What Makes Depositors Tick?

Bank Data Insights into Households' Liquid Asset Allocation

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Abstract

We use transaction-level data from a major Icelandic bank—servicing about one third of the population—to study households' portfolio allocation within liquid, short-term, safe assets that are identical in risk, maturity, and liquidity but offer different yields. These assets are the main source of liquid financial wealth for households and the largest source of funding for banks. Despite all assets being equally safe and liquid, with instantaneous and free transfers, we find substantial heterogeneity in holdings: households tilt portfolios toward high-return assets as wealth rises and actively reallocate cash inflows, yet portfolios are largely unresponsive to interest-rate fluctuations, including those driven by monetary policy surprises, except among the wealthy. Even in this frictionless environment, we document large costs of inaction, with forgone interest income for the wealthiest households reaching about 5 percent of annual consumption. We find that aggregate deposit fluctuations are driven mainly by wealthy households' portfolio rebalancing. Finally, we show that a calibrated portfolio-choice model with standard adjustment frictions replicates cross-sectional holdings but substantially overstates sensitivity to interest rates.

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1 Introduction

The allocation and dynamics of household financial assets are central to economics and finance, as they link monetary policy, financial intermediaries, and the real economy. The distribution of liquid financial assets across households is, for instance, a core component of modern theories of monetary and fiscal policy (Auclert et al., 2025). The sensitivity of households' bank deposits to interest rates drives cyclical fluctuations in financial intermediation (Drechsler et al., 2017), while their insensitivity to the market value of bank assets shapes bank lending (Hanson et al., 2015). For households, financial assets provide an important means of self-insurance and constitute a significant share of total wealth (Badarinza et al., 2016; Guiso and Sodini, 2013). Yet, despite their importance, our understanding of the determinants of their allocation remains limited.

In this paper, we contribute to the understanding of households' financial portfolios by studying both the allocation and the sensitivity of liquid, short-term, safe assets.[1] Although narrow in scope, this category is economically relevant: in 2022, for 7 out of 10 U.S. households, it was the only form of directly held financial assets, and for the vast majority it represented the largest share of their liquid financial portfolios (Guiso and Sodini, 2013). These assets are also central to the financial system, accounting for more than 80% of U.S. bank liabilities in 2025.[2] A key advantage of focusing on liquid, short-term, safe assets is that risk, maturity, and liquidity are homogeneous across assets and over time. This allows us to cleanly identify portfolio sensitivity to changes in interest rates and wealth, as well as the income losses from portfolio inaction, without confounding from risk preferences or beliefs that may also vary across households and over time.

To study household portfolio decisions, we leverage detailed transaction-level data from one of the largest banks in Iceland. The bank offers all clients access to multiple liquid, short-term, safe assets that are nearly identical in non-pecuniary characteristics but differ significantly in interest rates, with these differences widening over the business cycle. We

[1] These assets—defined more precisely in Section 2.3—include checking and savings accounts, and "liquid funds" held in brokerage accounts.

[2] Own calculations using SCF (2023) and FDIC (2025). For households, "directly held financial assets" are defined as all financial assets excluding those held through pension funds. For banks, the 80% figure corresponds to the share of deposits in total liabilities.

document that despite transfers between these accounts being instantaneous and free of charge, there are substantial differences in portfolio holdings and returns across individuals, yet allocations remain largely unresponsive to movements in interest-rate spreads, except among wealthy households. We quantify the cost of inaction for households, show which households drive aggregate deposit dynamics, and contrast our empirical findings with the predictions of calibrated household finance models.

Central to our analysis is the richness of the data, which cover roughly a third of the Icelandic population on a daily basis between 2016 and 2024. We observe bank account balances, interest rates, inflows and outflows, card payments, and financial portfolios managed by an affiliated broker. These data also contain information on demographics and have been linked to rich survey responses of the bank customers that measure financial literacy, inflation knowledge, expectations, and other individual characteristics. Furthermore, Iceland offers an ideal setting for our research because it is among the most advanced countries in digital banking, with near-universal use of online services and frictionless real-time transfers.

