Public Economics* **225**: 104977.

Cole, S., Jeng, L., Lerner, J., Rigol, N. and Roth, B. N. (2023). What do impact investors do differently?, *Technical report*, National Bureau of Economic Research.

Cooper, E. (2021). *Pension schemes, sustainable investing and the promise and challenge of governance innovations*, PhD thesis, University of Westminster.

Cooper, E. and Bauer, R. (2024). *How to democratise pension funds? Designing a deliberative mini-public at Pensioenfonds Detailhandel*, NETSPAR.

Crosby, N., Kelly, J. M. and Schaefer, P. (2015). Citizens panels: A new approach to citizen participation, *The Age of Direct Citizen Participation*, Routledge, pp. 266–278.

Crosby, N. and Nethercut, D. (2005). Citizens juries: Creating a trustworthy voice of the people, *The deliberative democracy handbook: Strategies for effective civic engagement in the twenty-first century* pp. 111–119.

Cummings, R. G., Elliott, S., Harrison, G. W. and Murphy, J. (1997). Are hypothetical referenda incentive compatible?, *Journal of Political Economy* **105**(3): 609–621.

Cummings, R. G., Harrison, G. W. and Rutström, E. E. (1995). Homegrown values and hypothetical surveys: Is the dichotomous choice approach incentive-compatible?, *American Economic Review* **85**(1): 260–266.

Cuñat, V., Gine, M. and Guadalupe, M. (2012). The vote is cast: The effect of corporate governance on shareholder value, *Journal of Finance* **67**(5): 1943–1977.

Cuñat, V., Giné, M. and Guadalupe, M. (2020). Price and probability: Decomposing the takeover effects of anti-takeover provisions, *Journal of Finance* **75**(5): 2591–2629.

Curato, N., Farrell, D. M., Geissel, B., Grönlund, K., Mockler, P., Pilet, J.-B., Renwick, A., Rose, J., Setälä, M. and Suiter, J. (2021). Legitimacy of deliberative mini-publics, *Deliberative Mini-Publics*, Bristol University Press, pp. 105–115.

Dahl, R. A. (1980). *Democracy and its Critics*, Yale University Press.

Dechezleprêtre, A., Fabre, A., Kruse, T., Planterose, B., Sanchez Chico, A. and Stantcheva, S. (2025). Fighting climate change: International attitudes toward climate policies, *American Economic Review* **115**(4): 1258–1300.

Deligiaouri, A. and Suiter, J. (2023). Oscillating between representation and participation in deliberative fora and the question of legitimacy: can 'hybrid representative democracy'be the remedy?, *Representation* **59**(1): 137–153.

Dimson, E., Karakaş, O. and Li, X. (2015). Active ownership, *Review of Financial Studies* **28**(12): 3225–3268.

Dryzek, J. S. (2002). *Deliberative democracy and beyond: Liberals, critics, contestations*, OUP Oxford.

Duchin, R., Gao, J. and Xu, Q. (2025). Sustainability or greenwashing: Evidence from the asset market for industrial pollution, *Journal of Finance* **80**(2): 699–754.

Duflo, E. and Saez, E. (2003). The role of information and social interactions in retirement plan decisions: Evidence from a randomized experiment, *Quarterly Journal of Economics* **118**(3): 815–842.

Ellsberg, D. (1961). Risk, ambiguity, and the Savage axioms, *Quarterly Journal of Economics* **75**(4): 643–669.

Enke, B. and Graeber, T. (2023). Cognitive uncertainty, *Quarterly Journal of Economics* **138**(4): 2021–2067.

Enke, B., Graeber, T., Oprea, R. and Yang, J. (2024). Behavioral attenuation, *Technical report*, National Bureau of Economic Research.

Enke, B., Rodríguez-Padilla, R. and Zimmermann, F. (2023). Moral universalism and the

structure of ideology, *Review of Economic Studies* **90**(4): 1934–1962.
European Commission (2025). Ageing europe statistics on housing and living conditions, *Technical report*, European Commission.
Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D. and Sunde, U. (2018). Global evidence on economic preferences, *Quarterly Journal of Economics* **133**(4): 1645–1692.
Falk, A., Becker, A., Dohmen, T., Huffman, D. and Sunde, U. (2023). The preference survey module: A validated instrument for measuring risk, time, and social preferences, *Management Science* **69**(4): 1935–1950.
Falk, A. and Heckman, J. J. (2009). Lab experiments are a major source of knowledge in the social sciences, *Science* **326**(5952): 535–538.
Fehr, E. and Charness, G. (2025). Social preferences: Fundamental characteristics and economic consequences, *Journal of Economic Literature* **63**(2): 440–514.
Fehr, E., Epper, T. and Senn, J. (2024). Social preferences and redistributive politics, *Review of Economics and Statistics* pp. 1–45.
Fehr, E. and Schmidt, K. M. (1999). A theory of fairness, competition, and cooperation, *Quarterly Journal of Economics* **114**(3): 817–868.
Feldhütter, P. and Pedersen, L. H. (2025). Is capital structure irrelevant with ESG investors?, *Review of Financial Studies* **38**(8): 2362–2385.
Financial Times (2024). Citizens' assemblies could help repair our toxic political culture, *Financial Times* . Accessed: 2025-11-06.
URL: *https://www.ft.com/content/6de680af-834e-4a14-a3f3-38b277b5d472*
Fishkin, J. (2009). *When the people speak: Deliberative democracy and public consultation*, Oup Oxford.
Fishkin, J. (2020). Cristina Lafont's challenge to deliberative minipublics, *Journal of Deliberative Democracy* **16**(2).
Fisman, R., Jakiela, P. and Kariv, S. (2017). Distributional preferences and political behavior, *Journal of Public Economics* **155**: 1–10.
Flammer, C. (2015). Does corporate social responsibility lead to superior financial performance? A regression discontinuity approach, *Management Science* **61**(11): 2549–2568.
Flanigan, B., Gölz, P., Gupta, A., Hennig, B. and Procaccia, A. D. (2021). Fair algorithms for selecting citizens' assemblies, *Nature* **596**(7873): 548–552.
Gabaix, X. and Graeber, T. (2024). The complexity of economic decisions, *Technical report*, National Bureau of Economic Research.
Gastil, J. and Knobloch, K. (2019). *Hope for democracy: How citizens can bring reason back into politics*, Oxford University Press.
Gastil, J., Knobloch, K. R., Reedy, J., Henkels, M. and Cramer, K. (2018). Assessing the electoral impact of the 2010 Oregon Citizens' Initiative Review, *American Politics Research* **46**(3): 534–563.
Geczy, C., Jeffers, J. S., Musto, D. K. and Tucker, A. M. (2021). Contracts with (social) benefits: The implementation of impact investing, *Journal of Financial Economics* **142**(2): 697–718.
Germann, M., Marien, S. and Muradova, L. (2024). Scaling up? Unpacking the effect of deliberative mini-publics on legitimacy perceptions, *Political Studies* **72**(2): 677–700.
Gethin, A., Martínez-Toledano, C. and Piketty, T. (2022). Brahmin left versus merchant right: Changing political cleavages in 21 western democracies, 1948–2020, *Quarterly Journal of Economics* **137**(1): 1–48.
Giglio, S., Maggiori, M., Stroebel, J., Tan, Z., Utkus, S. and Xu, X. (2025). Four facts about ESG beliefs and investor portfolios, *Journal of Financial Economics* **164**: 103984.
Giglio, S., Maggiori, M., Stroebel, J. and Utkus, S. (2021). Five facts about beliefs and portfolios,

American Economic Review **111**(5): 1481–1522.

Gneezy, U. and Imas, A. (2017). Lab in the field: Measuring preferences in the wild, *Handbook of Economic Field Experiments*, Vol. 1, Elsevier, pp. 439–464.

Goodin, R. E. and Dryzek, J. S. (2006). Deliberative impacts: The macro-political uptake of mini-publics, *Politics & Society* **34**(2): 219–244.

Goodin, R. E. and List, C. (2006). A conditional defense of plurality rule: Generalizing may's theorem in a restricted informational environment, *American Journal of Political Science* **50**(4): 940–949.

Guiso, L., Sapienza, P. and Zingales, L. (2008). Trusting the stock market, *Journal of Finance* **63**(6): 2557–2600.

Gutsche, G. and Ziegler, A. (2019). Which private investors are willing to pay for sustainable investments? Empirical evidence from stated choice experiments, *Journal of Banking & Finance* **102**: 193–214.

Haaland, I., Roth, C. and Wohlfart, J. (2023). Designing information provision experiments, *Journal of Economic Literature* **61**(1): 3–40.

Harrison, G. W. and List, J. A. (2004). Field experiments, *Journal of Economic Literature* **42**(4): 1009–1055.

Hart, O. D., Landemore, H. and Zingales, L. (2024). How to implement shareholder democracy, *Technical report*, New Working Paper Series.

Hart, O., Thesmar, D. and Zingales, L. (2024). Private sanctions, *Economic Policy* **39**(117): 203–268.

Hartzmark, S. M. and Shue, K. (2023). Counterproductive impact investing: The impact elasticity of brown and green firms, *Available at SSRN 4359282* .

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

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

Heinkel, R., Kraus, A. and Zechner, J. (2001). The effect of green investment on corporate behavior, *Journal of Financial and Quantitative Analysis* **36**(4): 431–449.

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

Hong, H. and Kostovetsky, L. (2012). Red and blue investing: Values and finance, *Journal of Financial Economics* **103**(1): 1–19.

Hsu, P.-H., Li, K. and Tsou, C.-Y. (2023). The pollution premium, *Journal of Finance* **78**(3): 1343–1392.

Ingham, S. and Levin, I. (2018). Can deliberative minipublics influence public opinion? theory and experimental evidence, *Political Research Quarterly* **71**(3): 654–667.

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

Kahane, G., Everett, J. A., Earp, B. D., Caviola, L., Faber, N. S., Crockett, M. J. and Savulescu, J. (2018). Beyond sacrificial harm: A two-dimensional model of utilitarian psychology., *Psychological review* **125**(2): 131.

Kant, I. (1785). Groundwork of the metaphysic of morals, *Immanuel Kant*, Early Modern Texts.

Kerschbamer, R. and Müller, D. (2020). Social preferences and political attitudes: An online experiment on a large heterogeneous sample, *Journal of Public Economics* **182**: 104076.

Kish Bar-On, K., Dimant, E., Lelkes, Y. and Rand, D. G. (2024). Unraveling polarization:

Insights into individual and collective dynamics, *PNAS nexus* **3**(10): pgae426.

Knobloch, K. R., Barthel, M. L. and Gastil, J. (2020). Emanating effects: The impact of the Oregon citizens' initiative review on voters' political efficacy, *Political Studies* **68**(2): 426–445.

Lafont, C. and Urbinati, N. (2024). *The Lottocratic Mentality: Defending Democracy against Lottocracy*, Oxford University Press.

Landemore, H. (2020). *Open democracy: Reinventing popular rule for the twenty-first century*, Princeton University Press.

Landemore, H. (2026). *Politics Without Politicians: The case for citizen rule*, Penguin Random House.

Landier, A. and Thesmar, D. (2025). *The Price of Our Values: The Economic Limits of Moral Life*, University of Chicago Press.

Levitt, S. D. and List, J. A. (2009). Field experiments in economics: The past, the present, and the future, *European Economic Review* **53**(1): 1–18.

Liang, H. and Renneboog, L. (2017). On the foundations of corporate social responsibility, *Journal of Finance* **72**(2): 853–910.

Lusardi, A. and Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence, *Journal of Economic Literature* **52**(1): 5–44.

Lusardi, A. and Mitchell, O. S. (2017). How ordinary consumers make complex economic decisions: Financial literacy and retirement readiness, *Quarterly Journal of Finance* **7**(03): 1750008.

Mansbridge, J. (2010). Deliberative polling as the gold standard, *The Good Society* **19**(1): 55–62.

Már, K. and Gastil, J. (2020). Tracing the boundaries of motivated reasoning: How deliberative minipublics can improve voter knowledge, *Political Psychology* **41**(1): 107–127.

May, K. O. (1952). A set of independent necessary and sufficient conditions for simple majority decision, *Econometrica* pp. 680–684.

McCahery, J. A., Sautner, Z. and Starks, L. T. (2016). Behind the scenes: The corporate governance preferences of institutional investors, *Journal of Finance* **71**(6): 2905–2932.

Mill, J. S. (1863). *Utilitarianism*, Parker, Son, and Bourn, London.

Naaraayanan, S. L., Sachdeva, K. and Sharma, V. (2026). The real effects of environmental activist investing, *Review of Financial Studies, forthcoming* .

Niemeyer, S., Veri, F., Dryzek, J. S. and Bächtiger, A. (2024). How deliberation happens: Enabling deliberative reason, *American Political Science Review* **118**(1): 345–362.

Parkinson, J. (2006). *Deliberating in the real world: Problems of legitimacy in deliberative democracy*, Oxford University Press.

Parkinson, J. and Mansbridge, J. (2012). *Deliberative systems: Deliberative democracy at the large scale*, Cambridge University Press.

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

Pástor, L., Stambaugh, R. F. and Taylor, L. A. (2022). Dissecting green returns, *Journal of Financial Economics* **146**(2): 403–424.

Pástor, L., Stambaugh, R. F. and Taylor, L. A. (2023). Green tilts, *Technical report*, National Bureau of Economic Research.

Pástor, L., Stambaugh, R. F. and Taylor, L. A. (2025). Green tilts, *Technical report*, National Bureau of Economic Research.

Pedersen, L. H. (2025). Can sustainable finance save the planet?, *Journal of Finance: Insights and Perspectives, forthcoming* .

Pedersen, L. H., Fitzgibbons, S. and Pomorski, L. (2021). Responsible investing: The ESG-

efficient frontier, *Journal of Financial Economics* **142**(2): 572–597.
Rawls, J. (1971). A theory of justice, *Applied ethics*, Routledge, pp. 21–29.
Riedl, A. and Smeets, P. (2017). Why do investors hold socially responsible mutual funds?, *Journal of Finance* **72**(6): 2505–2550.
Ryan, M. and Smith, G. (2014). Defining mini-publics, *Deliberative mini-publics: Involving citizens in the democratic process* pp. 9–26.
Sen, A. (1979). Utilitarianism and welfarism, *Journal of Philosophy* **76**(9): 463–489.
Slager, R., Chuah, K., Gond, J.-P., Furnari, S. and Homanen, M. (2023). Tailor-to-target: Configuring collaborative shareholder engagements on climate change, *Management Science* **69**(12): 7693–7718.
Smith, G. (2009). *Democratic innovations: Designing institutions for citizen participation*, Cambridge University Press.
Stantcheva, S. (2023). How to run surveys: A guide to creating your own identifying variation and revealing the invisible, *Annual Review of Economics* **15**(1): 205–234.
Starks, L. T. (2023). Presidential address: Sustainable finance and ESG issues—value versus values, *Journal of Finance* **78**(4): 1837–1872.
Suiter, J., Muradova, L., Gastil, J. and Farrell, D. M. (2020). Scaling up deliberation: Testing the potential of mini-publics to enhance the deliberative capacity of citizens, *Swiss Political Science Review* **26**(3): 253–272.
Teoh, S. H., Welch, I. and Wazzan, C. P. (1999). The effect of socially activist investment policies on the financial markets: Evidence from the south african boycott, *Journal of Business* **72**(1): 35–89.
Van Reybrouck, D. (2025). *De wereld en de aarde: hoe houden we het veilig?*, Bezige Bij bv, Uitgeverij De.
Van Rooij, M. C., Lusardi, A. and Alessie, R. J. (2012). Financial literacy, retirement planning and household wealth, *Economic Journal* **122**(560): 449–478.
Van Rooij, M., Lusardi, A. and Alessie, R. (2011). Financial literacy and stock market participation, *Journal of Financial Economics* **101**(2): 449–472.
Voelkel, J. G., Chu, J., Stagnaro, M. N., Mernyk, J. S., Redekopp, C., Pink, S. L., Druckman, J. N., Rand, D. G. and Willer, R. (2023). Interventions reducing affective polarization do not necessarily improve anti-democratic attitudes, *Nature Human Behaviour* **7**(1): 55–64.
Vossler, C. A., Doyon, M. and Rondeau, D. (2012). Truth in consequentiality: Theory and field evidence on discrete choice experiments, *American Economic Journal: Microeconomics* **4**(4): 145–171.
Zerbib, O. D. (2022). A sustainable capital asset pricing model (s-capm): Evidence from environmental integration and sin stock exclusion, *Review of Finance* **26**(6): 1345–1388.

Figure 1: How Study 1 and Study 2 Interconnect

Figure 1 shows how Study 1 and Study 2 relate. We start with a three-day deliberative mini-public. This mini-public created 49 recommendations to the board. The board decided whether to directly implement these recommendations, disregard them, or ask for broader support. In Study 2, this broader support was tested in a maxi-public field experiment where we asked participants using a binding vote whether they wanted to adopt impact investing (one of the 49 recommendations). Based on this vote, the pension fund decides to increase, keep unchanged, or decrease its impact investing. We have three moments of observation (in blue), one pre-survey on the first day before the mini-public, one post-survey after the mini-public at the end of day 3, and one commitment survey in which we asked participants about their willingness to impact invest their pensions.

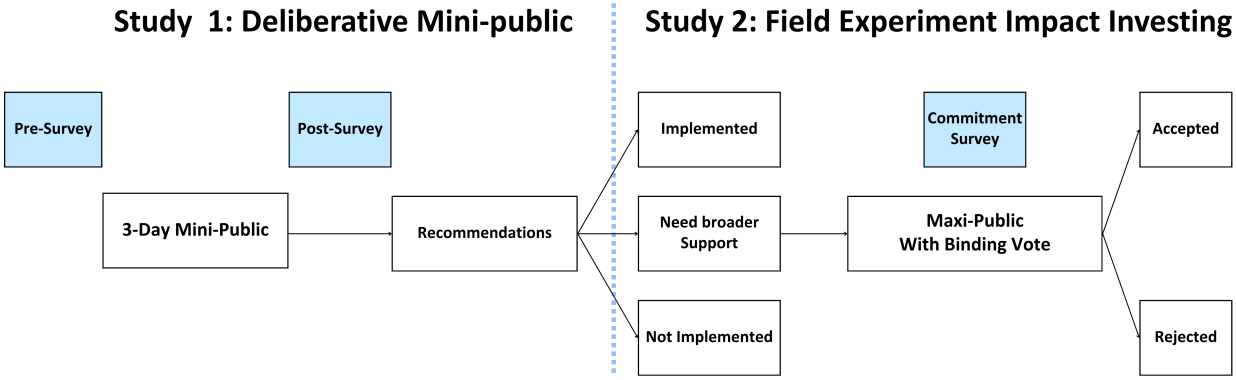
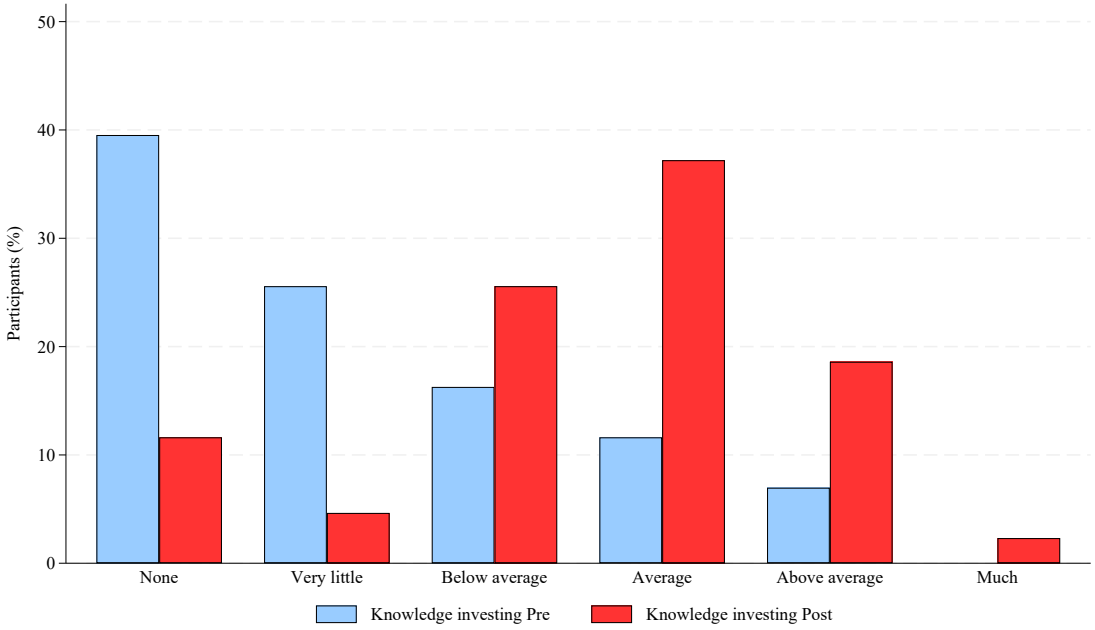


Figure 2: Knowledge through deliberative mini-public (Study 1)

Figure 2 displays participants' self-assessed investing and sustainable investing knowledge in Panels A and B. The deliberative nature of the mini-public leads us to ask participants to self-assess their knowledge of (sustainable) investing rather than quizzing participants. This ensured an open and inclusive environment in which participants could express their opinions, regardless of their prior knowledge levels. We display answers to the question: *My knowledge on (sustainable) investing is: None, very limited, below average, average, above average, much, very much.*. We asked these questions before the mini-public on the first day (blue) and after the mini-public on the third day (red). Results originate from Study 1.

Panel A: Investing Knowledge



Panel B: Sustainable Investing Knowledge

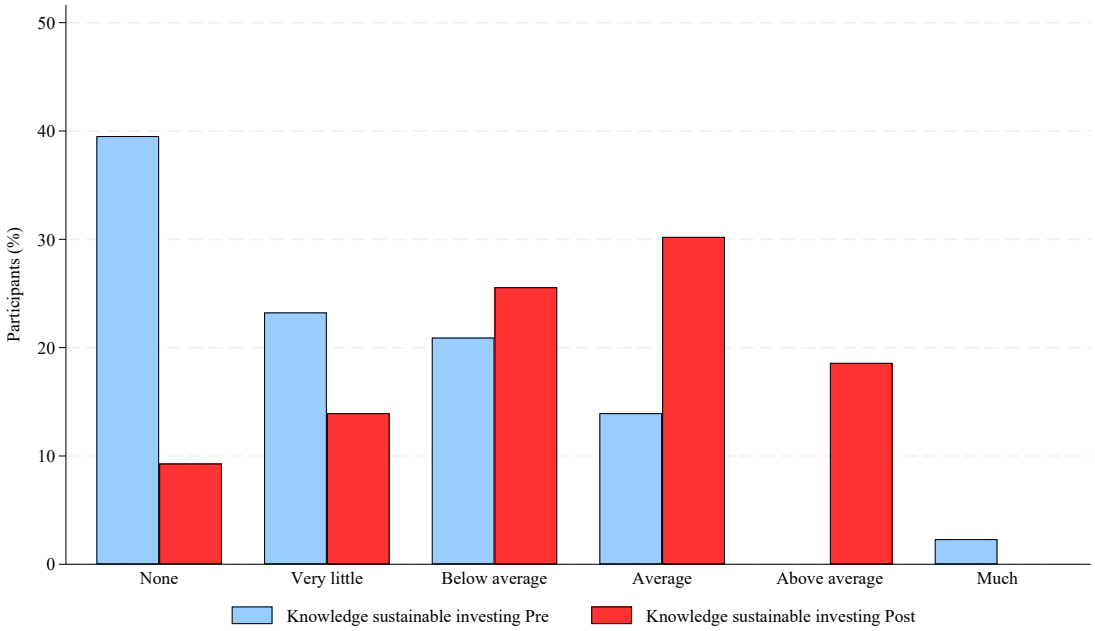
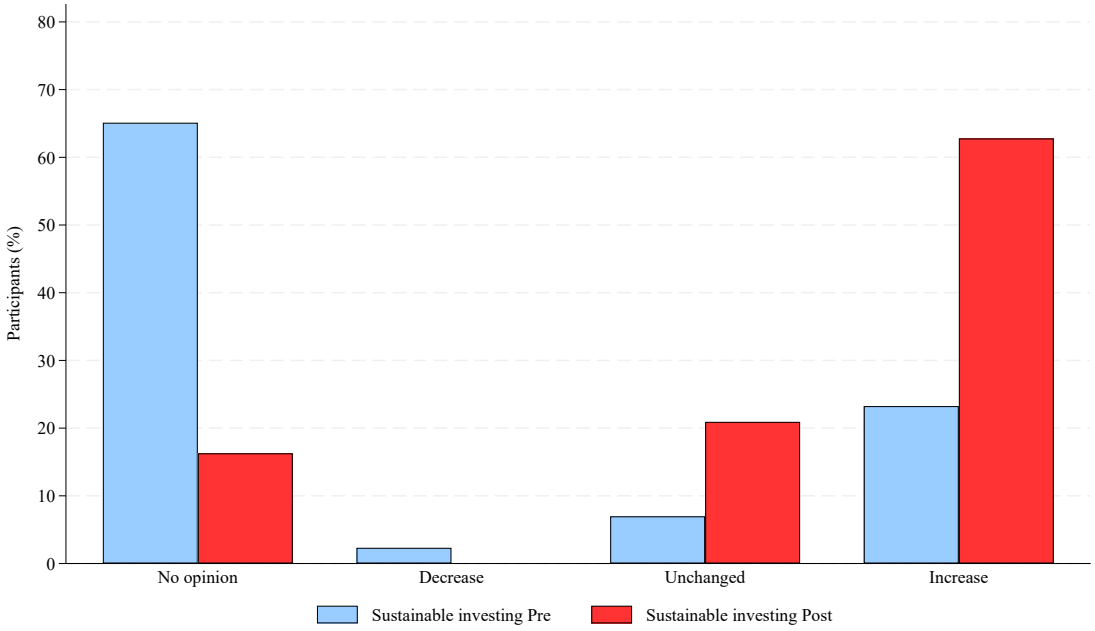


Figure 3: Extensive margin of sustainable investing (Study 1)

Figure 3 displays participants' answers to the question: *I want Pensioenfonds Detailhandel's sustainable investing to increase, keep unchanged, or decrease.* In blue, you find participants' answers before the start of the deliberative mini-public on day 1. In red, you will find answers to an identical question after the deliberative mini-public at the end of day 3. Panel A displays the results, including responses with "I do not know/no opinions". Panel B illustrates the distribution of participants' willingness to invest sustainably, excluding those who did not know or did not express an opinion. Results originate from Study 1.

Panel A: Willingness to invest sustainably



Panel B: Willingness to invest sustainably without "No opinion"

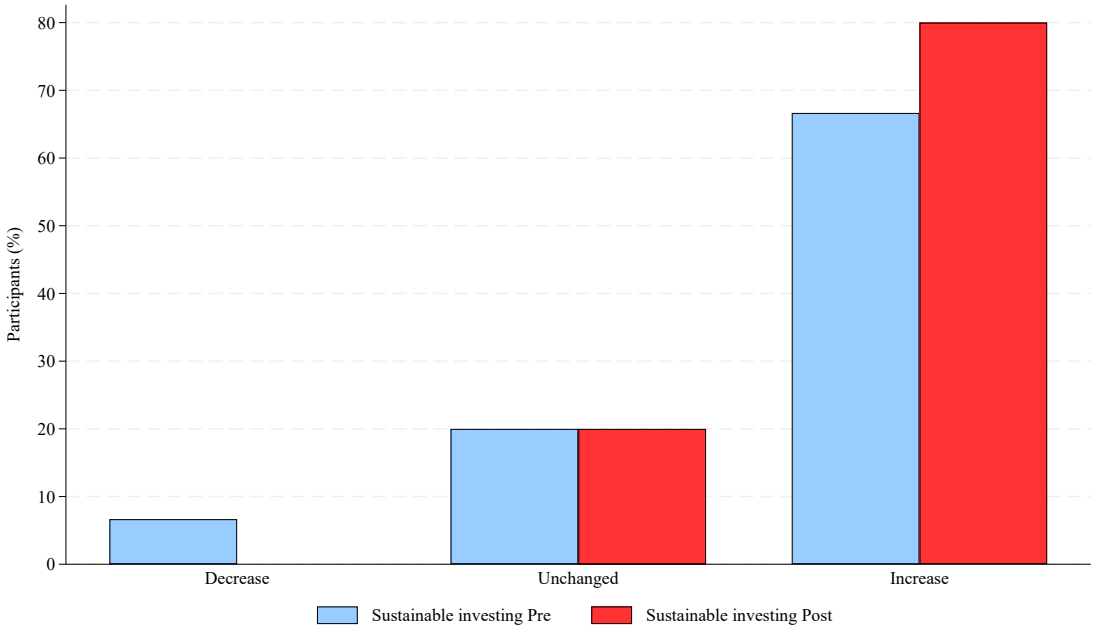
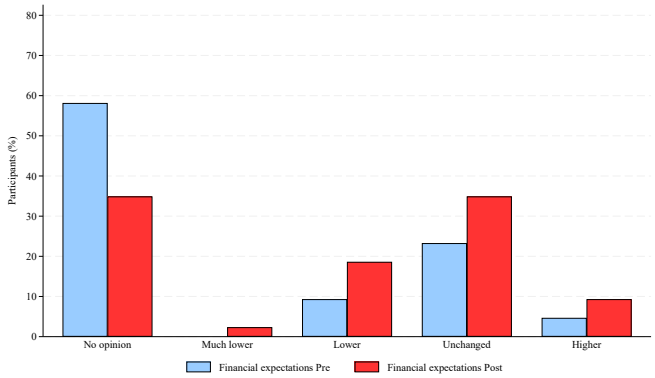


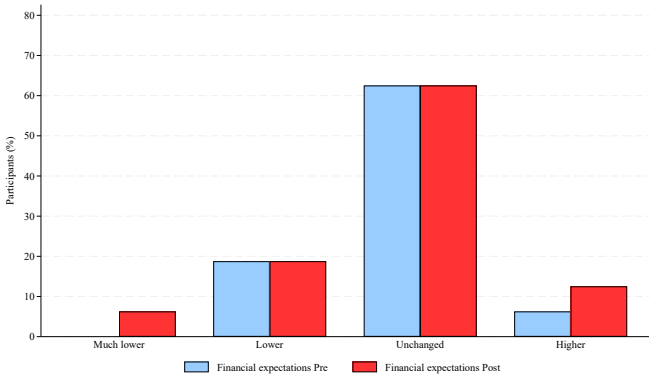
Figure 4: Financial return expectations and impact beliefs (Study 1)

Figure 4 assesses how participants think about the return expectations and expected impact of sustainable investing before and after the mini-public. Panel A displays participants' answers to the question: *I expect my pension payments at retirement with sustainable investing to be: much lower, lower, unchanged, higher, or much higher*. Panel B shows financial expectations excluding the 'no-opinion' category, as a high proportion of participants indicated they have no opinion or are unsure about the financial implications of sustainable investing. Panel C shows answers to: *I expect the impact of my pension investments with sustainable investing on environmental and social issues to be: much lower, lower, unchanged, higher, or much higher.* We asked these questions before the mini-public on the first day (blue) and after the mini-public on the third day (red). Results originate from Study 1.

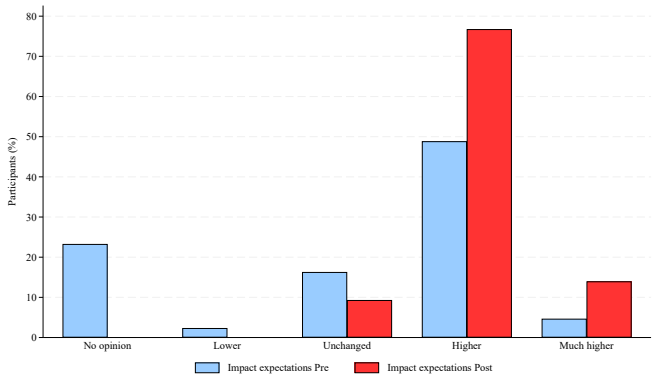
Panel A: Financial Expectations



Panel B: Financial Expectations without "No opinion"



Panel C: Impact Beliefs



Panel D: Impact Beliefs without "No opinion"

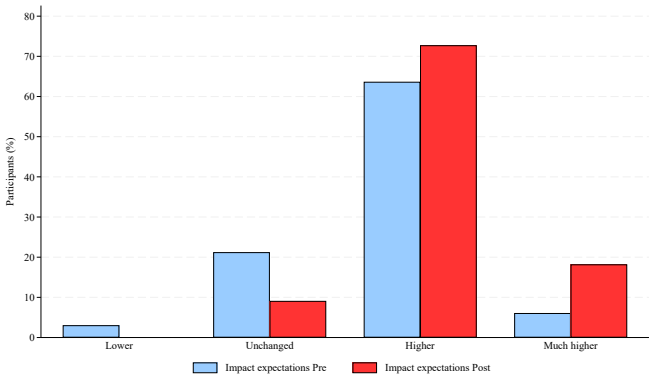


Figure 5: Sustainable investment motives (Study 1)

Figure 5 displays participants' answers to the question: *Which of the following statements best reflects your preferences for sustainable investing? I want Pensioenfonds Detailhandel to perform sustainable investing: (1) I have no opinion, (2) I do not want Pensioenfonds Detailhandel to invest sustainably, (3) when it increases my pension payments at retirement, (4) for social norms or moral reasons. I do not want to invest in firms with a negative influence on the environment or society. I am indifferent as to whether my investments have a real influence on these firms, nor whether this might entail potential reductions in pension payments at retirement, (5) if it has a positive impact on the environment, climate change, nature, and social issues. I am indifferent whether this could have potential negative consequences on my pension payments at retirement.* We code these answers as no opinion, no sustainable investing, profit-oriented, deontological, and consequentialist views, respectively. We asked these questions before the mini-public on the first day (blue) and after the mini-public on the third day (red). Results originate from Study 1.

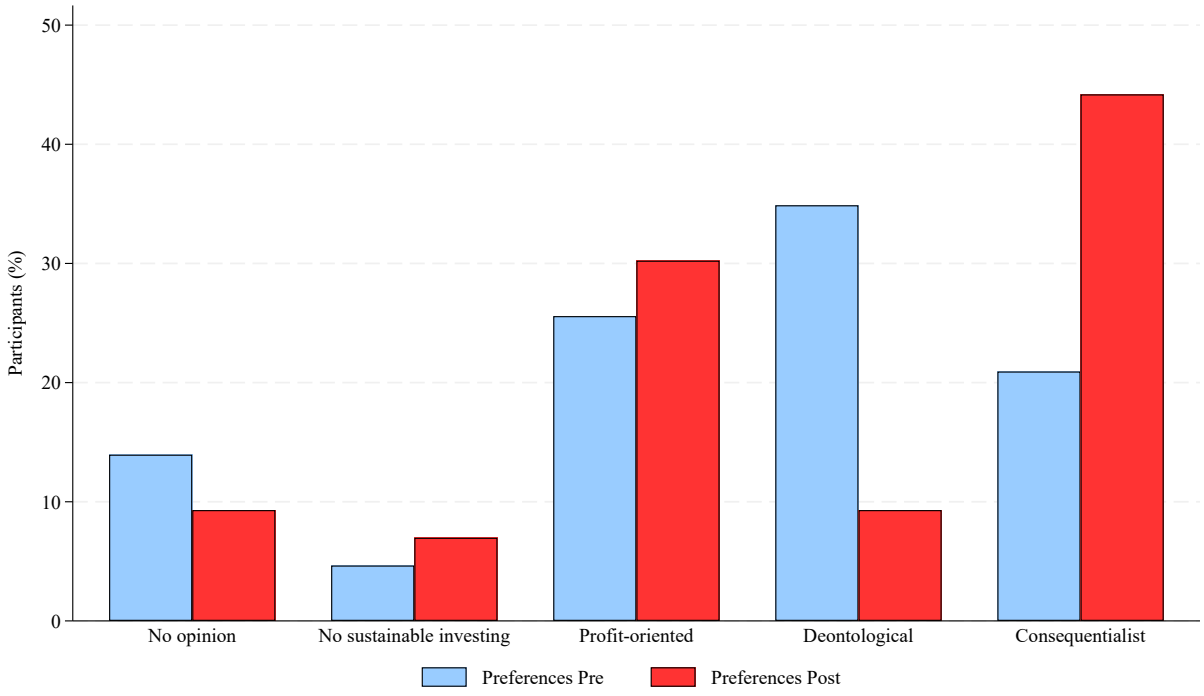


Figure 6: Deliberative mini-public participants' willingness for expanding impact investing (Study 2)

Figure 6 replicates the results of Figure 9 for participants originally partaking in the survey. It displays the answer to the question: *What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?*. Error bars represent 95% confidence intervals. Results originate from Study 2.

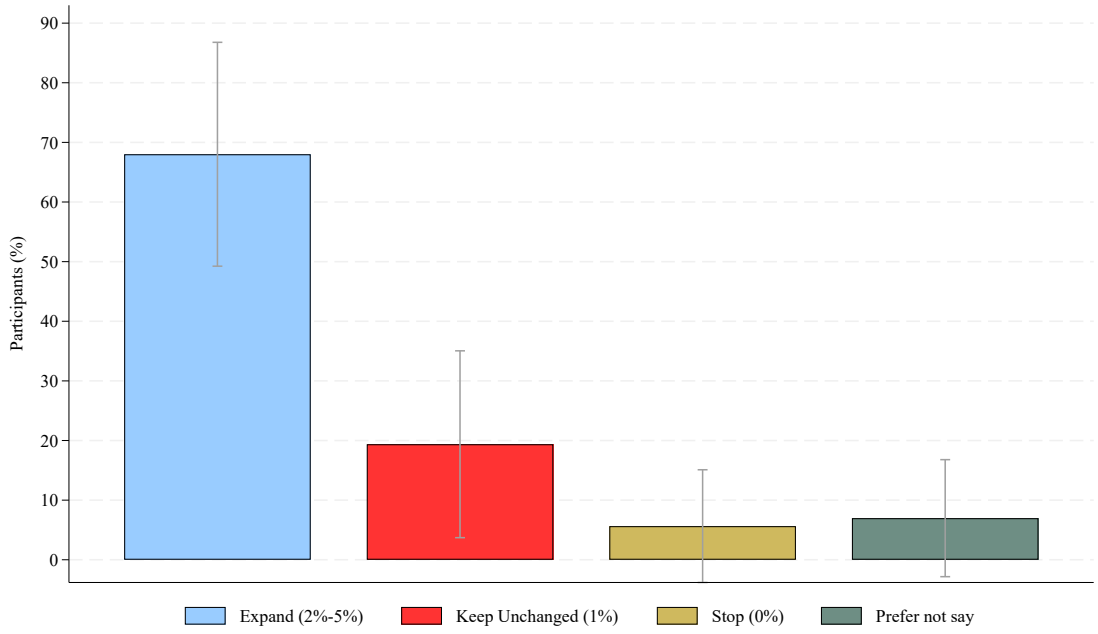


Figure 7: Survey Flow (Study 2)

Figure 7 displays the survey overview of Study 2. We begin with a loading page on impact investing and the consequential choices made by participants. After that, participants receive general information on impact investing. Subsequently, we divide the sample into three groups: 30% who receive information on the choices of mini-public participants from Study 1 on impact investing, 30% of participants who receive identical information but are not informed that it stems from a deliberative mini-public, and 40% of participants who serve as a control group. Consecutively, participants face three binding votes where they can choose the amount (0% to 5% of AUM) of impact investment at Pensioenfonds Detailhandel, the location (the Netherlands, developed countries, developing countries, or a mix), and the topic (environmental, social, or a mix). Lastly, we request demographic information and test if participants understood the definition of impact investing.

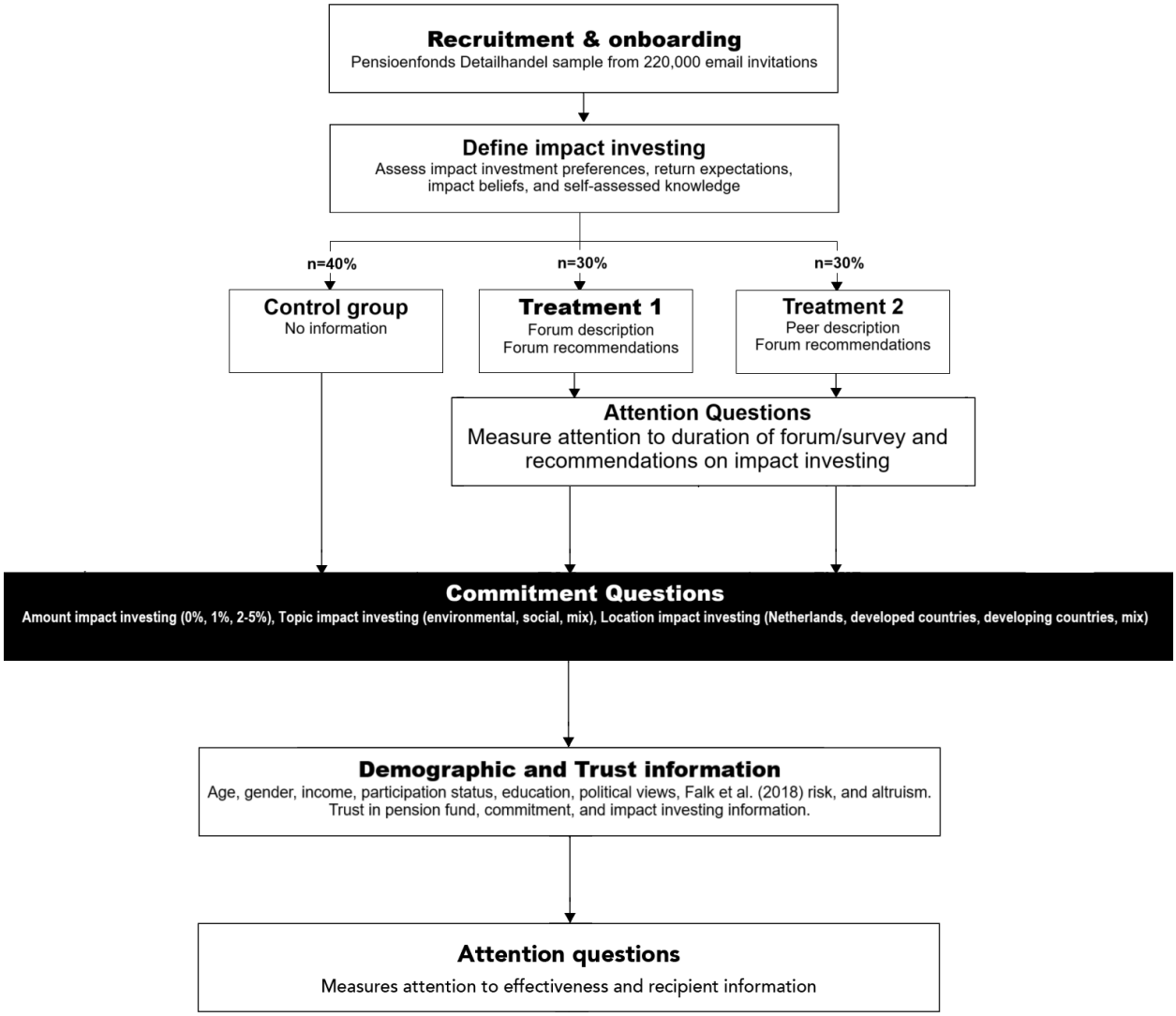


Figure 8: Information Treatment (Study 2)

Figure 8 displays the recommendations from the deliberative mini-public survey that treated participants received information about. Both treatments received the same pictogram, but only the mini-public treatment group was informed that it originated from a 3-day deliberative mini-public, as well as details on what such a mini-public entails. This enables us to separately analyze whether the general population of Pensioenfonds Detailhandel participants follows deliberative mini-public recommendations, as well as the knowledge that these recommendations originate from a mini-public. Alongside the pictograph, both treatment groups receive information on the representativeness of the information and that it is retrieved from their peers, as well as knowledge of the upcoming vote to draw their attention to the information. For simplicity, we omitted "I have no preference/do not know" answers in this pictograph, resulting in slight variations from the numbers reported elsewhere in this paper. For the exact text, see Appendix D.

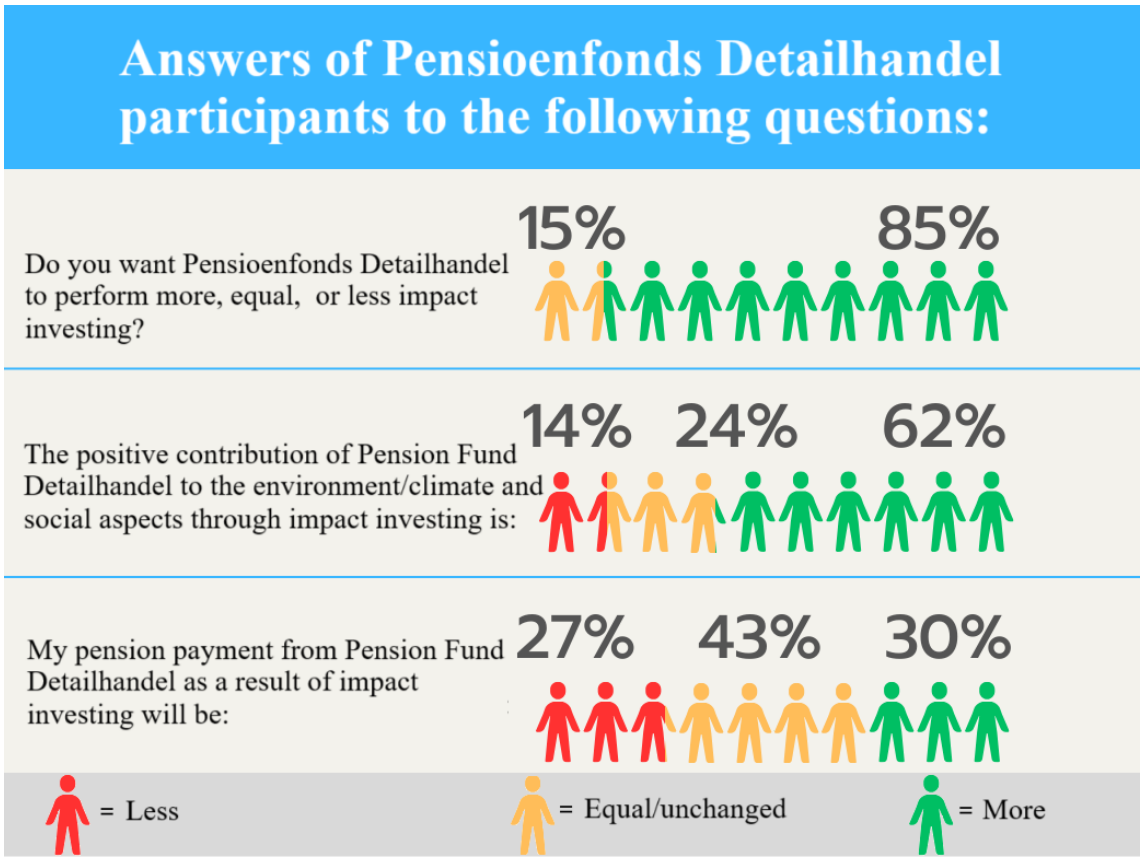
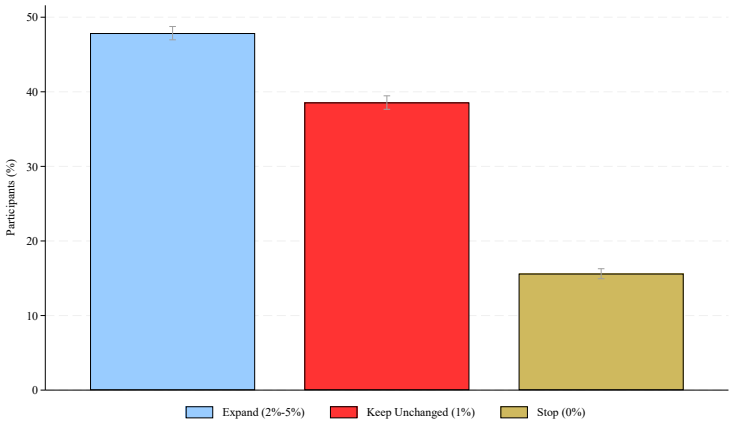


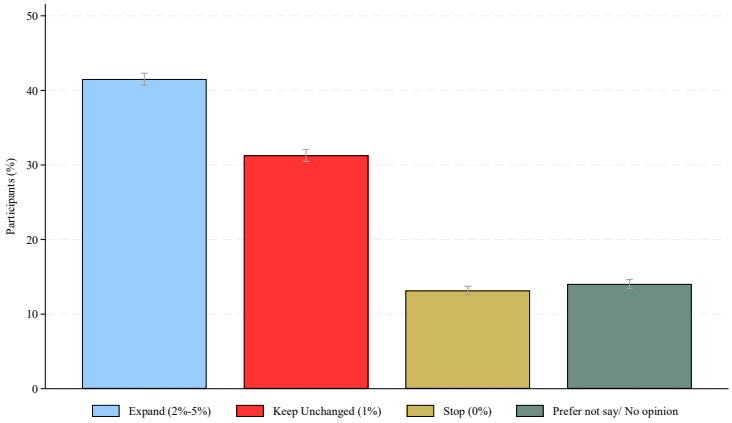
Figure 9: Extensive margin of Impact Investing (Study 2)

Figure 9 Panel A displays the share of participants who voted to expand (2%-5%, blue), keep unchanged (1%, red), or stop (0%, brown) impact investing. It displays the answer to the question: *What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?* Panel B also displays the share of I do not know/no opinion votes. Panel V splits participants' answers across the control group (blue), the peer information treatment group (red), and the mini-public information treatment group (brown). The most chosen answer will be implemented by the pension fund. Participants are notified of this commitment in the survey; for the exact text, see Appendix D. Error bars represent 95% confidence intervals. Results originate from Study 2.

Panel A: Full sample



Panel B: Full sample including no opinion



Panel C: Control group, peer treatment, and mini-public treatment

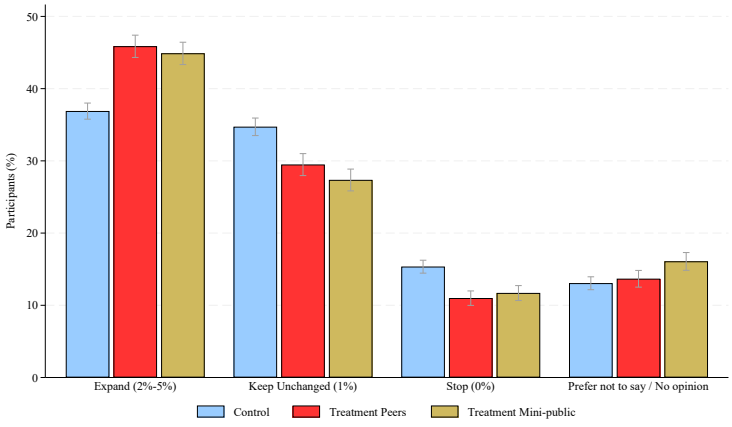
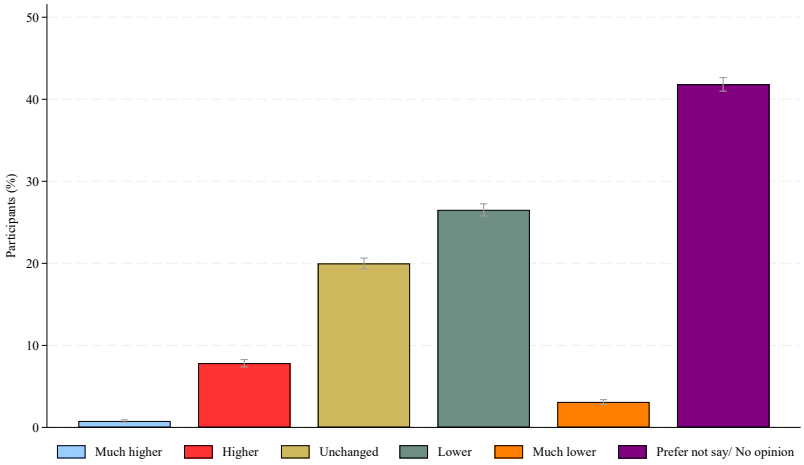


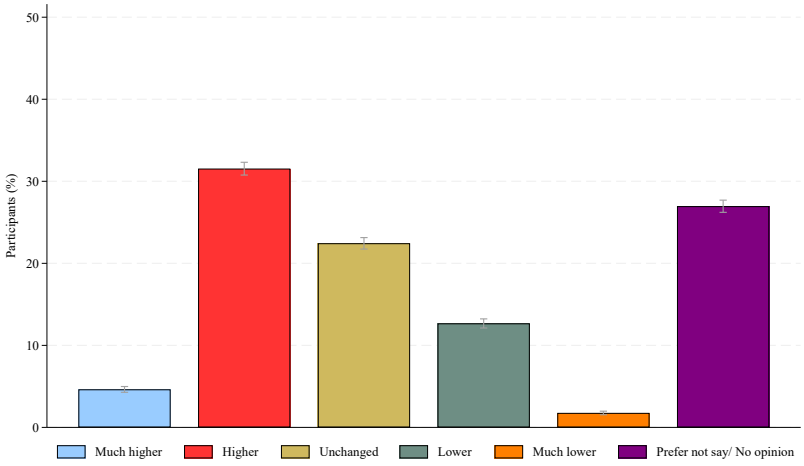
Figure 10: Risk, return, and impact of impact investing (Study 2)

Figure 10 displays participants' answers to the questions: *My pension payments at retirement, compared to a scenario without sustainable investing, are*, *The financial risks of impact investing, compared to regular investing, in my opinion are*, and *The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is*, respectively in Panels A, B, and C. Error bars display a 95% confidence interval.

Panel A: Return expectations



Panel B: Risk perception



Panel C: Impact beliefs

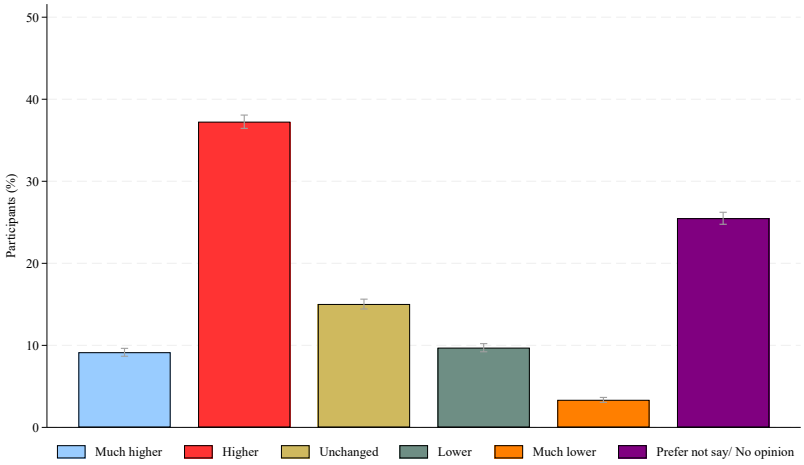


Figure 11: Political divide and impact investing (Study 2)

Figure 11 displays the average percentage of participants that voted for expanding impact investing across the political spectrum. The political divide, or difference between left-wing and right-wing participants, is indicated by the arrow. It reflects a 24.5 percentage point difference, the distance between the 51.4% support for left-wing participants, and the 26.8% support for right-wing participants. Treatment of right-wing participants increase the share of expansion votes by 6.9 and 7.8 percentage points, or between 28.2% to 31.8% of the political divide for mini-public and peer treatments, respectively. Means conditional on political affiliation are selected in the first two bars. Adjustments are made to the right-wing bar using estimates from Table 5, Panel B. Participants who did not declare a political affiliation are omitted from this analysis. Results originate from Study 2.

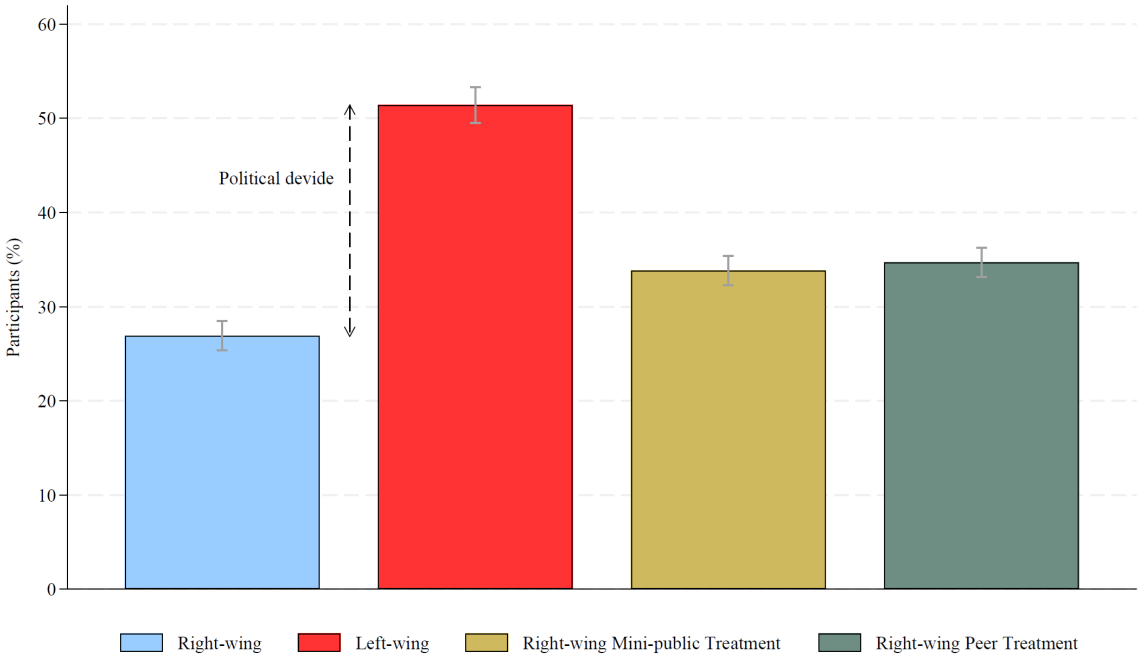


Table 1: Summary statistics (Studies 1 & 2)

This table describes summary statistics of the deliberative mini-public participants in Study 1 in Panel A and the broader pension participant group of Study 2 in Panel B. For Study 1, we report the demographics of participants who completed the mini-public (N = 43). The four dropouts originated from a flu epidemic in the Netherlands around the time of the mini-public, and their demographics are statistically equivalent ($p < 0.05$). Political leaning is assessed on a 1 (extreme left) to 10 (extremely right) scale following the World Values Survey. Prioritization for the environment or profits is also in the World Value Survey format. Postal area captures buckets of ZIP codes. Highly educated indicates the completion of a university or higher vocational education degree. Return expectations are defined as participants expecting impact investing to generate higher or much higher, the same, or lower and much lower pension payments at retirement compared to conventional investing. *Sustainable investment motives* indicate participants' answers to the sustainable investment motives question. Participation status in the pension fund is *Current Contributor* when the participant of our survey currently works in the retail sector, *Former Contributor* when the participant does not work in the retail sector, and *Retired* when the participant is currently receiving a pension from the pension fund. *Definition Impact Investing* is equal to 1 when participants can distinguish impact investing from conventional investing or charity at the end of the Study 2 survey. *Treatment Nature* and *Treatment Amount* are equal to one when participants answered the control question on how the information was collected (3-day mini-public or 15-minute survey) and how many participants voted for expanding impact investing). For an exact coding of each variable, see Table B1. Results originate from Study 1 and Study 2.

	Mean	**Median**	**s.d.**	**N**
Panel A. Study 1				
Demographics				
Female	58.1%	1.0%	49.9%	43
Age	47.0	46.0	15.7	43
Political leaning (1-10)	4.78	5.00	2.14	27
Participation status				
Active contributors	62.3%	100.0%	48.6%	43
Former contributors	26.4%	0.0%	44.1%	43
Retired	11.3%	0.0%	31.7%	43
Financial background				
Monthly net income	2,282	2291	790	43
Low income (€0 to €2,000)	48.8%	0.0%	50.6%	43
Middle income (€2,000 to €3,000)	25.6%	0.0%	44.1%	43
High income (above €3,000)	25.6%	0.0%	44.1%	43
Country of birth				
Netherlands born, and both parents Netherlands born	76.7%	100.0%	42.7%	43
Netherlands born, parent(s) born abroad	9.3%	0.0%	29.4%	43
Born abroad	14.0%	0.0%	35.1%	43
Prioritization environment or economy				
Environment	62.8%	100.0%	49.9%	43
Economy	23.3%	0.0%	42.7%	43
Don't know	14.0%	0.0%	35.1%	43
Postcode area				
1000–1999	23.3%	0.0%	42.7%	43
2000–2999	11.6%	0.0%	32.4%	43
3000–3999	25.6%	0.0%	44.1%	43
4000–4999	2.6%	0.0%	15.2%	43
5000–5999	11.6%	0.0%	32.4%	43
6000–6999	16.3%	0.0%	37.4%	43
7000–7999	7.0%	0.0%	25.8%	43
8000–8999	2.3%	0.0%	15.2%	43
Panel B. Study 2				
Demographics				
Female	44.5%	0.0%	49.7%	13,691
Age	62.6	67.0	15.1	13,691

(Continued)

	Mean	Median	s.d.	N
Highly educated	30.9%	0.0%	46.2%	13,653
Education missing	0.3%	0.0%	5.3%	13,691
Participation status				
Current contributor	36.1%	0.0%	48.0%	13,691
Former contributor	12.1%	0.0%	32.6%	13,691
Retired	51.9%	100.0%	50.0%	13,691
Financial background				
Monthly net *household* income	3,567	3,500	1,891	11,616
High income (above €4,000)	24.6%	0.0%	43.1%	13,691
Middle income (€2,500 to €4,000)	32.9%	0.0%	47.0%	13,691
Low income (€0 to €2,500)	27.3%	0.0%	44.6%	13,691
Income missing	15.2%	0.0%	35.9%	13,691
Financial return expectations				
Pension payments at retirement				
Higher	8.6%	0.0%	28.0%	13,691
Unchanged	20.0%	0.0%	40.0%	13,691
Lower	29.6%	0.0%	45.7%	13,691
Missing	41.8%	0.0%	49.3%	13,691
Impact beliefs				
Environmental and social consequences				
Higher	46.4%	0.0%	49.9%	13,691
Unchanged	15.0%	0.0%	35.7%	13,691
Lower	13.1%	0.0%	33.7%	13,691
Missing	25.5%	0.0%	43.6%	13,691
Sustainable investment motives				
No sustainable investing	15.44	0.00	36.14	13691
No opinion	11.40	0.00	31.78	13691
Profit-maximizing	42.84	0.00	49.49	13691
Deontology	15.02	0.00	35.73	13691
Consequentialist	15.29	0.00	35.99	13691
Control questions				
Definition impact investing	67.5%	100.0%	46.8%	13,691
Treatment nature	70.1%	100.0%	45.8%	7,466
Treatment amount	62.0%	100.0%	48.6%	7,466

Table 2: Demographic Representativeness (Studies 1 & 2)

This stable tests the demographic representativeness of Study 1 & 2 samples relative to the Pensioenfonds Detailhandel population of participants' demographics. We analyze representativeness on participants' age, gender, and monthly net income across surveys. Columns (1) to (3) display pension fund population (s.d. in parentheses), Study 1, and Study 2 demographics. We test the representativeness of more variables for Study 1 due to stratified random sampling. Ethnicity and postal codes are computed using country-level averages from the Bureau of Labor Statistics (CBS). Prioritization of environmental or financial issues is collected from the World Value Survey averages for the Netherlands. For Study 2, we solely asked for information on the monthly net household income of participants, not their personal monthly income. We corrected this number by dividing it by a multiplier of 1.49, matching the Dutch average between individual and household income (CBS, 2022). The pension fund has only income information available for active participants (n=366,882) and pension payment amounts of retirees (n=168,859). To compute means and standard deviations of monthly net income, we assume active and inactive contributors earn a similar wage. Moreover, we convert retiree pension payments to monthly income by adding the Dutch government retirement pension, correcting for marital status (European Commission, 2025), and assuming retirees had one additional pension of equal value in another branch. Columns (4) and (5) display the p-values of a two-sided t-test on their difference. Results originate from Study 1 and Study 2.

	Participants Pension fund *(n=1,287,674)* (1)	Participants Study 1 *(n=43)* (2)	Participants Study 2 *(n=13,691)* (3)	Δ(1) vs. (2) *p-values* (4)	Δ(1) vs. (3) *p-values* (5)
Demographics					
Female	58.61% (49.3%)	58.14% (49.9%)	44.49% (49.7%)	0.952	0.000
Age	45.5 (16.3)	47.0 (15.7)	62.6 (15.1)	0.539	0.000
Net income	2,661 (796)	2,282 (790)	2,396 (1,221)	0.002	0.000
Ethnicity					
Netherlands born	75.3% (43.1%)	76.7% (42.7%)	-	0.951	-
Parent(s) foreign	11.6% (32.0%)	9.3% (29.4%)	-	0.829	-
Born abroad	14.5% (35.2%)	14.0% (35.1%)	-	0.606	-
Prioritization					
Environment	61.8 (48.6%)	62.8% (49.9%)	-	0.893	-
Economy	23.5 (42.4%)	23.3% (42.7%)	-	0.975	-
Don't know	14.7 (35.4%)	14.0% (35.1%)	-	0.895	-
Postcode area					
1000–1999	16.4% (37.0%)	23.3% (42.7%)	-	0.291	-
2000–2999	13.9% (34.6%)	11.6% (32.4%)	-	0.640	-
3000–3999	16.4% (37.0%)	25.6% (44.1%)	-	0.174	-
4000–4999	9.1% (27.3%)	2.6% (15.2%)	-	0.011	-
5000–5999	13.5% (34.2%)	11.6% (32.4%)	-	0.699	-
6000–6999	10.2% (30.3%)	16.3% (37.4%)	-	0.285	-
7000–7999	10.0% (30.0%)	7.0% (25.8%)	-	0.445	-
8000–8999	6.1% (23.9%)	2.3% (15.2%)	-	0.104	-

Table 3: Consistency in sustainable investment motives

Table 3 displays the persistence of participants' sustainable investment motives during the third day of the deliberative mini-public and a year later in a follow-up maxi-public survey (Study 2) using transition matrices.

Maxi-public (Study 2)	Deliberative mini-public (Study 1)					
	No opinion	No sustainable investment	Profit-oriented	Deontological	Consequentialist	Total
No opinion	0	0	0	0	0	0
No sustainable investment	0	1	0	0	0	1
Profit-oriented	3	0	2	0	2	7
Deontological	1	1	2	3	4	11
Consequentialist	0	0	1	1	9	11
Total	4	2	5	4	15	30

Table 4: Political Representativeness (Study 2)

This stable tests the political representativeness of Study 2 participants relative to the Dutch population's voting behavior. We display a comparison of reported voting behavior within our sample (Columns (1) and (2)) with the official 2023 Dutch parliamentary election results (Column (3)). Column (4) displays the p-values of a t-test between the Pensioenfonds Detailhandel sample mean and the political voting of the Netherlands. Results originate from Study 2.

	Reported voting behavior (n=10,826)		**Official 2023 Voting results** (n≈10.5m)	Δ(2) vs. (3) *p-values two-sided t-test*
	Absolute (1)	**Relative** (2)	(3)	(4)
Prefer not to answer				
Answered	11,912	87.01%		
Prefer not to answer	1,779	12.99%		
Voting selection				
Voted in 2023	10,826	90.88%	77.75%	
Did not vote in 2023	1,086	9.12%	22.25%	
Political leaning				
Right-wing	7,504	69.31%	66.60%	0.000
Left-wing	3,322	30.08%	31.52%	0.001
Reported party				
Partij voor de Vrijheid (PVV)	2,010	18.57%	23.49%	0.000
GroenLinks/Partij van de Arbeid (PvdA)	1,626	15.02%	15.75%	0.033
Volkspartij voor Vrijheid en Democratie (VVD)	2,238	20.66%	15.24%	0.000
Nederland Scoaial Contract (NSC)	1,612	14.89%	12.88%	0.000
Democraten 66 (D66)	650	6.00%	6.29%	0.204
Boer Burger Beweging (BBB)	386	3.57%	4.65%	0.000
Christen-Democratisch Appèl (CDA)	698	6.45%	3.31%	0.000
Socialistische Partij (SP)	386	3.57%	3.15%	0.019
Denk	15	0.14%	2.37%	0.000
Partij voor de Dieren (PVDD)	370	3.42%	2.25%	0.000
Forum voor Democratie (FvD)	79	0.73%	2.23%	0.000
Staatkundig Gereformeerde Partij (SGP)	170	1.57%	2.08%	0.000
ChristenUnie (CU)	208	1.92%	2.04%	0.363
Volt	209	1.93%	1.71%	0.096
JA21	83	0.77%	0.68%	0.284
Other	86	0.79%	1.88%	0.000

Table 5: The motives of Impact Investing (Study 2)

This table regresses participants' willingness to expand impact investing on demographic information and moral views. In Columns (1) to (5), we respectively introduce sustainable investment motives with no impact investing as reference category; political affiliation; financial return expectations and income beliefs; income; and age, gender, & education. Highly educated is an indicator variable equal to 1 if participants have a university or university of applied sciences degree, and 0 otherwise. Column (6) displays the above demographics and preferences measures simultaneously. For all demographics, we replaced observations with sample averages when participants answered "Prefer not to say/no opinion" and introduced indicator variables to prevent losing observations. We introduce indicator variables as missing in the table below (abbreviated as mis.). We use keeping impact investing unchanged, stopping, and no opinion as a reference category. See Table 1 for summary statistics and Appendix B for the exact construction of these variables. Robust standard errors in parentheses. ***, **, and * denotes significance at the 1%, 5%, and 10% level. Results originate from Study 2.

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	**Vote for expanding impact investing (%)**					
Motives No opinion	8.910***					9.587***
	(0.956)					(1.047)
Motives Profit-maximizing	17.838***					13.324***
	(0.732)					(0.764)
Motives Deontology	61.663***					49.257***
	(1.129)					(1.259)
Motives Consequentialist	68.410***					54.182***
	(1.054)					(1.243)
Right-wing		-25.948***				-8.325***
		(0.878)				(0.819)
Right-wing mis.		-14.385***				-3.600***
		(0.891)				(0.815)
Expected return higher			21.843***			19.377***
			(1.555)			(1.459)
Expected return unchanged			15.004***			6.569***
			(1.126)			(1.007)
Expected return missing			-6.846***			-2.953***
			(1.196)			(1.089)
Impact beliefs higher			31.060***			14.383***
			(1.078)			(1.090)
Impact beliefs lower			-1.842			0.453
			(1.245)			(1.205)
Impact beliefs missing			-5.347***			-4.108***
			(1.228)			(1.188)
Age				0.083***		0.138***
				(0.028)		(0.024)
Female				1.576*		1.054
				(0.810)		(0.672)
Highly educated				13.408***		3.869***
				(0.919)		(0.765)
Education missing				-25.898***		-9.477***
				(3.463)		(3.051)
Income high					0.921	-2.665***
					(1.133)	(0.956)
Income median					1.902*	-0.337
					(1.043)	(0.891)
Income mis.					-16.412***	-4.885***
					(1.123)	(0.968)
Observations	13,691	13,691	13,691	13,691	13,691	13,691
Adjusted R-squared	0.285	0.076	0.153	0.017	0.014	0.337

Table 6: Expanding Impact Investing: Mini-public and Peer Treatments (Study 2)

Table 6 regresses two indicator variables equal to 1 for participants who were treated with mini-public and peer information on whether they voted to expand impact investing, with the control group as the reference category. In Panel A, Column (1), this regression is performed without controls. In Columns (2) to (5), we respectively add 2) indicator variables for financial return expectations, 3) demographic controls for age, a female indicator variable, and a higher vocational or university education indicator variable, 4) household income indicator variables, and 5) social preferences and underlying moral views. In Panel B, we examine heterogeneous treatment effects across different political views and participants' trust in their pension fund. Column (1) displays the most stringent specification Panel A analysis as a reference. In Columns (2) and (3), we perform sub-sample analyses for left-wing and right-wing participants. In Column (1), we test for the role of trust, participants' answer to the question *To what extent do you trust Pensioenfonds Detailhandel in general?* on a 1 (low trust) to 10 (high trust) scale following the World Value Survey. We do so by introducing an interaction term with both treatment indicator variables and introducing trust in level terms. Robust standard errors in parentheses. ***, **, and * denotes significance at the 1%, 5%, and 10% level. Results originate from Study 2.

Panel A: Mini-public and peer treatment and voting to expand impact investing

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**Vote for expanding impact investing (%)**				
Mini-public Treatment	7.993***	8.180***	8.328***	8.438***	8.617***
	(0.972)	(0.953)	(0.947)	(0.940)	(0.807)
Peer Treatment	8.975***	8.738***	8.611***	8.704***	7.621***
	(0.971)	(0.956)	(0.949)	(0.944)	(0.809)
Observations	13,691	13,691	13,691	13,691	13,691
Adjusted R-squared	0.008	0.043	0.058	0.069	0.314
Financial Expectations	No	Yes	Yes	Yes	Yes
Demographics	No	No	Yes	Yes	Yes
Financial Background	No	No	No	Yes	Yes
Social Preferences	No	No	No	No	Yes
Mini-public VS Peer Treatment t-test: *(p-value)*	0.378	0.610	0.795	0.805	0.279

Panel B: The political divide and trust across: mini-public and peer treatments

	(1)	(2)	(3)	(4)
VARIABLES	Full sample	Right-wing	Left-wing	Full sample
Mini-public Treatment	8.617***	6.988***	10.824***	-4.653*
	(0.807)	(1.260)	(1.324)	(2.419)
Peer Treatment	7.621***	7.972***	7.450***	-2.478
	(0.809)	(1.308)	(1.286)	(2.478)
Mini-public X Trust				2.008***
				(0.359)
Peer X Trust				1.439***
				(0.389)
Trust				1.505***
				(0.362)
Observations	13,691	5,193	5,633	13,691
Adjusted R-squared	0.314	0.199	0.331	0.322
Financial Expectations	Yes	Yes	Yes	Yes
Demographics	Yes	Yes	Yes	Yes
Financial Background	Yes	Yes	Yes	Yes
Social Preferences	Yes	Yes	Yes	Yes
Mini-public VS Peer Treatment t-test: *(p-value)*	0.279	0.511	0.020	0.381

Internet Appendix

Appendix A Study 1: Deliberative Mini-public Details

A.1 Information provision choice

On Day 1 of the deliberative mini-public, we allowed participants to choose what information to receive during the second day to reduce the likelihood that what we as researchers deemed important would drive ultimate outcomes. Participants did this voting by allocating 25 points each across the topics depicted in list A1. Their ultimate score is depicted in the second Column and half of the topics with the highest score were selected (7 out of 14).

Table A1: Deliberative mini-public Day 2 Information Choices

Participant choices during Day 1 on information provision in Day 2. Participants could allocate 25 points to each category.

Rank	Score	Topic	Name of speaker (if topic selected)
Chosen			
1	195	Pension investments vis-à-vis oil and gas companies	Mark van Baal (Follow This, NGO shareholder engagement)
2	132	Social and environmental dimensions of pension fund investments	Laure Wesselius-Chibrac (Netherlands Advisory Board on impact investing, non-profit organisation)
3	131	Corporate governance	Frank Wagemans (Achmea, insurance company)
4	115	Wage policies and compensation practices in portfolio companies	Ellen Kunst (MN, asset management company)
5	109	External influence in pension funds and sustainable investing	Will-Jan Jacobs (Pension Federation, industry organization of Dutch pension funds)
6	99	Human rights considerations in investment decision-making	Kees Gootjes (ABN-AMRO, bank)
7	92	Pension fund collaboration in investments	Rik Teeuwen (PRI, industry organization)
Not chosen			
8	83	Pension funds and climate change	(not selected)
9	75	Pension investments and nature-loss risks	(not selected)

Rank	Score	Topic	Name of speaker (if topic selected)
10	68	Pension fund investment strategies related to climate risk	(not selected)
11	50	Domestic labor rights considerations in pension fund investments	(not selected)
12	39	Corporate policies and practices on human and labor rights	(not selected)
13	34	Sustainable Fashion	(not selected)
14	32	Pension funds and biodiversity	(not selected)

A.2 Participant perception on the Deliberative mini-public

For deliberative mini-publics to be effective, they must allow participants to express divergent and sometimes conflicting ideas and ideologies on the topic (Mansbridge, 2010; Bardhi and Bobkova, 2023). This is critical in retrieving participants' normative perspectives, as select outspoken participants could otherwise dominate a conversation and drive the outcomes of a mini-public. We validate that participants could speak up and express their views in our survey through their answers to seven validation questions in Figure A1.

Participants were generally supportive of the mini-public's execution. We asked participants whether they had sufficient opportunity to express their opinions, whether fellow participants had time to express their opinions, whether all views were heard, whether they felt their standpoints were respected by fellow participants even though they might have disagreed, whether the process of the mini-public was transparent, whether its meaning for the investing practices of Pensioenfonds Detailhandel was clear, and whether the recommendations of the mini-public were well reflecting the breadth of participants' opinions on sustainable investing. At least 90% of the participants agreed or strongly agreed with six of the seven questions, fewer than 5% disagreed, and no participant strongly disagreed. We observe that 76.7% of participants agreed or strongly agreed that they knew the influence of the deliberative mini-public on Pensioenfonds Detailhandel's investment policy. These questions support the idea that participants could express diverse views during the mini-public and highlight its deliberative nature.

In addition to ensuring that everyone has a fair say in the mini-public, we must also rule out the possibility that a potential bias among experts, who may prefer sustainable investments, could have influenced the results. We selected many potential expert speakers to discuss diverse sustainable investing topics. Although individual participants could choose which experts they wanted to receive information from, it is plausible that experts might have been positively biased toward sustainability. This is not unthinkable, as those who specialize in it could be prone to think it effective.

To rule out this potential bias, we asked participants how they perceived the views of experts versus peers on sustainable investing after the mini-public in Figure A2 Panel A. Although experts appear slightly more positive than their peers, their views are economically similar, with a 0.24 difference on a 7-point Likert scale, equivalent to about a quarter of a standard deviation. To provide further evidence that it is not only expert views that influence participants, we asked them whether experts, peers, a mix of both, or other stakeholders led them to change their views on sustainable investing most, as shown in Panel B. We find that the majority of participants claim both peer and expert communication jointly contributed to shaping their perception of sustainable investing. Accordingly, we validate that experts in a deliberative mini-public shaped participants' beliefs, but propose that a potential bias imposed by them is likely slight, if any, as they were not the only party influencing participants and did not seem substantially different in their views.

Figure A1: Mini-public Validity

Figure A1 displays participants' answers to the following seven questions: *1) I received a fair number of opportunities to express my opinions, 2) Fellow participants had a fair opportunity to express their opinions, 3) Everyone's opinion was heard, 4) Fellow participants respected my opinions even when they disagreed, 5) The process of the deliberative mini-public was transparent and clear, 6) The influence of the deliberative mini-public on Pensioenfonds Detailhandel's investment policy was clear and transparent, 7) The recommendations reflect diverse opinions.* Participants could answer these questions on a 5-point Likert scale, ranging from strongly disagree to strongly agree.

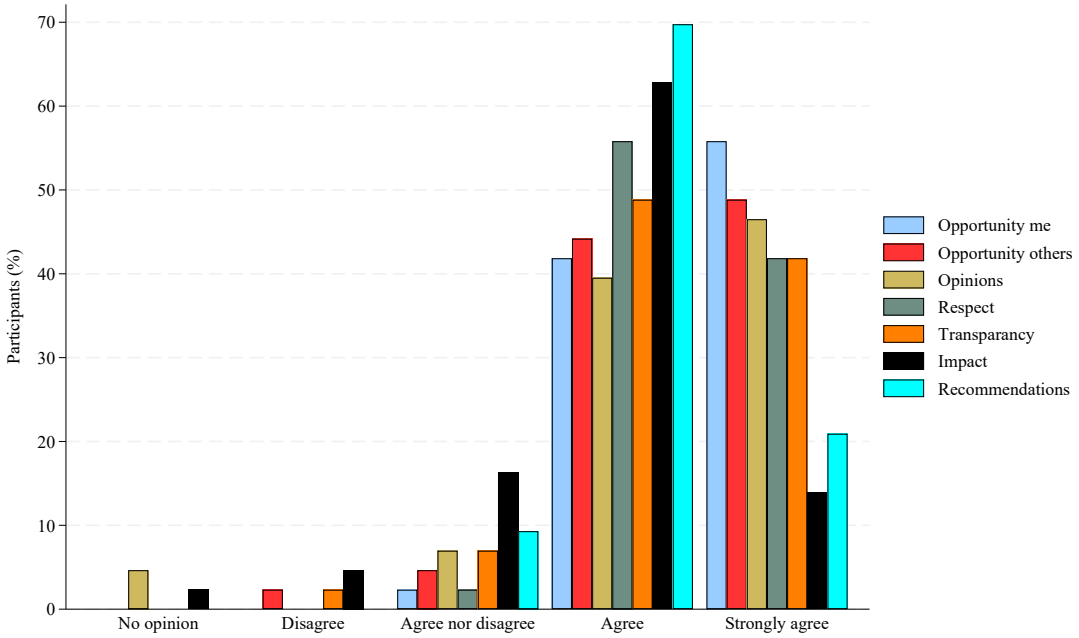
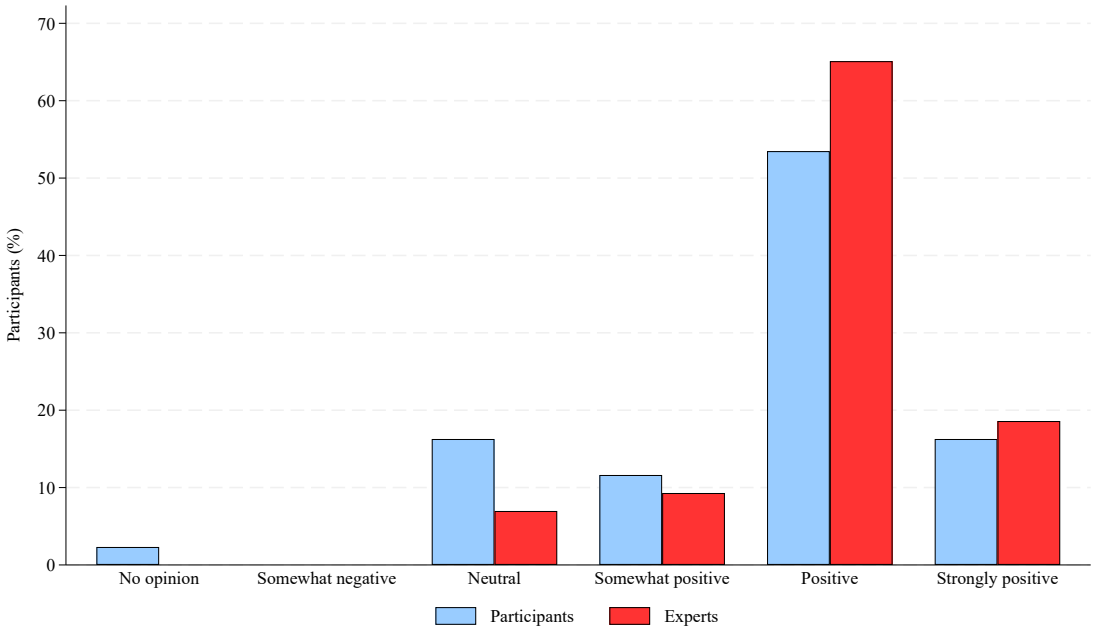


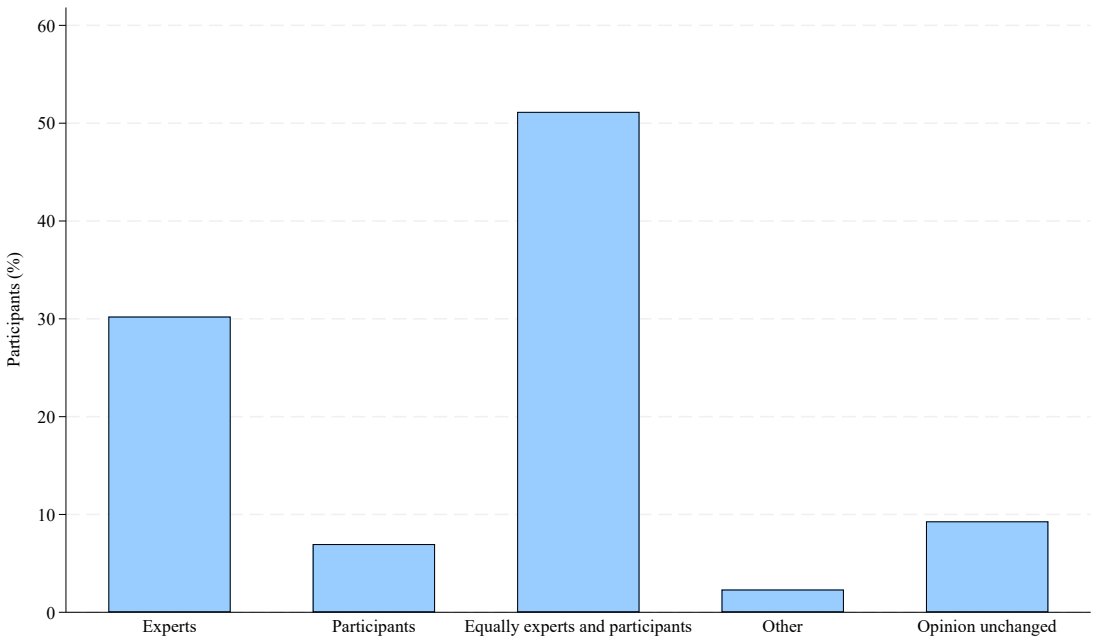
Figure A2: Perception and Learning from Peers and Experts

Figure A2 Panel A displays participants' answers to the questions: *On average, the opinion of Dialogue Participants about sustainable investing was & On average, the opinion of experts about sustainable investing was:* with answers representing a 7-point Likert scale. Panel B reflects the answers of participants on the question: *The dialogues that changed my view on sustainable investing the most were with:* with answers dialogue participants, experts, both dialogue participants and experts, my opinion did not change, I have no opinion, and other.

Panel A: Perception on sustainable investing



Panel B: Impact of experts and participants sustainable investing views



A.3 Persistence of mini-public participants results

How persistent are the choices on impact investing, knowledge, and preferences of mini-public participants? We are interested in whether the knowledge creation, changes in preferences, and ultimate choices on impact investing of participants that took place during the mini-public persist over time one year later. To this end, we asked mini-public participants to participate in Study 2 by offering them a separate €25 incentive to fill out the survey. As mini-public participants created the mini-public treatment information themselves and thus did not need it, we placed all mini-public participants in the control group. Out of the 43 mini-public participants who answered the post-mini-public survey, 30 completed the Study 2 survey.

Mini-public participants in Study 2 vote in line with their choices for impact investing in Study 1, a year earlier. Table A2 Panel A displays a transition matrix of participants' answers to their willingness to impact invest (reduce, keep unchanged, or increase) during the mini-public and during the field experiment. In all cases, participants' answers appeared persistent. Those participants who answered a certain way during the mini-public answered similarly during Study 2, with 22 out of 30 answers being identical in both surveys. Moreover, the most chosen answer in both surveys is to expand impact investing, with a majority of 73.3% and 66.7% in the mini-public and the field experiment, respectively.

Participants display persistence in sustainable investing knowledge and social preferences. Table A2 Panel B plot participants' self-assessed sustainable investing knowledge during the mini-public and Study 2. Participants assessed their knowledge on sustainable investing as roughly similar to or slightly more extensive than they did during the deliberative mini-public. Out of the 30 participants, 14 expressed an identical level of knowledge, 14 more knowledge, and 2 less self-assessed knowledge. Moreover, these participants expressed significantly higher levels of self-assessed knowledge than the general Pensioenfonds Detailhandel population, with a mean of 3.5 compared to the population's 2.5 when knowledge is numerically converted using a 1 to 7 Likert scale.

Table A2: Consistency of Mini-public participants

Table A2 displays the persistence of participants' answers during the third day of the deliberative mini-public and the field experiment using transition matrices. For Panel A, it concerns the question *What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?* Reading from the top down, you see the responses of mini-public participants during the deliberative mini-public. Reading from left to right, you see these participants' responses during the current survey. The diagonal shows the extent of identical answers in both surveys. Panel B asks *How much knowledge do you have about sustainable investing?*. We made these adjustments to the survey as we explain impact investing in more detail, but give less information on sustainable investing in general.

Panel A: More or less impact investing

Field Experiment	Deliberative mini-public (Study 1)				
	Do not know	Reduce	Keep unchanged	Expand	Total
Do not know	1	0	0	1	2
Reduce	0	0	1	1	2
Keep unchanged	1	0	3	2	6
Expand	1	0	1	18	20
Total	3	0	5	22	30

Panel B: Sustainable investment knowledge

Field Experiment	Deliberative mini-public (Study 1)					
	None	Very little	Below average	Average	Above average	Total
None	1	0	0	0	0	1
Very little	1	1	0	1	0	3
Below average	1	2	5	1	0	9
Average	1	2	3	5	2	13
Above average	0	0	1	1	2	4
Total	4	5	9	8	4	30

A.4 Heterogeneity across sustainable investment approaches

We further investigate the role of return expectations and impact beliefs on participants' willingness to expand sustainable investing by examining their inclination to adopt sustainable investing approaches. The social preferences and underlying moral views of participants, i.e., their willingness to invest for impact, deontological, or financial motives, should be consistent for a participant across investment approaches. If this were not the case, scenarios could occur where participants would pursue divestment solely for financial motives, rather than to make an impact on environmental or social issues and engage with firms. This would be inconsistent. Accordingly, the differences in their willingness to adopt sustainable investment approaches should originate from different return expectations and impact beliefs. This provides us with a way to study the role of such return expectations and impact beliefs by keeping social preferences constant.

We asked participants whether they wanted their pension fund to engage in 1) divestment, 2) portfolio tilting, 3) engagement, and 4) impact investing, and assessed their return expectations and impact beliefs. We only asked participants about these approaches at the end of the mini-public, anticipating they would need context to understand them. We defined impact investing as private-market investments only to ensure there is no overlap in approaches. We remain neutral regarding the accuracy of participants' assessments of the return expectations and impact beliefs associated with these sustainable investment approaches; our focus is on separating their preferences from expectations and beliefs.

Assessing the financial, social, and environmental contributions of these approaches is challenging as they are still debated in academic discourse. First, divestment involves excluding and liquidating holdings in firms within certain industries (such as weapons, tobacco, gambling, or alcohol) or those with low sustainable performance (Hong and Kacperczyk, 2009; Duchin, Gao and Xu, 2025). Divestment is generally viewed as a normative approach, where an investor chooses not to take ownership in a firm that misaligns with their ethical considerations (Liang and Renneboog, 2017). From a financial perspective, shrinking the investable universe will deteriorate financial performance due to the loss of diversification (Hong and Kacperczyk, 2009; Pástor et al., 2022). The mechanism of achieving impact lies in its ability to deprive divested firms of access to capital, increase their capital costs, and reduce their growth rates, thereby diminishing the share of sustainable firms in the economy. Second, portfolio tilting implies investors reallocate portfolios to sustainable firms within an industry (Pástor, Stambaugh and Taylor, 2023). The channel for impact is twofold: 1) to starve "unsustainable" firms of capital and 2) to provide them with an incentive to improve. For this approach, the financial burden to sustainable investors directly relates to their impact, which depends on the ability of investors to affect capital costs (Pástor et al., 2023; Berk and Van Binsbergen, 2025; Feldhütter and Pedersen, 2025; Pedersen, 2025) and consequently managerial decisions (Hartzmark and Shue, 2023; Bams and van der Kroft, 2025). Third, engagement consists of private communication with

company management (Dimson et al., 2015; McCahery, Sautner and Starks, 2016; Slager et al., 2023) and submitting environmental and social shareholder proposals (Flammer, 2015). While less is known about private engagement, shareholder proposals generally add financial value (Cuñat, Gine and Guadalupe, 2012; Cuñat, Giné and Guadalupe, 2020) and positively impact environmental issues (Akey and Appel, 2019). Last, impact investing involves directly providing debt financing to private firms for sustainable projects that would not otherwise proceed without more favorable financing conditions (Cole et al., 2023). Such projects typically yield lower returns (Barber et al., 2021; Geczy et al., 2021). However, they are likely to have an impact by financing sustainable projects that would otherwise not take place. We are aware that this list of literature is not exhaustive. We observe a general tendency among participants to seek sustainable investment approaches deemed to have a greater impact by the literature.

We validate the role of financial return expectations and impact beliefs in shaping participants' post-mini-public support for sustainable investing. Holding preferences constant, participants are more likely to expand sustainable investing when they anticipate higher returns and greater impact. Participants voted positively for divestment (39.5%), portfolio tilting (62.8%), engagement (65.1%), and impact investing (79.1%) in Figure A3. This variation in support of sustainable investment approaches aligns with participants' financial return expectations in Panel A of Figure A4. Here, divestment and portfolio tilting are associated with the most negative expected returns, only 10.3% and 17.1% of participants who voiced an opinion expected positive returns. At the same time, engagement and impact investing receive more favorable financial outlooks with 27.0% and 29.7%. A similar pattern emerges for impact beliefs in Panel B of Figure A4. Specifically, participants who expressed an opinion expected impact investing to most frequently attain a positive environmental and social impact (62.2%), followed by engagement (57.5%), tilting (48.8%), and divestment (46.2%). Accordingly, participants differentiate between sustainable investing strategies at least partially based on their perceived financial and impact effectiveness. As these expectations remain roughly unchanged, preferences are likely shifting sustainable investment decisions throughout the mini-public.

Figure A3: Willingness to adopt sustainable investing approaches (Study 1)

Figure A3 displays the willingness of participants to invest their pensions sustainably through divestment (blue), portfolio tilting (red), shareholder engagement (brown), or impact investing (teal). These responces are based on the question *Pensioenfonds Detailhandel should:* with answer options 1) *expand its divestment universe; keep divestment unchanged; reduce its divestment universe, I have no opinion / don't know*, 2) *expand tilting portfolios based on sustainability aspects; keep portfolio tilting unchanged; reduce tilting portfolios based on sustainability aspects; I have no opinion / don't know*, 3) *expand its engagement and voting efforts, keep them the same, reduce them, I have no opinion / don't know*, 4) *expand its impact investments; keep them the same; reduce them; I have no opinion / don't know*. A brief explanation of the investment approach precedes each question and is available in Appendix C. Results originate from Study 1.

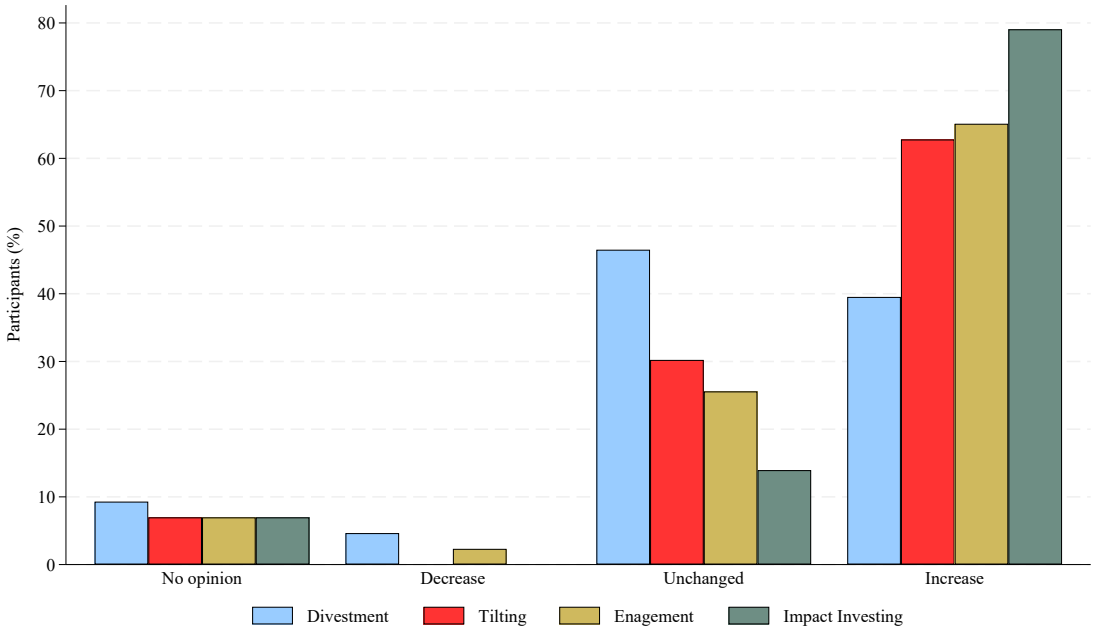
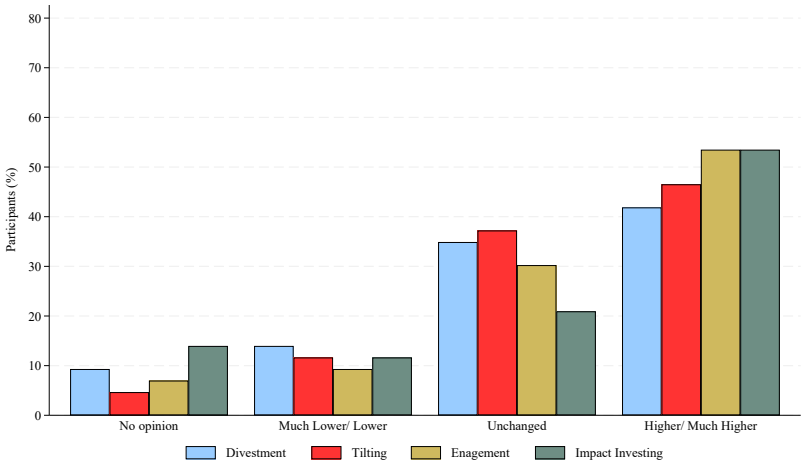


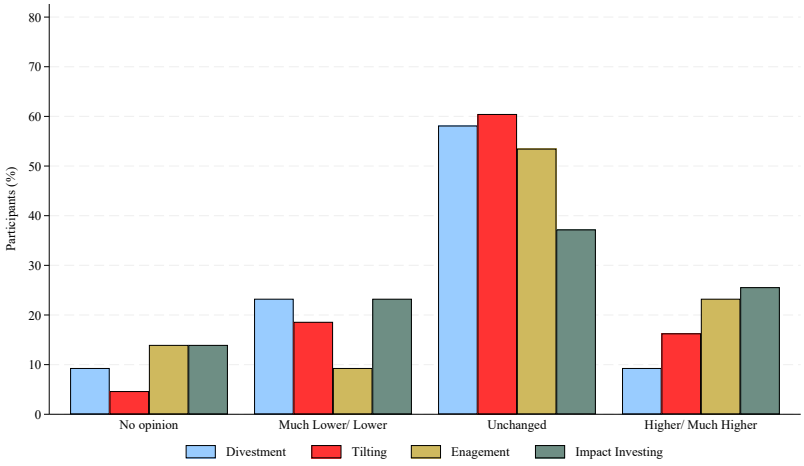
Figure A4: Financial Return Expectations and Impact Beliefs across sustainable investing approaches (Study 1)

Figure A4 Panels A and B display the return expectations and impact beliefs of participants to invest their pensions sustainably through divestment (blue), portfolio tilting (red), shareholder engagement (brown), or impact investing (teal). Panel A reflects the question: *I expect that [Insert approach] will affect my pension payments at retirement in the following manner:* and Panel B the question: *I expect that [Insert approach] will affect the societal impact of my pension investments in the following manner:*, with [Insert approach] being divestment, tilting portfolios to sustainable firms, impact investing, or engagement and voting efforts. Answer options are: *significantly decrease it; decrease it; keep it unchanged; increase it; significantly increase it; and I have no opinion / don't know*. For ease of interpretation, we have combined "significantly decrease it" with "decrease it" and "increase it" with "significantly increase it". Doing so does not obviate the current observed pattern; results are available upon request. A brief explanation of the investment approach precedes each question and is available in Appendix C. Results originate from Study 1.

Panel A: Financial Return Expectations



Panel B: Impact Beliefs



Appendix B Variable Definitions and Robustness Analyses Study 2

B.1 Variable Definitions

This subsection discusses how we construct each variable used in the analyses of Study 2 using survey questions. We reported the questions exactly as presented in the survey. For the complete field experiment survey, see Appendix F.

Table B1: Variable definitions

This table shows how we convert survey questions into the variables employed in our empirical analyses in Study 2. On the left, you see the variable name and topic by study. On the right, you see the question from which we constructed the variable and the associated answer options.

Variable	Description
Demographics	
Female	This is an indicator variable equal to one if participants answered "Female" rather than "Male", "Other", or "Prefer not say" to the question: I am:
Age	Answer to the question: My age in years is:
Highly educated	This indicator variable is equal to one if participants answered this question: My highest completed level of education is: with "University", "Higher professional education", or "PhD" in the other bucket, and zero otherwise. Missing values (of which there were very few) and manually entered education types with two typos were set to zero.
Education missing	This indicator variable is one if participants did not indicate their education level and zero if they did.
Participation status	
Current contributor	For all contributor questions, we used the question I am currently: with answers: Employed in the retail sector, Employed outside the retail sector, Retired, and other. Current contributor is equal to one when participants answered Employed in the retail sector or indicated this in the other field, and zero otherwise.
Former contributor	For the same question as above, this variable is equal to one if participants indicated to be employed outside the retail sector or indicated other in a way not clearly identifiable as currently contributing or retired.
Retired	Using the same question as above, this variable is one if participants indicated to be "Retired" or indicated so in the other field, and zero otherwise. Since participants could select multiple answers, we assigned priority to retired, current, and former contributors when multiple answers were selected.
Financial background	
Monthly net household income	This question reflects the answer to the question What is your household's net monthly income? Add up the salary and/or pension that you (and possibly your partner) receive each month. with answer options Less than €930, Between €930 and €1,500, Between €1,500 and €2,000, Between €2,000 and €2,500, Between €2,500 and €3,000, Between €3,000 and €4,000, Between €4,000 and €7,000, Between €7,000 and €10,000, €10,000 or more. We converted these ranges to values by taking their midpoint. For less than €930 and more than €10,000, we took respectively 25% less than this value and 25% more, i.e., €697.5 and €12,500. Missing values are replaced by the mean.
High income (above €4,000)	This indicator variable is equal to one when income is in the buckets €4,000 to €7,000, €7,000 to €10,000, and €10,000 and up, and zero otherwise.
Middle income (€2,500 to €4,000)	This indicator variable is equal to one when income is in the buckets €2,500 to €3,000 and €3,000 to €4,000, and zero otherwise. Missing values when participants preferred not to answer are put in this category as this reflects the average.
Low income (€0 to €2,500)	This indicator variable is equal to one when income is in the buckets less than €930, between €1,500 and €2,000, and between €2,000 and €2,500, and zero otherwise.
Missing income	This variable is one when participants preferred not to answer the question What is your household's net monthly income? Add up the salary and/or pension that you (and possibly your partner) receive each month., and zero otherwise.
Financial beliefs: Return expectation	

(Continued)

Variable	Description
Higher	We coded this variable if participants' answers to the question My pension payments at retirement, compared to a scenario without sustainable investing, are: was either "Much higher" or "Higher" and zero otherwise.
Unchanged	We coded this variable if participants' answers to the question My pension payments at retirement, compared to a scenario without sustainable investing, are: was "The same" and zero otherwise.
Lower	We coded this variable if participants' answers to the question My pension payments at retirement, compared to a scenario without sustainable investing, are: was either "Much lower" or "Lower" and zero otherwise.
Missing	We coded this variable if participants' answers to the question My pension payments at retirement, compared to a scenario without sustainable investing, are: was "I have no opinion / Don't know" and zero otherwise.
Impact beliefs	
Higher	We coded this variable if participants' answers to the question The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is: either "Much higher" or "Higher" and zero otherwise.
Unchanged	We coded this variable if participants' answers to the question The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is: "The same" and zero otherwise.
Lower	We coded this variable if participants' answers to the question The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is: either "Much lower" or "Lower" and zero otherwise.
Missing	We coded this variable if participants' answers to the question The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is: "I have no opinion / Don't know" and zero otherwise.
Sustainable investment motives	
No sustainable investing	This variable is equal to 1 if participants answer "I do not want Pensioenfonds Detailhandel to impact invest." to the question Which of the following statements best reflects your preference regarding impact investing? I would like Pensioenfonds Detailhandel to impact invest ...
No opinion	This variable is equal to 1 if participants answer " have no opinion." to the question Which of the following statements best reflects your preference regarding impact investing? I would like Pensioenfonds Detailhandel to impact invest ...
Profit-maximizing	This variable is equal to 1 if participants answer "if this is expected to increase my pension payments at retirement." to the question Which of the following statements best reflects your preference regarding impact investing? I would like Pensioenfonds Detailhandel to impact invest ...
Deontology	This variable is equal to 1 if participants answer "for social or moral reasons. I do not want to invest in companies that have a negative impact on the environment or society. I do not mind whether my investments truly have an impact or whether this might lead to a lower pension at retirement." to the question Which of the following statements best reflects your preference regarding impact investing? I would like Pensioenfonds Detailhandel to impact invest ...
Consequentialist	This variable is equal to 1 if participants answer "if sustainable investing has a positive effect on the environment, climate, nature, and social well-being. I do not mind whether this might lead to a lower pension at retirement." to the question Which of the following statements best reflects your preference regarding impact investing? I would like Pensioenfonds Detailhandel to impact invest ...
Control questions	
Definition impact investing	This variable is equal to one when participants answered Which of the following best describes impact investing? with Investing in companies that aim to make a positive impact on social issues and the environment/climate/nature, while also seeking financial returns. and zero if they answered Investing with an impact on your pension benefits at retirement. It ensures you have more money for your old age., Investing to help people in developing countries by providing financial resources, without aiming for financial returns., or I don't know.
Treatment nature	Only for those who received an information treatment, we asked the following question. On the previous page, we described how participants from Pensioenfonds Detailhandel felt about impact investing. Participants expressed this opinion: with answer options: in a questionnaire of approximately 15 minutes about impact investing; in a questionnaire of approximately 60 minutes about impact investing; after receiving detailed information from experts for 3 days and participating in a deliberative mini-public; after a one-day training on investing, risk, and return; I don't know. Correct answers are coded as one, and zero otherwise. For the mini-public treatment, the correct answer is after receiving detailed information from experts for 3 days and participating in a deliberative mini-public, for the Peers treatment, the correct answer is in a questionnaire of approximately 15 minutes about impact investing.
Treatment amount	Only for those who received an information treatment, we asked the following question. What proportion of participants wanted your pension fund to invest more in impact investing? with answer options: 0%–29%, 30%–59%, 60%–89%, 90%–100%, I don't know. The correct answer 60%–89% with 85% displayed in the information treatment for both treatment groups, is coded as one. The other answers are coded as zero.

(Continued)

Variable	Description
Political representativeness	
Prefer not to answer	We asked participants During the 2023 general election, I voted for. This indicator variable is equal to one when participants answered "Prefer not to say" or clearly indicated that they preferred not to say in the "other, namely" category, and zero otherwise.
Did not vote in 2023	This indicator variable is equal to one when participants answered "I filed a protest vote" or "I did not vote/could not vote" on the question During the 2023 general election, I voted for. This variable is only computed for the sub-sample of participants who did not choose "prefer not to say".
Right-wing	This indicator variable is only computed for the sub-sample of participants who answered and voted. For those, we assigned a vote to PVV, VVD, NSC, BBB, CDA, FVD, SGP, JA21, and CU as right-wing (indicator variable equal to one) and zero otherwise.
Left-wing	This indicator variable is only computed for the sub-sample of participants who answered and voted. For those, we assigned a vote to GroenLinks/PvdA, D66, SP, Partij voor de Dieren, Volt, and Denk as left-wing (indicator variable equal to one) and zero otherwise.
Individual parties	This entry represents the individual voting indicator variables in Table 2. Each indicator variable is equal to one if participants indicated that party as their answer to During the 2023 general election, I voted for.
Extensive margin Impact Investing	
Expand impact investing	This variable reflects a reweighted indicator variable equal to one if participants answered the question: What do you think? How much should Pensioenfonds Detailhandel invest in impact investing? with "Expand (**2% to 5%**)". We reweigh this question as described in Appendix B3.
Expand impact investing (unadjusted)	This variable reflects a reweighted indicator variable equal to one if participants answered the question: What do you think? How much should Pensioenfonds Detailhandel invest in impact investing? with "Expand (**2% to 5%**)". We do not apply a weighing here.
Treatment indicator variables	
Mini-public Treatment	This indicator variable equals 1 if participants received mini-public treatment information, as described in Section 4. It is zero if participants received control information or Peer information.
Peer Treatment	This indicator variable equals 1 if participants received Peer treatment information, as described in Section 4. It is zero if participants received control information or mini-public information.
Interaction analysis	
Trust	This question reports the 1 (No trust) to 10 (Full trust) answer to the question To what extent do you trust Pensioenfonds Detailhandel in general?.
Impact	This variable is constructed using the question: The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is:. We convert the Likert-scale answers from "Much lower" to "Much higher" to the numbers 1 to 5. Participants who answered "I have no opinion / Don't know" are removed.
Returns	This variable is constructed using the question: My pension payments at retirement, compared to a scenario without sustainable investing, are:. We convert the Likert-scale answers from "Much lower" to "Much higher" to the numbers 1 to 5. Participants who answered "I have no opinion / Don't know" are removed.

B.2 Partial survey completion

Not all participants finished the survey. Ideally, we would want there to be no difference in the tendency of participants to vote for expanding impact investing between those who finished the study and those who started it. To this end, we provide a step-by-step overview of when participant dropout occurred, along with the share of participants who voted for expanding impact investing at each of these steps, in Table B2. We cannot report this ratio for every step of the analysis as we ask about how much participants want their pension fund to expand impact investing later in the survey.

Throughout the survey, we faced attrition with 44.2% of initial participants completing the survey. However, we observe little to no selection among participants who drop out, given the near-identical shares of participants who vote for expanding impact investing. The largest attrition occurs at the informed consent page (21.3 percentage points) followed by when we show participants the definition of impact investing (16.4 percentage points), and the first commitment question (12.3 percentage points). The stable nature of votes for expansion and limited drop-out after the main question suggests that selection in participants' willingness to invest with impact is unlikely to explain our results.

Table B2: Survey drop-out

This table analyzes the survey drop-out rates and consequences of this for the main dependent variable of the paper, the extent to which participants vote for expanding impact investing. Column (1) displays the stage of the survey; see also the survey overview in 7. Column (2) shows the number of participants, Column (3) displays the share of the original remaining, and Columns (4) and (5) the percentage of votes in favor of expanding impact investing adjusted and unadjusted. We report the adjusted votes only at a later stage in the survey, as we need demographic information to compute them, which we ask after the commitment question.

	(1)	(2)	(3)	(4)
	Number of participants participants	Share remaining	Unadjusted votes for expansion	Reweighted votes for expansion
Opened the survey	31,006			
Accepted informed consent	24,409	78.72		
Answered pre-treatment knowledge questions	19,333	62.35		
Answered the first commitment question	15,525	50.07	32.44%	
Answered the second and third commitment	14,539	46.89	33.16%	
Answered demographic questions	14,251	45.96	33.24%	40.15%
Answered political views	14,227	45.88	33.53%	40.42%
Answered trust questions	14,027	45.24	33.68%	40.56%
Finished Survey	13,975	45.07	33.73%	40.62%
Cleaning steps	13,691	44.16	33.67%	41.51%

B.3 Balancing test

To ensure treatment assignment is random, we display balancing tests below in Table B3. Columns (1) to (3) present the variable means of the control group, the mini-public treatment group, and the peer treatment group, respectively. Columns (4) and (5) display the p-values of two-sided t-tests that analyze whether the control means are different from the mini-public means, and whether the mini-public means differ from peer means, respectively. Throughout the board, treatment allocation appears random, with economically similar observable means. Statistically, we find two instances where there are significant differences in means: missing expected return information between mini-public (42.5%) and peer (40.0%) treatment groups, and participant age between control (62.9 years) and mini-public (62.2 years) groups. These differences are economically small and could be partially attributed to multiple hypothesis testing, given the 34 tests. Given the above, we find no strong indication that there are imbalances in demographics across control and treatment groups.

Table B3: Balancing test

This table provides a balancing test to demonstrate that randomization is well-executed. Columns (1) to (3) show for the control group, the mini-public treatment, and the peer treatment the mean return expectations, age, share of females, share of highly educated participants, income distribution, and pension fund contribution status. Columns (4) and (5) display t-test p-values testing whether control versus mini-public and mini-public versus peer effects differ.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	Control	mini-public	Peer	p-value *Control - Mini-public*	p-value *Mini-public - Peer*
Expected return higher	0.086	0.086	0.085	(0.90)	(0.97)
Expected return unchanged	0.625	0.613	0.611	(0.26)	(0.81)
Expected return lower	0.289	0.301	0.304	(0.20)	(0.78)
Expected return missing	0.425	0.425	0.400	(0.95)	(0.03)
Age	62.929	62.209	62.528	(0.02)	(0.37)
Female	0.449	0.442	0.440	(0.50)	(0.85)
Highly educated	0.306	0.301	0.322	(0.61)	(0.05)
Education missing	0.003	0.003	0.002	(0.94)	(0.47)
Income high	0.242	0.245	0.254	(0.71)	(0.40)
Income median	0.481	0.481	0.479	(0.99)	(0.91)
Income low	0.277	0.274	0.267	(0.73)	(0.49)
Income missing	0.149	0.156	0.151	(0.38)	(0.58)
Retired	0.527	0.506	0.518	(0.05)	(0.31)
Former contributor	0.120	0.124	0.118	(0.56)	(0.38)
Current contributor	0.353	0.370	0.364	(0.10)	(0.65)
Observations	6,225	3,710	3,756	9,935	7,466

B.4 Attention checks

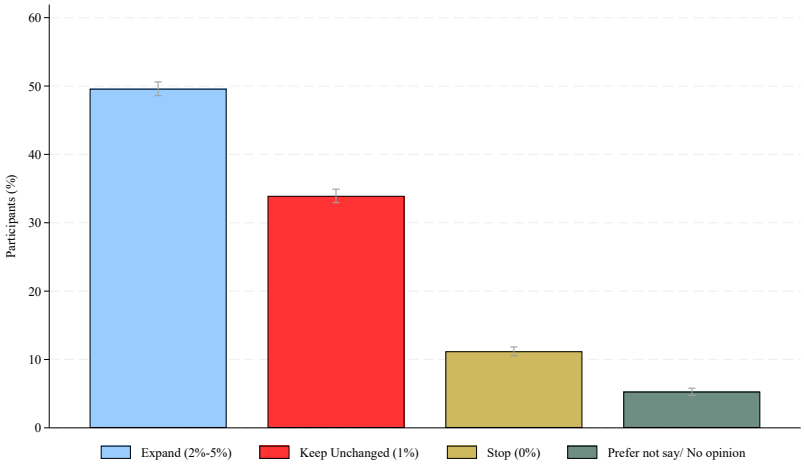
Not all participants might be equally informed about impact investing or pay equal attention to the survey. We have two sets of attention checks to test for this. First, we ask participants to distinguish the definition of impact investing from conventional investing and donations at the end of the survey. Second, we ask participants to enter the share of peers who preferred to expand impact investing (85%) and the source of the information (15-minute survey, or 3-day mini-public).

Answers to whether participants want to increase impact investing differ for this sample compared to those who failed the attention questions, see Figure B1. Specifically, the average share of participants who wanted to expand impact investing is 49.6% if they understood the definition, and 24.7% otherwise. 67.5% answered this question correctly, see Panel A. Of those participants who correctly answered both treatment attention check questions, the average was 56.0% compared to 23.2% (Panel B). For those with both questions correct, the share was 58.7%, compared to 18.9%.

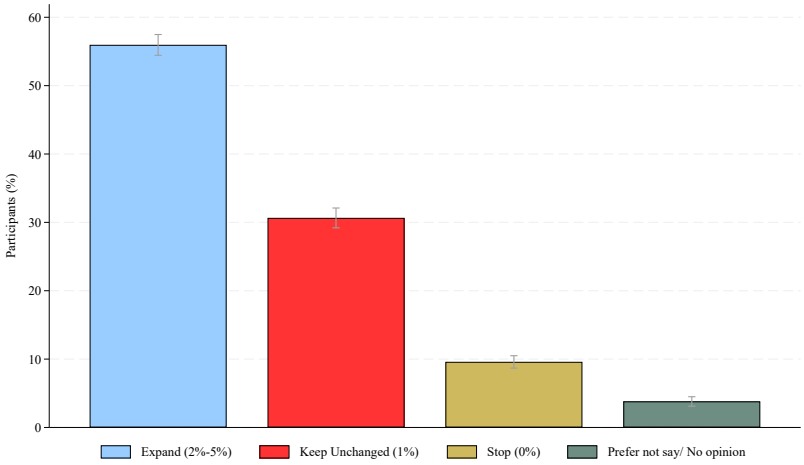
Figure B1: Unadjusted extensive margin impact investing votes

Figure B1 displays the share of participants who voted to expand (2%-5%), keep unchanged(1%), or stop (0%) impact investing. It displays the answer to the question: *What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?* Panel A captures answers of participants who understood the definition of impact investing at the end of the survey. Panel B includes those in the treatment groups who answered the two attention check questions correctly. Panel C shows the intersection of both. Error bars display a 95% confidence interval.

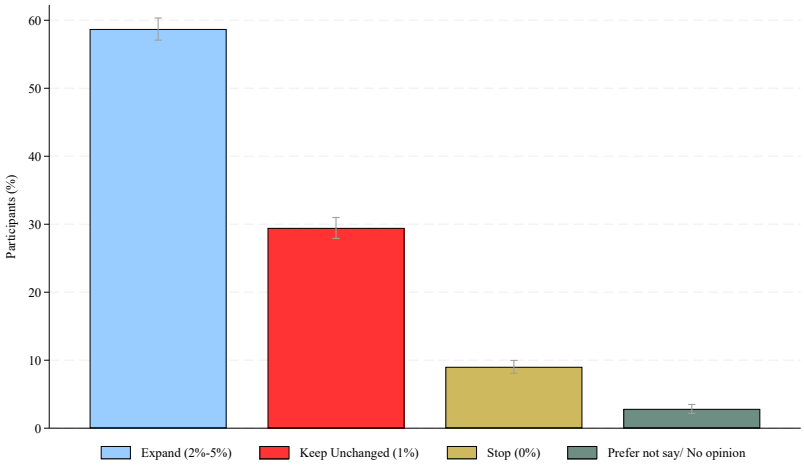
Panel A: Definition correct



Panel B: Treatment attention checks correct



Panel C: Definition and attention checks correct



B.5 Reweighing voting outcomes

Pensioenfonds Detailhandel sent our survey to all available email addresses. However, the pension fund does not have information on all its participants, with a particular over-representation of recently retired and active participants. We propose that this bias may arise because participants forget to update their email address when they adopt a new one. New active or retired members have recently entered their email addresses, resulting in lower attrition rates. Regardless of the reason for this selection, we anticipated that it could be a potential driver of voting behavior on impact investing, and therefore, wrote a formal agreement with the pension fund to reweight responses to the commitment questions for participation status, age, gender, and income. We chose to reweight these demographics as the pension fund did not have access to more detailed information for every participant. This agreement was approved by the board it before the survey was executed, and the reweighing is pre-registered at `https://www.socialscienceregistry.org/trials/15994`.

More formally, we reweight in the following three steps. First, we perform a regression analysis of participants' contribution status in the pension fund (actively contributing and former contributors indicator variables, with retirees as the reference category), age, gender (female indicator variable), and income on an indicator variable for whether participants voted to expand impact investing. This illustrates how specific demographics influence voting behavior. On average, female participants are 3.4 percentage points less likely to vote for expanding impact investing, participants who are one year older 0.5 percentage points less likely to vote for expanding, households who earn €1,000 more a month 1.3 percentage points less likely to vote for expansion, and current contributors 4.7 percentage points less likely to vote for expanding impact investing than retirees and former contributors.

Second, we compute the distance between the average pension fund participant in our survey and the average participant in Pensioenfonds Detailhandel. This allows us to determine the extent to which the results might not be fully representative. Participants were on average less frequently female (14.1 percentage points), 17.1 years older, €265 a month poorer, 7.6 percentage points more likely a current contributor, and 38.8 percentage points more likely retired. From these demographics, it appears that retired male and currently contributing participants are indeed overrepresented.

Last, we correct for the differences in how participants vote based on their demographic information. Precisely, we adjust the final voting outcomes by multiplying the regression coefficient estimates for each demographic information by the differences in individual participants and population means.

In the upcoming paragraphs, we will replicate some of the analyses used to validate hypotheses 1 and 2 using unadjusted voting outcomes. First, in Figure B2 Panel A, we display the unadjusted voting results on the extensive margin of impact investing. We find that the most chosen category is keeping impact investing unchanged (36.7%), followed by expanding impact investing (33.7%), no opinion/I do not know (16.4%), and stopping with impact investing (13.2%). Given the demographics described below, it appears that the over-representation of retired men leads to votes less supportive of impact investing.

Results are more closely aligned with the adjusted votes when we correct for knowledge.

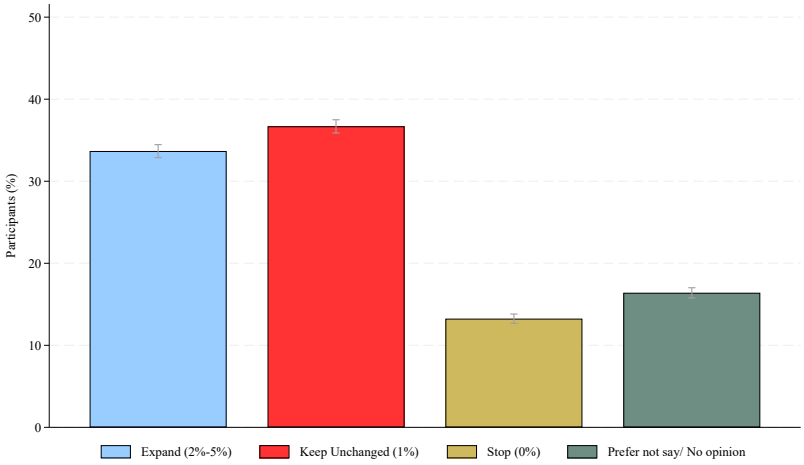
From Study 1, we found that knowledge plays a critical role in shaping social preferences. During the field experiment of Study 2, we asked participants to define impact investing and to self-assess their knowledge about the topic. Knowledge on sustainable investing is not a given, as only 67.5% of participants knew the definition of impact investing at the end of the survey, and only 28.1% of participants expressed at least average knowledge on sustainable investing, with 5.9% above average knowledge. When we exclude participants who were unfamiliar with the definition of impact investing and therefore did not comprehend what they were voting on in Panel B, we observe that expanding impact investing is the most frequently chosen option, as in the pre-registered specifications displayed in the main manuscript. Furthermore, when we exclude participants who did not possess at least average knowledge on the topic, we observe an identical pattern in votes compared to the main manuscript, with an even more pronounced preference for expanding impact investing.

Alongside voting for more impact investing, we find that treatment effects have a similar impact on unadjusted votes as on reweighted votes, validating the robustness of Hypothesis 2. We replicate the results in Table 5 using unadjusted votes. Throughout the specifications, we consistently find significant effects for mini-public and peer information treatments on their decision to vote for expanding impact investing. The mini-public treatment coefficients range between 8.6 to 8.3 percentage points more, and the peer treatment coefficients between 9.2 to 7.6 percentage points. These coefficients are economically indistinguishable to those in the primary analysis, which range from 8.4 to 7.5 and 9.0 to 7.5 percentage points. Therefore, we provide evidence supporting the second hypothesis, using voting outcomes that are not reweighted based on demographics.

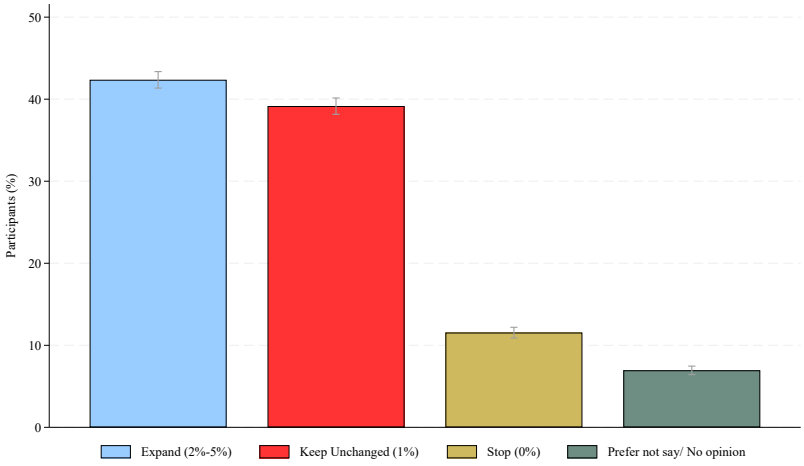
Figure B2: Unadjusted extensive margin impact investing votes

Figure B2 displays the share of participants who voted to expand (2%-5%), keep unchanged(1%), or stop (0%) impact investing. It displays the answer to the question: *What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?* Answers are not reweighted in Panel A. We take a subset of observations of participants who understood the definition of impact investing in Panel B, and those who self-assessed having at least average knowledge on impact investing in Panel C. Error bars display a 95% confidence interval.

Panel A: Unadjusted more or less impact investing votes



Panel B: Unadjusted votes knowing the definition of impact investing



Panel C: Unadjusted votes at least average sustainable investing knowledge

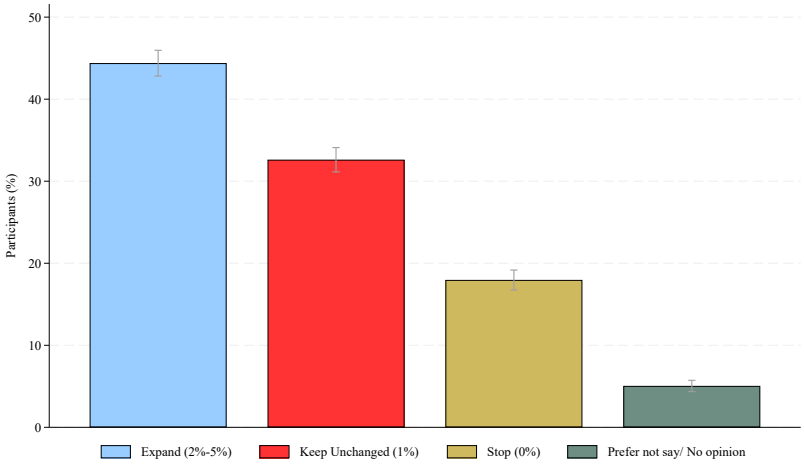


Table B4: Unadjusted Votes for Expanding Impact Investing: Mini-public and Peer Treatments

Table B4 replicates Panel A of 6 using an unadjusted vote for expansion indicator variable. It regresses two indicator variables, indicating whether participants were treated with mini-public and peer information, on whether they voted to expand impact investing, with the control group serving as the reference category. In Column (1), this regression is performed without controls. In Columns (2) to (5), we respectively add 2) indicator variables for financial return expectations, 3) demographic controls for age, a female indicator variable, and a higher vocational or university education indicator variable, 4) household income indicator variables, and 5) social preferences and underlying moral views. Robust standard errors in parentheses. ***, **, and * denotes significance at the 1%, 5%, and 10% level.

	(1)	(2)	(3)	(4)	(5)
VARIABLES	**Unadjusted vote for expanding impact investing (%)**				
Mini-public Treatment	8.254***	8.429***	8.314***	8.411***	8.584***
	(0.980)	(0.960)	(0.947)	(0.941)	(0.806)
Peer Treatment	9.183***	8.930***	8.622***	8.694***	7.607***
	(0.979)	(0.962)	(0.948)	(0.944)	(0.808)
Observations	13,691	13,691	13,691	13,691	13,691
Adjusted R-squared	0.008	0.046	0.074	0.084	0.327
Financial Expectations	No	Yes	Yes	Yes	Yes
Demographics	No	No	Yes	Yes	Yes
Financial Background	No	No	No	Yes	Yes
Social Preferences	No	No	No	No	Yes

B.6 Reference Categories

To validate the second hypothesis, we use a reweighted indicator variable for expanding impact investing. This indicator variable takes all other votes as the reference category. However, it is conceivable that the economic impact could be different across reference category choices. To illustrate, providing mini-public information might equally well shift a participant from voting for stopping impact investing to keeping impact investing unchanged, as from keeping it unchanged to expanding. However, only one of these changes the expansion indicator variable. We iteratively change reference categories in Table B5 to test whether they have a sizable impact on the economic impact of the result.

Results are economically and statistically similar, independent of the reference category. When taking a sub-sample of votes that answered with keeping impact investing unchanged or stopping it (i.e., did not vote: I do not know/have no preference) in Column (2), the treatment effects are slightly more pronounced at 10.8 percentage points for the mini-public treatment compared to the 9.2 percentage points baseline. A baseline considering just "keep unchanged" is similarly slightly more pronounced at 11.8 percentage points in Column (3). A baseline of "stop" impact investing only results in a coefficient of 7.7 percentage points, similar to the baseline specifications.

In Table B5 Column (5), we deployed an ordered logit model as further robustness. Ordered logit models are logit models that consider a step-wise nature in the dependent variable. In our example, it jointly captures jumps from stop, to keep unchanged, keep unchanged to expand, and stop to expand impact investing. We remove observations with "I do not know/no opinion" answers as ordering them is hard. Specifically, we assign expand impact investing a value of 3, keep impact investing unchanged a value of 2, and stop impact investing a value of 1 as the dependent variable. Using this specification, we find that both treatments have a positive impact on votes for impact investing. On average, participants treated with mini-public information vote 0.4 steps more on this 3-point scale. These results validate hypothesis 2 using different reference categories and specifications.

Table B5: Reference category robustness to treatment information on impact investing decisions

Table B5 provides robustness analyses on the impact of mini-public and peer treatments on participants' choice to vote for expanding impact investing. Column (1) repeats the baseline results of Table 5 with the most conservative controls as reference. In Columns (2) to (4), we replicate the same analysis but adjust the reference category of the vote for expansion indicator variables to test whether participants voting I do not know could drive the effect. In Columns (5) to (8), we replicate the main analysis and these reference category analyses using unadjusted votes for expansion. Column (9) adopts an ordered logit model with values of 1 for stopping, 2 for keeping unchanged, and 3 for expanding as the dependent variable. For this model, we report the Pseudo R^2. Robust standard errors in parentheses. ***, **, and * denotes significance at the 1%, 5%, and 10% level.

Dependent	Main Specification				Ordered Logit
Reference category	All	Stop + Unchanged	Unchanged	Stop	
VARIABLES	(1)	(2)	(3)	(4)	(5)
mini-public Treatment	8.617***	10.791***	11.756***	7.695***	0.571***
	(0.807)	(0.920)	(1.060)	(0.923)	(0.049)
Peer Treatment	7.621***	9.284***	10.057***	6.629***	0.527***
	(0.809)	(0.905)	(1.035)	(0.909)	(0.048)
Observations	13,691	11,446	9,633	6,423	11,446
Adjusted R-squared	0.314	0.325	0.266	0.550	
Financial Expectations	Yes	Yes	Yes	Yes	Yes
Demographics	Yes	Yes	Yes	Yes	Yes
Financial Background	Yes	Yes	Yes	Yes	Yes
Social Preferences	Yes	Yes	Yes	Yes	Yes

B.7 Return expectations and Impact Beliefs Updating Through Treatments

Providing participants with treatments on the extent to which mini-public participants want to increase impact investing, their impact beliefs, and return expectations might result in heterogeneous effects given participants' priors. When a participant of the general population survey expected impact investing to have negative financial or environmental/social implications, they would be positively surprised by the provided information. Conversely, those with higher expectations may be negatively surprised. To this end, we examine the role of respondents' impact and financial return expectations in the context of providing mini-public information on impact investing. Despite this proposed channel, we find a limited response of Bayesian updating of priors. Specifically, we see no economically significant interaction effect between either impact or financial expectations and either treatment in Table B6, with respective p-values of 0.251, and 0.566. In short, deliberative mini-publics appear more effective in shifting the voting behavior of trusting respondents in a broader population, regardless of their initial expectations on the topic or the way it is communicated to them.

Table B6: Updating of Priors and Mini-public and Peer Treatments (Study 2)

Table B6 regresses two indicator variables equal to 1 for participants who were treated with mini-public and peer information on whether they voted to expand impact investing, with the control group as the reference category. We introduce interaction effects of the treatments with impact beliefs and return expectations in Columns (1) and (2). In Column (1), we test for the role of impact beliefs, participants' answer to the question *The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is: much lower, lower, unchanged, higher, much higher.* In Column (2), we test for the role of trust, participants' answer to the question *My pension payments at retirement, compared to a scenario without sustainable investing, are: much lower, lower, unchanged, higher, much higher.* We use keeping impact investing unchanged, stopping, and no opinion as a reference category. Robust standard errors in parentheses. ***, **, and * denotes significance at the 1%, 5%, and 10% level. Results originate from Study 2.

	(1)	(2)
VARIABLES	**Vote for expanding impact investing (%)**	
Mini-public Treatment	4.045	4.015
	(3.005)	(3.315)
Peer Treatment	6.191**	6.554*
	(3.085)	(3.389)
Mini-public X Impact	1.567*	
	(0.829)	
Peer X Impact	0.655	
	(0.846)	
Impact Beliefs	6.514***	
	(0.558)	
Mini-public X Returns		1.717
		(1.320)
Peer X Returns		0.009
		(1.329)
Return Expectations		6.927***
		(0.834)
Observations	10,201	7,966
Adjusted R-squared	0.339	0.330
Financial Expectations	Yes	No
Demographics	Yes	Yes
Financial Background	Yes	Yes
Social Preferences	Yes	Yes
Mini-public VS Peer Treatment t-test: *(p-value)*	0.251	0.566

Appendix C Commitments on Topic and Location of Impact Investing

Exploratively, we also asked participants about the topics and location of impact investing, with a similarly binding commitment by the board as for the extent of impact investing. A significant portion of finance research focuses on environmental issues, placing relatively less emphasis on the social dimension (Bolton and Kacperczyk, 2023; Hsu, Li and Tsou, 2023). To assess whether investors display a similar predicament, we offered participants the choice to invest in environmental issues, social issues, or a mix of the two.

Regarding the location of impact investing, developing countries might arguably offer more cost-effective impact investing solutions, assuming decreasing marginal returns and a lower baseline of environmental and social performance. From a moral universalism perspective, participants might perceive this choice as preferable (Enke, Rodríguez-Padilla and Zimmermann, 2023). However, participants might be inclined to vote for impact investing in the Netherlands if they expect benefits to be partially local, especially given the rise of populism in Europe, and the Netherlands in particular. Since multiple forces are affecting these topic and location choices, we did not pre-register hypotheses on these questions. Specifically, we asked them:

C.1 Commitment Question: Location and Topic of Impact Investing

In addition to how much you want Pensioenfonds Detailhandel to impact invest, we would also like to know how it should implement its impact investing policy. Below are two questions related to impact investing. Even if you previously indicated that you do not want Pensioenfonds Detailhandel to engage in impact investing, we kindly ask you to answer these questions. We would still like to know your disposition in case participants decide that Pensioenfonds Detailhandel should pursue impact investing.

Close to home or further away

Pensioenfonds Detailhandel can invest for impact in several regions: in low- and middle-income countries, in developed regions (EU, North America, Oceania), within the Netherlands, or in a mix of these three options. In developing countries, the social or environmental, climate, and nature-related impact of investing is likely greater, since businesses in places like Kenya, India, or Chile have more difficulty accessing funding. However, the benefits of this impact occur far away. Within developed countries — and especially within the Netherlands — the impact is likely smaller, but the benefits are closer to home.

Your choice counts! Good to know: this is another question for which the board of Pensioenfonds Detailhandel has committed to carrying out the most selected response. This means your choice can influence how your pension is invested.

Where would you like Pensioenfonds Detailhandel to direct its impact investments?

- Mostly in the Netherlands
- Mostly in developed regions (outside the Netherlands)
- Mostly in low- and middle-income countries
- A mix of the Netherlands, developed regions, and low- and middle-income countries
- I don't know / No opinion

<<< Next Page >>>

Environment, Climate, and Nature or Social Topics

Pensioenfonds Detailhandel can focus its impact investing on different themes, for example, more on the environment, climate, and nature, or more on social topics such as investing in improved hygiene, access to and quality of healthcare, affordable housing, and companies committed to safe working conditions.

Your choice counts! Good to know: this is another question for which the board of Pensioenfonds Detailhandel has pledged to carry out the most selected response. This means your choice can influence how your pension is invested.

On which theme would you like Pensioenfonds Detailhandel to focus its impact investments?

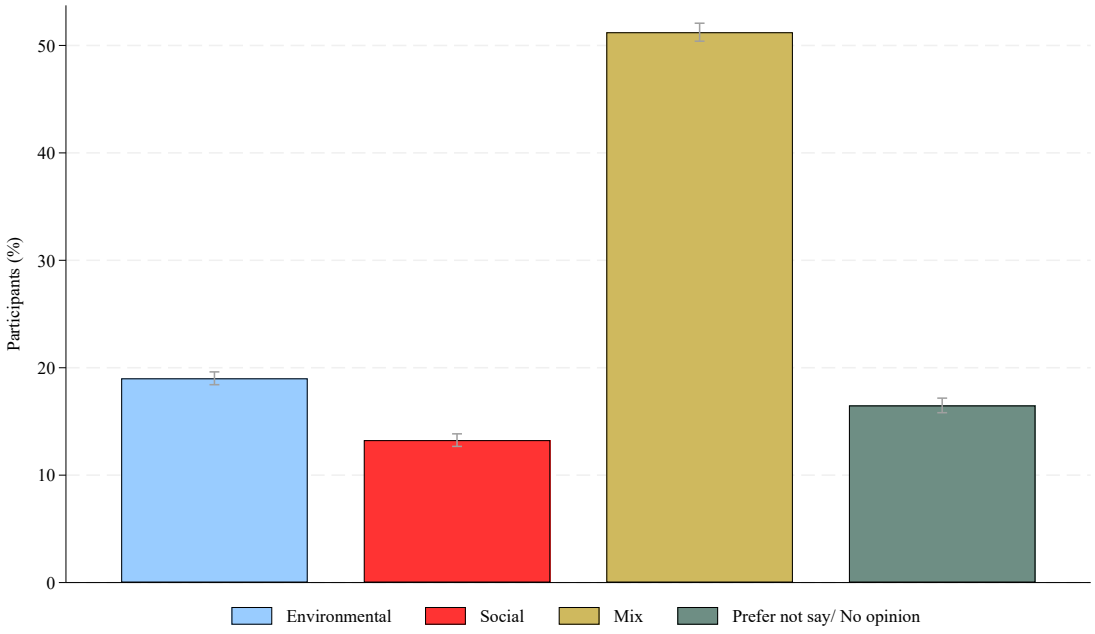
- Mostly on the environment, climate, and nature
- Mostly on social topics
- A mix of environment, climate, nature, and social topics
- I don't know / No opinion

Participants preferred a mix of impact investing across topics and geographic areas. Figure C1 Panels A and B reflect participants' answers to the questions In which theme would you like Pensioenfonds Detailhandel to focus its impact investments? and Where would you like Pensioenfonds Detailhandel to direct its impact investments? For topics, a majority of 51.2% of participants chose a mix of environmental and social topics, with 19.0% preferring just environmental issues and 13.3% preferring just social issues. The remaining 16.5% indicated that they did not know or preferred not to answer. For location, 41.1% chose a mix of the Netherlands, other developed countries, and developing countries, the most chosen answer. Alongside a mix, the second most chosen option was impact investing in the Netherlands with 32.9%. Only 5.2% and 3.3% of participants chose solely in developing or other developed countries, with 17.5% of participants indicating that they did not know or preferred not to answer. Participants thus expressed a desire to engage in impact investing across a broad range of topics and geographies when faced with real consequences for their pension by voting in a democratic fashion.

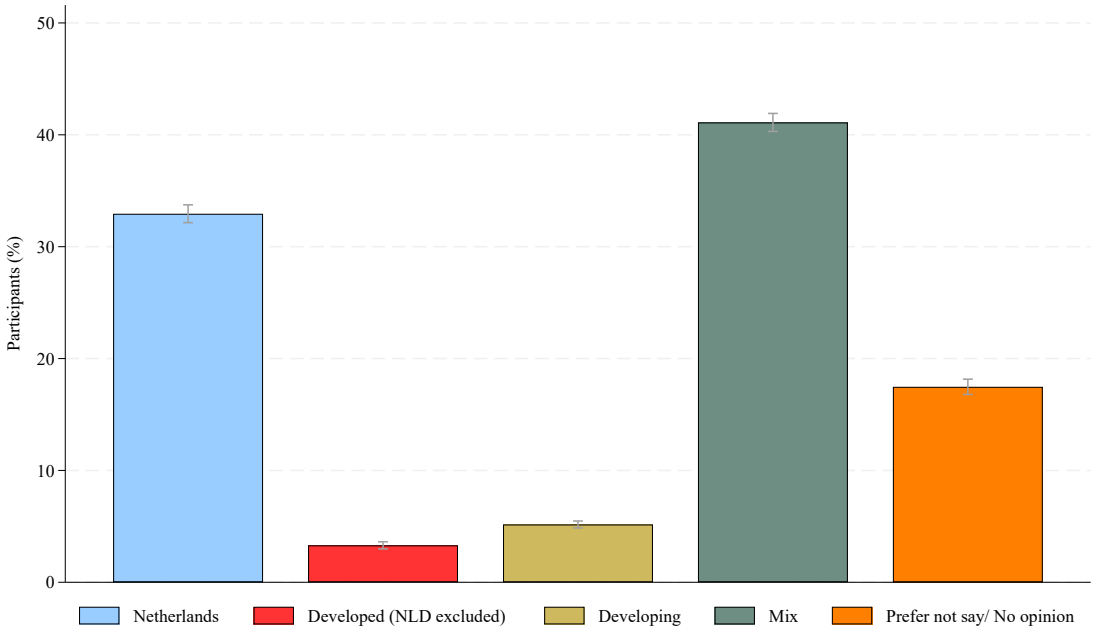
Figure C1: Topic and Location of Impact Investing

Figure C1 displays participants' answers to the question: *On which theme would you like Pensioenfonds Detailhandel to focus its impact investments?* in Panel A and *Where would you like Pensioenfonds Detailhandel to direct its impact investments?* in Panel B. Results are from Study 2. Error bars display 95% confidence intervals.

Panel A: Topic of Impact Investing



Panel B: Location of Impact Investing



Appendix D Survey design - Study 1: Pre-survey

For every survey and every survey question without a Likert scale, we have randomized the order of answer options or flipped them if they are ordinal. "I do not know/have no opinion" is always given last. The order of demographic and background knowledge questions is randomized within the page. Notes to the reader of this article not displayed in the survey are indicated in mid blue. Light orange indicates that some form of randomization or treatment and control takes place. Headers starting with Page X are not displayed to participants.

D.1 Invitation letter

Dear Sir/Madam [Last Name],
You could be one of 50 individuals selected to participate in a Mini-public:
You can help determine how Pension Fund Detailhandel invests! What should we consider when investing responsibly?
Pension Fund Detailhandel would like to hear your views on sustainable investing. Your opinion matters to us. The outcomes of the Mini-public will be taken into account in future investment decisions of the Board of Pension Fund Detailhandel.
The mini-public consists of three in-person meetings on 26 February, 11 March, and 18 March 2024. If you participate, we expect you to attend all three meetings. As a token of appreciation for your participation, you will receive a total of €360 in volunteer compensation. In addition, your travel and childcare expenses will be reimbursed, and lunch, coffee, and refreshments will be provided.
No prior knowledge of pensions, investing, or sustainability is required to participate in the mini-public.
The aim is precisely for you to reflect together with the other participants on the information provided during the sessions, to indicate what is important to you, and to listen to what others consider important. We aim to bring together a true cross-section of participants of Pension Fund Detailhandel; therefore, if you have received this letter, you are the right person to participate.
You can register online at: `www.sortitionfoundation.org/pd`.
If online registration is not possible for you, you may call +31854013651 during office hours.
Registration closes on Sunday, 28 January.
Everyone who registers also has a chance to win a cash prize of €250, to be awarded by lottery. The prize will be granted to two registrants. After registration closes, a lottery will be conducted to determine who will participate in the Mini-public. We will contact you if you are selected.
This is a unique opportunity to help determine how Pension Fund Detailhandel should invest.
We hope you are interested in participating in the Mini-public and look forward to hearing from you.

Frequently Asked Questions: Mini-public

What is a Mini-public?

The mini-public follows a method widely used in communities and organizations worldwide. A group of participants is assembled via a lottery. We ensure that, broadly speaking, they reflect the composition of all participants of the pension fund. During the meetings, participants engage in discussions, receive information from experts, and jointly determine what they believe Pension Fund Detailhandel should take into account in future investment decisions.

Who organizes the Mini-public?

The mini-public is a collaboration between Pension Fund Detailhandel, Prof. name (University), and the independent organizations G1000.nu and Energized.

The Sortition Foundation is a non-profit organization that specializes in recruiting and selecting individuals by lottery to participate in such processes. The underlying principle is that those selected broadly reflect the wider population or membership base. The organization operates worldwide.

When are the meetings?

26 February 2024, 9:30–16:30

11 March 2024, 9:30–16:30

18 March 2024, 9:30–16:30

The mini-public will take place at an accessible and attractive location in Utrecht. Travel expenses will be reimbursed.

How do I register?

Register via: `www.sortitionfoundation.org/pd` or call +31854013651 (Monday through Friday, 9:00–17:00). Registration closes Sunday, 28 January.

What does participation involve?

If you are selected to participate, you will have the opportunity to meet a diverse group of fellow participants of Pension Fund Detailhandel. You will receive information from engaging speakers and participate in small-group discussions. Each table will include a facilitator to support the discussion. No prior knowledge of pensions, sustainability, or investing is required; you may rely on the information provided during the sessions.

How do we ensure you have the most positive experience possible?

The meetings will be held at an accessible location. Lunch, coffee, tea, and refreshments will be provided.

If you wish to use a prayer room or quiet room during the day, we will ensure this is available. There is no dress code.

We ensure that all information provided during the meetings is presented in clear and understandable language. The speakers presenting information will also answer questions from the audience.

If you require assistance, we are ready to help. If you are selected, we will contact you to discuss what you need in order to participate. Whether it concerns accessibility of the venue, travel arrangements, or caregiving responsibilities, we are happy to work with you to make your

participation possible.

Who may register?

Anyone who has received this invitation may register. There is one exception, described below. At most one person per household may be selected.

The following individuals may not register: Elected representatives at any level of government and paid employees of political parties.

Why did I receive this invitation?

You are one of 20,000 participants of Pension Fund Detailhandel randomly selected to receive this letter.

What happens after I register?

Once registration has closed, we will conduct a lottery. From all those who registered, 50 individuals will be selected to participate in the Mini-public. In doing so, we take into account the characteristics of those who registered, in order to ensure that the final group reflects the broader participant population.

If you are selected, we will contact you by telephone and email on or around Monday, 29 January to inform you. We will then speak with you by phone to review the details. During that conversation, we will briefly explain what you can expect from participation. You can then indicate whether you wish to participate, inform us of any assistance you may require, and ask any questions you may have.

What happens after the Mini-public?

The outcomes of the Mini-public will be shared with the Board of Pension Fund Detailhandel in a report. The Board will take the recommendations into account in its future investment decisions. The Board will also ensure transparency regarding how the outcomes of the Mini-public influence policy.

Where can I find more information?

If you would like to speak with someone about the Mini-public before registering, please call 085 4013651 during office hours. Additional information about the process is available at `www.pensioenfondsdetailhandel.nl/deelnemersdialoog`.

Do you have any questions?

We are happy to assist you. More information is available at `www.pensioenfondsdetailhande l.nl`. If you cannot find what you are looking for, please email deelnemer@pensioenfondsdetailhandel.nl or call +318001972. We are available Monday through Friday from 08:00 to 17:00. Please always mention your pension number so that we can assist you more effectively.

Yours sincerely,

Selma Skalli Chairman of Pensioenfonds Detailhandel

D.2 Page 1

Thank you for participating in the Deliberative mini-public on **Sustainable Investing** at Pensioenfonds Detailhandel! Over the next three days of the mini-public, you will engage with experts and with one another to discuss sustainable investing. You will have the opportunity to **share your views on the investment practices of Pensioenfonds Detailhandel**.

We are very interested in your opinion! In 2018, Pensioenfonds Detailhandel conducted a survey on sustainable investing. The results of that survey influenced the fund's investment policy. This deliberative mini-public will once again help shape the fund's investment strategy.

This questionnaire helps us understand your views on sustainable investing before the mini-public begins. After the third day, we will ask you to complete a short follow-up survey as well.

This questionnaire consists of two parts:

- First, we will ask you general questions about sustainable investing.
- Then, we will ask for your opinion on the sustainable investment policy of Pensioenfonds Detailhandel.

Completing this questionnaire will take approximately **15 minutes**. You can select one answer per question, unless stated otherwise.

(Don't know your personal code? Please ask one of the organizers.)

Please enter your personal code here: _____

D.3 Page 2

Part 0: Informed Consent

Please **read** this information **carefully** before deciding whether you would like to participate in this survey.

- Your participation consists of completing this survey, which will take approximately 15 minutes.
- During this survey, we will collect information. This information cannot be linked to you in any way and will be fully anonymized. Your anonymized responses will be used solely for research purposes and within Pensioenfonds Detailhandel.
- This survey has received ethical approval. If you would like more information, please contact Prof. Dr. Paul Smeets at `p.m.a.smeets@uva.nl`.

D.4 Page 3

Part 1: Sustainable Investing

In this first part of the questionnaire, we would like to ask you a few questions about sustainable investing.

D.5 Page 4

Part 1.1: Background Knowledge

How much knowledge do you have about investing?

- no knowledge
- very little knowledge
- less than average knowledge
- average knowledge
- more than average knowledge
- much knowledge
- very extensive knowledge

How much knowledge do you have about sustainable investing?

- no knowledge
- very little knowledge
- less than average knowledge
- average knowledge
- more than average knowledge
- much knowledge
- very much knowledge

From which sources have you received information about sustainable investing? (Multiple answers possible)

- family and friends
- my pension fund
- newspapers
- investment advisors
- social media
- internet search results
- I have not received any information
- other, please specify below: _____

D.6 Page 5

Part 1.2: Social Preference

*Could you **describe** in a **few sentences** your **opinion** on **sustainable investing** in general and specifically at Pensioenfonds Detailhandel?*

_____

Which of the following statements best reflects your **preference** regarding **sustainable investing**?
I would like Pensioenfonds Detailhandel to invest sustainably...

- if this increases my expected pension payments at retirement age.
- if sustainable investing has a direct positive impact on the environment or society. I don't mind if this potentially leads to a reduction in my pension payments at retirement.
- based on social norms or moral reasons. I am determined not to invest in companies that negatively impact the environment or society. I don't mind whether this actually affects the impact of my investments or potentially lowers my pension payments at retirement.
- I do not want Pensioenfonds Detailhandel to invest sustainably.
- I have no opinion.

D.7 Page 6

Part 2: Sustainable Investing at Pensioenfonds Detailhandel
In this second part of the questionnaire, we would like to ask you a few questions about sustainable investing at Pensioenfonds Detailhandel.

D.8 Page 7

Part 2.1: More or Less Sustainable Investing
Companies play an important role in society by offering goods and services. Alongside profits for shareholders, firms also affect our daily lives. Think, for example, of environmental and social impacts. Companies contribute to climate change through CO_2 emissions and play a significant role in providing jobs and ensuring good working conditions. These themes fall under **corporate social responsibility** and are tied to **sustainability**.

In **sustainable investing**, the **focus** is **not only on achieving financial performance**, but also on **improving** the **sustainability performance** of companies.

What do you think? In your opinion, how sustainably does Pensioenfonds Detailhandel invest?

- not sustainably
- less than average
- average
- more than average

- very sustainably
- I have no opinion / don't know

I would like Pensioenfonds Detailhandel to:

- increase its sustainable investing
- keep its sustainable investing unchanged
- decrease its sustainable investing
- I have no opinion / don't know

D.9 Page 8

Part 2.2: Returns and Impact of Sustainable Investing

My pension payments at retirement, when investing sustainably compared to a scenario without sustainable investing, are :

- much lower
- lower
- the same
- higher
- much higher
- I have no opinion / don't know

The impact of sustainable investing on society through improvements in environmental and social aspects is:

- very negative
- negative
- neutral
- positive
- very positive
- I have no opinion / don't know

D.10 Page 9

My age is: _____

I am a:

- woman
- man
- non-binary

- prefer not to say

In politics, people often speak of left-wing or right-wing ideologies. *Where would you place your own political views?*

Far Left **Far Right**

1 2 3 4 5 6 7 8 9 10

I don't want to answer / I don't know

D.11 Page 10

Part 2.4: Conclusion

You have reached the end of this questionnaire.

Thank you for your participation!

Appendix E Survey design - Study 1: Post-survey

E.1 Page 1

Thank you for participating in the final day of the Deliberative mini-public on Sustainable Investing!

We hope this mini-public has helped broaden your perspective on sustainable investing. That's why we would like to ask you a few final questions, just like we did on day 1.

Specifically, we will ask you:

- General questions about sustainable investing.
- Your recommendations on sustainable investing for the board of Pensioenfonds Detailhandel.
- Whether and how your opinion on sustainable investing has changed as a result of the mini-public.

Completing this questionnaire will take approximately **15 minutes**. You can give one answer per question, unless otherwise specified.

(Don't know your personal code? Please ask one of the organizers.)

Please enter your personal code here: _____

E.2 Page 2

Part 1: Sustainable Investing
Just like in the initial questionnaire, we would like to ask you a few questions about sustainable investing by Pensioenfonds Detailhandel. These questions correspond to those asked on the first day of the Deliberative mini-public.

E.3 Page 3

Part 1.1: Background Knowledge
How much knowledge do you have about investing?

- no knowledge
- very little knowledge
- less than average knowledge
- average knowledge
- more than average knowledge
- much knowledge
- very much knowledge

How much knowledge do you have about sustainable investing?

- no knowledge
- very little knowledge
- less than average knowledge
- average knowledge
- more than average knowledge
- much knowledge
- very much knowledge

E.4 Page 4

Part 1.2: Sustainable investment motives

Could you describe in a few sentences your opinion on sustainable investing in general and specifically at Pensioenfonds Detailhandel?

_____

Which of the following statements best reflects your preference for sustainable investing?

I would like Pensioenfonds Detailhandel to invest sustainably...

- if this increases my expected pension payments at retirement age.
- if sustainable investing has a direct positive impact on the environment or society. I don't mind if this potentially leads to a reduction in my pension payments at retirement.
- based on social norms or moral reasons. I am determined not to invest in companies that negatively impact the environment or society. I don't mind whether this actually affects the impact of my investments or potentially lowers my pension payments at retirement.
- I do not want Pensioenfonds Detailhandel to invest sustainably.
- I have no opinion.

E.5 Page 5

Part 2: Sustainable Investing at Pensioenfonds Detailhandel
In this second part of the questionnaire, we would like to ask you a few questions about sustainable investing by Pensioenfonds Detailhandel.

E.6 Page 6

Part 2.1: Sustainable Investing

What do you think? In your opinion, how sustainably does Pensioenfonds Detailhandel invest?

- not sustainably
- less than average
- average
- more than average
- very sustainably
- I have no opinion / don't know

I would like Pensioenfonds Detailhandel to:

- expand its sustainable investment policy
- keep it the same
- reduce it
- I have no opinion / don't know

E.7 Page 7

My pension payments at retirement, when investing sustainably compared to a scenario without sustainable investing, are :

- much lower
- lower
- the same
- higher
- much higher
- I have no opinion / don't know

The impact of sustainable investing on society through improvements in environmental and social aspects is:

- very negative
- negative
- neutral
- positive
- very positive
- I have no opinion / don't know

E.8 Page 8

Part 2.2: Different Sustainability Actions

Pensioenfonds Detailhandel would like to hear your opinion on various sustainable investing approaches. This includes the divestment of companies, the integration of sustainability aspects

into investments through portfolio tilting, impact investing, and engagement & voting. We will first provide a short description of each of these investment approaches and then ask you whether, and why, you would like Pensioenfonds Detailhandel to engage in sustainable investing in these ways.

E.9 Page 9

Part 2.2.1: Divestment

Divestment means not investing in certain companies or sectors. Pensioenfonds Detailhandel divests from firms that do not align with the fund's norms and values. For example, it excludes companies involved in cluster munitions, chemical weapons, nuclear weapons, and tobacco. It also excludes buying government debt of undemocratic countries.

Pensioenfonds Detailhandel should:

- expand its divestment universe
- keep divestment unchanged
- reduce its divestment universe
- I have no opinion / don't know

I expect that divestment will affect my pension payments at retirement in the following manner:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it
- I have no opinion / don't know

I expect that divestment will affect the societal impact of my pension investments in the following manner:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it
- I have no opinion / don't know

If I could choose, I would want Pensioenfonds Detailhandel to exclude the following types of

companies (you may select multiple options):

- companies that produce weapons demonstrably used in violations of the laws of war
- companies that produce weapons used by the Dutch military and police
- companies that produce tobacco
- companies that produce alcohol
- companies that offer gambling as a service
- companies that produce or sell pornographic materials
- companies that produce fur
- companies that produce coal
- companies that produce fossil fuels
- companies that produce nuclear energy
- companies involved in serious human rights violations
- companies involved in serious labor rights violations
- companies involved in serious environmental violations
- companies involved in serious corruption or bribery scandals
- companies involved in tax avoidance

E.10 Page 10

Part 2.2.2: Integration of Sustainability Aspects into Investments
When integrating sustainability aspects into investments, Pensioenfonds Detailhandel takes sustainability into account by tilting its portfolio. The fund invests less in companies that do not operate responsibly and more in companies that do. Pensioenfonds Detailhandel considers factors like biodiversity, climate, pollution, labor conditions, and human rights to determine how much to tilt its portfolio investments.

Pensioenfonds Detailhandel should:

- expand tilting portfolios based on sustainability aspects
- keep portfolio tilting unchanged
- reduce tilting portfolios based on sustainability aspects
- I have no opinion / don't know

I expect tilting portfolios to sustainable firms will affect my pension at retirement age as follows:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it

- I have no opinion / don't know

I expect tilting portfolios to sustainable firms will affect the societal impact of my pension investments as follows:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it
- I have no opinion / don't know

E.11 Page 11

Part 2.2.3: Impact Investing

Impact investing involves investing with the goal of generating a positive, measurable social and environmental impact, alongside a positive financial return. This often involves investing in startups or projects that are not publicly listed but aim to create a positive impact on society. Currently, Pensioenfonds Detailhandel invests 1% of its portfolio in impact investments. These focus on providing loans to Dutch small and medium-sized enterprises (SMEs) in circular technology, SMEs in emerging markets, sustainability improvements in European companies, and loans with a green or social purpose.

Pensioenfonds Detailhandel should:

- expand its impact investments
- keep them the same
- reduce them
- I have no opinion / don't know

I expect that impact investing will affect my pension at retirement age as follows:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it
- I have no opinion / don't know

I expect that impact investing will affect the societal impact of my pension investments as follows:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it
- I have no opinion / don't know

E.12 Page 12

Part 2.2.4: Engagement and Voting

Pensioenfonds Detailhandel engages in dialogue with companies and votes at shareholder meetings. It votes globally at shareholder meetings to support sustainability and also holds closed-door discussions to address controversial environmental and social issues. The aim is to improve corporate sustainability performance and bring important societal topics onto companies' agendas. Pensioenfonds Detailhandel also collaborates with other investors to amplify its voice.

Pensioenfonds Detailhandel should:

- expand its engagement and voting efforts
- keep them the same
- reduce them
- I have no opinion / don't know

I expect that engagement and voting efforts will affect my pension at retirement age as follows:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it
- I have no opinion / don't know

I expect that engagement and voting efforts will affect the societal impact of my pension investments as follows:

- significantly decrease it
- decrease it
- not change it
- increase it
- significantly increase it

- I have no opinion / don't know

E.13 Page 13

Part 3: Deliberative mini-public

During the Deliberative mini-public, you discussed sustainable investing in depth with experts and other participants. In this final part of the questionnaire, we would like to know whether and why your opinion on sustainable investing has changed.

Part 3.1: Sustainable Investing Before and After the Deliberative mini-public

My initial view on sustainable investing at the start of the Deliberative mini-public was:

- very positive
- positive
- somewhat positive
- neutral
- somewhat negative
- negative
- very negative
- I have no opinion / don't know

After participating in the Deliberative mini-public, my view on sustainable investing is:

- very positive
- positive
- somewhat positive
- neutral
- somewhat negative
- negative
- very negative
- I have no opinion / don't know

E.14 Page 14

Part 3.2: Dialogue Participants and Experts

During the Deliberative mini-public, you had in-depth conversations about sustainable investing with other participants and with experts.

On average, the opinion of Dialogue Participants about sustainable investing was:

- very positive
- positive

- somewhat positive
- neutral
- somewhat negative
- negative
- very negative
- I have no opinion / don't know

On average, the opinion of experts about sustainable investing was:

- very positive
- positive
- somewhat positive
- neutral
- somewhat negative
- negative
- very negative
- I have no opinion / don't know

The dialogues that changed my view on sustainable investing the most were with:

- dialogue participants
- experts
- both dialogue participants and experts
- my opinion did not change
- I have no opinion
- other (please specify in the box below): _____

E.15 Page 15

Part 3.3: Evaluation of the Deliberative mini-public

We would like to conclude with a few questions about your experience of the Deliberative mini-public.

I had a fair opportunity to express my opinion:

- strongly agree
- agree
- disagree
- strongly disagree
- no opinion

Other participants had a fair opportunity to express their opinion:

- strongly agree
- agree
- disagree
- strongly disagree
- no opinion

Everyone's opinion mattered:

- strongly agree
- agree
- disagree
- strongly disagree
- no opinion

Other participants respectfully considered my opinion, even if they disagreed with it:

- strongly agree
- agree
- disagree
- strongly disagree
- no opinion

The Deliberative mini-public process was transparent and clear:

- strongly agree
- agree
- disagree
- strongly disagree
- no opinion

The impact of the Deliberative mini-public on Pensioenfonds Detailhandel's investment policy was transparent and clear:

- strongly agree
- agree
- disagree
- strongly disagree
- no opinion

The final recommendations reflected the diversity of opinions:

- strongly agree
- agree
- disagree
- strongly disagree
- no opinion

E.16 Page 16

Part 4: Conclusion

Thank you for completing this questionnaire and for your valuable contribution to the Deliberative mini-public!

Appendix F Survey design - Study 2: Survey

F.1 Welcome Page

Dear Participant,
Pension Fund Detailhandel invests your pension contributions to ensure that you can enjoy a secure retirement income in the future. In doing so, we make careful and deliberate decisions regarding how and where these funds are invested.
Our investment choices are of critical importance for your future pension outcomes. For this reason, we seek to involve our participants in these decisions. We are therefore conducting a survey among our members, including you.
We would like to understand your preferences. Specifically, would you prefer that:
Your pension contributions should be invested exclusively to maximize financial returns?
Or would you prefer that:
A portion of your pension contributions be invested in activities that generate positive social and environmental impact?
Your opinion is highly important for the future of your pension. The choice you make today will help determine how we invest your pension assets going forward.
Participation is straightforward. The survey is anonymous and takes approximately 10–12 minutes to complete. As an incentive, participants will have the opportunity to win one of five €250 gift vouchers.
You can participate in the survey at: `https://naarvragenlijst.nl/pensioenfonds`
Thank you in advance for your participation.
Sincerely, Pension Fund Detailhandel

F.2 Page 1

Thank you for participating in our **survey** on **impact investing at Pensioenfonds Detailhandel!** We will raffle **5 digital Amazon gift cards** worth **250 euros each** among the participants. With this study, we aim to give you more **influence** over **how your pension is invested**, especially when it comes to **sustainability**.

Your opinion is incredibly valuable and can **truly make a difference**. We are very curious to hear what you think! In 2018 and 2020, previous surveys and their results had a **real influence on our investment policy** regarding sustainable investing. With this new questionnaire, you again have the **opportunity to shape how your pension is invested** at Pensioenfonds Detailhandel. This is your chance to make your voice heard and help shape the future of impact investing!

The survey consists of three parts:

- First, we will briefly explain what impact investing actually means.

- Then, we would love to hear your opinion on impact investing.
- Finally, we will ask a few general questions to complete the picture.

Filling out the questionnaire will take less than 15 minutes. We've made it as simple as possible: one answer per question is enough.

F.3 Page 2

Informed Consent

Please **read** the following information **carefully** before deciding whether you would like to participate in this survey.

- Completing this questionnaire will take less than 15 minutes.
- During the survey, we collect personal information, including your political preferences. Your responses will be processed anonymously and used solely for research purposes related to this study. Pensioenfonds Detailhandel wants to understand your opinion in order to make investment decisions that better reflect the preferences of its participants.
- For more information, please contact Prof. Dr. Rob Bauer from Maastricht University and the pension fund at `info@pensioenfondsdetailhandel.nl`.

Do you agree with the above and choose to participate in this study?

- Yes, I agree and choose to participate in this study.
- No, I do not agree and choose not to participate in this study. (If you choose this option, you will not be able to complete the survey or share your opinion on impact investing.)

F.4 Page 3

Part 1: Explanation of Impact Investing

Every pension fund invests its pension assets to ensure it can pay out pensions in the long term. Pensioenfonds Detailhandel does the same and will continue to do so. There are several ways to invest, and we would like to hear your opinion on this.

Pensioenfonds Detailhandel engages in sustainable investing, meaning it takes into account not only financial returns but also societal factors such as the environment, climate, nature, and social well-being. Impact investing is part of this approach and aims to make a positive and measurable contribution to these themes.

Achieving a positive financial return remains important. However, returns may sometimes be lower than expected or lower than typical market outcomes. The risk may also be higher. This can affect the eventual value of your pension.

Currently, Pensioenfonds Detailhandel has allocated a portion (1%) of its assets to impact investing. This includes providing loans to Dutch companies to scale up proven innovative circular technologies (such as recycling raw materials) in order to reduce CO_2 emissions and the use of natural resources.

Pensioenfonds Detailhandel also provides loans in emerging markets to small and medium-sized enterprises (SMEs) that make a positive impact in areas such as sustainable production, decent work, and climate action.

F.5 Page 4

We've just explained what impact investing is. Now, we'd like to know your opinion about potential returns and risks. There are no right or wrong answers—this is about your expectations.

Part 1.1: Background Knowledge

How much knowledge do you have about investing?

- No knowledge
- Very little knowledge
- Less than average knowledge
- Average knowledge
- More than average knowledge
- A lot of knowledge
- Very extensive knowledge

How much knowledge do you have about impact investing?

- No knowledge
- Very little knowledge
- Less than average knowledge
- Average knowledge
- More than average knowledge
- A lot of knowledge
- Very extensive knowledge

F.6 Page 5

My pension payments at retirement, compared to a scenario without sustainable investing, are:

- Much lower
- Lower

- The same
- Higher
- Much higher
- I have no opinion / Don't know

The financial risks of impact investing, compared to regular investing, in my opinion are:

- Much lower
- Lower
- The same
- Higher
- Much higher
- I have no opinion / Don't know

The positive contribution of impact investing to the environment, climate, nature, and social well-being, compared to regular investing, is:

- Much lower
- Lower
- The same
- Higher
- Much higher
- I have no opinion / Don't know

F.7 Page 6

Which of the following statements best reflects your motive for impact investing?

I would like Pensioenfonds Detailhandel to impact invest ...

- if this is expected to increase my pension payments at retirement.
- I do not want Pensioenfonds Detailhandel to impact invest.
- for social or moral reasons. I do not want to invest in companies that have a negative impact on the environment or society. I do not mind whether my investments truly have an impact or whether this might lead to a lower pension at retirement.
- if sustainable investing has a positive effect on the environment, climate, nature, and social well-being. I do not mind whether this might lead to a lower pension at retirement.
- I have no opinion.

F.8 Page 7

Part 2: Your Preference for Impact Investing

In this part of the questionnaire, we will ask you several questions about impact investing at Pensioenfonds Detailhandel.

As a reminder: impact investing is a way of investing that aims to make a positive impact on social, environmental, climate, and/or nature-related issues. Achieving a positive financial return remains important. However, returns may sometimes be lower than expected or lower than typical market outcomes. The risk may also be higher. This can affect the eventual value of your pension.

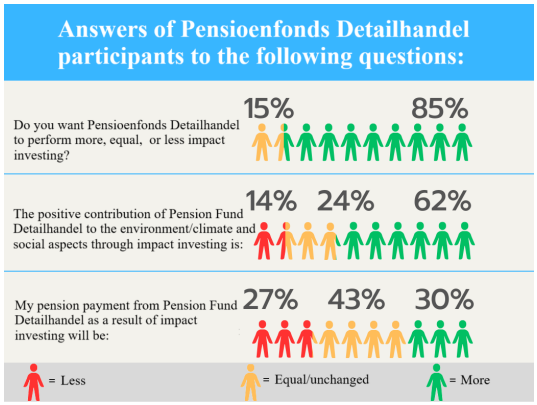
F.9 Page 8a - Information treatment: mini-public

- After receiving this information, we will ask you how you want Pensioenfonds Detailhandel to approach impact investing. In 2024, Pensioenfonds Detailhandel conducted a **Deliberative mini-public** with 43 randomly selected participants and retirees of the fund. We asked them for their views on sustainable investing at Pensioenfonds Detailhandel.
- A Deliberative mini-public is a way to make decisions together. Participants receive clear explanations about a topic and engage in **in-depth deliberation** with one another. They were also **informed** on impact investing by **experts**. It is similar to a citizen's assembly. The goal is to provide advice to the pension fund's board. The mini-public lasted **three full days** and was held in Utrecht.
- During the mini-public, participants received extensive information on sustainable investing from ten experts and were given ample opportunity to deliberate and form a shared view on how Pensioenfonds Detailhandel should address sustainability. Everyone was encouraged to express their views, and this was facilitated by professional moderators. Based on the dialogue, participants made 49 recommendations to Pensioenfonds Detailhandel, several of which concerned impact investing.
- Participants were randomly selected and are comparable to other members of Pensioenfonds Detailhandel in terms of age, gender, and retirement status. They also represent the average Dutch citizen in terms of where they live, where they were born, and their preferences regarding economic growth and the environment.
- At the end of the Deliberative mini-public, we asked whether the pension fund should increase, decrease, or maintain its level of impact investing. We also asked what they thought the effects of impact investing are on environmental and social outcomes and on pension payouts. You will see their responses on the next page.

F.10 Page 9a

Responses from the 3-Day Deliberative mini-public

To help you make a better-informed decision, we have visualized participants' responses from the 3-day deliberative mini-public to these questions in the icon below. The figures are red if participants chose less, orange if they chose the same, and green if they chose more. For example, 85% of participants opted to expand impact investing (in green), and 15% chose to keep it the same (in orange). The more figures shown, the more participants from Pensioenfonds Detailhandel shared that view.



F.11 Page 10a

Control Question

On the previous page, we described how participants from Pensioenfonds Detailhandel felt about impact investing. Participants expressed this opinion:

- in a questionnaire of approximately 15 minutes about impact investing
- in a questionnaire of approximately 60 minutes about impact investing
- after receiving detailed information from experts for 3 days and participating in a deliberative mini-public
- after a one-day training on investing, risk, and return
- I don't know

What proportion of participants wanted your pension fund to invest more in impact investing?

- 0%–29%
- 30%–59%
- 60%–89%
- 90%–100%
- I don't know

F.12 Page 11a

If correct:
Correct!

Participants gave these answers in a 15-minute questionnaire, and 85% of participants chose to increase impact investing.

If incorrect:
One or more answers are unfortunately incorrect.

Participants gave these answers in a 15-minute questionnaire, and 85% of participants chose to increase impact investing.

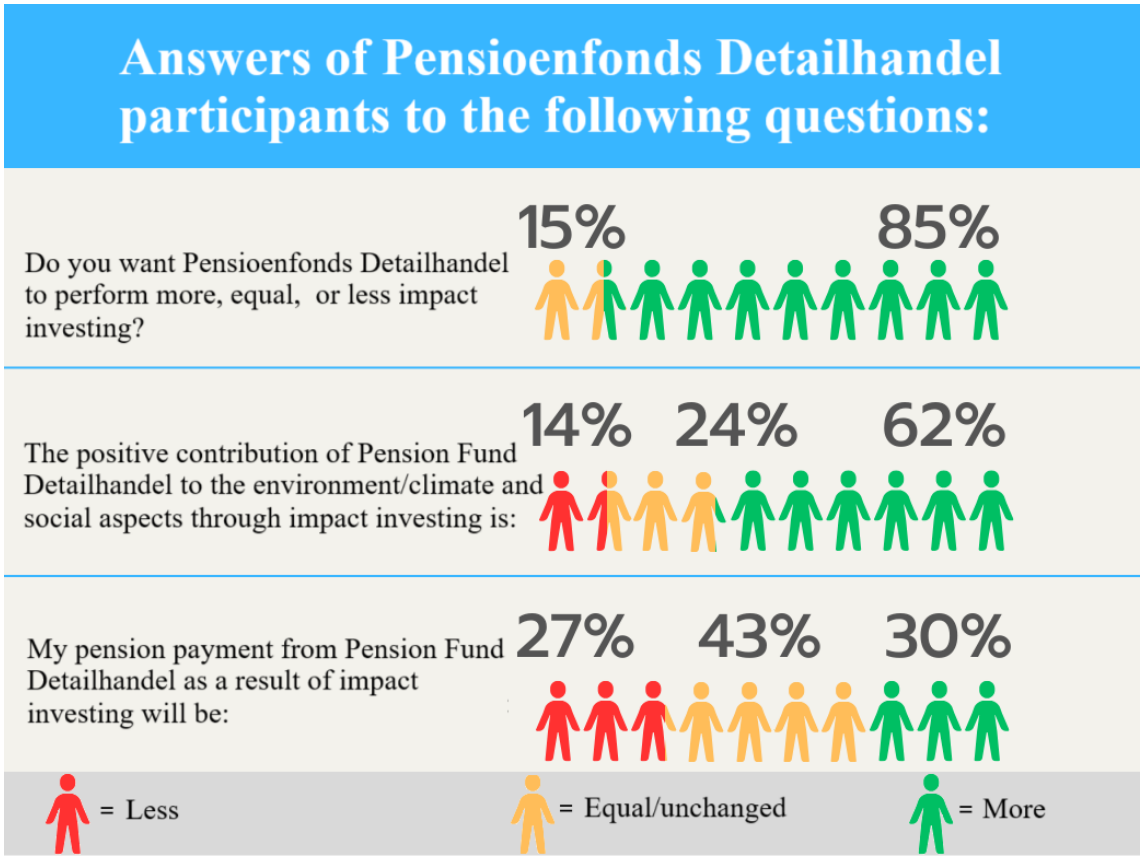
F.13 Page 8b - Information treatment: Peers

- After receiving this information, we will ask you how you want Pensioenfonds Detailhandel to approach impact investing.
- To help you make a more informed choice, we conducted an in-depth survey in 2024 with 43 participants and retirees from Pensioenfonds Detailhandel.
- We asked them whether the pension fund should increase, decrease, or maintain its level of impact investing, and what they believe the effects of impact investing are on environmental and social outcomes as well as on pension payments.
- In this earlier questionnaire, respondents received extensive information about sustainable investing and impact investing.
- Participants spent an average of 15 minutes on the survey and answered carefully.
- Participants were randomly selected and are comparable to other members of Pensioenfonds Detailhandel in terms of age, gender, and retirement status. They also represent the average Dutch citizen in terms of where they live, where they were born, and their preferences regarding economic growth and the environment. You will see their responses on the next page.

F.14 Page 9b

Responses from the 15-minute questionnaire

In the icon below, you see the responses of participants from the 15-minute questionnaire. The figures are colored red if participants chose less, orange if they chose the same, and green if they chose more. For example, 85% of participants opted for expanding impact investing (in green), and 15% chose to keep it the same (in orange). The more figures shown, the more participants of the Pensioenfonds Detailhandel shared that view.



F.15 Page 10b

On the previous page, we explained how participants from Pensioenfonds Detailhandel felt about impact investing.

Participants expressed this opinion:

- in a questionnaire of approximately 15 minutes about impact investing
- in a questionnaire of approximately 60 minutes about impact investing
- after 3 days of receiving extensive information from experts and engaging in a **deliberative mini-public**
- after a one-day training on investing, risk, and return
- I don't know

What proportion of participants wanted your pension fund to invest more in impact investing?

- 0%–29%
- 30%–59%
- 60%–89%
- 90%–100%
- I don't know

F.16 Page 11b

If correct:
Well done!

Participants gave their answers after a 3-day Participant Dialogue, during which they received extensive information from experts and deliberated with one another.

85% of participants chose to increase impact investing.

If incorrect:
One or more answers are unfortunately incorrect.

Participants gave their answers after a 3-day Participant Dialogue, during which they received extensive information from experts and deliberated with one another.

85% of participants chose to increase impact investing.
Participants in the control group did not receive any information

F.17 Page 12a

We randomly assigned participants to page 12a and 12b, which reverses the order of explanation and answers.

Your Choice Counts!

Pensioenfonds Detailhandel wants to include your opinion in its decision on how much to invest in **impact investing**. How does this work?

1. You can let Pensioenfonds Detailhandel know whether you want the fund to stop impact investing (**0%**), keep it unchanged (**1%**), or expand it (to **2% to 5%** of total investments). An investment of 1% corresponds to approximately 350 million euros of the pension fund or a monthly contribution of 3 euros per participant.

2. **Your choice counts!** The board of Pensioenfonds Detailhandel has pledged to carry out the most selected option. This means your pension will no longer include impact investing if "stop" is selected, will remain the same if "keep unchanged" is chosen, and include more impact investments if most participants vote to "expand". We ensure your voice has a representative influence within Pensioenfonds Detailhandel.

What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?

- Stop (**0%**)

- Keep unchanged (**1%**)
- Expand (**2% to 5%**)
- I have no opinion / Don't know

F.18 Page 12b

Your Choice Counts!

Pensioenfonds Detailhandel wants to include your opinion in its decision on how much to invest in **impact investing**. How does this work?

1. You can let Pensioenfonds Detailhandel know whether you want the fund to expand impact investing (to **2% to 5%** of total investments), keep it unchanged (**1%**), or stop impact investing (**0%**). An investment of 1% corresponds to approximately 350 million euros of the pension fund or a monthly contribution of 3 euros per participant.

2. **Your choice counts!** The board of Pensioenfonds Detailhandel has pledged to carry out the most selected option. This means your pension will include more **impact investments** if most participants vote to "expand", will remain the same if "keep unchanged" is chosen, and will no longer include impact investing if "stop" is selected. We ensure your voice has a representative influence within Pensioenfonds Detailhandel.

What do you think? How much should Pensioenfonds Detailhandel invest in impact investing?

- Expand (**2% to 5%**)
- Keep unchanged (**1%**)
- Stop (**0%**)
- I have no opinion / Don't know

F.19 Page 13

Explain your choice in one to two sentences: _____

F.20 Page 14

In addition to how much you want Pensioenfonds Detailhandel to impact invest, we would also like to know how it should implement its impact investing policy. Below are two questions related to impact investing. Even if you previously indicated that you do not want Pensioenfonds Detailhandel to engage in impact investing, we kindly ask you to answer these questions.

We would still like to know your preference in case participants decide that Pensioenfonds Detailhandel should pursue impact investing.

Close to home or further away

Pensioenfonds Detailhandel can invest for impact in several regions: in **low- and middle-income countries**, in **developed regions** (EU, North America, Oceania), within the **Netherlands**, or in a mix of these three options. In developing countries, the social or environmental, climate, and nature-related impact of investing is likely greater, since businesses in places like Kenya, India, or Chile have more difficulty accessing funding. However, the benefits of this impact occur far away. Within developed countries — and especially within the Netherlands — the impact is likely smaller, but the benefits are closer to home.

Your choice counts! Good to know: this is another question for which the board of Pensioenfonds Detailhandel has committed to carrying out the most selected response. This means your choice can influence how your pension is invested.
Where would you like Pensioenfonds Detailhandel to direct its impact investments?

- Mostly in the Netherlands
- Mostly in developed regions (outside the Netherlands)
- Mostly in low- and middle-income countries
- A mix of the Netherlands, developed regions, and low- and middle-income countries
- I don't know / No opinion

F.21 Page 15

Environment, Climate, and Nature or Social Topics

Pensioenfonds Detailhandel can focus its impact investing on different **themes**, for example, more on the **environment, climate, and nature**, or more on **social topics** such as investing in improved hygiene, access to and quality of healthcare, affordable housing, and companies committed to safe working conditions.

Your choice counts! Good to know: this is another question for which the board of Pensioenfonds Detailhandel has pledged to carry out the most selected response. This means your choice can influence how your pension is invested.

On which theme would you like Pensioenfonds Detailhandel to focus its impact investments?

- Mostly on the environment, climate, and nature
- Mostly on social topics
- A mix of environment, climate, nature, and social topics
- I don't know / No opinion

F.22 Page 3

Demographics

I was born in the year: _____

I am:

- Male
- Female
- Other
- Prefer not to say

F.23 Page 16

These questions are directly adopted from Falk, Becker, Dohmen, Enke, Huffman and Sunde (2018).

In general, how willing or unwilling are you to take risks?

Not at all willing to take risks **Very willing to take risks**

1 2 3 4 5 6 7 8 9 10

How willing are you to give to a charity without expecting anything in return?

Not at all willing **Very willing**

1 2 3 4 5 6 7 8 9 10

F.24 Page 17

My highest completed level of education is:
(With the exception of primary education, this refers to a diploma you have obtained.)

- Primary education
- Pre-vocational secondary education (VMBO), Lower general secondary education (MAVO), Extended primary education (MULO)
- Higher general secondary education (HAVO)
- Pre-university education (VWO), including Gymnasium
  Secondary vocational education level 1 (MBO)
- Secondary vocational education level 2 (MBO)
- Secondary vocational education level 3 (MBO)
- Secondary vocational education level 4 (MBO)
- Higher professional education (HBO)

- University (WO)
- Other: _____
- I have not completed any of these education levels

I am currently:

- Employed in the retail sector, namely _____ hours per week
- Employed outside the retail sector, namely _____ hours per week
- Retired
- Other (e.g., not employed)

What is your household's net monthly income? Add up the salary and/or pension that you (and possibly your partner) receive each month.

- Less than €930
- Between €930 and €1,500
- Between €1,500 and €2,000
- Between €2,000 and €2,500
- Between €2,500 and €3,000
- Between €3,000 and €4,000
- Between €4,000 and €7,000
- Between €7,000 and €10,000
- €10,000 or more
- I don't know
- Prefer not to say

During the 2023 general election, I voted for:

- PVV
- GroenLinks/PvdA
- VVD
- NSC
- D66
- BBB
- CDA
- SP
- Denk
- Partij voor de Dieren
- FVD

- SGP
- Christen Unie
- Volt
- JA21
- Other, namely:
- I filed a protest vote
- I did not vote/could not vote
- Prefer not to say

F.25 Page 18a

We ask participants three trust questions. These are tailored for the control group, the mini-public information treatment group, and the peer information treatment group in Pages 18a-c, respectively.

Earlier in this questionnaire, you were asked about increasing or decreasing impact investing. We would now like to ask you three questions related to that topic.

To what extent do you trust that Pensioenfonds Detailhandel will actually implement the choice made by participants in this questionnaire?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

To what extent do you trust the information in this questionnaire about impact investing?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

To what extent do you trust Pensioenfonds Detailhandel in general?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

F.26 Page 18b

Earlier in this questionnaire, you received information about how fellow participants felt about impact investing. We would now like to ask you three questions about this.

*To what extent do you trust that fellow participants who took part in the 3-day **deliberative mini-public** carefully considered their recommendation to Pensioenfonds Detailhandel regarding*

impact investing?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

To what extent do you trust that Pensioenfonds Detailhandel will actually implement the choice made by participants in this questionnaire?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

To what extent do you trust Pensioenfonds Detailhandel in general?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

F.27 Page 18c

Earlier in this questionnaire, you received information about how fellow participants feel about impact investing. We would now like to ask you three questions about this.

To what extent do you trust that fellow participants who completed the 15-minute questionnaire carefully considered their recommendation to Pensioenfonds Detailhandel regarding impact investing?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

To what extent do you trust that Pensioenfonds Detailhandel will actually implement the choice made by participants in the questionnaire you are currently completing?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

To what extent do you trust Pensioenfonds Detailhandel in general?

No trust **Full trust**

1 2 3 4 5 6 7 8 9 10

F.28 Page 19

Control Question

Earlier in this questionnaire, we explained what impact investing means.

Which of the following best describes impact investing?

- Investing with an impact on your pension benefits at retirement. It ensures you have more money for your old age.
- Investing in companies that aim to make a positive impact on social issues and the environment/climate/nature, while also seeking financial returns.
- Investing to help people in developing countries by providing financial resources, without aiming for financial returns.
- I don't know

about ECGI

The European Corporate Governance Institute has been established to improve *corporate governance through fostering independent scientific research and related activities.*

The ECGI will produce and disseminate high quality research while remaining close to the concerns and interests of corporate, financial and public policy makers. It will draw on the expertise of scholars from numerous countries and bring together a critical mass of expertise and interest to bear on this important subject.

The views expressed in this working paper are those of the authors, not those of the ECGI or its members.

Electronic Access to the Working Paper Series

The full set of ECGI working papers can be accessed through the Institute's Web-site (www.ecgi.global/content/working-papers) or SSRN:

Finance Paper Series	http://www.ssrn.com/link/ECGI-Fin.html
Law Paper Series	http://www.ssrn.com/link/ECGI-Law.html