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Green Loans and Household Behavior: Selection, Real Effects, and Windfalls

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Abstract

Financial markets are increasingly seen as pivotal in mitigating climate change by influencing consumer choices. This paper studies the introduction of a green loan program in Iceland that offers an interest rate rebate for electric vehicle (EV) purchases, and analyzes who selects these loans and how adopting an electric car affects household finances. Using transaction-level data from a large Icelandic bank, we compare green car loan takers to regular car loan takers. We find that green loan adopters tend to be more affluent, have larger families, live in areas with strong Green Party support, and are more financially literate and more likely to have previously invested in green bonds, indicating both pro-environment and financial-awareness channels in selection. They also exhibit different pre-purchase consumption patterns (e.g., lower spending on gasoline and higher spending on other carbon-intensive goods) even before switching to an EV. After the purchase, green loan households dramatically reduce gasoline expenditures (about 30% on average) while increasing electricity costs modestly (around 13%), resulting in a net decline in monthly car-related outlays of roughly 10,000 ISK (≈$77). This corresponds to a 0.8 percentage point drop in the household's energy-expenditure-to-income ratio and implies sizable reductions in fuel-related CO_2 emissions. We further show that exogenous liquidity windfalls significantly increase the likelihood of choosing a green car loan: lottery winners who subsequently buy a car are 12-13 percentage points more likely to opt for an EV. However, because current green loan take-up is heavily skewed toward wealthier, already green consumers, the aggregate carbon reductions remain limited. Our findings suggest that green loan programs can both cut carbon emissions and save consumers money, but only if complemented by policies to broaden access beyond the environmentally motivated and financially well-off.

Keywords: Sustainable Finance, Green Loans, Household Finance

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1 Introduction

Motivation and Question

Households are estimated to consume 29 per cent of global energy and consequently contribute to 21 per cent of resultant CO_2 emissions (Blanco et al. (2015)). Because private vehicles account for the lion's share of household transport emissions, examining how credit conditions shape vehicle choice provides a direct lens on the climate relevance of consumer finance. Personal travel by car is typically identified as the key consumption activities of households that contribute to emissions followed by aviation, food (meat) and housing (heating) consumption.[1] Few studies have examined the barriers and motivations that drive the adoption of low-carbon household consumption. In this paper, we investigate who is choosing to take a green versus a regular car loan and how this choice impacts their behavior and household finances.

Due to the rising income levels in developing countries it is estimated that the global demand for travel by car will increase the most out of all non-urban travel modes. For example, the OECD International Transport Forum (ITF) estimates that travel demand by car will increase by an additional 45,000 billion passenger-kilometres between 2015 and 2050 (Forum (2017)). There is an increased emphasis on the role that financial markets can play in fostering climate change. In this paper we analyze the introduction of a green car loan, that finances electric car purchases of consumers. In order to understand how financial markets can expand their impact on climate change we need to know who is selecting into and out of these products and how these choices impact household's finances and behavior. Existing evidence on the impact of financial products that are environmentally sustainable on household's finances is scant. An obvious barrier is the access to detailed household level data.

Our data cover all car loan transactions between 2020 and 2024 of one of the largest retail banks in Iceland that serves one third of the population. The panel data provides detailed information on transactions, demographics, saving, borrowing, and investment decisions.

[1] see e.g. Dubois et al. (2019), and Padgett et al. (2008)

We analyze the introduction of so-called 'green-loans' to consumers in June 2020. Holding the creditworthiness of the borrower constant, these loans offer better credit contract terms to promote the purchase of electric vehicles rather than gasoline driven cars. Despite these advantages and government tax benefits we still see that the lion's share (70%) of the car loan borrowers that we observe opt for regular car loans.

Why and who buys an electric car? While sustainable preferences could drive this decision, many other motives are possible. For example, thinking about their household finances, motives can concern consumers' beliefs about utility, gasoline prices as well as income growth that impact the absolute and relative operational expenditures of the car. Their demand for car travel and social image or reputation can play a role as well. In this paper, we will describe the profile of the two types of consumers and shed light on how their respective financial choices, given their preferences, play out pre and post their car purchase.

To illustrate the scale and profile of the policy's uptake, we document that prior to the introduction of the green loan in June 2020, 11,251 individuals in our sample already owned an electric vehicle. Over the following four years, an additional 3,546 individuals acquired one, representing a more than 30 percent increase in green car ownership. While this growth reflects rising interest in electric vehicles more broadly, our evidence suggests that it was largely driven by individuals who were already environmentally engaged and financially well-positioned. The green loan thus appears to have predominantly appealed to the "already green"-those predisposed to adopt sustainable technologies-rather than inducing widespread behavioral change across the broader consumer base. This pattern highlights both the reach and the limitations of preferential green credit instruments and motivates a closer examination of the characteristics and behaviors of those selecting into such products.

Results Summary We find that individuals who choose to take a green loan are, on average, more affluent, have more children, and reside in areas with greater support for the Green Party than individuals who choose a regular car loan in the same period. They also look 'already green' in their financial behavior: prior purchasers of labeled green

bonds are 6 to 8 percentage points more likely to finance with a green loan than otherwise similar borrowers, and even being a bond investor in general is associated with a smaller but positive 3 percentage point increase in green-loan take-up. Consistent with preference-driven selection, green-loan take-up is strongly and significantly higher in constituencies with larger vote shares for the Left-Green Movement. Moreover, financial literacy and education are both economically and statistically significant correlates of choosing a green loan, indicating that awareness and information processing play a role alongside environmental preferences (see Tables 6–7 for the main patterns and Tables 9–8 in particular for 'already green' selection).

Furthermore, once we control for differences in background characteristics like income, age, household size, and capital-area residence, individuals who select a green car loan rather than a regular car loan spend less on gasoline one year before buying the electric car and more on CO_2-intensive products. Taking these pre-period differences into account, we nevertheless find that after the purchase of an electric car individual gasoline expenditures diminish by about 30 percent while utility expenditures increase by about 13 percent, relative to pre-post differences of gasoline-driven car purchases. These results still hold when we include the expenditures of the respective spouses (Tables 5 and 6).

Liquidity also matters. Exploiting plausibly exogenous cash windfalls, lottery winners who subsequently buy a car are 12 to 13 percentage points more likely to choose a green loan than non-winners who buy a car, while simply buying lottery tickets without winning has no effect. This pattern underscores that relaxing short-run liquidity constraints can shift borrowers toward electric cars even after accounting for income and demographics (Table 8).

Finally, we compare the total pecuniary impact of servicing the loan and operating the respective cars while controlling for the value of the car, the loan amount, background characteristics, and changes in mobility. We show that, independent of inflation, green-loan car takers are able to reduce their monthly expenditures by approximately 10,000 Icelandic kronor ($\approx$ 77 USD), which represents about 24% of their pre-car-purchase car-

related spending. Consistent with this, the energy-expenditure-to-income ratio declines for green-loan households relative to regular-loan households, indicating that the budget share devoted to vehicle energy falls after the switch to an electric car (Tables 11 and 12).

Related Literature

The growing climate emergency has catalyzed substantial academic and policy interest in green finance mechanisms, particularly in how credit markets can facilitate environmentally sustainable investments. This literature intersects multiple domains: household and firm finance, environmental economics, credit risk modeling, and market design. Our study contributes to this growing field by examining the heterogeneous adoption of green loans in a developed financial market context, focusing on Iceland.

A first strand of literature addresses how environmental preferences shape investment and borrowing behavior. Hartzmark and Sussman (2019) provide seminal evidence that mutual fund investors respond positively to ESG ratings, even when controlling for traditional risk-return characteristics. Similarly, Riedl and Smeets (2017) combine survey and portfolio data to show that socially responsible investors exhibit non-pecuniary motives, aligning investments with social impact rather than pure financial gain. These findings establish that investors care about sustainability and are willing to act on it, creating demand for green products. Building on this, Pástor, Stambaugh and Taylor (2021) introduce a general equilibrium model that incorporates heterogeneous investor preferences for ESG attributes. They show that sustainability preferences can affect asset prices and capital allocation, allowing sustainable firms to enjoy a lower cost of capital. This theoretical foundation suggests that green lending and investment flows can emerge endogenously in competitive markets, provided that borrower and lender preferences are sufficiently aligned. Our results extend these insights to the borrowing side: green-loan takers are significantly more affluent and disproportionately reside in constituencies with high vote shares for Iceland's Left-Green Movement, confirming that pro-environmental preferences and not price discounts drive selection into the product.

At the institutional level, recent work has examined whether sustainability-linked loan

pricing is sensitive to the environmental alignment of both borrowers and lenders. Degryse et al. (2023) demonstrate a significant "green-meets-green" effect: green firms pay lower loan spreads when borrowing from green banks, with this effect intensifying after the Paris Agreement. Their results suggest that public policy shocks and global coordination events can shift lenders' environmental attitudes and, consequently, credit conditions. Oehmke and Opp (2022) extend this discussion by introducing a theoretical framework for green capital requirements. They explore how differentiated capital requirements (e.g., brown-penalizing or green-supporting factors) influence bank lending and financial stability. Their model highlights the trade-offs between encouraging green lending and avoiding excessive risk-taking, suggesting that regulation must be finely tuned to achieve sustainability goals without distorting credit markets.

While much of the literature presumes that green loans are universally desirable, emerging evidence highlights frictions in adoption. In this paper, we document a puzzling pattern from the Icelandic credit market: despite broad eligibility, certain demographic groups-particularly younger, lower-income, or politically conservative individuals are systematically underrepresented among green loan takers. This pattern suggests that adoption barriers extend beyond financial constraints and mirrors behavioral tendencies observed in related domains. For instance, Gertler et al. (2016) show that the acquisition of energy-using assets in developing countries is highly nonlinear and constrained by credit availability and income dynamics. Similarly, Vissing-Jorgensen (2009) finds that consumer spending behavior (e.g., on entertainment or luxury goods) can reveal deeper behavioral traits such as impatience or risk tolerance, which are closely linked to credit default and loan take-up. These behavioral characteristics may help explain heterogeneity in green loan adoption even when financial incentives are modest or neutral. In the Icelandic context, the adoption of green loans may also reflect social signaling motives, as discussed more broadly in Hartzmark and Sussman (2019), or perceived complexity, as suggested by Ehlers and Packer (2017), especially if borrowers do not fully understand the environmental benefits or financial structure of green loan products.

Degryse, Roukny and Tielens (2020) analyse global syndicated-loan data and show that loan spreads fall most when a green borrower matches with a green lead bank, illustrating how expectations formed after the Paris Agreement are transmitted into credit pricing. Their findings suggest that soft information about borrower- and lender-level environmental profiles can substitute at least partly for formal regulation. Nevertheless, micro evidence from smaller financial systems indicates that green loans do not always come with a clear pricing advantage. In Iceland, for example, advertised rates on green mortgages differ little from conventional products; instead, banks market these loans as a gateway to new investor segments and as a reputational signal of climate commitment. The Icelandic case therefore raises the question of whether market-based instruments alone are sufficient to steer credit toward low-carbon uses when regulatory signals are weak and consumer awareness is uneven. Our evidence suggests they cannot: without complementary incentives or information interventions, green loans remain the domain of already environmentally motivated, financially advantaged households-limiting their reach and reducing their potential climate impact.

Paper Structure

The remainder of the paper is structured as follows. Section 2 provides a brief overview of the empirical setting, describes the data, and presents summary statistics. Section 3 presents the results, and Section 4 concludes. Additional tables and figures are available in the Appendix.

2 Empirical Setting, Data, and Summary Statistics

We use comprehensive, detailed, and highly disaggregated panel data on personal finances from one of the largest retail banks in Iceland, serving about one third of the population. More specifically, the data provides detailed information on transactions, demographics, saving, borrowing, and investment decisions.

Using bank data from Iceland has several advantages. First, there are no unbanked

individuals as all adult individuals in Iceland need to have a bank account. Checks are not used in Iceland and if individuals want to receive salary payments or state benefits, they therefore need a bank account. Arguably this makes our data more likely to be representative of the underlying population than bank data where this is not the case. Furthermore, the fact that the market share of our bank is so high makes it also less likely that our data is not representative of the underlying population.

Second, Icelanders use electronic means of payments almost exclusively, no services and goods must to be paid in cash and tip is never used. This is reflected in the fact that ATM withdrawals make up only approximately one percent of spending transactions by amounts or transactions volume. In this setting, expenditures measures inferred from bank transactions therefore provide a reliable measure of expenditures.

We restrict our analysis sample to users for whom we believe do not do everyday banking with any other bank. We therefore include only individuals for whom we observe regular income arrivals and whose expenditure data is credible.[2]

In our analysis, we use three different types of information from the administrative data. First, we use demographic information and this is directly linked to the national registries at Statistics Iceland. This implies that if there is, e.g., a change in the marital status of an individual or she has a child, then we see the exact timing of this. Furthermore, we do not only see the demographics of the customers of the bank but of the entire population, making comparison to the general population straightforward. Second, we use the daily balances of checking accounts, savings accounts, and credit cards, overdraft and credit card limits, and loan balances and payments. Third, we use transaction-level information on income receipts, including the date of receipt and the income source, which we use to calculate monthly income. Finally, we use transaction-level information on spending, including the type of expenditure (e.g., real estate taxes, groceries, gasoline etc.). The information on loans is available from January 1, 2010 to October 31, 2024 while all other information is available from January 1, 2016 to October 31, 2024. Our loan-level data span 2010-2024; for

[2]The user must have transactions in food (groceries or eat out) in 23 out of the last 24 months.

the analyses in this paper we focus on 2020-2024 (the green-loan era), while some descriptive figures use pre-2020 history for context. After applying the filters, we have data for 170,147 bank customers, of whom 18,248 have taken at least one car loan (or car lease) during the almost 4 years of observation.

2.1 Summary Statistics

Variables and sample construction. Table 1 defines all variables used in the analysis, grouped into background characteristics, household finances, and expenditure categories. We observe detailed daily transactions, balances, income sources, loan contracts, and demographics linked to the national registry. Following standard coverage filters, the analysis sample comprises individuals with credible everyday banking activity and regular income receipts; car loan/lease takers are identified directly from contract data. All nominal krona values are CPI-adjusted and reported in 2021 ISK.[3]

External validity. To assess representativeness, Table 2 contrasts bank customers with the national population. Demographics are very similar; if anything, active customers are slightly more likely to reside in the capital area and be married, with comparable age and household size distributions. This supports external validity for household-level inferences.

Summary statistics. Table 3 reports means (and standard deviations) for green vs. regular car-loan takers prior to borrowing. Green borrowers have significantly higher incomes, savings, liquidity, mortgage and total debt, and somewhat larger households; they also spend more on groceries and on CO_2-intensive categories (notably air travel and electronics), while pre-purchase gasoline and utilities are similar on average. These differences motivate rich controls and fixed effects in our main specifications.

Cross-sectional correlates (pre-period). Regressing pre-purchase outcomes on a green-loan indicator with demographic and income controls, Table 4 shows that green borrowers

[3] In 2021, 130ISK $\approx$ 1 USD.

spend less on gasoline and more on CO_2-intensive categories (Panel A), and hold more liquidity, savings, and total debt with lower overdrafts (Panel B). These patterns confirm selection on affluence and lifestyle prior to EV adoption and underscore the need for within-person identification in our main results.

3 Main Results

We begin by documenting the uptake of electric vehicles and green car loans over time. Panel (a) of Figure 1 shows that the share of newly registered cars in Iceland that are electric has risen steadily since 2011, while the share of new gasoline-powered cars has declined over the same period. Panel (b) of Figure 1 presents the growth in both the number and the share of green car loans issued by our bank from the program's inception in June 2020 through September 2024. Although there are month-to-month fluctuations, both the number and proportion of green loans show a clear upward trend, reflecting growing consumer interest in environmentally sustainable vehicle financing.

To examine whether political ideology correlates with the adoption of green financial products, we compare regional support for environmentally oriented political parties with the regional uptake of green car loans. Specifically, Panel (a) of Figure 7 presents the vote share for the Left-Green Movement (Vinstri grænir) across six Icelandic constituencies using data from the most recent parliamentary elections. Panel (b) shows the regional share of green loan takers, which we construct by identifying each individual's most frequently visited grocery store and assigning them to one of four broader geographic regions (Northeast, Northwest, South, and Capital Region).

This mapping allows us to explore spatial correlations between environmental political support and green financial behavior. We observe that regions with a higher share of votes for the Green Party also tend to have a higher share of green loan uptake. For example, the Northeast, which demonstrates the highest green vote share in Panel (a), also shows a high proportion of green loan adoption in Panel (b). Conversely, regions with lower

green political support, such as the South, have relatively lower green loan participation. The analysis supports the hypothesis that environmental attitudes, as captured by regional political preferences, are a significant factor in the decision to adopt green financial products. This is further confirmed by our regression analysis in Table 9, where a one-percentage-point increase in Green Party vote share is associated with approximately a one-percentage-point rise in the share of households taking out a green loan.

Prior engagement with sustainable investments likewise predicts green loan adoption. Table 10 reports marginal effects from logistic regressions for the probability of choosing a green car loan, focusing on whether the individual had previously purchased a green bond. Even compared to other bond investors, those who have bought green bonds are significantly more likely to finance their car with a green loan (columns 1-2). By contrast, the marginal effect of being a bond investor (regardless of bond type) is much smaller (columns 3-4). This suggests that a pro-environmental financial orientation carries over into borrowing decisions.

At the individual level, we also find evidence that those selecting into green loans have distinct characteristics beyond income. In Table 7, we estimate a linear probability model for choosing a green (versus regular) car loan as a function of financial literacy and educational attainment, with and without additional controls. The results indicate that both higher financial literacy and having a university degree are significantly associated with a greater likelihood of taking a green loan. This may reflect greater awareness of or receptiveness to sustainable technologies and financial products among more educated or financially savvy consumers.

We also investigate the role of credit constraints in green loan uptake. Using lottery winnings as an exogenous shock to liquidity, Table 8 shows that lottery winners are substantially more likely to choose a green loan when they purchase a car. In our sample, individuals who won a lottery prize and subsequently bought a car are about 12–13 percentage points more likely to buy an electric car (and use a green loan) than similar car buyers who did not win. Simply buying lottery tickets (without winning) has no significant effect on green

loan take-up. These findings highlight that liquidity can be a barrier to EV adoption: when some consumers receive an unexpected windfall, they are more inclined to opt for the electric vehicle and the associated green loan. *Controlling for car value/loan size.* Columns (5)–(6) of Table 8 add the original loan amount as a control. Among lottery *winners* who subsequently buy a car, the average marginal effect remains large and significant at +7.3 p.p. (s.e. 1.6 p.p.), confirming that windfalls raise the likelihood of choosing a green loan even conditional on the monetary scale of the purchase. By contrast, for lottery *buyers* (who did not win), the effect remains statistically indistinguishable from zero. Consistent with EVs being more expensive on average, larger loans are positively associated with selecting a green loan (about 0.082 in absolute probability per 1M ISK of loan amount).

We turn next to the question of how adopting an electric car (and financing it with a green loan) affects household expenditure patterns. Table 5 presents panel regression results estimating changes in monthly expenditures before versus after the car purchase, separately for green and regular loan takers. The specification includes individual fixed effects and calendar month fixed effects, and we examine a six-month window (three months on either side of the purchase). Columns (1) and (2) show the within-individual pre-to-post change for green loan takers and regular loan takers, respectively, while column (3) reports the difference-in-differences between the two groups. We see a dramatic divergence in fuel spending: gasoline expenditures decrease by about 15.8% for green loan takers, but increase by about 14.5% for regular loan takers, yielding a difference-in-differences estimate of −30.3% (significant at the 1% level). This implies that switching to an EV is associated with roughly one-third lower spending on gasoline, compared to the trend for those who bought gasoline cars. In contrast, utility expenditures (which include electricity) increase by about 12.3% for green loan takers and remain essentially flat for regular loan takers, a 13.3% relative increase (significant at 1%). These patterns are consistent with substituting electricity for gasoline.[4] Notably, both groups increase their overall car-related

[4]To map the −0.303 log change into emissions, we first convert to liters using the sample mean pre-purchase monthly gasoline spending ($\overline{G}$) and the CPI-adjusted petrol price per liter $\bar{p}^{\text{gas}}$. Specifically, $\Delta L = 0.303 \cdot \overline{G}/\bar{p}^{\text{gas}}$ liters per month, which implies a tailpipe reduction of $\Delta \text{CO}_2^{\text{tailpipe}} = 2.31 \times \Delta L$ kg CO_2/month. Using sample means, this is $\approx$ 22 liters or $\approx$ 51 kg CO_2/month. To show robustness, we

expenditures after the purchase (which is expected, since they now have loan payments and possibly other costs), but the increase is smaller for green loan users. In fact, the difference-in-differences for total car-related spending is about -14.6%, suggesting that EV purchasers saw a smaller rise in total vehicle expenses than those buying gasoline cars. We do not observe statistically significant differences in changes in other CO_2-intensive consumption or in mobility (measured by the frequency of transaction activity outside the home), indicating that the primary behavioral changes are indeed in vehicle energy use.

To ensure these are not transitory effects, we employ a difference-in-differences specification with a longer observation window and additional fixed effects. Table 6 reports these results, focusing on gasoline and utility expenditures at both the individual and household (couple) level. These regressions include individual fixed effects, calendar month fixed effects, and "event-time" fixed effects (to account for any seasonality around the purchase month). The coefficient on the interaction term $Green_i \times Post_{it}$ captures the causal effect of green loan adoption. At the individual level (columns 1-2), green loan recipients reduce their gasoline expenditures by about 33% post-purchase (significant at 1%), while their utility spending increases by roughly 9% (also significant). At the household level (columns 3-4), which includes spousal expenditures, gasoline spending drops by about 26% and utilities rise by about 8%, both highly significant. These magnitudes are similar to those in the shorter-window analysis, confirming that the substitution from gasoline to electricity is a robust outcome of EV adoption. At the household level we aggregate the index person and registered spouse/partner using national registry family IDs.

We now ask whether adopting an electric car via a green loan makes financial sense for households in the short run. Note that the "car-related" outcome in Table 5 aggregates a broad basket (fuel/electricity, insurance, parking, repairs, etc.), whereas the "added cost" measure in Table 11 is intentionally narrower, capturing *only* the new loan service plus the change in energy outlays. The former quantifies overall day-to-day car spending; the latter

also report a range: 45-58 kg using the minimum and maximum pre-period petrol prices. Our "Utilities" category includes water and district heating as well as electricity; thus the $\sim 13\%$ rise is an upper bound on the electricity used for charging. Given Iceland's low grid intensity, the net effect on emissions is essentially the tailpipe reduction.

isolates the direct cash-flow consequence of the purchase decision.

Table 11 examines the net *added cost* of purchasing an electric vehicle with a green loan compared to a gasoline vehicle with a regular loan. The dependent variable is the change in total monthly costs associated with the car purchase, defined as the new loan payment plus the change in fuel/electricity expenditures (post- minus pre-purchase). We run cross-sectional regressions comparing this added cost between green and regular loan takers, controlling for the car's value, the loan amount, and household characteristics. Across all specifications, the coefficient on the green loan indicator is negative and statistically significant, on the order of −10,300 to −11,000 ISK. This implies that green loan takers, on average, experienced a reduction in total monthly car-related expenses of about 10,000 ISK relative to comparable households who bought gasoline cars. This saving-roughly 20% of pre-purchase car spending-is achieved even after accounting for the typically higher upfront price of electric cars (the regressions control for car value and loan size). In short, financing an EV through a green loan not only yields environmental benefits but also tends to save consumers money in monthly operating costs.

Finally, Table 12 analyzes how the car purchase affected two key household financial ratios: the debt-to-income ratio and the energy expenditure-to-income ratio. As expected, taking on an auto loan increases the debt-to-income ratio for both green and regular loan takers. However, the energy-to-income ratio (which measures the share of income spent on gasoline or electricity for the car) shows divergent trends. Regular loan takers see a significant increase in the share of income spent on energy post-purchase (since gasoline spending rises and income is roughly stable), whereas green loan takers do not experience a significant change. The difference-in-differences estimate (column 6) indicates that green loan adoption is associated with about a 0.78 percentage point reduction in the energy cost burden relative to buying a gasoline car. In other words, switching to an EV allowed households to avoid an increase in energy expenses that gasoline-car purchasers incurred, thereby easing the strain on their budgets.

Taken together, our panel and cross-sectional findings show that green loans alter both

the composition and the level of household mobility costs in a way that is consistent with lower lifetime vehicle operating expenses. However, because take-up of the green loan program has been skewed toward higher-income, environmentally engaged borrowers, the aggregate decarbonization impact is limited. Without additional measures to broaden accessâsuch as larger financial incentives for lower-income consumers or expanded charging infrastructureâthe contribution of such green credit programs to emissions reduction will likely remain modest.

4 Conclusion

The transportation sector accounts for roughly 14% of global CO_2 emissions. Decarbonizing transportation is therefore a vital part of any strategy to reduce emissions, and financial institutions can play a key role in this transition by incentivizing the shift to zero-emission vehicles.

Understanding the transition to cleaner transport requires identifying who isâand, importantly, who is notâswitching to zero-emission vehicles, and why. To date, evidence based on real-world behavior has been limited, in part due to a lack of detailed data on households that are adopting low-emission technologies. This paper contributes to filling that gap by analyzing differences in the behaviors and finances of bank customers who purchase low-emission cars with subsidized "green" vehicle financing versus those who purchase conventional cars with regular loans.

Our analysis leverages transaction-level data from a large commercial bank in Iceland, covering about one-third of the national population. These unique data provide detailed information on customersâ demographics, income, spending, and overall household finances, enabling us to observe how the decision to buy an electric vehicle (EV) intersects with other aspects of household behavior. To our knowledge, this is the first paper to capture in such detail the real-world financial behaviors of individuals who do and do not transition to low-emission vehicles.

We find that households opting for green car loans are, on average, wealthier, better educated, and more likely to live in constituencies with strong support for Iceland's Left-Green Movement. After controlling for car value, loan size, and fixed household characteristics, green-loan borrowers reduce monthly gasoline spending by about 30%, while electricity bills rise by only about 13%. This yields a net decline of roughly 10,000 ISK ($\approx$ \$77) in total car-related outlays per month. These savings translate into a 0.8 percentage point reduction in the household's energy-to-income ratio, confirming that the financial case for electric vehicles materializes quicklyâeven in a high-latitude setting with cold winters, where EV efficiency might be expected to be lower.

Yet the selectivity that drives these gains also highlights a policy challenge. Because adoption is concentrated among affluent, environmentally motivated households, green credit on its own is unlikely to deliver broad-based emissions cuts. Policymakers and lenders may therefore wish to complement preferential loan rates with (i) targeted information campaigns that demystify battery longevity and charging costs for a wider audience of consumers, (ii) down-payment assistance or guarantee schemes that help less wealthy households overcome liquidity constraints, and (iii) dynamic interest-rate rebates tied to verified emissions performance.

In sum, our evidence suggests that green loan programs can both cut carbon and save consumers money-but only if complementary measures broaden access beyond the already green and already wealthy.

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5 Tables

Table 1: Variables Definition

This table contains descriptions of the variables used in the analyses. These include background characteristics (Panel A), household finances (Panel B), and expenditures (Panel C).

Variable	Description
	Panel A: Background Characteristics
Female	A dummy variable equal to one if the individual is female.
Age	Individual's age at the time of getting the car loan.
Married	A dummy variable equal to one if the individual is married. All other marital status rather than single and married (e.g. divorced, widowed) are classified as single.
Capital	A dummy variable equal to one if the individual lives in the Capital area and zero otherwise.
Household size	The number of individuals within a household. This has been backed out from the number of individuals with the same family ID from bank's dataset.
Real estate owner	A dummy variable equal to one if the individual owns a property. An individual is classified as real estate owner in case at least one real estate tax payment has been recorded for her during the period one year before taking the car loan.
Had a car	A dummy variable equal to one if the individual already had a car before taking the car loan. This has been backed out from the individual's card transactions history. An individual is classified as car owner if she has spent at least 50,000 ISK on gasoline during the one year before taking the loan.
Green vote share	This variable indicates the share of the Left-Green Movement party in each of the constituencies of Iceland.
	Panel B: Household Finances
Loan amount	This variable indicates the CPI adjusted amount of car loan/lease each individual takes.
Income	This variable indicates the CPI adjusted sum of all monthly inflows to each individual's bank account. To minimize the measurement error regarding calculating each individual's monthly income, we have dropped bottom and top 5% of all inflows to bank accounts.
Capital income	This variable indicates the CPI adjusted monthly amount of capital income tax each individual pays.
Real estate tax	This variable indicates the CPI adjusted monthly amount of real estate tax each individual pays.
Saving	This variable indicates the CPI adjusted level of the sum of saving of the individual's current and saving account at the time she takes the car loan.
Overdraft	This variable indicates the CPI adjusted level of the sum of credit card overdraft and check account overdraft at the time each individual takes the car loan.
Liquidity	This variable indicates the CPI adjusted level of the individual's liquidity at the time she takes the car loan. Liquidity is calculated by summing up the saving, overdraft limit, credit card limit, and credit card balance minus overdraft.
Mortgage	This variable indicates the CPI adjusted level of remaining mortgage debt at the time each individual takes the car loan.
Total debt	This variable indicates the CPI adjusted level of remaining total debt (including mortgage) at the time each individual takes the car loan.

Mobility	This variable indicates the CPI adjusted level of each individual's mobility measure. This is backed out from the number of card transactions an individual makes at daily level.
Added Cost	This variable indicates the CPI adjusted level of each individual's monthly loan service cost plus the difference in mean monthly gasoline expenditure during the period 3 month before and 3 month after taking the loan plus the difference in mean monthly utility expenditure during the period 3 month before and 3 month after taking the loan.
	Panel C: Expenditures
Groceries	This variable indicates the CPI adjusted level of individual's expenditure on grocery. This is backed out from categorization of each individual's card transactions into spending on grocery and diaries.
Gasoline	This variable indicates the CPI adjusted level of individual's expenditure on gasoline. This is backed out from categorization of each individual's card transactions into spending on gasoline stations.
Utilities	This variable indicates the CPI adjusted level of individual's expenditure on utilities. This is backed out from categorization of each individual's card transactions into spending on heat, water, and electricity.
Car-related	This variable indicates the CPI adjusted level of individual's expenditure on car-related costs. This is backed out from categorization of each individual's card transactions into spending on car dealers, gasoline stations, insurances, parking, repair services,and vehicle maintenance.
CO2-intensive	This variable indicates the CPI adjusted level of individual's expenditure on CO2-intensive categories. This is backed out from categorization of each individual's card transactions into spending on air travel, clothing and accessories, and electronics stores.

Table 2: Comparison of bank population to general population.

This table reports the demographics of the bank population and the general population. Column (1) reports the demographics for the entire population. Column (2) reports the demographics for all customers. These individuals have at least one recording of deposits information. Column (3) reports the demographics for active individuals. These individuals were designated by the bank as being active in at least 10 out of the last 12 months, recorded an inflow in at least 12 out of the last 24 month and are part of a household that visited a grocery store at least four times a month in 23 out of the last 24 months. Individuals in all groups are between 18 and 98 years old and live in Iceland. Standard deviations are reported in parentheses.

	(1) Entire population	(2) All Customers	(3) Active Customers
Demographics			
Female	0.49	0.49	0.51
	(0.5)	(0.5)	(0.5)
Age	48.1	46.6	47.2
	(19.2)	(18.4)	(17.5)
Married	0.41	0.41	0.45
	(0.5)	(0.5)	(0.5)
Capital	0.64	0.68	0.71
	(0.48)	(0.46)	(0.45)
Household size	2.1	2.2	2.3
	(1.3)	(1.3)	(1.3)

Table 3: Summary Statistics

This table provides summary statistics of the variables used in the analyses. All variables are defined in table 1. In Panel A, columns 2 and 3 demonstrate the mean value of the variable for individuals taking green and regular loans, respectively, at the time of taking a car loan. In Panel B, except for loan amount, income and added cost, columns 2 and 3 demonstrate the mean value of the desired variable for individuals taking green and regular loans, respectively, one month before taking the car loan. The amounts reported for loan amount in columns 2 and 3, are the mean value of the car loan for individuals taking green and regular loans, respectively. Moreover, the amounts reported for income in columns 2 and 3, are the mean value of the monthly income for individuals taking green and regular loans, respectively, during the period one year before taking the loan. Finally, In Panel B, columns 2 and 3 demonstrate the mean monthly expenditure on the desired variable for individuals taking green and regular loans, respectively, during the one year period before taking the loan. Also, the values reported in the parentheses in columns 2 and 3 are standard deviations. All amounts in columns 2 and 3 are reported in Icelandic Krona. Column 4, reports the difference in the mean of variables, and t-stats for the mean difference are reported in the parentheses. *, **, and *** indicate that differences in means are statistically significant at the 10%, 5%, and 1% level, respectively.

	Green	Regular	Difference
Panel A: Background Characteristic			
Female	0.34	0.42	-0.08
	—	—	—
Age	46.7	45.9	0.8
	(12.99)	(14.31)	(1.63)
Married	0.64	0.50	0.14
	—	—	—
Capital	0.73	0.65	0.08
	—	—	—
Household size	2.8	2.5	0.3***
	(1.4)	(1.4)	(6.08)
Real estate owner	0.56	0.49	0.07
	—	—	—
Had a car	0.24	0.22	0.02
	—	—	—
Panel B: Household Finances			
Car Loan amount	3,142,892	2,057,980	1,084,912***
	(1,769,309)	(1,591,635)	(19.6)
Income	921,127	840,925	80,202***
	(456,829)	(413,772)	(5.11)
Capital income tax	2,347	2,401	-54
	(10,285)	(10,285)	(-0.14)
Real estate tax	251,924	217,354	34,570***
	(184,411)	(168,214)	(4.00)
Liquidity	2,953,055	2,192,962	760,093***
	(4,728,799)	(3,716,369)	(4.81)
Saving	2,251,625	1,698,639	552,986***
	(4,454,479)	(3,515,041)	(3.71)
Overdraft	442,144	455,403	-13,259
	(704,367)	(1,032,507)	(0.33)
Total debt	10,683,591	8,390,530	2,293,061***
	(17,956,923)	(15,079,865)	(3.95)
Mortgage	10,036,933	7,455,766	2,581,167***
	(17,722,701)	(14,699,979)	(4.55)
Mobility	63.1	62.7	0.39
	(35.3)	(37.3)	(0.7)

Added Cost	38,679	34,856	$3,823^{*}$
	(31,192)	(30,304)	(1.75)
Panel C: Expenditure			
Groceries	83,209	77,155	$6,053^{***}$
	(55,036)	(47,180)	(3.24)
Gasoline	20,491	20,837	-346
	(18,109)	(18,127)	(-0.49)
Utilities	15,246	15,354	-108
	(11,937)	(13,167)	(-0.15)
Car related	42,262	41,480	781
	(57,520)	(62853)	(0.32)
CO2 intensive	47,568	39,626	$7,942^{***}$
	(41,016)	(37,009)	(5.42)

Table 4: Cross Section Regression Results

This table shows the result from the following cross-sectional regression:

$$log(Y_i) = \alpha + \beta_1 Green_i + \beta_2 log(Income_i) + \beta_3 Age + \beta_4 HH\ size_i + \beta_5 Female_i + \beta_6 Capital + \epsilon_i$$

where in panel A, Y_i is the mean monthly amount for the variable of interest through the period one year before taking the loan for individual i, and in panel B, Y_i is the variable of interest one month before taking the car loan. In the parentheses, t-stats are reported. *, **, and *** indicate that differences in means are statistically significant at the 10%, 5%, and 1% level, respectively.

Panel A

	(1) Groceries	(2) Gasoline	(3) Utilities	(4) Car-related	(5) CO2-intensive	(6) Mobility
Green	0.00261	-0.109***	-0.029	-0.0491	0.132***	-1.74
	(0.10)	(-3.43)	(-0.72)	(-1.40)	(4.16)	(-1.61)
Income	0.429***	0.422***	0.279***	0.513***	0.387***	20.90***
	(22.11)	(17.49)	(7.30)	(19.63)	(16.31)	(27.27)
Age	0.00361***	-0.00320***	0.010***	0.00814***	0.00300***	-0.515***
	(5.20)	(-3.79)	(8.47)	(8.74)	(3.57)	(-17.90)
HH Size	0.104***	-0.00364	0.169***	0.0223***	0.0636***	0.055
	(14.12)	(-0.41)	(14.43)	(2.25)	(7.15)	(0.18)
Female	0.338***	-0.475***	-0.140***	-0.587***	0.143***	-0.848
	(16.93)	(-19.54)	(-4.38)	(-21.84)	(5.95)	(-1.02)
Capital	0.0584***	-0.200***	-0.278***	-0.0836***	0.0933***	4.377***
	(2.78)	(-7.83)	(-8.83)	(-3.03)	(3.75)	(5.14)
N	4818	4748	2391	4794	4684	4890
R^2	0.174	0.151	0.156	0.182	0.085	0.188

Panel B

	(7) Capital income tax	(8) Real estate tax	(9) Liquidity	(10) Saving	(11) Overdraft	(12) Total debt	(13) Mortgage
Green	-0.105	0.116***	0.219***	0.211*	-0.180**	0.621***	0.102**
	(-1.17)	(2.59)	(3.56)	(1.83)	(-2.19)	(6.25)	(2.29)
Income	0.908***	0.467***	0.989***	1.127***	0.722***	0.822***	0.149***
	(15.80)	(10.96)	(19.41)	(11.75)	(10.09)	(13.36)	(3.85)
Age	0.00641***	0.00993***	0.0310***	0.0171***	0.0159***	-0.00889***	-0.0136***
	(2.71)	(7.07)	(18.78)	(5.57)	(6.72)	(-3.35)	(-9.98)
HH Size	-0.161***	0.0728***	-0.0100	-0.099***	0.181***	0.0988***	0.0666***
	(-6.37)	(5.31)	(-0.57)	(-3.02)	(7.60)	(3.77)	(5.15)
Female	0.0176	-0.148***	-0.0818*	0.167*	0.00246	-0.346***	-0.0162
	(0.26)	(-3.99)	(-1.74)	(1.90)	(0.04)	(-4.81)	(-0.44)
Capital	0.165**	-0.243***	0.168***	0.178**	-0.140**	-0.356***	0.172***
	(2.35)	(-6.56)	(3.46)	(1.96)	(-2.13)	(-4.95)	(4.83)
N	4820	2563	4318	4240	3451	3001	1371
R^2	0.058	0.093	0.164	0.044	0.062	0.106	0.122

Table 5: Panel Regression Results

This table shows the result from the following panel regression:

$$log(Y_{it}^{T}) = \alpha + \beta_1 Post_{it} + \beta_2 X_{it} + \epsilon_{it}$$

Where Y_{it}^{T} is the variable of interest for green or regular individual i, at time t, for type T ($T = G$ for green and $T = R$ for regular), and X_{it} contains individual fixed effects and calendar fixed effects. Here, t goes from -3 to 3, which stands for 3 months before taking the car loan to 3 months after taking the car loan. In columns 1 and 2, the estimated β_1s are reported. Column 3 reports the difference among the estimated β_1s (θ_1) using the following pooled regression:

$$log(Y_{it}) = \alpha + \beta_1 Post_{it} + \theta_1 Post_{it} \times Green_i + \beta_2 X_{it} + \theta_2 X_{it} \times Green_i + \xi_{it}$$

In the parentheses, t-stats are reported. *, **, and *** indicate that the estimates are statistically significant at the 10%, 5%, and 1% level, respectively

	(1) Green	(2) Regular	(3) Difference
Groceries	0.071**	0.045***	0.026
	(2.17)	(3.06)	(0.71)
Gasoline	−0.158***	0.145***	−0.303***
	(-2.88)	(6.71)	(-5.51)
Utilities	0.123***	-0.010	0.133***
	(2.65)	(-0.52)	(2.77)
Car-related	0.383***	0.529***	−0.146**
	(5.59)	(19.08)	(-2.11)
CO2-intensive	-0.022	−0.089**	0.067
	(-0.25)	(-2.27)	(0.73)
Mobility	2.061**	2.696***	-0.635
	(2.45)	(6.74)	(-0.66)

Table 6: Difference in Differences Regression Results

This table shows the result from the following diff-in-diff regression:

$$log(Y_{it}) = \alpha + \beta_1 Green_i \times Post_{it} + \beta_2 Individual_i + \beta_3 Calendar_t + \beta_4 Event_t + \epsilon_{it}$$

Where Y_{it} is the variable of interest through 3 months before taking the loan ($p = 0$) and 3 months after taking the loan ($p = 1$) for individual i (i.e. t goes from -3 to 3). In columns 1 and 2 of the left panel, the estimated β_1s for the individual level regression are reported. In columns 1 and 2 of the right panel, the estimated β_1s for the household level regression are reported. In the parentheses, t-stats are reported. *, **, and *** indicate that the estimates are statistically significant at the 10%, 5%, and 1% level, respectively.

	Individual Level		Household Level	
	(1)	(2)	(1)	(2)
	Gasoline	Utilities	Gasoline	Utilities
$Green \times Post$	-0.330^{***}	0.090^{***}	-0.264^{***}	0.083^{***}
	(-11.53)	(3.47)	(-9.33)	(3.35)
$Intercept$	9.611^{***}	9.232^{***}	9.947^{***}	9.423^{***}
	(1757.77)	(1916.18)	(1621.91)	(1882.12)
N	26258	10013	19009	9677
R^2	0.609	0.791	0.657	0.769
Individual FE	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes
Event FE	Yes	Yes	Yes	Yes

Table 7: OLS (LPM) Regression Results for *green*

This table reports OLS coefficients from regressions where the dependent variable is the indicator *green*. Columns (1) and (2) include financial literacy (*fin_lit*) with and without controls; Columns (3) and (4) include education (*educ*) with and without controls; Columns (5) and (6) include both *fin_lit* and *educ* with and without controls. Controls (when included) are *all_income*, *age*, *female*, and *family_size*. Standard errors are in parentheses. All numbers are rounded to three decimals. *, **, and *** denote significance at the 10%, 5%, and 1% levels, respectively.

	(1) Financial literacy	(2) Financial literacy	(3) Education	(4) Education	(5) Literacy& Education	(6) Literacy& Education
Financial Literacy	0.017***	0.019***	–	–	0.015***	0.017***
	(0.003)	(0.003)			(0.003)	(0.003)
Education	–	–	0.013***	0.012***	0.010***	0.009***
			(0.003)	(0.003)	(0.003)	(0.003)
Income	0.000	–	0.000	–	0.000	–
	(0.000)		(0.000)		(0.000)	
Age	−0.003***	–	−0.003***	–	−0.002***	–
	(0.001)		(0.001)		(0.001)	
Gender	−0.049***	–	−0.073***	–	−0.061***	–
	(0.019)		(0.019)		(0.019)	
Household size	−0.004	–	−0.007	–	−0.007	–
	(0.008)		(0.008)		(0.008)	
Intercept	0.177***	0.012	0.166**	−0.010	0.092	−0.073**
	(0.060)	(0.020)	(0.064)	(0.032)	(0.066)	(0.034)
Observations	1,378	1,378	1,378	1,378	1,378	1,378
R^2	0.034	0.023	0.028	0.012	0.041	0.030

Table 8: Average Marginal Effects from Logit Models for *Pr(green)*

This table reports average marginal effects (dy/dx) from logit models where the dependent variable is the probability of taking a green loan, P(green). Columns (1)–(2) use the sample of individuals who *won a lottery and bought a car with it*; Columns (3)–(4) use the sample of *lottery ticket buyers*. Columns (5)–(6) add the original car *loan amount* as an additional control. Delta-method standard errors are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Winners	(2) Winners	(3) Buyers	(4) Buyers	(5) Winners	(6) Buyers
lottery	0.131***	0.126***	−0.002	0.006	0.073***	−0.0004
	(0.014)	(0.014)	(0.006)	(0.006)	(0.016)	(0.0072)
Income (M)	0.105***	–	0.101***	–	−2.14e-09	−2.07e-09
	(0.032)		(0.032)		(4.53e-09)	(4.52e-09)
Age	−0.0007***	–	−0.0008***	–	−0.00123***	−0.00138***
	(0.0002)		(0.0002)		(0.00027)	(0.00027)
Female	−0.057***	–	−0.058***	–	−0.0269***	−0.0265***
	(0.005)		(0.006)		(0.0074)	(0.0075)
Household size	0.024***	–	0.023***	–	0.0160***	0.0153***
	(0.002)		(0.002)		(0.0030)	(0.0030)
Loan amount (M)	–	–	–	–	0.815***	0.829***
					(0.018)	(0.815)
Number of obs	18,537	18,538	18,067	18,068	11,974	11,554

Table 9: Green Votes

This table shows the result from regression of Green dummy variable on vote shares of green party:

$$Green_i = \alpha + \beta_1 Green\ vote\ share_i + \beta_2 Income_i + \beta_3 Age_i + \beta_4 HHsize_i + \beta_5 Female_i + \epsilon_i$$

Column 1 reports the result from the regression without adding any control variables, and column 2 reports the results from the regression with added control variables. In the parentheses, t-stats are reported. *, **, and *** indicate that the estimates are statistically significant at the 10%, 5%, and 1% level, respectively.

	(1) Green	(2) Green
Green votes	0.969***	0.996***
	(3.87)	(4.00)
Income(M)		0.0233**
		(2.10)
Age		0.00186***
		(4.33)
Household size		0.0218***
		(4.88)
Gender		-0.0455***
		(-3.74)
Intercept	0.0501	-0.347**
	(1.56)	(-2.24)
N	3986	3986
R^2	0.004	0.020

Table 10: Average Marginal Effects from Logit Models for *Pr(green)*

This table reports average marginal effects (dy/dx) from logit models where the dependent variable is the probability of taking a green loan, P(green). Columns (1)–(2) use the sample of *green-bond buyers*; Columns (3)–(4) use the sample of *all bond buyers*. Columns (1) and (3) include all controls (female, age, income, family size); Columns (2) and (4) include only the respective bond indicator. Delta-method standard errors are in parentheses. All numbers are rounded to three decimals. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Green-bond	(2) Green-bond	(3) All bond	(4) All bond
Green bond	0.063***	0.077***	–	–
	(0.015)	(0.015)		
Bond	–	–	0.030***	0.032***
			(0.007)	(0.007)
Gender	−0.036***	–	−0.036***	–
	(0.003)		(0.003)	
age	−0.001***	–	−0.001***	–
	(0.000)		(0.000)	
Income (M)	0.041***	–	0.039***	–
	(0.014)		(0.014)	
Household size	0.013***	–	0.013***	–
	(0.001)		(0.001)	
Number of obs	42,306	42,308	42,306	42,308

Table 11: Buying a 'green' versus 'brown' car's impact on Household Finances

This table shows the pecuniary impact for those that decided to buy a 'green' versus a so-called 'brown' car. The added costs include the gains and losses of driving electric versus gasoline, and servicing the loan as well as the respective cars, three months before and after buying the car. We ran the following cross-sectional regression:

$$Added\ cost_i = \alpha_i + \beta_1 Green_i + \beta_2 Car\ value_i + \beta_3 Loan\ amount_i + \beta_4 X_i + \epsilon_i$$

Column 1 reports the result from the regression with controlling only for car value. Column 2 reports the results from the regression with controlling only for loan amount. Column 3 reports the results from the regression with controlling only for loan amount and car value. Column 4 reports the results from the regression including all control variables. Note that here, the control variable for mobility is defined as the difference in mean monthly mobility during the period 3 month before taking the car loan and 3 month after taking the car loan. In the parentheses, t-stats are reported. *, **, and *** indicate that the estimates are statistically significant at the 10%, 5%, and 1% level, respectively.

	(1) Added Cost	(2) Added Cost	(3) Added Cost	(4) Added Cost
Green	-10440.2***	-10939.9***	-11050.8***	-10345.2***
	(-5.98)	(-6.67)	(-6.71)	(-6.60)
Car value	0.00871***		0.000595	0.000611
	(28.03)		(0.79)	(0.83)
Loan amount		0.0137***	0.0129***	0.0127***
		(31.97)	(11.76)	(11.97)
Income				0.000580
				(0.35)
Age				-1.222
				(-0.02)
Household size				-16.92
				(-0.03)
Female				-485.89
				(-0.36)
Capital				10033.5***
				(2.67)
Mobility				423.9***
				(10.95)
Intercept	3000.2**	1383.8	1165.4	-9454.8*
	(2.16)	(1.07)	(0.88)	(-1.90)
N	1104	1104	1104	1104
R^2	0.418	0.483	0.483	0.538

Table 12: Debt-to-income and energy-to-income ratios around the loan

Columns (2), (3), (5), and (6) show the result from the following panel regression:

$$Y_{it}^{T} = \alpha + \beta_1 Post_{it} + \beta_2 Individual_i + \beta_3 Calendar_t + \epsilon_{it}$$

Where Y_{it}^{T} is the variable of interest for green or regular individual i, at time t, for type T ($T = G$ for green and $T = R$ for regular)
Columns (3) and (6) show the result from the following diff-in-diff regression:

$$Y_{it} = \alpha + \beta_1 Green_i \times Post_{it} + \beta_2 Individual_i + \beta_3 Calendar_t + \beta_4 Event_t + \epsilon_{it}$$

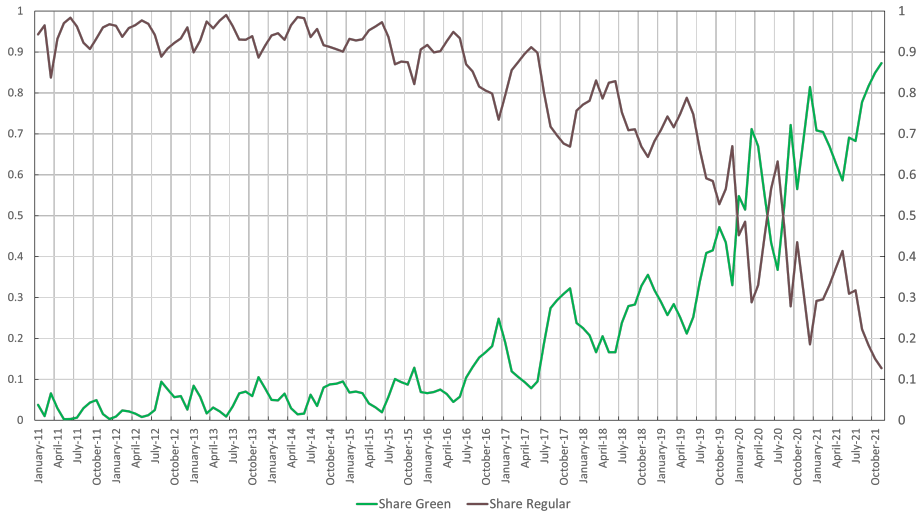
Where Y_{it} is the energy expenditures to income ratio through 3 months before taking the loan ($p = 0$) and 3 months after taking the loan ($p = 1$) for individual i (i.e. t goes from -3 to 3).

	Debt to income ratio			Energy to income ratio		
	(1)	(2)	(3)	(4)	(5)	(6)
	Green	Regular	All	Green	Regular	All
Post	3.480***	2.781***		-0.0035	0.0036***	
	(10.41)	(20.77)		(-1.40)	(3.76)	
Green × *Post*			0.699*			-0.0077***
			(1.91)			(-5.96)
Intercept	28.47***	17.68***	20.71***	0.0429***	0.0421***	0.0443***
	(112.67)	(174.61)	(306.55)	(29.04)	(69.79)	(178.89)
N	2121	13748	15869	1366	6727	8093
R^2	0.989	0.929	0.959	0.741	0.762	0.757
Individual FE	Yes	Yes	Yes	Yes	Yes	Yes
Calendar FE	Yes	Yes	Yes	Yes	Yes	Yes
Event FE	No	No	Yes	No	No	Yes

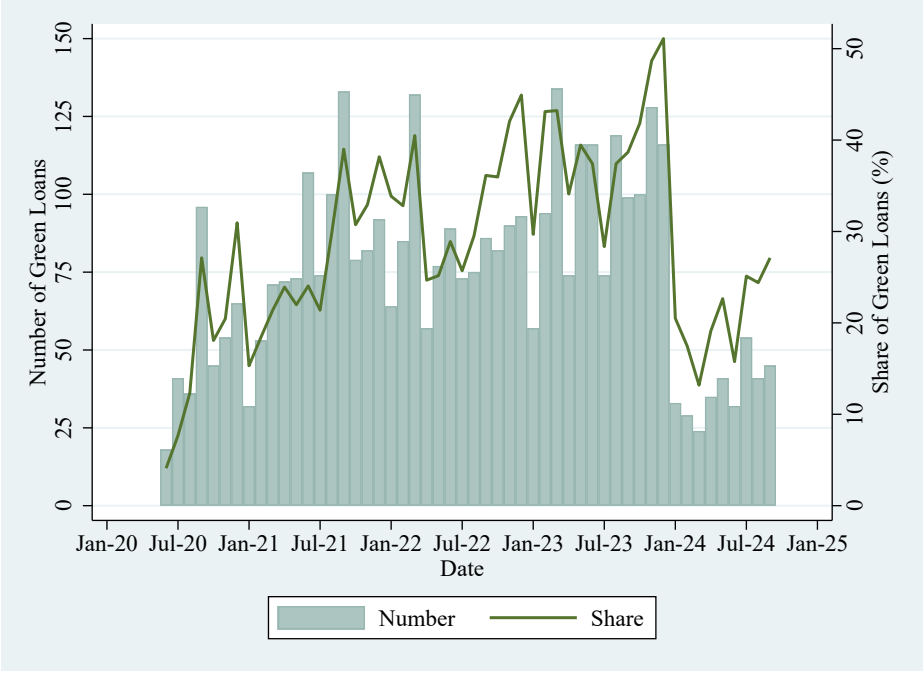
6 Figures

Figure 1: Growth of Green Car Loans

Panel (a) represents the share of all new registrations of cars by source of energy in Iceland since 2011. Panel (b) represents the number and the share of green car loans.



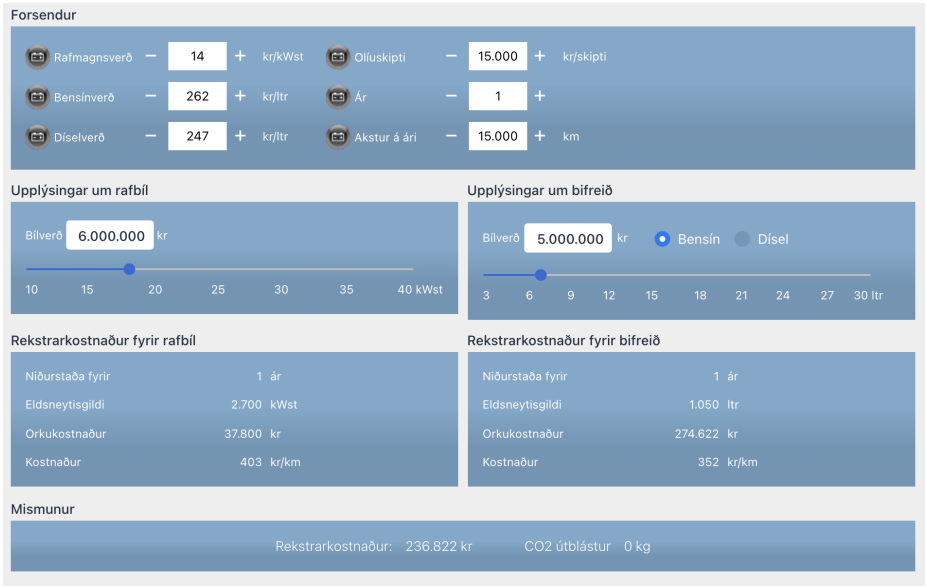
(a) New Cars by Energy Source



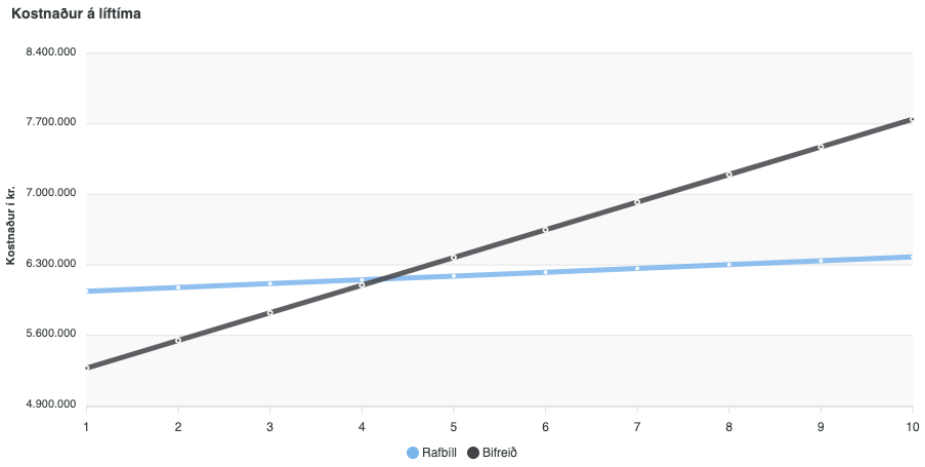
(b) Share and Number of Green Loans

Figure 2: Online Calculator comparing cost of having Electric and Regular Cars

Panel (a) shows the assumptions made in the comparison of the cost of electric and regular cars. The assumptions made regard price of electricity, price of gasoline and diesel oil, cost and frequency of oil change, kilometers driven per year, price for an electric and a regular car, electricity use of the electric car and gasoline consumption for the regular car. The default values represent regular electric prices, kilometers driven per year, and current gasoline prices. Panel (b) shows a comparison of the accumulated cost of having an electric car with a purchase price 6 million ISK and a regular car with a purchase price of 5 million ISK over their lifetimes from a popular online calculator in Iceland. Note that the comparison does not take into account that many electric car owners are able to charge their cars often for free, i.e., it assumes that they pay for all charges. The light blue line shows the cost of buying an electric car while the grey line shows the cost of having a regular car.



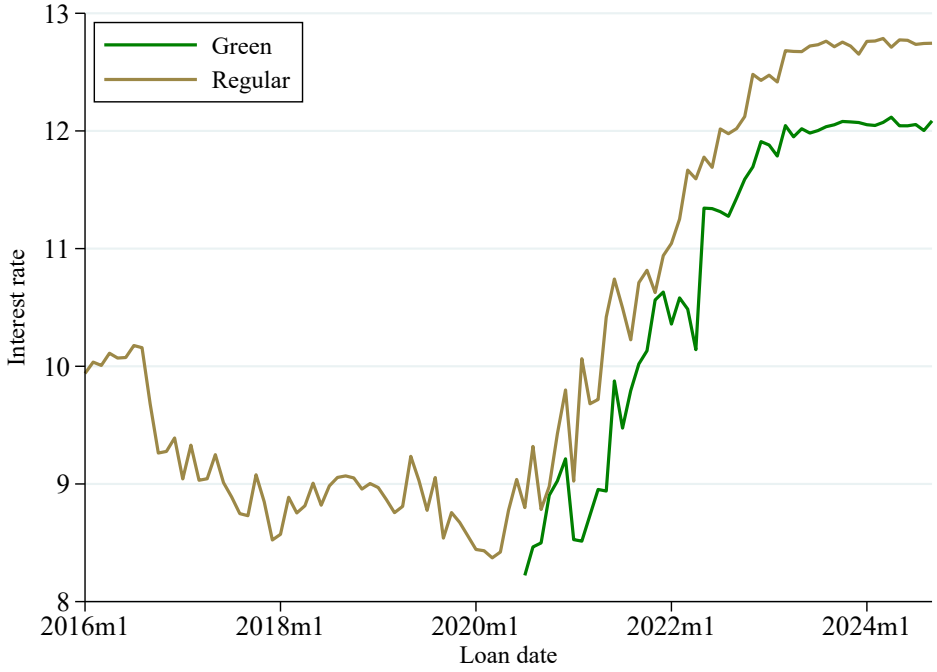
(a)



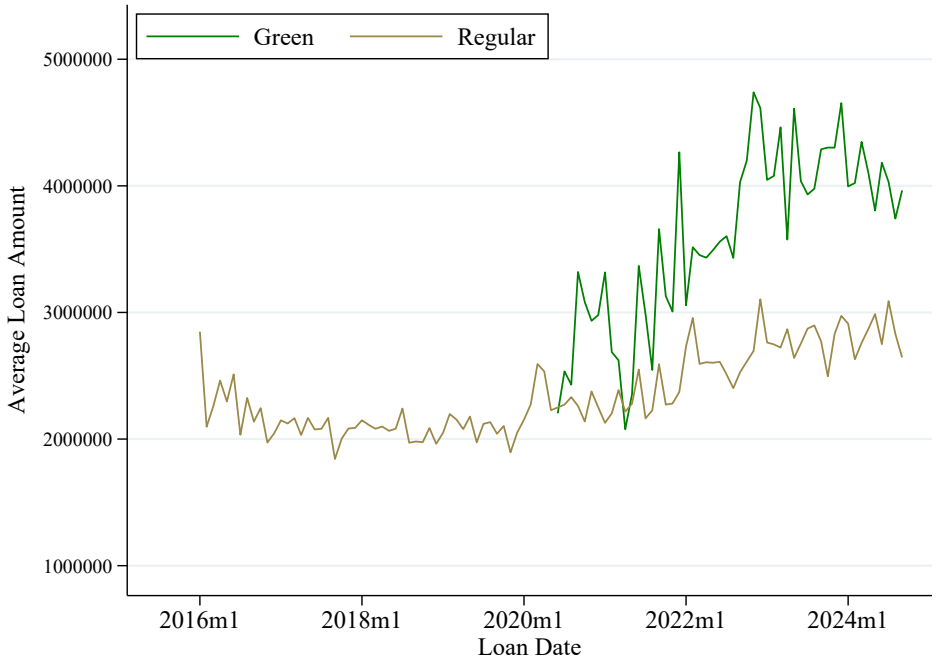
(b)

Figure 3: Loans Characteristics

This figure represents the loan **interest rate** (panel a) and **loan amount** (panel b) for green and regular loans.



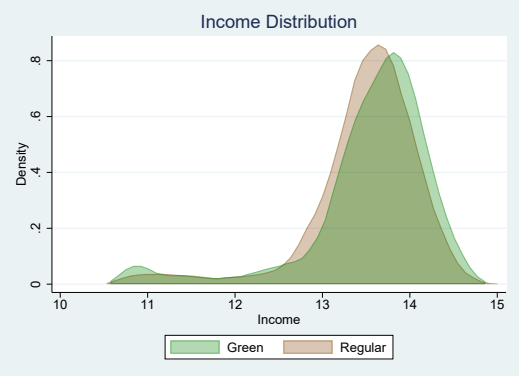
(a) Loan Interest Rate



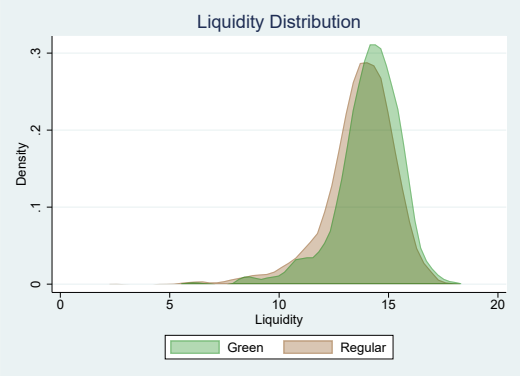
(b) Loan Amount

Figure 4: Distributions

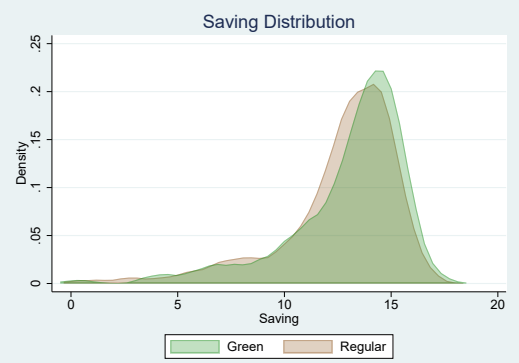
This figure represents the distributions of income, liquidity, saving, and car value in logs.



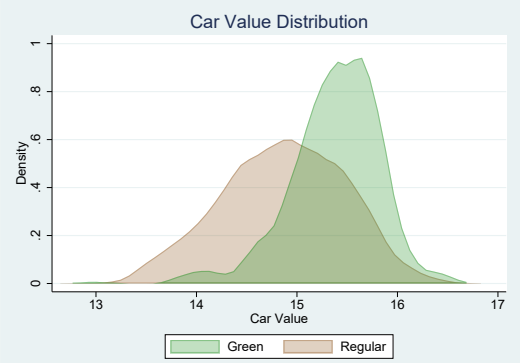
(a) Income



(b) Liquidity



(c) Saving



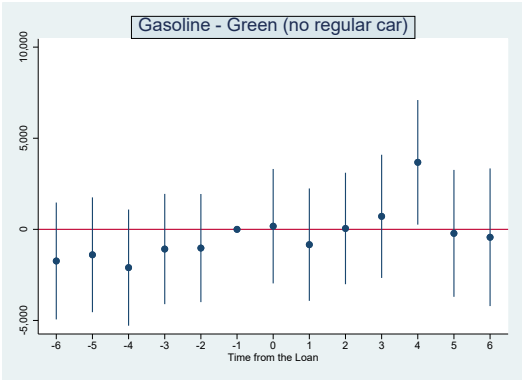
(d) Car Value

Figure 5: Event Study

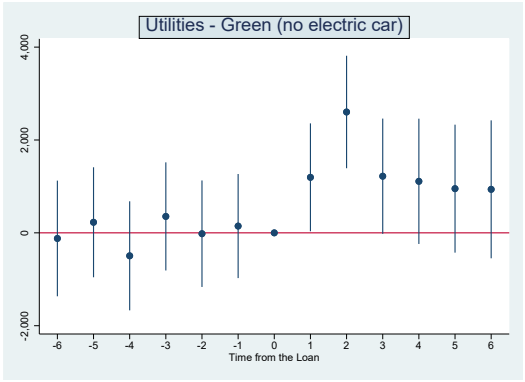
The following fixed effect model is estimated

$$y_{i,t} = \alpha_i + \sum_{j=-6}^{6} \beta_j D_{j,t} + \sum_{k=1}^{12} \beta_k M_{k,t} + \epsilon_{i,t}$$

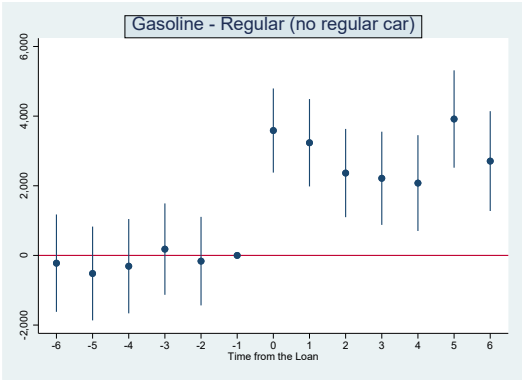
where $y_{i,t}$ is the outcome of interest and α_i is an individual fixed effect. $D_{j,t}$ is a dummy that is one if the individual has taken a green loan j months before and $M_{k,t}$ are month fixed effects. The following graphs plot the β_j coefficients.



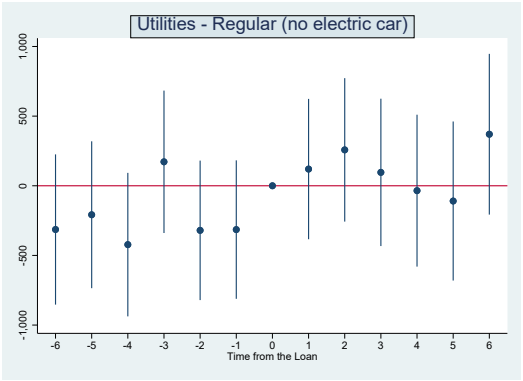
(a) Gasoline - Green



(b) Utilities - Green



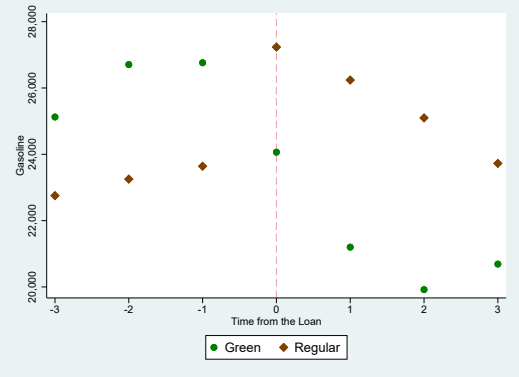
(c) Gasoline - Regular



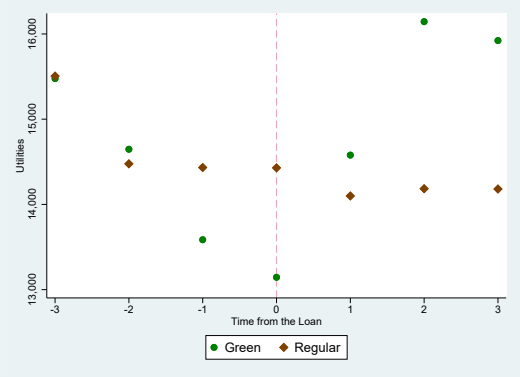
(d) Utilities - Regular

Figure 6: Pre-Trends 1

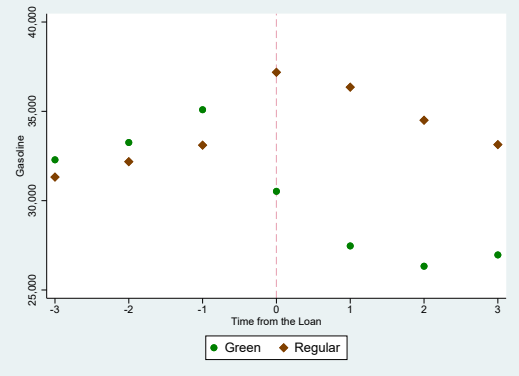
This figure shows the individual and household level of gasoline expenditure (panels a and c) and utilities (panels b and d) around the time of taking the loan.



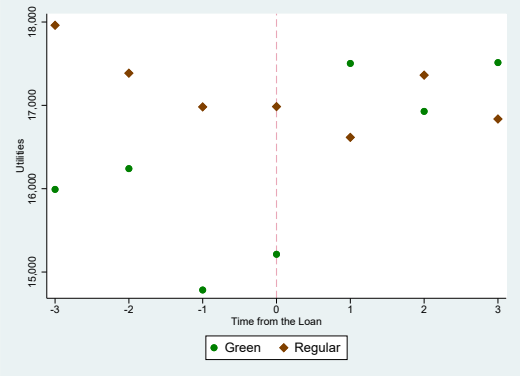
(a) Gasoline - Individual



(b) Utilities - Individual



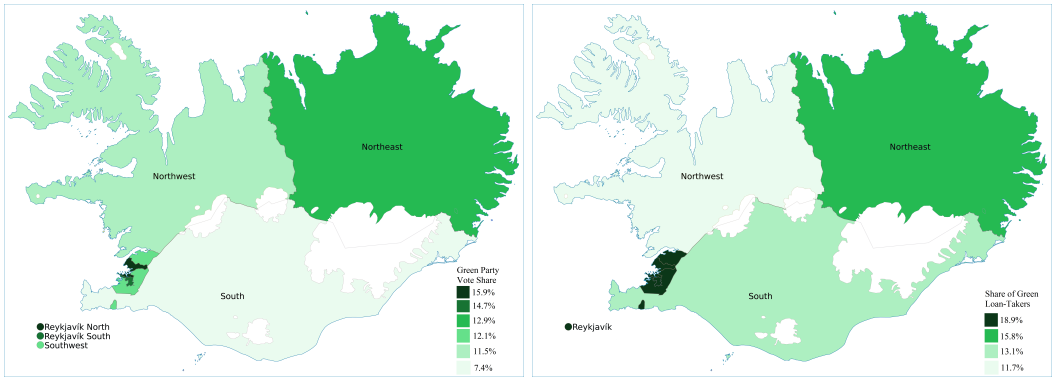
(c) Gasoline - HH



(d) Utilities - HH

Figure 7: Political Preferences.

Panel (a) shows share of the Left-Green Movement votes (vinstri graen) in six constituencies of Iceland. Panel (b) shows the share of green loan takers in four different regions based on the location of the grocery store that each individual visits the most.

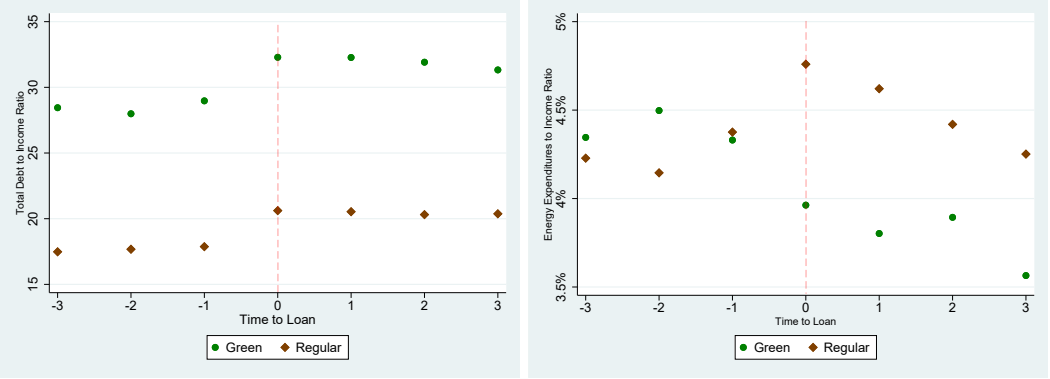


(a) Share of Green Votes

(b) Share of Green Loans

Figure 8: Pre-Trends 2

This figure shows the total debt to income ratio (panel a) and energy expenditures to income ratio (panel (b) around the time of taking the loan.



(a) Debt to income Ratio

(b) Energy to Income Ratio

Appendix A: Financial Literacy Questions

1. Suppose you had 1,000 kr. in a bank account and the interest rate was 2% per year. After 5 years, how much would you have if you left the money to grow?
   Options: More than 1,020 kr.; Exactly 1,020 kr.; Less than 1,020 kr.; Don't know; Prefer not to say

2. Imagine the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much could you buy with the money?
   Options: More than today; Exactly the same; Less than today; Don't know; Prefer not to say

3. If interest rates rise, what will typically happen to bond prices?
   Options: They will rise; They will fall; They will stay the same; No relationship; Don't know; Prefer not to say

4. True or False: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid will be less.
   Options: True; False; Don't know; Prefer not to say

5. Anna believes inflation will be higher (6%) than others expect (3%). With a fixed salary, the amount of goods and services she can buy in one year will be
   Options: Higher; Lower; The same; Don't know

6. Anna should adjust her purchases of durable goods (cars, electronics, furniture, etc.) in the following way:
   Options: Buy sooner; Postpone; No change; It depends (please explain)

7. Given Anna's inflation belief (6% vs 3%), should she adjust her overall savings (accounts, stocks, bonds, etc.)?
   Options: Yes, save more; Yes, save less; No change; It depends (please explain)

8. Should Anna change her borrowing behavior for fixed-rate instruments (mortgages, loans)?
   Options: Borrow more; Borrow less; No change; It depends (please explain)

9. Anna expects future house prices to be
   Options: Higher; Lower; The same; Don't know

10. Anna expects future interest rates on fixed-rate mortgages to be
    Options: Higher; Lower; The same; Don't know

11. For Anna, the attractiveness of investing today in fixed income securities (savings, bonds, mutual funds)
    Options: Higher; Lower; The same; Don't know

12. In Anna's view, the value of stocks in the future will be
    Options: Higher; Lower; The same; Don't know

Appendix B: Education Background

Please mark all degrees that you have completed.
Options: Compulsory schooling not completed; Old school leaving certificate (age 12 years); Old school leaving certificate (age 14 years); Basic school leaving certificate; 16–17 years old secondary school certificate; 1–2 years' vocational training; 2–3 years' vocational training; 3 years' vocational training; University entrant certificate (Secondary school / High school / Matriculation); 1–2 years' education after university entrant certificate; Short 1–1.5 years diploma course at university level; First university degree (e.g. BA or BS); Second university degree (e.g. MA or MS); Doctorate.