Our environment is uniquely suited to study the determinants of portfolio allocation and sensitivity to interest rates, as information frictions and transaction costs between assets are nearly absent, while potential income gains from reallocation are large. All bank customers—regardless of wealth—have access to a range of checking, savings, and money-market accounts, which are widely advertised on the bank's website. Non-pecuniary differences across accounts are minimal, as payment functionality and account management are essentially identical. Reallocation is effectively frictionless: transfers between accounts are instantaneous, free of charge, unconstrained in size, and can be executed in the mobile app at the tap of a finger. Yet, interest-rate spreads between these accounts in our sample range from zero in 2020 to as high as six percentage points in 2024, providing substantial variation over time. Importantly, the returns on these assets are risk-free, removing the need to impose assumptions about household risk–return trade-offs or expectations when analyzing optimal portfolio allocation.

We begin by showing that, despite the bank offering universal access to all assets and portfolio reallocation being frictionless, households' holdings vary systematically with wealth, while at the same time exhibiting very limited sensitivity to interest-rate spreads. That is,

households adjust their portfolios when their wealth changes, but not when interest rates change. We document a sharp wealth gradient: individuals in the top decile of liquid wealth hold a share in low-return checking deposits 69 percentage points lower than those in the bottom decile. By contrast, the average share kept in checking is largely unresponsive to interest rates: it averages 51 percent when the key rate is at its trough and 48 percent when it is at its peak, even though the spread between the highest-yielding deposit and checking widens from essentially zero to over six percentage points. Within individuals, the checking share declines by only about 0.3 percentage points for each 1-percentage-point increase in the key rate. We reinforce that households respond to wealth, not to rates, by examining individual reallocation behavior. Wealthy households rebalance their portfolios more frequently than low-wealth households—in more than 40 percent of months in the top deciles, against 23 percent in the bottom decile—yet the share of individuals making a transfer, the number of transfers per month, and the size of transfers remain almost constant over the rate cycle.

Two further pieces of evidence sharpen this contrast. First, the limited response is not an artifact of the Central Bank setting rates in response to the economy. Instrumenting changes in the key rate with monetary policy surprises—measured as the difference between each decision and the median forecast of the three largest banks—yields an estimate indistinguishable from the OLS one: households reallocate as little after unexpected rate changes as after anticipated ones. Second, households do act when their wealth changes. Around two well-defined cash-flow events unrelated to interest rates—the release of vacation pay each May and job loss—they actively move funds: within a month of the May inflow they raise the share held outside checking, and after a job loss they cut transfers into savings and draw down balances outside checking. The implied reallocation per unit of wealth is close to the within-person estimate. Households that barely adjust to a six-percentage-point widening of the spread move funds within a month of a cash inflow.

We then study how portfolio heterogeneity translates into heterogeneous realized returns and the cost of inaction. We find large differences in returns: wealthy households earn, on average, about 2 percentage points more on their portfolios than households at the bottom of the distribution. Surprisingly, it is the wealthy who leave the most money on the table:

the forgone after-tax interest income amounts to 0.4 percent of annual consumption for the median individual, 2.0 percent at the 90th percentile, and 4.9 percent for the wealthiest individuals. Because allocations barely move with rates, this cost rises over the rate cycle: for the median individual, from 0.2 percent of consumption in low-rate years to 0.6 percent in high-rate years. The magnitude of these differences in returns is comparable to that associated with non-participation in equity markets, while the resulting welfare losses are on par with those from under-diversification documented for Sweden by Calvet et al. (2007). What distinguishes our setting is that these return differences and costs arise without any trade-off in risk, maturity, or liquidity, and portfolio reallocation is frictionless—making them especially puzzling.

We next focus on households' low average sensitivity to interest rates and the apparent contradiction with the large deposit fluctuations observed at the aggregate level. It is well documented in the financial intermediation literature that, following monetary policy tightening, the share of low-yield deposits declines, triggering disintermediation (e.g., Drechsler et al., 2017). Less understood, however, is who moves these deposits. We study heterogeneity in this elasticity and find that wealthy households are far more responsive than the average depositor, reducing their checking share by about 1.2 percentage points more than the bottom decile for each 1-percentage-point increase in the key rate, whereas up to the median the response does not differ from that of the bottom decile. Beyond wealth, using survey evidence and login records, we show that the characteristics associated with a higher-return allocation are not the same as those associated with a stronger response to rates. Individuals who log in to the bank often hold much less in checking at any rate, but do not respond more to rates; individuals who know the current inflation rate and the financially literate hold similar allocations on average, but adjust them more actively when rates change.

We also show that the gap is not explained by the terms individuals face. The bank's deposit accounts are open to every client on the same terms, balance tiers are negligible, and transfers are free and immediate. Among clients who all hold the bank's highest-paying online savings account, every fact carries through, and the facts are unchanged when the liquid fund is excluded.

We then use these estimated elasticities to decompose fluctuations in the aggregate share

of low-yield deposits over the business cycle into two components: redistribution of deposits across wealth groups and active portfolio adjustments in response to interest-rate changes. Because deposits are highly concentrated—the top decile alone holds more than 60 percent of total balances—and wealthy households are the most responsive, we find that aggregate fluctuations are driven primarily by wealthy individuals actively reallocating their portfolios in response to changes in interest-rate spreads, rather than by shifts in deposits across individuals.

Finally, we show that our findings pose a challenge for standard portfolio-choice models widely used in recent macroeconomics papers. We develop an incomplete-markets model with two assets and portfolio adjustment frictions, in the spirit of Auclert et al. (2025), and consider both a state-dependent version—where households pay a fixed cost each time they rebalance—and a time-dependent version—where rebalancing occurs only when a stochastic opportunity arises. Calibrated to match the observed frequency of monthly adjustments, both models reproduce the cross-sectional distribution of holdings across the wealth distribution reasonably well but substantially overstate households' sensitivity to interest-rate changes and fail to capture which households adjust. These results suggest that additional mechanisms beyond simple adjustment frictions are required to align theory with the data, and that monetary policy transmission through household portfolios may be more muted than these models imply.

Related Literature

This paper contributes to several strands of literature. First, we contribute to the household portfolio-choice literature (see, e.g., Guiso et al., 2002; Campbell, 2006) by documenting substantial heterogeneity in choices and returns within an asset class that lacks trading frictions and in which assets share common non-pecuniary characteristics. Our evidence complements Fagereng et al. (2020) by emphasizing heterogeneous cyclical variation in returns.

Our findings also contribute to the literature on household inaction in response to financial incentives (Andersen et al., 2020b; Chetty et al., 2014; Andersen et al., 2025; Calvet et al., 2007). We innovate by examining inaction where reallocations are instantaneous and free and assets share non-pecuniary traits and document that despite sizable potential gains, many

households leave substantial interest income on the table.

We also speak to the deposit stickiness and the value of deposits franchise. In contrast to Lu et al. (2024), where transfer delays can induce inaction, our setting features instantaneous settlement within and across banks, ruling out transfer frictions as a first-order explanation. Additionally, our results relate to work on the importance of stable deposits for bank funding (Kashyap et al., 2002; Egan et al., 2021; d'Avernas et al., 2023; DeMarzo et al., 2024; Kundu et al., 2024; Koont et al., 2024; Egan et al., 2017; Haddad et al., 2023) and to research on how monetary policy shapes lending via deposit reallocation (Drechsler et al., 2017; Li et al., 2023; Blickle et al., 2024; Argyle et al., 2024; Jiang et al., 2024; Erel et al., 2023; Wang et al., 2022; Xiao, 2020). We contribute to this literature by providing evidence on which factors shape deposit allocation in the cross-section and, crucially, which depositors drive aggregate fluctuations.

Methodologically, we add to work using transaction-level bank data, either from financial aggregators or directly from banks (see, e.g., Gelman et al., 2014; Baker, 2018; Olafsson and Pagel, 2018; Andersen et al., 2020a; Meyer and Pagel, 2022; Bräuer et al., 2022; Carlin et al., 2022; Gathergood and Olafsson, 2024; Ganong et al., 2024), and to a small but growing literature that links administrative records on financial behavior with survey evidence on the same individuals (see, e.g., Epper et al., 2020; Carvalho et al., 2024; Schnorpfeil et al., 2024). Our high-quality bank data—combining high-frequency information on deposits, broker balances, transfers, interest rates, and demographics—are precisely what is needed to investigate what drives portfolio adjustments.

We find only modest average sensitivity of safe liquid-asset allocations to interest-rate spreads—an "inelastic" response in line with evidence from equity markets on limited demand elasticities (Koijen and Yogo, 2019; Gabaix and Koijen, 2021; