Greener Pensions, Greener Choices: Linking Investments to Sustainable Behavior*

Olga Balakina† Charlotte Christiansen‡ Malene Kallestrup-Lamb§

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Abstract

This paper investigates the effects of offering sustainable investment options through a unique natural experiment that allowed individuals to switch to a plan with a strong sustainability focus. Using pension fund data combined with Danish population registers, we analyze the impact on individual consumption behaviors, particularly vehicle purchases and emissions. Offering sustainable pension options promotes sustainable consumption, driven primarily by individuals who decline the sustainable plan. Women, married individuals, and those with sustainable consumption patterns, such as owning electric vehicles, are more likely to select sustainable pensions, while higher income and financial sophistication predict lower uptake. These results highlight the indirect behavioral effects of sustainable investment choices and underscore the role of pension policies in fostering sustainable practices and societal change.

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†Leibniz Institute for Financial Research, Germany. balakina@safe-frankfurt.de.
‡Aarhus BSS, Aarhus University, Denmark. DFI. cchristiansen@econ.au.dk.
§Aarhus BSS, Aarhus University, Denmark. PeRCent. mkallestrup@econ.au.dk.
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1 Introduction

Sustainable investing is becoming increasingly popular among both retail and institutional investors. However, limited individual participation in the stock market poses challenges to fully understanding the impact of sustainable investment decisions. We argue that linking sustainable investment choices to pension savings can provide valuable insights. On average, Danish pension savings account for approximately 40% of total individual wealth (Statistics Denmark, 2023), making them a significant component of financial planning. Adjusting pension savings toward sustainability is therefore a major decision with long-term implications for individuals and society (Bauer, Ruof and Smeets, 2021). By combining the importance of individual pension choices with the institutional influence of pension funds, we can evaluate the broader consequences of sustainable investment opportunities on other individual decisions.

In this paper, we study a unique natural experiment in which a Danish pension fund offered its members a one-time opportunity to switch from a standard variable annuity product to a version with a strong sustainability profile, presented as one of four options. Using data from the pension fund and detailed Danish population register data, we explore a key question: what are the broader consequences of offering sustainable investment options on individual consumption behavior? Specifically, we focus on vehicle consumption and measure sustainability through the purchase of electric vehicles (EV or PHEV) and the average emission levels of personal vehicles (CO_2, CO, HC, NOX). Our findings reveal that an offer to invest sustainably significantly increases the sustainability of individual consumption. Interestingly, the effect is driven by individuals who decide *not* to invest sustainably in their pensions.

We begin by analyzing the background characteristics associated with the decision to choose a sustainable pension plan and how these pension choices correlate with sustainability preferences and pre-offer consumption. Our findings show that women and married individuals are more likely to choose a sustainable pension plan, whereas higher income and financial sophistication predict a lower likelihood of opting for sustainabil-

ity. Additionally, individuals with sustainable consumption preferences, such as owning an electric vehicle, are more likely to select the sustainable pension plan, even after accounting for their risk profiles. These results align with prior literature, confirming the relationship between demographic and labor market characteristics and sustainable investment choices.

This experiment also allows us to investigate not only the predictors of sustainable investment choices but also the broader consequences of offering such options. Pension savings constitute a crucial component of long-term financial planning, and investment decisions have substantial implications for both financial security and societal outcomes. However, the large share of wealth tied to pensions and low participant engagement can create barriers to sustainable investment. Our results demonstrate that simply offering the option to invest pensions sustainably positively impacts sustainable consumption behaviors, even among those who decline the offer. Specifically, individuals who received the offer were significantly more likely to purchase electric vehicles subsequently. Notably, the increase in sustainable consumption was driven by individuals who chose conventional pension plans rather than the sustainable option, suggesting that the opportunity to invest sustainably influences behavior through mechanisms beyond direct investment decisions.

Our work contributes to the growing literature on sustainable and socially responsible investing (SRI), focusing on motivations, behaviors, and economic implications. Previous studies, such as Riedl and Smeets (2017), highlight the role of intrinsic motivations, including social preferences and signaling, in driving SRI. Others, like Christiansen, Jansson, Kallestrup-Lamb and Noren (2023) and Andersen, Chebotarev, Filali-Adib and Nielsen (2024), explore demographic and wealth-related factors influencing SRI investments, finding that younger investors favor SRI funds, while older, wealthier individuals lean toward charitable giving. We confirm these patterns, showing how demographic and labor market characteristics influence sustainable pension choices, conditional on risk preferences.

Additionally, our results align with studies linking consumption and investments, such as Brunen and Laubach (2022), who find that sustainable consumption behaviors, like buying eco-friendly products, are linked to SRI preferences. Our findings reveal complementarity between consumption and investments, contradicting Famulok, Kormanyos and Worring (2024), who show that individuals with higher carbon footprints tend to select sustainable investments as a form of offsetting. Using detailed population register data, we uncover a strong correlation between owning an electric vehicle and choosing a sustainable pension plan, addressing the gap between stated preferences and actual behavior.

Finally, and most importantly, we examine the broader economic implications of sustainable investing. Prior research, such as Barber, Morse and Yasuda (2021), highlights the trade-offs associated with impact investing, showing that investors are often willing to accept lower financial returns to achieve social and environmental goals. Similarly, Christiansen et al. (2023) find that SRI investors prioritize social and environmental benefits over financial performance. To our knowledge, our study is the first to examine how offering sustainable investment options affects non-survey-based measures of individual sustainable consumption. Our findings suggest that such offers create positive externalities, encouraging sustainable consumption even among those who do not choose the sustainable investment plan. This underscores the importance of policies promoting access to sustainable investments, particularly in the context of pensions, which represent a large share of global assets and serve as a strategic tool for fostering sustainable behaviors.

The remainder of the paper is structured as follows: Section 2 provides the institutional background for the pension offer, while Section 3 introduces the dataset. Section 4 analyzes individuals' sustainable pension choices, and Section 5 examines their sustainable consumption decisions. Section 6 discusses robustness checks, and Section 7 concludes. Additional details and results are included in the Appendix.

2 Institutional Background

This section begins with an overview of the Danish pension system, outlining its key features and structure, followed by a detailed analysis of the specific P+ pension offer under investigation.

2.1 The Danish Pension System

The Danish pension system is globally recognized for its robustness and is structured around three pillars, with the second pillar playing a pivotal role in ensuring retirement security (Ministry of Finance (2020), Mercer (2024)). The system combines universal and occupational pensions to achieve high coverage and economic viability, supported by a strong regulatory framework and efficient management (OECD (2019)). The first pillar provides pension irrespective of the labor history. The second pillar consists of occupational pension schemes, which are typically mandatory and negotiated through collective agreements between employers and trade unions (Bovenberg (2012), Balter, Kallestrup-Lamb and Rangvid (2020)). These schemes are funded and defined contribution-based, providing a range of financial products tailored to individual needs. Pension funds under the second pillar primarily offer lifelong annuities (57%), ensuring a steady income throughout retirement, and lump-sum payments, which provide flexibility for retirees (Danish FSA (2017)). Around one-quarter of the pension plans are structured as fixed-period annuities, either offered as standalone products or combined with lifelong annuities.[1] Insurance products, such as disability and survivor benefits, are often integrated into these schemes, offering comprehensive coverage beyond retirement income (Andersen, Hougaard Jensen and Rangvid (2022)). Finally, the third pillar consists of voluntary individual pension plans. Together, Denmark's three-pillar approach combines universality, flexibility, and security, ensuring it remains one of the most effective systems globally (OECD (2023)).

[1]Payments in at least ten years up to 25-30 years depending on the contract. Pension payments will continue to the relatives if the insured person dies.

2.2 The P+ Pension Fund and the Offer

P+ is a Danish pension fund serving approximately 110,000 members (2023).[2] The fund provides occupational pension schemes for individuals eligible for membership in two trade unions, primarily targeting academics in fields such as law, economics, social sciences, communication, management, and engineering. Thus, these pension schemes belong to the second pillar of the Danish pension system. In 2023, P+ had DKK 150.1 billion assets under management (around USD 20.9 billion). The management of P+ is member-owned and is based on membership democracy.[3]

In 2023, P+ introduced an initiative offering most of its members the opportunity to transition from the existing standard variable annuity product to a newly designed pure variable annuity product. The standard product featured a predetermined medium risk profile and incorporated basic sustainability elements, as set by the pension fund. In contrast, the new product enabled members to better align their investment choices with individual risk tolerance and sustainability preferences. Figure 1 illustrates the structure of the offer and the related decision-making context. Members receiving the offer had the option to take no action and retain their current variable annuity product (no choice). Alternatively, they could actively select one of four options: three plans featuring *conventional sustainability* levels, each differentiated by its risk profile (low, medium, or high), or a plan focused on *strong sustainability* with a fixed medium risk profile

To explore and activate the offer, P+ members were required to log into their personalized P+ webpage, which provides access to their individual pension information. The differences between the four pension plans were communicated to members by presenting relevant outcomes, including best-case, expected, and worst-case future pension payouts. Explicit measures of volatility or similar risk metrics were not provided. The sustainable plan differs from the conventional medium-risk plan by allocating a larger share

[2] https://pplus.dk/en

[3] The board has seven members, where the chairperson and two additional members are appointed by the two trade unions, and the remaining four members are elected by the P+ members at the general assembly. Membership covers a three-year period.

of its portfolio to sustainable assets (39% compared to 10%) and by investing in fewer listed stocks (about 450 compared to about 2,500). Trust in P+ is high among members, reflecting the broader trend of strong institutional trust within the Danish population (Misiura and Rozkwitalska (2019)) and reflecting that P+ is a member-owned pension fund based on membership democracy. Consequently, green-washing is not considered a decisive concern in this context.

Before presenting the new pension options to the member, P+ conducted a survey designed to assist the member in making an informed decision.The survey assessed the members' preferences regarding risk and return, attitudes toward financial losses, and the importance they placed on environmental sustainability. Based on the survey responses, each member was presented with the list of the four available options, with one option highlighted. For members who indicated that sustainability was important, the sustainable plan was highlighted. For the remaining members, the conventional plan that aligned with their risk preferences was highlighted.

Although we are not able to link the survey responses with the rest of the dataset, the survey enables us to analyze the ex-ante sustainability preferences and their alignment with ex-post investment choices.[4] Figure 2 presents the survey results, where the Y-axis represents the highlighted option, and the colors denote the choices made by the members. The figure reveals a strong alignment between the members' stated sustainability preferences and selected investment plans. Among those whose highlighted option was the sustainable plan, 93% opted for the sustainable pension plan. Similarly, 94% of the members who were guided toward the medium-risk conventional plan adhered to that choice. In contrast, notable deviations were observed for the high- and low-risk conventional plans. For the high-risk plan, 10% of the members, despite indicating that sustainability was not a priority, selected the sustainable plan, diverging from their stated risk and sustainability preferences. For the low-risk plan, a large proportion of members transitioned to the medium-risk conventional plan instead, reflecting a shift in their risk

[4]As we only have the overall distribution of the survey responses, we can only make unconditional conclusions about the ex-ante preferences.

tolerance.

The survey results reveal a strong complementarity between the member's stated sustainability preferences and the actual sustainability pension choice. Furthermore, the experiment underscores the potential trade-offs between the preferred risk profile and the sustainability focus of the pension plan, offering an avenue for further analysis in future research.

3 Household Data

This paper combines individual-level data from two sources: the P+ pension fund and Danish register data available through Statistics Denmark. Both datasets rely on an anonymized version of individuals' personal identification numbers, which allows Statistics Denmark to merge them on our behalf.[5]

The P+ pension fund data set provides detailed information about the 2023 offer and data on members' pension portfolios. The P+ data about the offer includes information about whether and when members received an offer to switch plans, whether and when they accepted the offer, and the plan they ultimately selected (including the unchanged plan). For pension account details, we have information on the current plan, total savings, return rates, and the insurance features of the plan.

The Danish register data contains economic, financial, and personal information for the entire Danish population, including details such as gender, date of birth, number of children, marital status, and region of residence. This information enables the identification of individuals, households, and generations over time.

Data from the Danish Tax and Customs Administration (SKAT) provides income, wealth, and portfolio holdings information. Financial institutions supply details about customer deposits and security investments, while employers report wages paid to their employees.

[5]The use of the P+ pension dataset is novel in the empirical household literature, whereas the Danish register-based household data has been widely used in numerous studies, including Andersen et al. (2024).

This ensures comprehensive and accurate financial data.

Educational records include all completed formal and informal education levels, registered annually. We use these records to measure education levels and fields of study. Following Christiansen, Joensen and Rangvid (2008) we define individuals with a Bachelor's or Master's degree in economics, business, or finance as financially sophisticated and referring to them as economists. The employer-employee dataset includes demographics, firm and plant IDs, addresses, and employment characteristics such as industry and managerial status.

Vehicle data includes monthly and yearly records on vehicle ownership, with details such as vehicle type, use, model, fuel type, geographic location, and purchase price. It also contains emissions data, including CO_2, CO, NOX, and HC levels. We use vehicle consumption as a proxy for sustainable consumption.[6] Vehicle expenses represent a significant share of household consumption, and we have unique data on this aspect.

CC: should we add further references to Ulf's paper, as they also use e-cars to measure greenness? Can we also use green heating as they do as one more measure? Also, our did method is very much like their, so I think we need to mention this also.

Our first measure of sustainable consumption is the individual's ownership of an electric vehicle (EV or PHEV). In contrast, ownership of a conventional combustion engine vehicle serves as a proxy for conventional consumption. We construct a dummy variable equal to one if an individual owned at least one EV or PHEV car in 2022, and zero otherwise. Another measure of sustainable consumption is the average CO_2 emissions of the individual's vehicles owned in 2022. Although individuals may not be fully aware of the exact emissions of their cars, the periodic vehicle tax is directly related to CO_2 emissions, providing households with indirect awareness of their vehicles' sustainability.

The final dataset includes just under 80,000 members of the P+ pension fund.[7] Table

[6] Vehicles are a common proxy for consumption and have been used in prior literature, such as Berg, Nielsson and Streitz (2024) and Jensen and Johannesen (2017).

[7] We exclude already retired P+ members and members missing from the general population registry. An individual might be missing from the registry if she left Denmark but kept their pension saving at P+.

1 provides descriptive statistics for various groups of P+ members, showing means and standard deviations for variables related to demographics, education, workplace, financial characteristics, and vehicle consumption. The table separates P+ members into the following categories: those who received an offer, those who made a choice, and subgroups for each of the four pension choices.

The descriptive statistics highlight the unconditional relationships between background variables and P+ members' pension choices. For instance, only 16% of economists chose the sustainable plan, compared to 30% of engineers. Additionally, members who selected the conventional high-risk plan were, on average, younger than those who chose the conventional medium- or low-risk plans.

In the next section, we further explore the relationships between P+ members' background characteristics and their pension choices.

4 Sustainable Pension Choices

In this section, we examine the predictors of sustainable pension choices among P+ pension fund members. Our analysis focuses on the ex-ante demographic, educational, labor market, financial characteristics, and sustainability of car consumption.

To identify the individual characteristics in 2022 that predict sustainable pension choices in 2023, we employ the following linear probability model:

$$p_i = P\left[y_i = \text{Sustainable}\right] = \alpha + \beta X_i + \epsilon_i, \tag{1}$$

where y_i denotes the pension choice of individual i, X_i represents a vector of explanatory variables of interest, and ϵ_i is the error term.

We begin by comparing the choice of a sustainable pension plan to a conventional plan independent of the risk level (low, medium, and high risk). Here, the dependent variable y_i is a binary variable that equals one if individual i selects a sustainable medium-risk

plan and zero if they choose any conventional alternative:

$$y_i = \begin{cases} 1 & \text{if } i \text{ chooses a } \textit{sustainable medium-risk plan} \\ 0 & \text{if } i \text{ chooses any conventional } \textit{low, medium, or high-risk plan.} \end{cases} \tag{2}$$

Column (1) of Table 2 presents the estimation results.[8] Throughout the analysis, we adopt a 5% significance level to discuss the results.

The findings in column (1) identify the characteristics significantly associated with a higher likelihood of selecting the sustainable pension scheme. Married individuals and women are more likely to choose the sustainable plan. This is in contrast with Giglio, Maggiori, Stroebel, Tan, Utkus and Xu (2025) who finds that gender is not significantly related to investing in ESG mutual funds. Also, they find that older individuals are significantly more likely to invest in ESG mutual funds, while we find that age is not significant.

Regarding financial background variables, income is negatively correlated with choosing the sustainable plan. Similarly, individuals with direct stock holdings (SMP equal to one) are less likely to select the sustainable pension plan, and the risky share (value of stock portfolio relative to financial wealth) is also negatively associated with this choice. The results show that the better the financial situation of the individual, the less likely it is that she will go for the sustainable option. This is in contrast with the findings in Giglio et al. (2025) who show that wealth is positively related to investing in ESG mutual funds. Further, informed individuals (economists) are also less likely to go for the sustainable option. This is consistent with sustainability choices being social preference rather than based on financial decision making.

This paper seeks to illuminate the externalities of sustainable investment choices on consumption. As a first step, we explore the ex-ante relationship between consumption and sustainable pension choices. The results in column (1) also show the estimated rela-

[8]Detailed estimation results are available in Table A1 in the Appendix.

tionship between electric vehicle (EV or PHEV) ownership in 2022 (our first measure of sustainable consumption) and the selection of sustainable pension plans in 2023. The coefficient reveals a significant and strong positive association between electric car ownership and the choice of a sustainable pension plan. This suggests that individuals who have already demonstrated sustainable consumption behaviors are also more likely to make sustainable investment choices, reinforcing the complementarity between sustainable consumption and sustainable investment.

The results in column (1) of Table 2 confirm that individual characteristics can predict sustainable pension choices and support the complementarity between sustainable consumption and sustainable investment. However, directly comparing the sustainable medium-risk plan with all conventional alternatives is imperfect, as risk preferences might influence the decisions. For instance, individuals may weigh the trade-off between a high-risk investments and a sustainable focus. Fortunately, the offer setup allows us to control for risk preferences by comparing individuals choosing sustainable medium-risk plans with those choosing conventional medium-risk plans.

To address this, we redefine the dependent variable in Equation (1) as follows:

$$y_i = \begin{cases} 1 & \text{if } i \text{ chooses a } \textit{Sustainable medium risk} \\ 0 & \text{if } i \text{ chooses a } \textit{Conventional medium risk} \end{cases} \tag{3}$$

Column (2) of Table 2 presents the estimation results.[9] Overall, the results are similar to the results in Column (1) that lump all conventional risk profiles, but there are interesting deviations.

Married individuals remain more likely to choose the sustainable plan; however, when controlling for risk preferences, women are less likely to switch to a sustainable plan. Individuals with economics degrees are still less inclined to choose sustainability. Wealth indicators, such as income and pension wealth, remain negatively associated with sus-

[9]Detailed estimation results are available in Table A2 in the Appendix.

tainable choice. Interestingly, individuals with a higher portfolio risky share are more likely to select the sustainable option. Lastly, the electric vehicle ownership indicator remains significantly and positively related to choosing a sustainable pension plan, further supporting the complementarity between sustainable consumption and investment, even when accounting for risk preferences.

In the analysis above, we limit the choice set for an individual to two options: sustainable versus conventional plans, conditional and unconditional on the risk profile. However, P+ members face a choice among four distinct profiles, with only one option possible. To investigate the individual characteristics influencing the selection among these four options, we employ a multinomial logit model (MNL). This approach allows us to model decisions without assuming a natural ordering of plans. The estimation equation is as follows:

$$p_{ij} = P_{MNL}\left[y_i = j\right] = \frac{e^{x_i^{'}\beta_j}}{\sum_{h=1}^{m} e^{x_i^{'}\beta_h}} = \frac{e^{x_i^{'}\beta_j}}{1 + \sum_{h=2}^{m} e^{x_i^{'}\beta_h}}, \tag{4}$$

$$\text{where } y_i = \begin{cases} 1 & \text{if } i \text{ chooses a } \textit{sustainable medium-risk plan} \\ 2 & \text{if } i \text{ chooses a } \textit{conventional high-risk plan} \\ 3 & \text{if } i \text{ chooses a } \textit{conventional medium-risk plan} \\ 4 & \text{if } i \text{ chooses a } \textit{conventional low-risk plan} \end{cases}$$

Table 3 presents the estimates of the marginal effects of the multinominal logit model. Correspondingly, Figures (3)-(9) visualize the effects of marital status, gender, economist, income, pension wealth, risky share, and electric car ownership, respectively, on the likelihood of selecting one of the four plans. The marginal effects in the table 3 and figures (3)-(9) are calculated at means, considering each factor in isolation from other control variables.

All significant marginal effects align with the previous results in Table 2. Married individuals are more likely to choose the sustainable plan among the four options and less

likely to select the high-risk plan. Women prefer medium-risk over high-risk and are more likely to select a sustainable plan over a conventional one. Being an economist and higher income both increase the likelihood of choosing a high-risk plan while reducing the likelihood of selecting a sustainable pension plan. Financial risk indicators, such as LTV, stock market participation, and risky share, are consistently associated with the choice of pension plan risk levels.

Finally, the marginal effect of electric vehicle ownership is significant and positive for the sustainable plan choice while being significantly negative for the conventional medium-risk option.

Overall, our results indicate that ex-ante characteristics, such as gender and marital status, are positively associated with the selection of a sustainable pension profile. Conversely, financial sophistication, risky share, and wealth reduce the probability of choosing a sustainable option. Moreover, the analysis reveals a strong positive correlation between ex-ante sustainable consumption, measured by electric car ownership, and sustainable investments. Combined with the aggregate survey results described in Section 2, these findings highlight the complementarity between sustainable consumption and investments: individuals with sustainability preferences tend to invest sustainably.

In the next section, we examine how sustainable consumption evolves ex-post when individuals are offered the opportunity to invest a substantial share of their wealth sustainably.

5 Sustainable Pension and Consumption Choices

The previous analysis confirms that individuals with preferences for sustainability are more likely to invest sustainably when such options are available. This experiment also provides an opportunity to explore the broader implications of offering sustainable pension-saving options. The substantial value of pensions, combined with low engagement levels, can discourage individuals from incorporating sustainability into their pension investments. However, informing individuals about the possibility of sustainable actions

may inspire behavioral changes in other areas. In this section, we examine whether offering sustainable pension options generates spillover effects on individual's sustainable consumption, specifically focusing on individuals who choose conventional plans over sustainable ones.

To evaluate the causal effect of receiving the offer to invest sustainably, we use the difference-in-differences (DiD) methodology to compare changes in sustainable consumption between members of P+ and a comparable sample from the general population (matched sample). We use vehicle consumption as a proxy for sustainable consumption and limit our sample to vehicle buyers from 2019 to 2023.[10] The DiD methodology assumes that the sustainably consumption of the treated and the matched sample have a parallel trend before the treatment (the offer). The following specification is estimated:

$$Y_{it} = \beta_0 + \beta_1 \text{Post}_t + \beta_2 \text{Treat}_i + \beta_3 (\text{Post}_t \times \text{Treat}_i) + \epsilon_{it}, \tag{5}$$

where Y_{it} measures the level of sustainable consumption for individual i at time t. We focus on two proxies for sustainable consumption. First, we consider the probability of buying an electric vehicle (EV or PHEV), where Y_{it} equals one if individual i purchases at least one electric vehicle in year t. Second, we consider the average CO2 emissions in year t for individual i's car fleet, calculated based on the technical passport emission characteristics of all vehicles owned by individual i in year t.[11][12]

In Equation (5), Post_t indicates the post-treatment period. Specifically, Post_t equals one for 2023 (the year of the offer) and zero for 2019–2022. The variable Treat_i is an indicator for the treatment group, equal to one if individual i is part of the treatment group and zero otherwise.[13]

[10] Since vehicle purchases are infrequent, the resulting data set constitutes an unbalanced panel.

[11] Average emissions are calculated as follows: $Yit = \text{Emissions}it = \frac{\sum^{N} j=1 \text{Emissions}jit}{Nit}$, where Emissions$jit$ represents the technical passport emission characteristics of vehicle j registered to individual i in year t, and Nit is the total number of vehicles.

[12] The appendix provides additional results for the purchases of EV and PHEV cars separately and other types of car emissions, namely CO, HC, and NOX, in Tables A4-A11

[13] Throughout Section 5, different treatment groups are considered.

The term $\text{Post}_t \times \text{Treat}_i$ is an interaction term that captures the treatment effect. A significant and positive coefficient for β_3 implies that the P+ pension fund's offer to invest sustainably increased the treated group's sustainable consumption relative to the control group. Conversely, a significant and negative β_3 indicates a decrease in sustainable consumption relative to that of the control group, while an insignificant β_3 suggests no difference between treatment and control groups. ϵit represents an iid error term.

In the first set of results, we consider all members of the P+ pension fund as a homogeneous group, disregarding whether a member received an offer or not. P+ members differ from the general Danish population across several dimensions, most notably in educational attainment (see Table 4). To construct a suitable control group for each year, we match the sample of P+ members who purchase vehicles in year t with a sample of vehicle buyers from the general population. We use coarsened exact matching (Iacus, King and Porro, 2012), matching based on age, gender, income, educational level, and commune of residence. Table A3 in the Appendix provides descriptive statistics for the P+ sample and the matched sample in 2022. The table shows that the matching ensures comparability across characteristics, including sustainable consumption prior to the treatment.

5.1 Sustainable Consumption of all P+ Members

We begin by analyzing differences in sustainable consumption between P+ members purchasing vehicles and the matched sample of vehicle buyers from the matched sample by estimating Equation (5), with P+ members as the treated group and the matched sample as the control group. In this part of the analysis, Pplus_i serves as the equivalent of Treat_i, which is equal to one if individual i is a P+ fund member and zero otherwise.

Figure 10 presents the results for two dependent variables: electric vehicle purchases (Panel A) and average CO_2 emissions (Panel B). The figures depict the estimated differences in sustainable consumption for each year, along with confidence bands, between P+ members and the matched sample. Both panels show significant effects on the sustainable consumption in 2023 for the P+ members compared to the matched sample. For

both dependent variables, the parallel trend assumption holds, indicating that before the offer, trends in sustainable car consumption did not differ significantly between the two groups. However, after the offer in 2023, the P+ members who purchased vehicles were significantly more likely to buy an electric vehicle and exhibited significantly lower CO_2 emissions than the average matched vehicle buyer from the general population.

Table 5 provides the underlying estimation results used to create Figure 10 for electric vehicle purchases and average car CO_2 emissions. Panel A presents results for all vehicle buyers (as depicted in the figure), Panel B focuses on previous vehicler owners, and Panel C examines first-time vehicle owners.[14]

Table 5 shows that the likelihood of purchasing an electric vehicle is 1.6 percentage points higher for P+ members compared to the matched sample. Given that, in 2023, individuals in the matched sample were 7.3 percentage points more likely to purchase an electric vehicle (Table A4), the effect of the offer represents a substantial 25% increase relative to the trend. Similarly, the difference-in-difference results show that the average CO_2 emissions for P+ members are 2.135 units lower than those of the matched sample. The average emissions in the control group decreased by 13.645 units in 2023 compared to 2022 (Table A5), meaning the treatment led to a 15.6% larger reduction in CO_2 emissions for P+ members.

5.2 Receiving an Investment Offer

We further investigate the effect of receiving the offer to save in a sustainable pension plan by estimating whether P+ members who received the offer increased their sustainable consumption significantly more than those P+ members who did not receive the offer. To do this, we estimate the following model:

[14]Detailed estimation results are provided in Tables A4 and A5 in the Appendix.

$$
\begin{aligned}
Y_{it} =& \alpha_0 + \alpha_1 \text{Post}_t + \alpha_2 \text{Offer}_i + \alpha_3 \text{No_Offer}_i + \\
& \alpha_4 (\text{Post}_t \times \text{Offer}_i) + \alpha_5 (\text{Post}_t \times \text{No_Offer}_i) + \epsilon_{it},
\end{aligned} \tag{6}
$$

where Y_{it} measures the level of sustainable consumption of individual i at time t. Offer_i is equal to one if individual i received an offer to change their pension plan and zero otherwise. No_Offer_i is equal to one if individual i *did not* receive the offer to change their plan and zero otherwise. The control group is a sample matched to all P+ members who bought vehicles in the corresponding year.

Table 6 documents the results of estimating Equation (6).[15] The findings reveal that P+ members who received the offer to switch to a sustainable pension scheme are more likely to purchase an electric car and to have lower CO_2 emissions compared to P+ members who did not receive the offer. The results suggest that the information treatment, in the form of offering members the opportunity to save sustainably, has a causal effect on their consumption behaviors.

5.3 Making any Investment Choice

To further analyze which groups of P+ members drive the observed effects on sustainable consumption, we compare those P+ members who made an active choice to switch their plan with those P+ members who did not. The results are presented in Table 7, which summarizes the estimations from the following model:

$$
\begin{aligned}
Y_{it} =& \alpha_0 + \alpha_1 \text{Post}_t + \alpha_2 \text{Choice}_i + \alpha_3 \text{No_Choice}_i + \\
& \alpha_4 (\text{Post}_t \times \text{Choice}_i) + \alpha_5 (\text{Post}_t \times \text{No_Choice}_i) + \epsilon_{it},
\end{aligned} \tag{7}
$$

Here, Choice_i equals one if individual i made an active choice to switch their pension

[15] Detailed estimation results are provided in Tables A7 and **??** in the Appendix.

plan and zero otherwise. No_Choice$_i$ equals one if individual i did *not* actively choose to change their pension plan and zero otherwise. The control group is again a sample matched to all P+ members buying cars in the corresponding year.

The results in Table 7 demonstrate that both groups — those making an active choice and those avoiding it — increase the sustainability of their consumption.[16] Both groups are significantly more likely to purchase electric vehicles and to reduce the CO_2 emissions of their vehicle fleet compared to the matched sample. Notably, the group making an active choice exhibited greater improvements in sustainable consumption than the group that did not actively make a choice.

5.4 Making a Sustainable Investment Choice

Finally, we analyze whether the significant increase in sustainable consumption originates from individuals who chose a sustainable pension plan or from those who passed over the opportunity to invest sustainably. Table 8 summarizes the results from estimating the following model:

$$\begin{aligned} Y_{it} =& \gamma_0 + \gamma_1 \text{Post}_t + \gamma_2 \text{Sustainable}_i + \gamma_3 \text{Conventional}_i + \gamma_4 \text{No_Choice}_i \\ &+ \gamma_5 (\text{Post}_t \times \text{Sustainable}_i) \\ &+ \gamma_6 (\text{Post}_t \times \text{Conventional}_i) \\ &+ \gamma_7 (\text{Post}_t \times \text{No_Choice}_i) + \epsilon_{it}, \end{aligned} \tag{8}$$

where Sustainable$_i$ equals one if individual i chose a sustainable pension plan and zero otherwise. Conventional$_i$ equals one if individual i chose a conventional plan and zero otherwise. No_Choice$_i$ equals one if individual i did *not* actively choose to change their plan and zero otherwise. The control group is still the sample matched to all P+ members purchasing vehicles in the corresponding year.

[16] Detailed estimation results are provided in Tables A8 and A9 in the Appendix.

The results in Table 8 indicate that P+ members who chose the sustainable pension scheme are not significantly more likely to buy an electric car or to reduce their vehicle CO_2 emissions compared to the control group.[17] Conversely, individuals who chose a conventional plan exhibit a significantly higher likelihood of purchasing an electric vehicle and lowering their vehicle fleet's CO_2 emissions in 2023 relative to the control group. These findings suggest that the observed effect is driven not by a pre-existing preference for sustainability but rather by the informational aspect of the offer. Individuals who passed on the opportunity to invest sustainably in their pensions appear to adjust their behavior in other areas, such as vehicle consumption, to become more sustainable.

Overall, our analysis demonstrates that providing individuals with an opportunity to invest sustainably does not operate in isolation; it generates externalities regarding sustainable consumption. Receiving an offer to invest sustainably significantly increases individual sustainable consumption, particularly among those who pass over the opportunity. This suggests that the informational treatment — that is, providing individuals with the option to make impactful, sustainable choices — has a broader influence on their consumption behavior.

6 Conclusion

Our study underscores the pivotal role of pension savings in promoting sustainable investing and shaping broader consumption behaviors. By examining a unique natural experiment where a large Danish pension fund introduced a sustainability-focused pension plan, we identified key demographic, financial, and occupational factors influencing sustainable investment choices. Women and individuals with sustainable consumption habits demonstrated a higher propensity to select the sustainable plan, while financial sophistication (education in economics or business) and better financial situations were associated with a preference for conventional plans.

Importantly, our findings reveal that the mere availability of sustainable pension options

[17] Detailed estimation results are provided in Tables A10 and A11 in the Appendix.

positively impacts sustainable consumption, such as increased adoption of electric vehicles, even among those who chose conventional pension plans. These results suggest that sustainable investment offerings influence behavior through indirect mechanisms, such as increased awareness or social signaling. Our research highlights the broader societal implications of integrating sustainability into pension savings and underscores the need for further exploration of how institutional mechanisms can promote sustainable financial and consumption practices.

References

Andersen, S., D. Chebotarev, F. Z. Filali-Adib, and K. M. Nielsen (2024): "Rich and responsible: Is ESG a luxury good?"Technical report, Danmarks Nationalbank Working Papers.

Andersen, T., S. Hougaard Jensen, and J. Rangvid ed. (2022): *The Danish Pension System: Design, Performance, and Challenges*, United Kingdom: Oxford University Press, 10.1093/oso/9780198867425.001.0001.

Balter, A. G., M. Kallestrup-Lamb, and J. Rangvid (2020): "Variability in pension products: a comparison study between The Netherlands and Denmark," *Annals of Actuarial Science*, 14, 338 – 357, https://api.semanticscholar.org/CorpusID:219425883.

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

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

Berg, T., U. Nielsson, and D. Streitz (2024): "Financial constraints and household green technology adoption,"Technical report.

Bovenberg, L. (2012): "Benchmarking the Danish pension system: a comparison with Dutch pensions," *Nationaløkonomisk tidsskrift*, 2012, 228–233, https://ideas.repec.org/a/hhs/jdaecn/0050.html.

Brunen, A.-C., and O. Laubach (2022): "Do sustainable consumers prefer socially responsible investments? A study among the users of robo advisors," *Journal of Banking & Finance*, 136, 106314.

Christiansen, C., T. Jansson, M. Kallestrup-Lamb, and V. Noren (2023): "Households' investments in socially responsible mutual funds," *The Quarterly Review of Economics and Finance*, 87, 46–67.

Christiansen, C., J. S. Joensen, and J. Rangvid (2008): "Are economists more likely to hold stocks?" *Review of Finance*, 12, 465–496.

Danish FSA (2017): "Pensions when the guarantees disappear,"Technical report, Danish Financial Supervisory Authority.

Famulok, J., E. Kormanyos, and D. Worring (2024): "Do investors use sustainable assets as carbon offsets?" *Available at SSRN 4349209*.

Giglio, S., M. Maggiori, J. Stroebel, Z. Tan, S. Utkus, and X. Xu (2025): "Four facts about ESG beliefs and investor portfolios," *Journal of Financial Economics*, 164, 103984, https://doi.org/10.1016/j.jfineco.2024.103984.

Iacus, S. M., G. King, and G. Porro (2012): "Causal inference without balance checking: Coarsened exact matching," *Political analysis*, 1–24.

Jensen, T. L., and N. Johannesen (2017): "The consumption effects of the 2007–2008 financial crisis: Evidence from households in Denmark," *American Economic Review*, 107, 3386–3414.

Mercer (2024): "Mercer CFA institute global pension index 2021,"Technical report, Monash Centre for Financial Studies and CFA Institute.

Ministry of Finance (2020): "Pension Projection Exercise 2021 Country Fiche Denmark,"Technical report, Ministry of Finance.

Misiura, G., and M. Rozkwitalska (2019): "Institutions, trust and the high level of innovativeness in the Scandinavian countries," *WSB Journal of Business and Finance*, 53, 44–54, doi:10.2478/wsbjbf-2019-0005.

OECD (2019): "Pensions at a Glance 2019: OECD and G20 Indicators,"Technical report, Paris: OECD Publishing.

——— (2023): "Pensions at a Glance 2023: OECD and G20 Indicators,"Technical report, Paris: OECD Publishing.

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

Tables

Table 1: Descriptive Statistics

	All Pplus members	No Offer	Offer	No Choice	Choice	Sustainable	High Risk	Low Risk	Medium Risk
Demographic Characteristics:									
Age	43.42	42.73	43.54	43.80	42.41	42.41	40.17	54.67	46.57
	(10.61)	(10.80)	(10.57)	(10.63)	(10.22)	(10.37)	(9.30)	(10.30)	(10.39)
Married	0.57	0.55	0.57	0.57	0.58	0.61	0.55	0.69	0.63
	(0.50)	(0.50)	(0.49)	(0.50)	(0.49)	(0.49)	(0.50)	(0.47)	(0.48)
Female	0.49	0.44	0.50	0.51	0.42	0.49	0.38	0.28	0.47
	(0.50)	(0.50)	(0.50)	(0.50)	(0.49)	(0.50)	(0.49)	(0.45)	(0.50)
Kids at home	1.09	1.03	1.10	1.10	1.13	1.12	1.17	0.67	1.05
	(1.06)	(1.06)	(1.07)	(1.07)	(1.06)	(1.05)	(1.08)	(0.87)	(1.04)
Education:									
Master's and Higher	0.78	0.75	0.78	0.77	0.81	0.78	0.83	0.67	0.78
	(0.42)	(0.43)	(0.41)	(0.42)	(0.40)	(0.41)	(0.38)	(0.47)	(0.42)
Social Sciences	0.45	0.37	0.47	0.46	0.50	0.46	0.52	0.34	0.49
	(0.50)	(0.48)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.48)	(0.50)
Business	0.21	0.23	0.21	0.20	0.24	0.15	0.25	0.28	0.23
	(0.41)	(0.42)	(0.41)	(0.40)	(0.42)	(0.35)	(0.43)	(0.45)	(0.42)
Math/Physics/Engeneering	0.27	0.31	0.26	0.27	0.21	0.30	0.18	0.33	0.23
	(0.44)	(0.46)	(0.44)	(0.44)	(0.41)	(0.46)	(0.38)	(0.47)	(0.42)
Economist	0.23	0.23	0.23	0.21	0.29	0.16	0.31	0.26	0.28
	(0.42)	(0.42)	(0.42)	(0.41)	(0.45)	(0.37)	(0.46)	(0.44)	(0.45)
Other Degree	0.21	0.24	0.21	0.21	0.17	0.23	0.16	0.21	0.16
	(0.41)	(0.43)	(0.40)	(0.41)	(0.37)	(0.42)	(0.36)	(0.41)	(0.37)
Manager	0.09	0.09	0.09	0.09	0.10	0.08	0.09	0.08	0.13
	(0.29)	(0.29)	(0.29)	(0.29)	(0.30)	(0.27)	(0.29)	(0.27)	(0.34)
Services	0.83	0.71	0.85	0.85	0.87	0.86	0.88	0.87	0.86
	(0.37)	(0.45)	(0.35)	(0.36)	(0.34)	(0.34)	(0.33)	(0.34)	(0.35)
Workplace:									
Number of Employees	770.03	619.86	796.52	803.72	764.96	856.20	760.81	923.34	733.98
	(1,469.73)	(1,196.00)	(1,511.34)	(1,531.35)	(1,419.94)	(1,653.82)	(1,386.73)	(1,749.58)	(1,378.47)
Firm Growth	0.74	0.60	0.77	0.77	0.75	0.81	0.70	0.06	0.86
	(18.26)	(15.98)	(18.63)	(19.13)	(16.29)	(19.28)	(15.06)	(0.34)	(17.60)
Sector:									
State	0.44	0.30	0.46	0.47	0.44	0.45	0.46	0.39	0.41
	(0.50)	(0.46)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.49)	(0.49)
Region	0.06	0.03	0.06	0.06	0.07	0.07	0.07	0.08	0.06
	(0.23)	(0.18)	(0.24)	(0.24)	(0.25)	(0.25)	(0.25)	(0.27)	(0.25)
Municipality	0.15	0.08	0.16	0.16	0.16	0.17	0.15	0.09	0.18
	(0.35)	(0.26)	(0.37)	(0.37)	(0.37)	(0.38)	(0.36)	(0.29)	(0.38)
Private Sector	0.36	0.60	0.32	0.31	0.33	0.31	0.32	0.43	0.35
	(0.48)	(0.49)	(0.46)	(0.46)	(0.47)	(0.46)	(0.47)	(0.50)	(0.48)
Financial Characteristics									
LogValue of income	13.32	13.33	13.32	13.31	13.34	13.26	13.33	13.36	13.40
	(0.40)	(0.49)	(0.38)	(0.38)	(0.37)	(0.35)	(0.38)	(0.38)	(0.36)
LogValue of stocks	5.17	5.25	5.16	4.84	6.58	5.80	7.09	5.28	5.88
	(5.79)	(5.78)	(5.80)	(5.73)	(5.86)	(5.74)	(5.77)	(5.98)	(5.97)
LogValue of housingwealth	9.97	9.53	10.04	10.00	10.24	9.95	9.97	10.81	10.88
	(6.44)	(6.63)	(6.41)	(6.43)	(6.32)	(6.37)	(6.44)	(6.00)	(6.00)
LogValue of bankdeposit	11.68	11.67	11.68	11.69	11.65	11.57	11.56	12.05	11.86
	(1.52)	(1.50)	(1.52)	(1.54)	(1.44)	(1.44)	(1.39)	(1.40)	(1.51)
LogValue of mortgage	8.62	8.30	8.68	8.64	8.88	8.63	8.78	8.81	9.16
	(6.74)	(6.85)	(6.72)	(6.72)	(6.68)	(6.67)	(6.76)	(6.58)	(6.54)
LogValue of bankloan	7.46	7.58	7.44	7.42	7.51	7.14	7.69	7.18	7.31
	(5.62)	(5.63)	(5.61)	(5.62)	(5.60)	(5.66)	(5.59)	(5.57)	(5.57)
LogValue of fin_wealth	12.05	12.04	12.05	12.02	12.16	11.96	12.14	12.46	12.28
	(1.62)	(1.60)	(1.62)	(1.63)	(1.57)	(1.55)	(1.54)	(1.54)	(1.63)
Log Pension Wealth	13.79	13.51	13.84	13.84	13.85	13.77	13.66	14.59	14.26
	(1.20)	(1.33)	(1.17)	(1.18)	(1.16)	(1.16)	(1.13)	(0.98)	(1.13)
Leverage	1.45	1.27	1.48	1.52	1.27	1.15	1.34	1.05	1.18
	(43.18)	(2.49)	(46.82)	(51.88)	(1.76)	(1.29)	(2.02)	(1.18)	(1.33)
LTV	0.58	0.60	0.58	0.57	0.60	0.57	0.64	0.46	0.54
	(0.92)	(1.08)	(0.89)	(0.81)	(1.19)	(0.70)	(1.46)	(0.47)	(0.61)
SMP	0.37	0.38	0.36	0.34	0.46	0.38	0.50	0.38	0.40
	(0.48)	(0.49)	(0.48)	(0.47)	(0.50)	(0.49)	(0.50)	(0.49)	(0.49)
Risk Share	0.21	0.22	0.21	0.19	0.27	0.22	0.30	0.21	0.23
	(0.31)	(0.31)	(0.31)	(0.30)	(0.33)	(0.30)	(0.34)	(0.31)	(0.31)
Electric Car 2022	0.14	0.17	0.13	0.13	0.15	0.20	0.16	0.14	0.12
	(0.35)	(0.37)	(0.34)	(0.34)	(0.36)	(0.40)	(0.37)	(0.35)	(0.33)
Emission, CO2	95.27	92.12	95.84	96.17	94.48	83.93	93.96	93.35	98.28
	(40.44)	(42.96)	(39.94)	(39.66)	(41.04)	(47.47)	(41.58)	(46.38)	(37.33)
Emission, CO	263.24	258.90	264.00	265.72	257.00	241.76	256.49	249.61	262.12
	(177.50)	(180.57)	(176.94)	(177.59)	(174.12)	(192.36)	(173.18)	(190.14)	(170.20)
Emission, HC	7.99	8.18	7.96	8.16	7.15	5.71	7.28	19.54	6.96
	(29.63)	(30.30)	(29.51)	(29.87)	(27.96)	(24.12)	(28.43)	(47.22)	(27.31)
Emission, NOX	29.62	29.04	29.73	29.89	29.07	25.94	28.84	37.57	29.99
	(31.73)	(32.37)	(31.62)	(31.88)	(30.52)	(28.47)	(30.41)	(44.50)	(30.54)
Observations	80541	12075	68466	55744	12722	1399	7477	99	3746

Table 2: Sustainable Choice

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1) Sustainable	(2) Sustainable, cond. on risk
Demographic Characteristics:		
Age	0.00266	-0.00540
	(0.00338)	(0.00752)
AgeSq	-0.0000120	0.0000237
	(0.0000351)	(0.0000763)
Married	0.0234***	0.0443***
	(0.00691)	(0.0154)
Female	0.0169***	-0.0230*
	(0.00613)	(0.0135)
Kids at home	-0.00219	0.00751
	(0.00349)	(0.00782)
Education:		
Masters degree	-0.00660	-0.00144
	(0.00753)	(0.0161)
Economist	-0.0591***	-0.124***
	(0.00624)	(0.0144)
Labor Market:		
Manager	0.00846	0.0306
	(0.0106)	(0.0227)
Services	-0.0151	-0.0391*
	(0.00933)	(0.0204)
Private Sector	0.00513	-0.00510
	(0.00692)	(0.0152)
Financial Characteristics		
Log Income	-0.0679***	-0.130***
	(0.0110)	(0.0259)
Log Pension Wealth	-0.00837	-0.0371**
	(0.00711)	(0.0162)
LTV	-0.00195	0.0172
	(0.00236)	(0.0106)
SMP	-0.0134**	-0.00166
	(0.00679)	(0.0152)
Risky Share	-0.0263**	0.0593**
	(0.0105)	(0.0245)
Consumption: Cars		
Electric Car	0.0230**	0.0757***
	(0.0105)	(0.0241)
Rsq	0.02	0.07
Observations	11,121	4,425

Table 3: Choice: Multinomial Logit Model

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Sust. Medium Risk	Conv. High Risk	Conv. Medium Risk	Conv. Low Risk
Age	-0.001	0.007	-0.006	0.000
	(0.003)	(0.005)	(0.005)	(0.001)
AgeSq	0.000	-0.000***	0.000***	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Married	0.024***	-0.035***	0.011	-0.000
	(0.007)	(0.011)	(0.010)	(0.002)
Female	0.015**	-0.093***	0.079***	-0.001
	(0.006)	(0.009)	(0.009)	(0.002)
Kids at home	-0.002	0.016***	-0.013***	-0.000
	(0.004)	(0.005)	(0.005)	(0.001)
Masters degree	-0.008	0.022**	-0.012	-0.002
	(0.007)	(0.011)	(0.010)	(0.002)
Economist	-0.060***	0.051***	0.010	-0.000
	(0.006)	(0.009)	(0.009)	(0.002)
Manager	0.008	-0.005	0.001	-0.004*
	(0.012)	(0.016)	(0.014)	(0.002)
Services	-0.016	-0.002	0.016	0.001
	(0.010)	(0.014)	(0.013)	(0.002)
Private Sector	0.002	-0.016	0.013	0.000
	(0.007)	(0.011)	(0.010)	(0.002)
Log Income	-0.077***	0.096***	-0.020	0.001
	(0.011)	(0.017)	(0.015)	(0.003)
Log Pension Wealth	-0.008	-0.030***	0.043***	-0.006***
	(0.007)	(0.011)	(0.010)	(0.002)
LTV	-0.002	0.036***	-0.034***	-0.001
	(0.004)	(0.007)	(0.007)	(0.002)
SMP	-0.013*	0.040***	-0.027***	-0.000
	(0.007)	(0.010)	(0.010)	(0.002)
Risky Share	-0.030***	0.191***	-0.156***	-0.005*
	(0.011)	(0.016)	(0.015)	(0.003)
Electric Car	0.023**	0.030*	-0.054***	0.000
	(0.012)	(0.016)	(0.014)	(0.003)
Observations		11121		

Table 4: Descriptive Statistics: P+ Members vs General Population

	All Pplus members	General Population
Demographic Characteristics:		
Age	43.81	44.72
	(11.26)	(12.17)
Married	0.58	0.50
	(0.49)	(0.50)
Female	0.32	0.30
	(0.47)	(0.46)
Kids at home	1.11	0.89
	(1.07)	(1.06)
Master's and Higher	0.74	0.13
	(0.44)	(0.34)
Economist	0.24	0.04
	(0.43)	(0.20)
Manager	0.11	0.05
	(0.31)	(0.22)
Services	0.82	0.44
	(0.39)	(0.50)
Workplace:		
Number of Employees	672.83	350.62
	(1,336.23)	(1,082.72)
Firm Growth	0.70	0.33
	(15.85)	(8.92)
Sector:		
State	0.39	
	(0.49)	
Region	0.06	
	(0.23)	
Municipality	0.15	
	(0.36)	
Private Sector	0.40	
	(0.49)	
Financial Characteristics		
LogValue of income	13.32	13.00
	(0.43)	(0.44)
LogValue of stocks	4.85	2.78
	(5.71)	(4.78)
LogValue of housingwealth	10.41	8.46
	(6.19)	(6.71)
LogValue of bankdeposit	11.53	10.92
	(1.59)	(1.74)
LogValue of mortgage	9.14	7.38
	(6.62)	(6.76)
LogValue of bankloan	8.51	8.88
	(5.34)	(5.08)
LogValue of fin_wealth	11.88	11.11
	(1.69)	(1.82)
Log Pension Wealth	13.82	13.32
	(1.34)	(1.52)
Leverage	1.47	1.09
	(20.98)	(7.98)
LTV	0.67	0.52
	(1.03)	(2.88)
SMP	0.36	0.22
	(0.48)	(0.42)
Risk Share	0.22	0.14
	(0.32)	(0.28)
Observations	37997	1469313

Table 5: P+ Members vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel A: All car buyers		
	Electric Car	CO2 emissions
Pplus=1×year=2019	-0.007	-0.410
	(0.007)	(0.913)
Pplus=1×year=2020	0.000	-0.356
	(0.007)	(0.907)
Pplus=1×year=2021	-0.006	0.589
	(0.007)	(0.891)
Pplus=1×year=2023	0.016**	-2.135**
	(0.007)	(0.904)
Constant	0.332***	74.251***
	(0.002)	(0.212)
Observations	399647	303572
Panel B: Car Owners		
Pplus=1×year=2019	-0.006	-0.278
	(0.009)	(1.121)
Pplus=1×year=2020	0.007	-0.646
	(0.009)	(1.131)
Pplus=1×year=2021	-0.008	0.683
	(0.009)	(1.106)
Pplus=1×year=2023	0.018*	-2.142*
	(0.009)	(1.098)
Constant	0.357***	74.254***
	(0.002)	(0.262)
Observations	248907	199859
Panel C: Car Owners		
Pplus=1×year=2019	-0.004	-0.725
	(0.011)	(1.577)
Pplus=1×year=2020	-0.005	0.113
	(0.011)	(1.523)
Pplus=1×year=2021	-0.002	0.412
	(0.011)	(1.508)
Pplus=1×year=2023	0.017	-2.109
	(0.012)	(1.599)
Pplus FE	Yes	Yes
Year FE	Yes	Yes
Observations	150740	103713

Table 6: Offer vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel A: All car buyers		
	Electric car	CO2
No offer×year=2023	-0.008	0.484
	(0.016)	(2.012)
Offer×year=2023	0.024***	-2.750***
	(0.008)	(0.992)
	(0.002)	(0.212)
Observations	398729	303572
Panel B: Car Owners		
No offer×year=2023	-0.019	-0.218
	(0.020)	(2.453)
Offer×year=2023	0.028***	-2.566**
	(0.010)	(1.203)
	(0.002)	(0.262)
Observations	247988	199859
Panel C: New Car Owners		
No offer×year=2023	0.018	1.991
	(0.026)	(3.530)
Offer×year=2023	0.018	-3.144*
	(0.013)	(1.758)
	(0.003)	(0.359)
Offer FE	Yes	Yes
Year FE	Yes	Yes
Observations	150740	103713

Table 7: Choice vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel A: All car buyers	Electric car	CO2
No Choice×year=2023	0.019**	-2.178**
	(0.009)	(1.105)
Choice×year=2023	0.045***	-5.091**
	(0.017)	(2.091)
	(0.002)	(0.211)
Observations	392518	298640
Panel B: Car Owners		
No Choice×year=2023	0.026**	-2.565*
	(0.011)	(1.339)
Choice×year=2023	0.034	-2.754
	(0.021)	(2.535)
	(0.002)	(0.261)
Observations	244068	196609
Panel C: New Car Owners		
No Choice×year=2023	0.005	-1.302
	(0.014)	(1.958)
Choice×year=2023	0.070***	-10.215***
	(0.027)	(3.706)
	(0.003)	(0.359)
Choice FE	Yes	Yes
Year FE	Yes	Yes
Observations	148449	102031

Table 8: Sustainable Choice vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel A: All car buyers		
	Electric car	CO2
No Choice×year=2023	0.019**	-2.178**
	(0.009)	(1.105)
Conventional×year=2023	0.053***	-5.855***
	(0.017)	(2.179)
Sustainable×year=2023	-0.043	6.320
	(0.057)	(7.324)
	(0.002)	(0.211)
Observations	392518	298640
Panel B: Car Owners		
No Choice×year=2023	0.026**	-2.565*
	(0.011)	(1.339)
Conventional×year=2023	0.038*	-2.908
	(0.022)	(2.638)
Sustainable×year=2023	-0.022	1.452
	(0.075)	(9.052)
	(0.002)	(0.261)
Observations	244068	196609
Panel C: New Car Owners		
No Choice×year=2023	0.005	-1.302
	(0.014)	(1.958)
Conventional×year=2023	0.085***	-12.383***
	(0.029)	(3.875)
Sustainable×year=2023	-0.077	15.272
	(0.086)	(12.475)
	(0.003)	(0.359)
Choice FE	Yes	Yes
Sustainable FE	Yes	Yes
Year FE	Yes	Yes
Observations	148449	102031

Figures

Figure 1: P+ Pension Offer

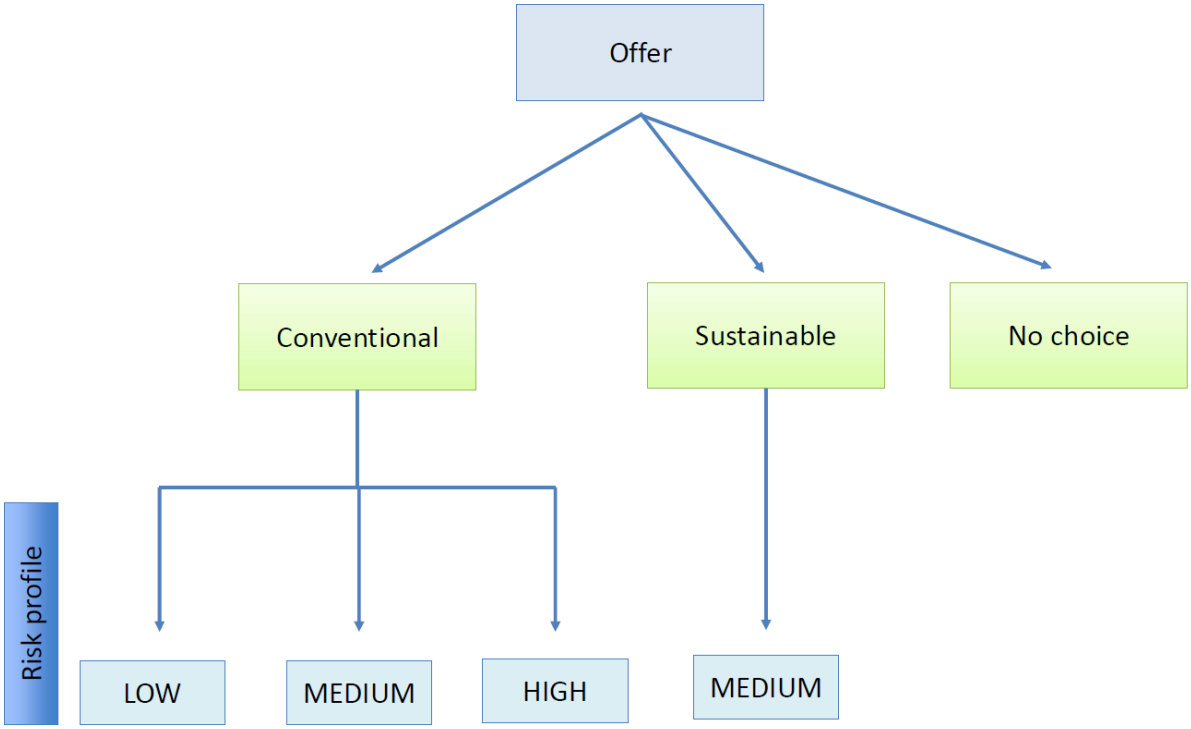


Figure 2: P+ Survey Results

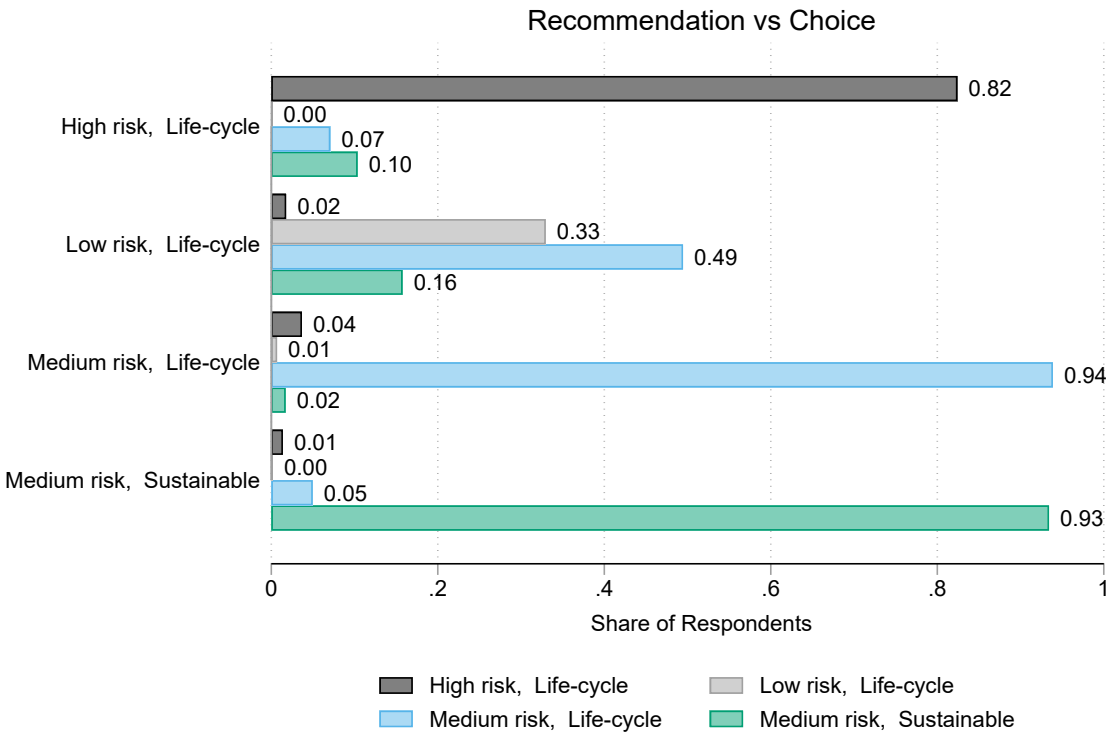


Figure 3: Gender

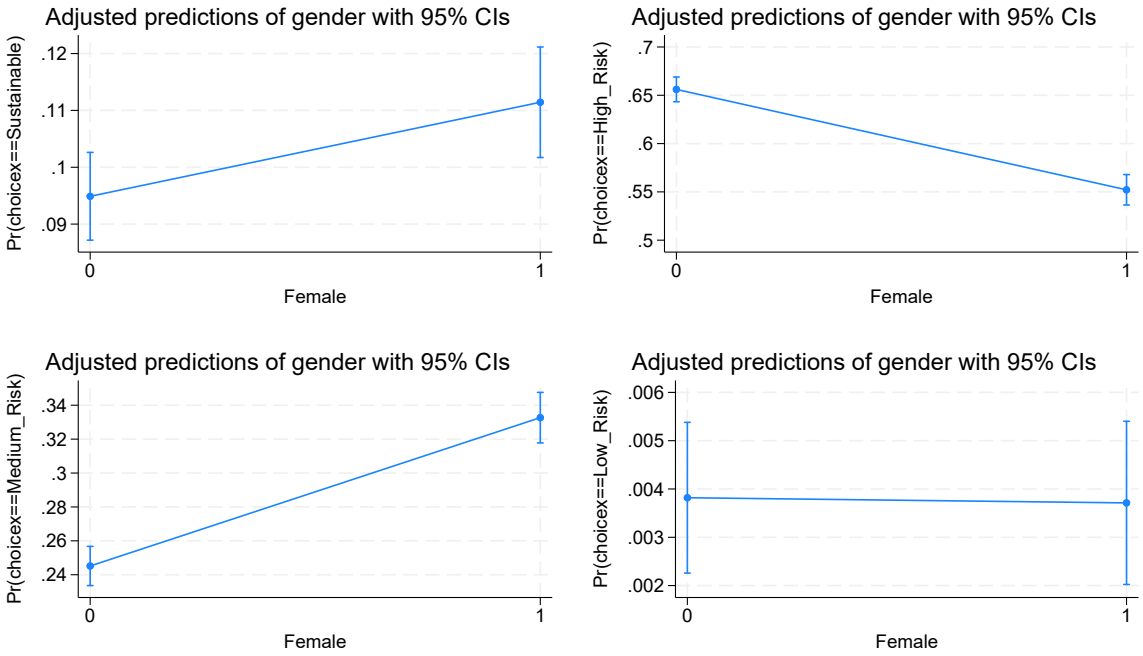


Figure 4: Electric Car consumption

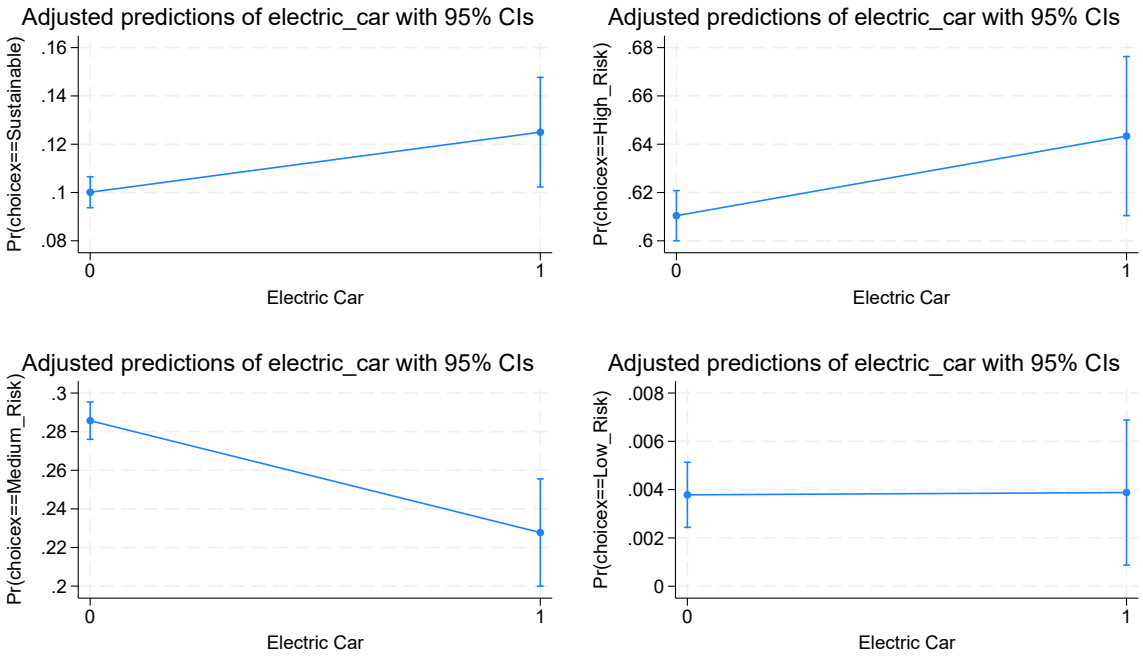


Figure 5: Marriage

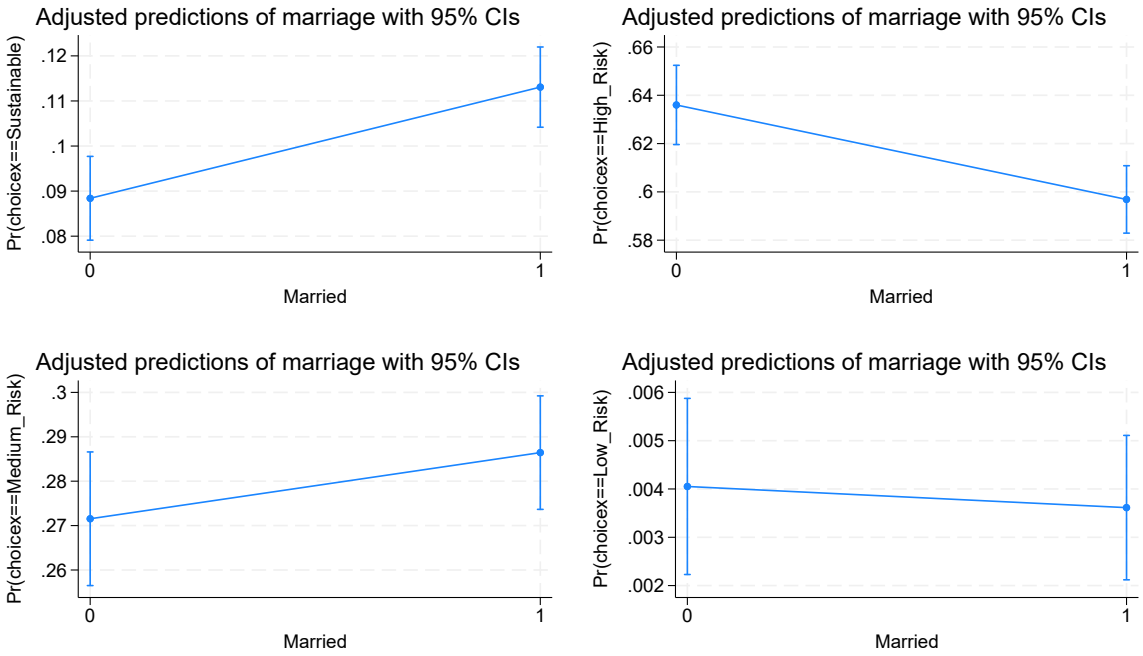


Figure 6: Economist

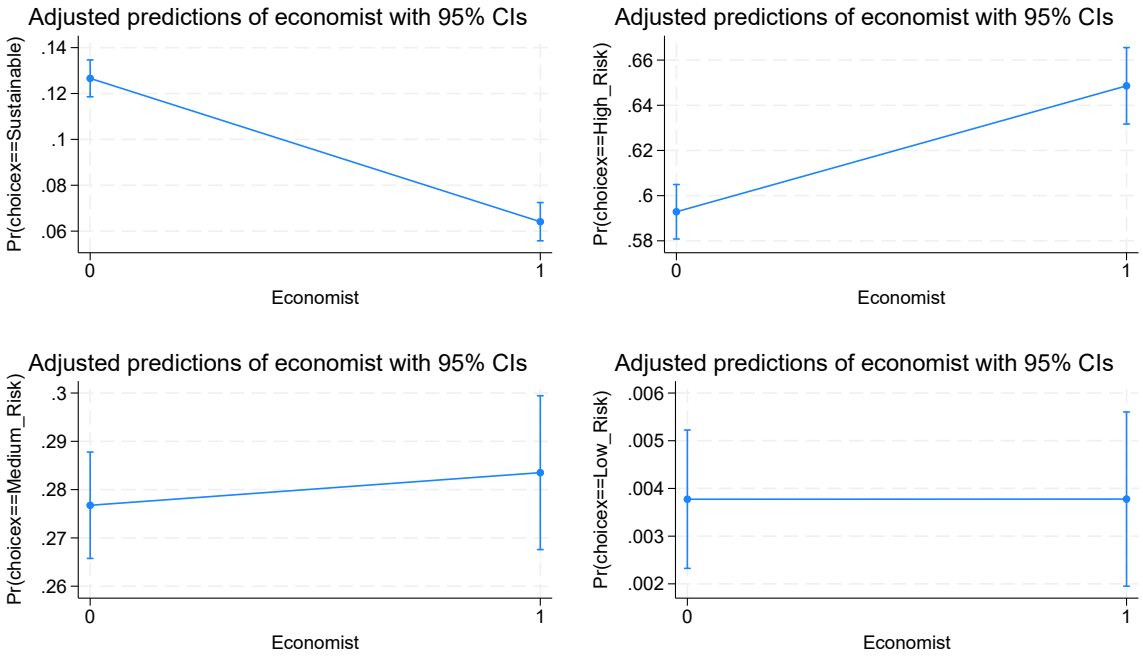


Figure 7: Income

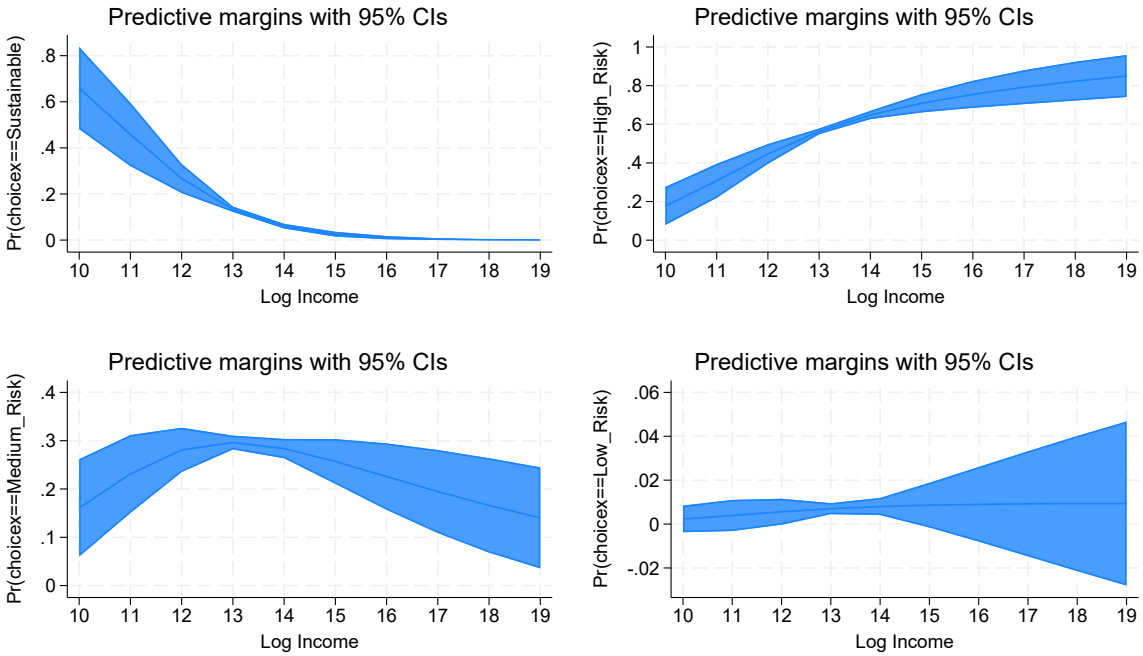


Figure 8: Pension Wealth

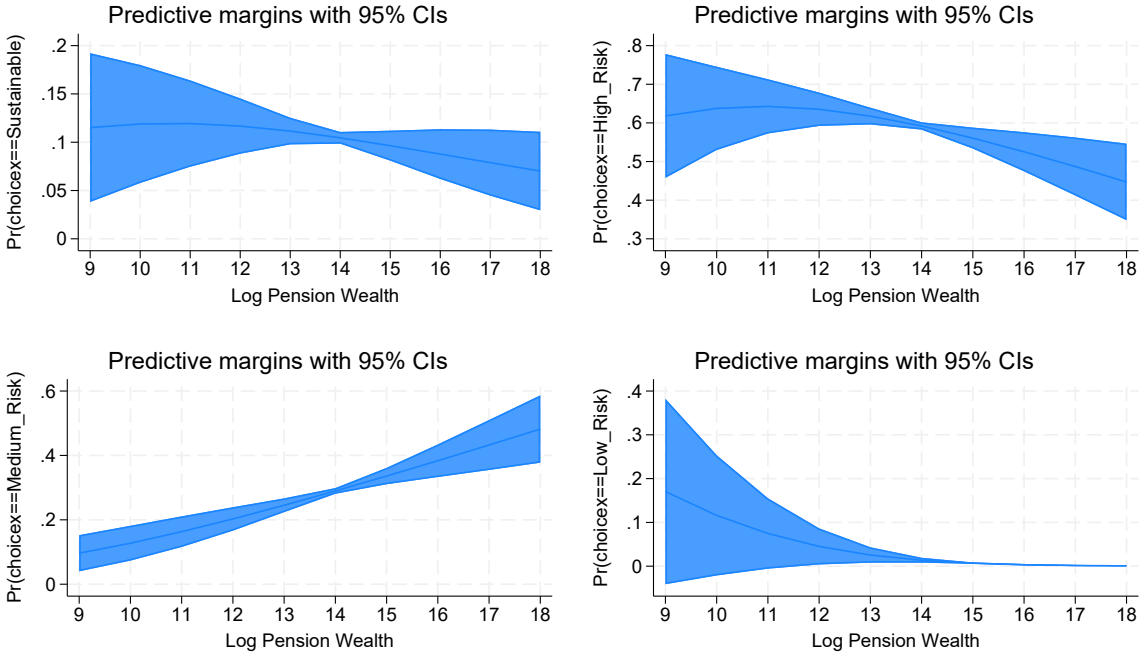
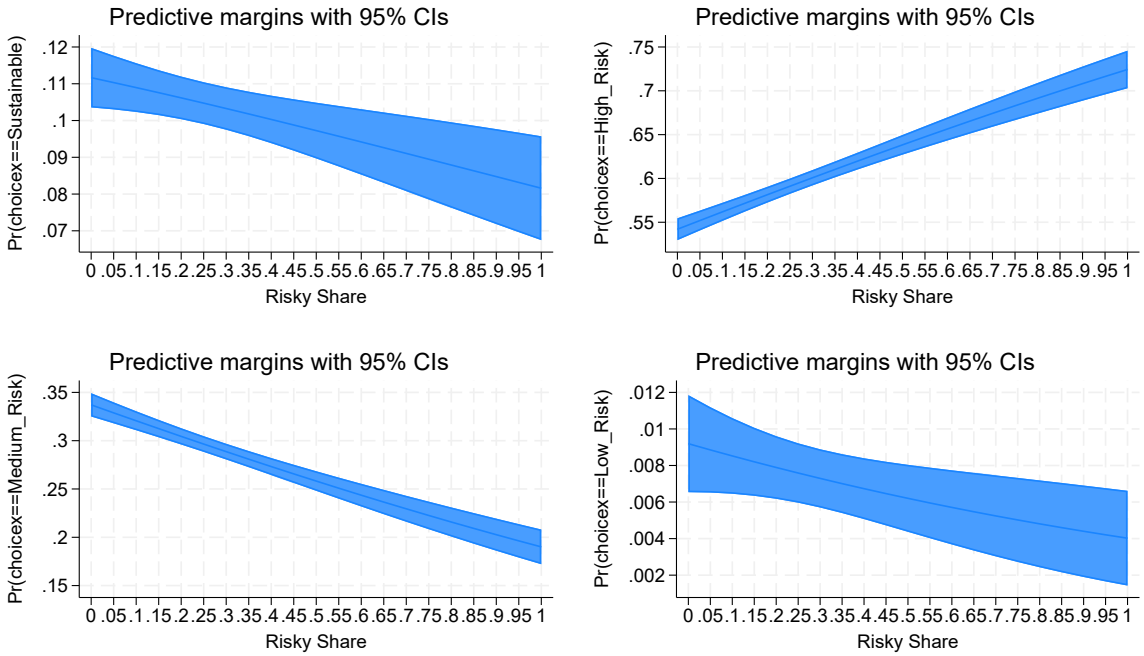
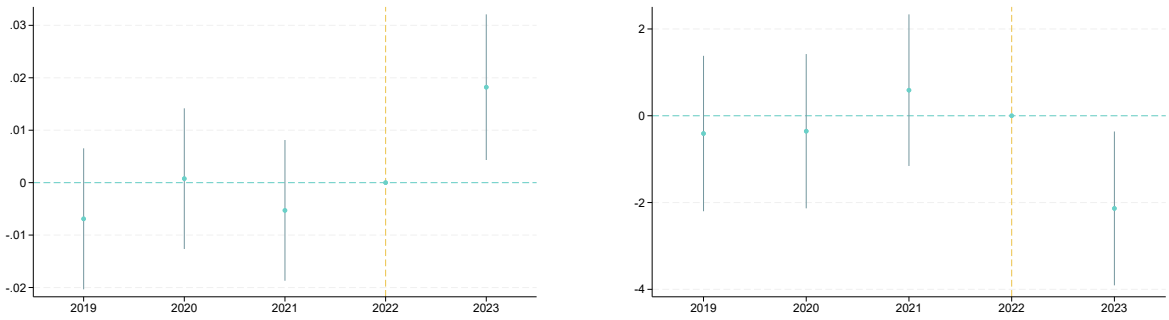


Figure 9: Risky Share





A. New Electric Car B. Average CO^2 Emissions

Figure 10: Difference-in-Difference: Pplus vs Matched Control Group.

Appendix

Table A1: Choice: Sustainability vs Conventional Plan

Columns (1)-(5) report results for each group of predictors separately, column (6) combines all the predictors in one specification, and column (7) adds workplace fixed effects. Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Demographic Characteristics:						
Age	-0.00292					0.00266
	(0.00271)					(0.00338)
AgeSq	0.0000320					-0.0000120
	(0.0000307)					(0.0000351)
Married	0.0219***					0.0234***
	(0.00658)					(0.00691)
Female	0.0329***					0.0169***
	(0.00568)					(0.00613)
Kids at home	-0.00439					-0.00219
	(0.00335)					(0.00349)
Education:						
Masters degree		-0.00772				-0.00660
		(0.00732)				(0.00753)
Economist		-0.0622***				-0.0591***
		(0.00619)				(0.00624)
Labor Market:						
Manager			-0.0305***			0.00846
			(0.00920)			(0.0106)
Services			-0.0175*			-0.0151
			(0.00899)			(0.00933)
Private Sector			-0.0134**			0.00513
			(0.00640)			(0.00692)
Financial Characteristics						
Log Income				-0.0738***		-0.0679***
				(0.00954)		(0.0110)
Log Pension Wealth				0.00967***		-0.00837
				(0.00308)		(0.00711)
LTV				-0.00201		-0.00195
				(0.00234)		(0.00236)
SMP				-0.0228***		-0.0134**
				(0.00657)		(0.00679)
Risky Share				-0.0261***		-0.0263**
				(0.0101)		(0.0105)
Consumption: Cars						
Electric Car					0.0162	0.0230**
					(0.00991)	(0.0105)
Constant	0.151***	0.131***	0.133***	0.979***	0.109***	1.067***
	(0.0556)	(0.00662)	(0.00938)	(0.106)	(0.00290)	(0.132)
Rsq	0.00	0.01	0.00	0.01	0.00	0.02
Observations	12,721	11,315	12,721	12,504	12,721	11,121

Table A2: Choice: Sustainable vs Conventional Medium Risk

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Demographic Characteristics:						
Age	-0.0198***					-0.00540
	(0.00590)					(0.00752)
AgeSq	0.000132**					0.0000237
	(0.0000655)					(0.0000763)
Married	0.0356**					0.0443***
	(0.0144)					(0.0154)
Female	-0.0110					-0.0230*
	(0.0125)					(0.0135)
Kids at home	0.00484					0.00751
	(0.00739)					(0.00782)
Education:						
Masters degree		0.0223				-0.00144
		(0.0159)				(0.0161)
Economist		-0.126***				-0.124***
		(0.0146)				(0.0144)
Labor Market:						
Manager			-0.105***			0.0306
			(0.0193)			(0.0227)
Services			-0.0251			-0.0391*
			(0.0195)			(0.0204)
Private Sector			-0.0381***			-0.00510
			(0.0142)			(0.0152)
Financial Characteristics						
Log Income				-0.0914***		-0.130***
				(0.0218)		(0.0259)
Log Pension Wealth				-0.0598***		-0.0371**
				(0.00683)		(0.0162)
LTV				0.0233**		0.0172
				(0.00965)		(0.0106)
SMP				-0.0137		-0.00166
				(0.0146)		(0.0152)
Risky Share				0.0656***		0.0593**
				(0.0232)		(0.0245)
Consumption: Cars						
Electric Car					0.0598***	0.0757***
					(0.0227)	(0.0241)
Constant	0.864***	0.282***	0.319***	2.314***	0.267***	2.739***
	(0.124)	(0.0140)	(0.0204)	(0.244)	(0.00647)	(0.310)
Rsq	0.03	0.02	0.01	0.04	0.00	0.07
Observations	5,145	4,505	5,145	5,058	5,145	4,425

Table A3: Comparing Treated and Control-Matched Samples (2022)

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	Pplus	CEM Matched Sample	T-test
Age	44.49	44.47	0.10
	(10.91)	(10.91)	
Female	0.32	0.32	0.00
	(0.47)	(0.47)	
LogValue of income	13.38	13.36	2.76***
	(0.39)	(0.53)	
Master's degree	0.75	0.75	-0.00
	(6.94)	(6.94)	
New Electric car	0.34	0.33	0.71
	(0.47)	(0.47)	
Average CO2 emissions	74.98	74.25	0.86
	(52.26)	(52.18)	
Observations	5816	51540	

Table A4: Buying an Electric Car: P+ Members vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel A: All car buyers			
	Electric Car	EV	PHEV
Pplus=1	0.006	0.006	0.001
	(0.005)	(0.004)	(0.003)
year=2019	-0.247***	-0.188***	-0.071***
	(0.002)	(0.002)	(0.001)
year=2020	-0.175***	-0.146***	-0.040***
	(0.002)	(0.002)	(0.001)
year=2021	-0.056***	-0.080***	0.019***
	(0.002)	(0.002)	(0.001)
year=2023	0.073***	0.107***	-0.028***
	(0.002)	(0.002)	(0.001)
Pplus=1×year=2019	-0.007	-0.006	-0.002
	(0.007)	(0.006)	(0.004)
Pplus=1×year=2020	0.001	-0.005	0.006
	(0.007)	(0.006)	(0.004)
Pplus=1×year=2021	-0.005	-0.004	-0.003
	(0.007)	(0.006)	(0.004)
Pplus=1×year=2023	0.018**	0.024***	-0.006
	(0.007)	(0.006)	(0.004)
Constant	0.297***	0.223***	0.086***
	(0.002)	(0.001)	(0.001)
Observations	398729	398979	397872
Panel B: Car Owners			
Pplus=1	0.006	0.008	-0.003
	(0.006)	(0.006)	(0.004)
year=2019	-0.248***	-0.192***	-0.073***
	(0.002)	(0.002)	(0.002)
year=2020	-0.159***	-0.142***	-0.033***
	(0.003)	(0.003)	(0.002)
year=2021	-0.033***	-0.073***	0.034***
	(0.003)	(0.003)	(0.002)
year=2023	0.061***	0.102***	-0.032***
	(0.003)	(0.003)	(0.002)
Pplus=1×year=2019	-0.008	-0.009	0.001
	(0.009)	(0.008)	(0.006)
Pplus=1×year=2020	0.006	-0.004	0.011**
	(0.009)	(0.008)	(0.006)
Pplus=1×year=2021	-0.008	-0.007	-0.002
	(0.009)	(0.008)	(0.006)
Pplus=1×year=2023	0.019**	0.021***	-0.002
	(0.009)	(0.008)	(0.006)
Constant	0.303***	0.230***	0.091***
	(0.002)	(0.002)	(0.001)
Observations	247988	248239	247132
Panel C: Car Owners			
Pplus=1	0.004	-0.001	0.007
	(0.008)	(0.007)	(0.005)
year=2019	-0.246***	-0.180***	-0.066***
	(0.003)	(0.003)	(0.002)
year=2020	-0.197***	-0.149***	-0.048***
	(0.003)	(0.003)	(0.002)
year=2021	-0.090***	-0.089***	-0.001
	(0.003)	(0.003)	(0.002)
year=2023	0.096***	0.116***	-0.020***
	(0.004)	(0.003)	(0.002)
Pplus=1×year=2019	-0.004	0.003	-0.008
	(0.011)	(0.010)	(0.006)
Pplus=1×year=2020	-0.005	-0.003	-0.004
	(0.011)	(0.009)	(0.006)
Pplus=1×year=2021	-0.002	0.004	-0.007
	(0.011)	(0.009)	(0.006)
Pplus=1×year=2023	0.017	0.031***	-0.015**
	(0.012)	(0.010)	(0.007)
Constant	0.288***	0.210***	0.078***
	(0.003)	(0.002)	(0.001)
Observations	150740	150740	150740

Table A5: Average CO_2 Emissions: P+ Members vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

Panel A: All car buyers				
	CO2	CO	HC	NOX
Pplus=1	0.730	-1.241	0.113	0.491
	(0.656)	(2.854)	(0.508)	(0.486)
year=2019	30.774***	40.657***	2.108***	7.974***
	(0.256)	(1.092)	(0.191)	(0.186)
year=2020	21.495***	24.288***	0.682***	4.810***
	(0.292)	(1.235)	(0.216)	(0.210)
year=2021	8.896***	16.208***	0.145	2.086***
	(0.285)	(1.231)	(0.217)	(0.209)
year=2023	-13.645***	-35.525***	0.605***	-3.599***
	(0.292)	(1.270)	(0.234)	(0.216)
Pplus=1×year=2019	-0.410	5.492	-0.555	-0.874
	(0.913)	(3.857)	(0.666)	(0.656)
Pplus=1×year=2020	-0.356	5.447	-0.665	-0.156
	(0.907)	(3.830)	(0.667)	(0.651)
Pplus=1×year=2021	0.589	7.012*	-0.540	-1.203*
	(0.891)	(3.839)	(0.675)	(0.653)
Pplus=1×year=2023	-2.135**	-6.514*	-0.892	-1.647**
	(0.904)	(3.933)	(0.732)	(0.669)
Constant	74.251***	222.867***	7.292***	24.224***
	(0.212)	(0.921)	(0.164)	(0.157)
Observations	303572	285903	252791	285624
Panel B: Car Owners				
Pplus=1	0.708	-3.854	0.488	0.538
	(0.801)	(3.331)	(0.632)	(0.597)
year=2019	31.594***	37.396***	2.299***	8.170***
	(0.316)	(1.293)	(0.241)	(0.232)
year=2020	21.452***	17.397***	0.913***	5.048***
	(0.366)	(1.480)	(0.275)	(0.265)
year=2021	8.223***	10.939***	0.220	2.107***
	(0.356)	(1.470)	(0.276)	(0.263)
year=2023	-12.975***	-34.438***	0.662**	-3.467***
	(0.356)	(1.484)	(0.289)	(0.266)
Pplus=1×year=2019	-0.278	10.901**	-0.550	-1.144
	(1.121)	(4.530)	(0.835)	(0.811)
Pplus=1×year=2020	-0.646	4.324	-0.928	-0.382
	(1.131)	(4.567)	(0.849)	(0.818)
Pplus=1×year=2021	0.683	9.943**	-0.567	-0.801
	(1.106)	(4.561)	(0.855)	(0.817)
Pplus=1×year=2023	-2.142*	-3.195	-1.304	-2.078**
	(1.098)	(4.557)	(0.899)	(0.817)
Constant	74.254***	221.225***	8.048***	25.092***
	(0.262)	(1.088)	(0.206)	(0.195)
Observations	199859	188488	167711	188361
Panel C: Car Owners				
Pplus=1	0.778	4.842	-0.868	0.223
	(1.144)	(5.397)	(0.848)	(0.833)
year=2019	29.177***	46.894***	1.870***	7.658***
	(0.434)	(2.002)	(0.310)	(0.309)
year=2020	21.569***	35.498***	0.615*	4.687***
	(0.486)	(2.220)	(0.342)	(0.342)
year=2021	10.070***	25.081***	0.263	2.273***
	(0.476)	(2.222)	(0.346)	(0.343)
year=2023	-15.207***	-37.532***	0.051	-4.204***
	(0.509)	(2.398)	(0.398)	(0.370)
Pplus=1×year=2019	-0.725	-5.917	-0.404	-0.220
	(1.577)	(7.197)	(1.093)	(1.110)
Pplus=1×year=2020	0.113	5.142	0.179	0.459
	(1.523)	(6.970)	(1.069)	(1.075)
Pplus=1×year=2021	0.412	0.190	-0.157	-1.693
	(1.508)	(7.028)	(1.089)	(1.084)
Pplus=1×year=2023	-2.109	-14.275*	0.176	-0.508
	(1.599)	(7.561)	(1.260)	(1.167)
Constant	74.247***	226.184***	5.681***	22.465***
	(0.359)	(1.694)	(0.268)	(0.262)
Observations	103713	97415	85080	97262

Table A6: Buying an Electric Car: Offer vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	All car buyers			Car Owners			New Car Owners		
	Electric Car	EV	PHEV	Electric Car	EV	PHEV	Electric Car	EV	PHEV
Offer×year=2019	-0.003	-0.001	-0.002	-0.004	-0.005	0.001	0.001	0.009	-0.009
	(0.008)	(0.007)	(0.005)	(0.010)	(0.009)	(0.006)	(0.012)	(0.011)	(0.007)
Offer×year=2020	0.004	0.000	0.004	0.008	0.000	0.009	-0.002	0.003	-0.004
	(0.008)	(0.007)	(0.005)	(0.010)	(0.009)	(0.006)	(0.012)	(0.010)	(0.007)
Offer×year=2021	-0.004	0.001	-0.006	-0.004	-0.001	-0.004	-0.003	0.006	-0.009
	(0.008)	(0.007)	(0.005)	(0.010)	(0.009)	(0.006)	(0.012)	(0.010)	(0.007)
Offer×year=2023	0.024***	0.029***	-0.006	0.028***	0.029***	-0.002	0.018	0.031***	-0.013*
	(0.008)	(0.007)	(0.005)	(0.010)	(0.009)	(0.006)	(0.013)	(0.011)	(0.007)
No offer×year=2019	-0.025	-0.025*	-0.002	-0.028	-0.028	-0.001	-0.020	-0.021	-0.004
	(0.015)	(0.013)	(0.009)	(0.020)	(0.017)	(0.012)	(0.024)	(0.021)	(0.014)
No offer×year=2020	-0.012	-0.025*	0.011	-0.005	-0.025	0.020	-0.020	-0.024	-0.001
	(0.015)	(0.013)	(0.009)	(0.020)	(0.018)	(0.013)	(0.023)	(0.020)	(0.013)
No offer×year=2021	-0.014	-0.023*	0.007	-0.027	-0.037**	0.010	0.006	-0.003	0.003
	(0.015)	(0.013)	(0.009)	(0.020)	(0.018)	(0.012)	(0.023)	(0.021)	(0.013)
No offer×year=2023	-0.008	0.003	-0.007	-0.019	-0.013	0.000	0.018	0.036	-0.024
	(0.016)	(0.014)	(0.010)	(0.020)	(0.018)	(0.013)	(0.026)	(0.023)	(0.015)
No offer	0.033***	0.030***	0.006	0.033**	0.032**	0.003	0.032*	0.027*	0.010
	(0.011)	(0.010)	(0.007)	(0.015)	(0.013)	(0.009)	(0.018)	(0.016)	(0.010)
Offer	-0.000	-0.000	-0.001	0.000	0.003	-0.005	-0.003	-0.008	0.006
	(0.006)	(0.005)	(0.003)	(0.007)	(0.006)	(0.004)	(0.009)	(0.008)	(0.005)
year=2019	-0.247***	-0.188***	-0.071***	-0.248***	-0.192***	-0.073***	-0.246***	-0.180***	-0.066***
	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)
year=2020	-0.175***	-0.146***	-0.040***	-0.159***	-0.142***	-0.033***	-0.197***	-0.149***	-0.048***
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
year=2021	-0.056***	-0.080***	0.019***	-0.033***	-0.073***	0.034***	-0.090***	-0.089***	-0.001
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
year=2023	0.073***	0.107***	-0.028***	0.061***	0.102***	-0.032***	0.096***	0.116***	-0.020***
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.004)	(0.003)	(0.002)
Constant	0.297***	0.223***	0.086***	0.303***	0.230***	0.091***	0.288***	0.210***	0.078***
	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.003)	(0.002)	(0.001)
Observations	398729	398979	397872	247988	248239	247132	150740	150740	150740

Table A7: Average Emissions: Offer vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	All car buyers				Car Owners				New Car Owners			
	CO2	CO	HC	NOX	CO2	CO	HC	NOX	CO2	CO	HC	NOX
Offer×year=2019	-1.565	4.681	-0.840	-0.924	-1.331	10.002**	-0.781	-1.090	-2.044	-6.870	-0.707	-0.430
	(1.008)	(4.252)	(0.733)	(0.723)	(1.238)	(4.999)	(0.920)	(0.895)	(1.736)	(7.925)	(1.202)	(1.222)
Offer×year=2020	-1.046	3.168	-0.814	-0.201	-1.150	1.855	-0.950	-0.215	-0.940	3.327	-0.237	-0.018
	(0.995)	(4.200)	(0.731)	(0.714)	(1.238)	(4.995)	(0.928)	(0.895)	(1.681)	(7.686)	(1.177)	(1.185)
Offer×year=2021	0.188	5.536	-0.772	-1.297*	0.126	7.963	-0.752	-0.469	0.248	-0.380	-0.505	-2.619**
	(0.980)	(4.217)	(0.741)	(0.717)	(1.213)	(4.995)	(0.936)	(0.895)	(1.667)	(7.762)	(1.199)	(1.197)
Offer×year=2023	-2.750***	-8.251*	-0.807	-1.676**	-2.566**	-5.906	-1.093	-1.923**	-3.144*	-13.840*	0.035	-0.908
	(0.992)	(4.310)	(0.801)	(0.733)	(1.203)	(4.989)	(0.984)	(0.894)	(1.758)	(8.303)	(1.378)	(1.281)
No offer×year=2019	4.570**	9.198	0.696	-0.620	4.333*	15.282	0.430	-1.337	4.690	-2.378	0.798	0.492
	(2.024)	(8.566)	(1.485)	(1.457)	(2.471)	(10.021)	(1.854)	(1.795)	(3.539)	(16.127)	(2.454)	(2.490)
No offer×year=2020	2.610	15.513*	-0.000	0.030	1.579	15.594	-0.829	-1.154	4.349	12.622	1.920	2.426
	(2.015)	(8.532)	(1.491)	(1.451)	(2.544)	(10.302)	(1.918)	(1.845)	(3.308)	(15.172)	(2.339)	(2.343)
No offer×year=2021	2.384	13.485	0.491	-0.785	3.223	18.864*	0.274	-2.276	1.049	2.560	1.293	2.102
	(1.964)	(8.503)	(1.504)	(1.447)	(2.465)	(10.223)	(1.920)	(1.831)	(3.254)	(15.212)	(2.383)	(2.349)
No offer×year=2023	0.484	1.152	-1.327	-1.543	-0.218	9.004	-2.256	-2.771	1.991	-17.230	0.556	1.088
	(2.012)	(8.786)	(1.650)	(1.496)	(2.453)	(10.213)	(2.026)	(1.831)	(3.530)	(16.815)	(2.851)	(2.595)
No offer	-3.487**	-7.509	-0.864	-0.334	-3.159*	-10.279	-0.016	0.393	-4.137*	-1.817	-2.673	-1.853
	(1.451)	(6.338)	(1.135)	(1.079)	(1.793)	(7.479)	(1.425)	(1.340)	(2.467)	(11.704)	(1.853)	(1.810)
Offer	1.702**	0.187	0.332	0.679	1.570*	-2.435	0.598	0.570	1.991	6.463	-0.437	0.726
	(0.721)	(3.132)	(0.557)	(0.533)	(0.877)	(3.644)	(0.691)	(0.653)	(1.265)	(5.960)	(0.935)	(0.920)
year=2019	30.774***	40.657***	2.108***	7.974***	31.594***	37.396***	2.299***	8.170***	29.177***	46.894***	1.870***	7.658***
	(0.256)	(1.092)	(0.191)	(0.186)	(0.316)	(1.293)	(0.241)	(0.232)	(0.434)	(2.002)	(0.310)	(0.309)
year=2020	21.495***	24.288***	0.682***	4.810***	21.452***	17.397***	0.913***	5.048***	21.569***	35.498***	0.615*	4.687***
	(0.292)	(1.235)	(0.216)	(0.210)	(0.366)	(1.480)	(0.275)	(0.265)	(0.486)	(2.220)	(0.342)	(0.342)
year=2021	8.896***	16.208***	0.145	2.086***	8.223***	10.939***	0.220	2.107***	10.070***	25.081***	0.263	2.273***
	(0.285)	(1.231)	(0.217)	(0.209)	(0.356)	(1.470)	(0.276)	(0.263)	(0.476)	(2.222)	(0.346)	(0.343)
year=2023	-13.645***	-35.525***	0.605***	-3.599***	-12.975***	-34.438***	0.662**	-3.467***	-15.207***	-37.532***	0.051	-4.204***
	(0.292)	(1.270)	(0.234)	(0.216)	(0.356)	(1.484)	(0.289)	(0.266)	(0.509)	(2.398)	(0.398)	(0.370)
Constant	74.251***	222.867***	7.292***	24.224***	74.254***	221.225***	8.048***	25.092***	74.247***	226.184***	5.681***	22.465***
	(0.212)	(0.921)	(0.164)	(0.157)	(0.262)	(1.088)	(0.206)	(0.195)	(0.359)	(1.695)	(0.268)	(0.262)
Observations	303572	285903	252791	285624	199859	188488	167711	188361	103713	97415	85080	97262

Table A8: Buying an Electric Car: Choice vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	All car buyers			Car Owners			New Car Owners		
	Electric Car	EV	PHEV	Electric Car	EV	PHEV	Electric Car	EV	PHEV
No Choice×year=2019	0.000	-0.000	-0.000	0.003	-0.001	0.004	-0.003	0.002	-0.006
	(0.008)	(0.007)	(0.005)	(0.011)	(0.010)	(0.007)	(0.013)	(0.012)	(0.008)
No Choice×year=2020	0.001	-0.002	0.003	0.007	0.002	0.006	-0.009	-0.008	-0.001
	(0.008)	(0.007)	(0.005)	(0.011)	(0.010)	(0.007)	(0.013)	(0.011)	(0.008)
No Choice×year=2021	-0.010	-0.001	-0.011**	-0.006	0.005	-0.013*	-0.017	-0.009	-0.008
	(0.008)	(0.007)	(0.005)	(0.011)	(0.010)	(0.007)	(0.013)	(0.012)	(0.008)
No Choice×year=2023	0.019**	0.019**	-0.003	0.026**	0.023**	0.000	0.005	0.013	-0.009
	(0.009)	(0.008)	(0.005)	(0.011)	(0.010)	(0.007)	(0.014)	(0.012)	(0.008)
Choice×year=2019	-0.015	-0.003	-0.010	-0.031	-0.020	-0.008	0.016	0.032	-0.016
	(0.016)	(0.014)	(0.010)	(0.021)	(0.019)	(0.013)	(0.026)	(0.023)	(0.015)
Choice×year=2020	0.015	0.010	0.008	0.010	-0.007	0.021	0.026	0.045**	-0.016
	(0.016)	(0.014)	(0.010)	(0.021)	(0.018)	(0.013)	(0.025)	(0.022)	(0.015)
Choice×year=2021	0.024	0.008	0.015	0.008	-0.022	0.031**	0.052**	0.064***	-0.012
	(0.016)	(0.014)	(0.010)	(0.021)	(0.018)	(0.013)	(0.025)	(0.022)	(0.015)
Choice×year=2023	0.045***	0.069***	-0.017*	0.034	0.053***	-0.012	0.070***	0.101***	-0.027*
	(0.017)	(0.015)	(0.010)	(0.021)	(0.018)	(0.013)	(0.027)	(0.024)	(0.016)
No Choice	-0.004	-0.001	-0.002	-0.006	-0.002	-0.005	-0.001	-0.002	0.002
	(0.006)	(0.005)	(0.004)	(0.008)	(0.007)	(0.005)	(0.010)	(0.009)	(0.006)
Choice	0.013	0.005	0.006	0.023	0.023*	-0.003	-0.008	-0.031*	0.022**
	(0.012)	(0.010)	(0.007)	(0.015)	(0.013)	(0.009)	(0.019)	(0.017)	(0.011)
year=2019	-0.247***	-0.188***	-0.071***	-0.248***	-0.192***	-0.073***	-0.246***	-0.180***	-0.066***
	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)
year=2020	-0.175***	-0.146***	-0.040***	-0.159***	-0.142***	-0.033***	-0.197***	-0.149***	-0.048***
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
year=2021	-0.056***	-0.080***	0.019***	-0.033***	-0.073***	0.034***	-0.090***	-0.089***	-0.001
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
year=2023	0.073***	0.107***	-0.028***	0.061***	0.102***	-0.032***	0.096***	0.116***	-0.020***
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.004)	(0.003)	(0.002)
Constant	0.297***	0.223***	0.086***	0.303***	0.230***	0.091***	0.288***	0.210***	0.078***
	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.003)	(0.002)	(0.001)
Observations	392518	392765	391686	244068	244316	243237	148449	148449	148449

Table A9: Average Emissions: Choice vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	All car buyers				Car Owners				New Car Owners			
	CO2	CO	HC	NOX	CO2	CO	HC	NOX	CO2	CO	HC	NOX
No Choice×year=2019	-2.345**	3.811	-0.359	-0.839	-2.645*	9.284*	-0.054	-1.046	-1.635	-8.100	-0.663	-0.120
	(1.124)	(4.743)	(0.818)	(0.807)	(1.382)	(5.576)	(1.025)	(0.999)	(1.932)	(8.849)	(1.347)	(1.366)
No Choice×year=2020	-1.064	2.719	-0.695	-0.295	-1.775	-0.238	-0.584	-0.547	0.313	5.664	-0.544	0.478
	(1.108)	(4.681)	(0.815)	(0.797)	(1.378)	(5.561)	(1.032)	(0.997)	(1.873)	(8.593)	(1.319)	(1.326)
No Choice×year=2021	0.619	4.503	-0.652	-1.222	-0.363	5.528	-0.598	-0.693	2.506	0.991	-0.420	-1.832
	(1.091)	(4.695)	(0.824)	(0.799)	(1.350)	(5.557)	(1.041)	(0.996)	(1.856)	(8.662)	(1.341)	(1.337)
No Choice×year=2023	-2.178**	-5.553	-0.683	-1.423*	-2.565*	-4.003	-0.883	-2.128**	-1.302	-9.382	0.044	0.430
	(1.105)	(4.800)	(0.890)	(0.817)	(1.339)	(5.549)	(1.091)	(0.995)	(1.958)	(9.275)	(1.535)	(1.432)
Choice×year=2019	1.360	7.666	-2.772*	-1.316	3.573	12.557	-3.606*	-1.315	-3.503	-2.443	-1.094	-1.431
	(2.154)	(9.083)	(1.570)	(1.545)	(2.635)	(10.668)	(1.973)	(1.912)	(3.741)	(16.939)	(2.557)	(2.612)
Choice×year=2020	-1.087	4.619	-1.299	0.129	1.098	9.726	-2.374	1.019	-5.701	-6.101	0.838	-1.783
	(2.097)	(8.845)	(1.548)	(1.504)	(2.609)	(10.551)	(1.975)	(1.891)	(3.537)	(16.063)	(2.459)	(2.477)
Choice×year=2021	-1.652	9.161	-1.281	-1.647	1.810	17.180	-1.353	0.331	-8.527**	-6.538	-1.113	-5.575**
	(2.071)	(8.933)	(1.577)	(1.520)	(2.566)	(10.594)	(1.992)	(1.898)	(3.517)	(16.371)	(2.545)	(2.526)
Choice×year=2023	-5.091**	-19.186**	-1.358	-2.711*	-2.754	-13.718	-1.940	-1.204	-10.215***	-31.496*	-0.269	-5.944**
	(2.091)	(9.106)	(1.723)	(1.550)	(2.535)	(10.578)	(2.116)	(1.897)	(3.706)	(17.407)	(2.976)	(2.687)
No Choice	2.286***	1.886	0.415	0.868	2.635***	-0.427	0.573	1.033	1.515	7.582	-0.150	0.265
	(0.804)	(3.498)	(0.622)	(0.596)	(0.979)	(4.061)	(0.768)	(0.728)	(1.413)	(6.689)	(1.053)	(1.033)
Choice	-0.450	-6.082	0.023	-0.015	-2.375	-9.979	0.695	-1.167	3.724	2.498	-1.432	2.351
	(1.505)	(6.546)	(1.170)	(1.113)	(1.833)	(7.662)	(1.466)	(1.373)	(2.634)	(12.295)	(1.916)	(1.896)
year=2019	30.774***	40.657***	2.108***	7.974***	31.594***	37.396***	2.299***	8.170***	29.177***	46.894***	1.870***	7.658***
	(0.255)	(1.091)	(0.191)	(0.186)	(0.316)	(1.292)	(0.241)	(0.232)	(0.433)	(2.002)	(0.310)	(0.309)
year=2020	21.495***	24.288***	0.682***	4.810***	21.452***	17.397***	0.913***	5.048***	21.569***	35.498***	0.615*	4.687***
	(0.292)	(1.235)	(0.216)	(0.210)	(0.366)	(1.480)	(0.276)	(0.265)	(0.485)	(2.220)	(0.343)	(0.343)
year=2021	8.896***	16.208***	0.145	2.086***	8.223***	10.939***	0.220	2.107***	10.070***	25.081***	0.263	2.273***
	(0.285)	(1.231)	(0.217)	(0.210)	(0.356)	(1.470)	(0.276)	(0.264)	(0.475)	(2.222)	(0.347)	(0.343)
year=2023	-13.645***	-35.525***	0.605***	-3.599***	-12.975***	-34.438***	0.662**	-3.467***	-15.207***	-37.532***	0.051	-4.204***
	(0.291)	(1.269)	(0.234)	(0.216)	(0.356)	(1.483)	(0.289)	(0.266)	(0.509)	(2.398)	(0.399)	(0.370)
Constant	74.251***	222.867***	7.292***	24.224***	74.254***	221.225***	8.048***	25.092***	74.247***	226.184***	5.681***	22.465***
	(0.211)	(0.921)	(0.165)	(0.157)	(0.261)	(1.088)	(0.206)	(0.195)	(0.359)	(1.694)	(0.269)	(0.262)
Observations	298640	281329	248851	281055	196609	185470	165084	185346	102031	95859	83767	95708

Table A10: Buying an Electric Car: Sustainable Choice vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	All car buyers			Car Owners			New Car Owners		
	Electric Car	EV	PHEV	Electric Car	EV	PHEV	Electric Car	EV	PHEV
No Choice×year=2019	0.000	-0.000	-0.000	0.003	-0.001	0.004	-0.003	0.002	-0.006
	(0.008)	(0.007)	(0.005)	(0.011)	(0.010)	(0.007)	(0.013)	(0.012)	(0.008)
No Choice×year=2020	0.001	-0.002	0.003	0.007	0.002	0.006	-0.009	-0.008	-0.001
	(0.008)	(0.007)	(0.005)	(0.011)	(0.010)	(0.007)	(0.013)	(0.011)	(0.008)
No Choice×year=2021	-0.010	-0.001	-0.011**	-0.006	0.005	-0.013*	-0.017	-0.009	-0.008
	(0.008)	(0.007)	(0.005)	(0.011)	(0.010)	(0.007)	(0.013)	(0.012)	(0.008)
No Choice×year=2023	0.019**	0.019**	-0.003	0.026**	0.023**	0.000	0.005	0.013	-0.009
	(0.009)	(0.008)	(0.005)	(0.011)	(0.010)	(0.007)	(0.014)	(0.012)	(0.008)
Conventional×year=2019	-0.012	0.005	-0.017	-0.033	-0.016	-0.015	0.029	0.050**	-0.021
	(0.017)	(0.015)	(0.010)	(0.022)	(0.019)	(0.014)	(0.027)	(0.024)	(0.016)
Conventional×year=2020	0.013	0.015	0.000	0.006	-0.003	0.011	0.029	0.053**	-0.021
	(0.017)	(0.015)	(0.010)	(0.022)	(0.019)	(0.014)	(0.027)	(0.023)	(0.015)
Conventional×year=2021	0.029*	0.017	0.010	0.011	-0.014	0.024*	0.062**	0.078***	-0.015
	(0.017)	(0.015)	(0.010)	(0.022)	(0.019)	(0.014)	(0.026)	(0.023)	(0.015)
Conventional×year=2023	0.053***	0.078***	-0.019*	0.038*	0.058***	-0.012	0.085***	0.120***	-0.032*
	(0.017)	(0.015)	(0.011)	(0.022)	(0.019)	(0.014)	(0.029)	(0.025)	(0.017)
Sustainable×year=2019	-0.044	-0.098*	0.070*	-0.009	-0.075	0.091*	-0.098	-0.135*	0.037
	(0.059)	(0.052)	(0.036)	(0.078)	(0.069)	(0.049)	(0.090)	(0.079)	(0.052)
Sustainable×year=2020	0.009	-0.064	0.088***	0.027	-0.079	0.130***	-0.021	-0.047	0.026
	(0.054)	(0.048)	(0.033)	(0.073)	(0.064)	(0.046)	(0.080)	(0.070)	(0.046)
Sustainable×year=2021	-0.039	-0.101**	0.072**	-0.034	-0.130*	0.111**	-0.046	-0.061	0.016
	(0.057)	(0.050)	(0.035)	(0.076)	(0.067)	(0.048)	(0.083)	(0.074)	(0.048)
Sustainable×year=2023	-0.043	-0.044	0.010	-0.022	-0.015	0.010	-0.077	-0.092	0.015
	(0.057)	(0.050)	(0.035)	(0.075)	(0.066)	(0.047)	(0.086)	(0.076)	(0.050)
No Choice	-0.004	-0.001	-0.002	-0.006	-0.002	-0.005	-0.001	-0.002	0.002
	(0.006)	(0.005)	(0.004)	(0.008)	(0.007)	(0.005)	(0.010)	(0.009)	(0.006)
Conventional	0.004	-0.007	0.010	0.017	0.014	0.002	-0.026	-0.053***	0.026**
	(0.012)	(0.011)	(0.008)	(0.015)	(0.014)	(0.010)	(0.020)	(0.018)	(0.012)
Sustainable	0.124***	0.154***	-0.047*	0.097*	0.139***	-0.069*	0.164***	0.177***	-0.014
	(0.042)	(0.037)	(0.026)	(0.056)	(0.049)	(0.035)	(0.062)	(0.055)	(0.036)
year=2019	-0.247***	-0.188***	-0.071***	-0.248***	-0.192***	-0.073***	-0.246***	-0.180***	-0.066***
	(0.002)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)
year=2020	-0.175***	-0.146***	-0.040***	-0.159***	-0.142***	-0.033***	-0.197***	-0.149***	-0.048***
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
year=2021	-0.056***	-0.080***	0.019***	-0.033***	-0.073***	0.034***	-0.090***	-0.089***	-0.001
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.003)	(0.003)	(0.002)
year=2023	0.073***	0.107***	-0.028***	0.061***	0.102***	-0.032***	0.096***	0.116***	-0.020***
	(0.002)	(0.002)	(0.001)	(0.003)	(0.003)	(0.002)	(0.004)	(0.003)	(0.002)
Constant	0.297***	0.223***	0.086***	0.303***	0.230***	0.091***	0.288***	0.210***	0.078***
	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.003)	(0.002)	(0.001)
Observations	392518	392765	391686	244068	244316	243237	148449	148449	148449

Table A11: Average Emissions: Sustainable Choice vs Matched Sample

Standard deviations are in parentheses. *, **, and *** denote significance at the 10%, 5% and 1% levels, respectively.

	All car buyers				Car Owners				New Car Owners			
	CO2	CO	HC	NOX	CO2	CO	HC	NOX	CO2	CO	HC	NOX
Conventional×year=2019	0.416	7.313	-2.512	-1.930	3.524	12.476	-3.038	-1.596	-6.416*	-3.577	-1.486	-2.745
	(2.233)	(9.413)	(1.616)	(1.601)	(2.731)	(11.057)	(2.032)	(1.981)	(3.881)	(17.549)	(2.630)	(2.706)
Conventional×year=2020	-1.684	2.648	-1.002	-0.023	0.671	5.755	-1.652	0.862	-6.969*	-4.918	0.328	-2.007
	(2.188)	(9.223)	(1.602)	(1.569)	(2.718)	(10.988)	(2.045)	(1.969)	(3.704)	(16.785)	(2.537)	(2.588)
Conventional×year=2021	-2.968	3.767	-1.139	-1.999	0.812	11.407	-1.103	-0.010	-10.732***	-11.697	-1.159	-5.942**
	(2.152)	(9.272)	(1.626)	(1.577)	(2.667)	(11.007)	(2.058)	(1.972)	(3.656)	(16.966)	(2.610)	(2.618)
Conventional×year=2023	-5.855***	-18.924**	-0.851	-3.073*	-2.908	-14.344	-1.271	-1.452	-12.383***	-28.996	-0.150	-6.612**
	(2.179)	(9.481)	(1.776)	(1.614)	(2.638)	(10.994)	(2.179)	(1.972)	(3.875)	(18.203)	(3.080)	(2.810)
Sustainable×year=2019	11.811	7.376	-7.199	6.455	3.813	12.420	-12.948	2.275	27.465*	-3.913	5.730	15.602
	(8.080)	(34.174)	(6.523)	(5.813)	(9.907)	(40.000)	(8.112)	(7.167)	(14.017)	(64.308)	(10.872)	(9.916)
Sustainable×year=2020	9.342	36.513	-5.815	3.585	8.540	60.414	-12.541	4.129	12.522	0.975	8.394	3.113
	(7.246)	(30.910)	(6.106)	(5.257)	(9.207)	(37.357)	(7.657)	(6.694)	(11.747)	(54.861)	(10.026)	(8.459)
Sustainable×year=2021	14.841**	77.863**	-3.981	2.879	15.039	89.400**	-6.354	5.073	13.167	53.531	-0.263	-2.824
	(7.480)	(32.783)	(6.445)	(5.576)	(9.249)	(38.407)	(7.891)	(6.882)	(12.725)	(61.572)	(11.203)	(9.494)
Sustainable×year=2023	6.320	-13.082	-9.198	2.554	1.452	-0.725	-12.943	2.537	15.272	-37.250	-0.051	2.986
	(7.324)	(32.225)	(7.000)	(5.481)	(9.052)	(38.215)	(8.716)	(6.847)	(12.475)	(58.920)	(11.638)	(9.085)
No Choice×year=2019	-2.345**	3.811	-0.359	-0.839	-2.645*	9.284*	-0.054	-1.046	-1.635	-8.100	-0.663	-0.120
	(1.124)	(4.743)	(0.818)	(0.807)	(1.382)	(5.576)	(1.025)	(0.999)	(1.932)	(8.849)	(1.347)	(1.366)
No Choice×year=2020	-1.064	2.719	-0.695	-0.295	-1.775	-0.238	-0.584	-0.547	0.313	5.664	-0.544	0.478
	(1.108)	(4.681)	(0.815)	(0.797)	(1.378)	(5.561)	(1.032)	(0.997)	(1.872)	(8.593)	(1.319)	(1.326)
No Choice×year=2021	0.619	4.503	-0.652	-1.222	-0.363	5.528	-0.598	-0.693	2.506	0.991	-0.420	-1.832
	(1.091)	(4.695)	(0.824)	(0.799)	(1.350)	(5.557)	(1.041)	(0.996)	(1.856)	(8.662)	(1.341)	(1.337)
No Choice×year=2023	-2.178**	-5.553	-0.683	-1.423*	-2.565*	-4.003	-0.883	-2.128**	-1.302	-9.382	0.044	0.430
	(1.105)	(4.800)	(0.890)	(0.817)	(1.339)	(5.549)	(1.091)	(0.995)	(1.958)	(9.275)	(1.535)	(1.432)
No Choice	2.286***	1.886	0.415	0.868	2.635***	-0.427	0.573	1.033	1.515	7.582	-0.150	0.265
	(0.804)	(3.498)	(0.622)	(0.596)	(0.979)	(4.061)	(0.768)	(0.728)	(1.413)	(6.688)	(1.054)	(1.033)
Conventional	1.295	-1.809	-0.163	0.652	-1.300	-6.463	0.321	-0.630	6.994**	8.474	-1.204	3.305*
	(1.563)	(6.793)	(1.201)	(1.155)	(1.901)	(7.944)	(1.507)	(1.423)	(2.748)	(12.783)	(1.965)	(1.971)
Sustainable	-22.148***	-60.603**	3.338	-8.529**	-16.486**	-55.982**	7.204	-8.184	-32.701***	-69.879	-5.681	-9.199
	(5.463)	(24.057)	(5.022)	(4.092)	(6.825)	(28.483)	(6.228)	(5.104)	(9.098)	(44.126)	(8.423)	(6.804)
year=2019	30.774***	40.657***	2.108***	7.974***	31.594***	37.396***	2.299***	8.170***	29.177***	46.894***	1.870***	7.658***
	(0.255)	(1.091)	(0.191)	(0.186)	(0.316)	(1.292)	(0.241)	(0.232)	(0.433)	(2.002)	(0.310)	(0.309)
year=2020	21.495***	24.288***	0.682***	4.810***	21.452***	17.397***	0.913***	5.048***	21.569***	35.498***	0.615*	4.687***
	(0.292)	(1.235)	(0.216)	(0.210)	(0.366)	(1.480)	(0.276)	(0.265)	(0.485)	(2.219)	(0.343)	(0.343)
year=2021	8.896***	16.208***	0.145	2.086***	8.223***	10.939***	0.220	2.107***	10.070***	25.081***	0.263	2.273***
	(0.285)	(1.231)	(0.217)	(0.210)	(0.356)	(1.470)	(0.276)	(0.264)	(0.475)	(2.222)	(0.347)	(0.343)
year=2023	-13.645***	-35.525***	0.605***	-3.599***	-12.975***	-34.438***	0.662**	-3.467***	-15.207***	-37.532***	0.051	-4.204***
	(0.291)	(1.269)	(0.234)	(0.216)	(0.356)	(1.483)	(0.289)	(0.266)	(0.509)	(2.397)	(0.399)	(0.370)
Constant	74.251***	222.867***	7.292***	24.224***	74.254***	221.225***	8.048***	25.092***	74.247***	226.184***	5.681***	22.465***
	(0.211)	(0.921)	(0.165)	(0.157)	(0.261)	(1.088)	(0.206)	(0.195)	(0.359)	(1.694)	(0.269)	(0.262)
Observations	298640	281329	248851	281055	196609	185470	165084	185346	102031	95859	83767	95708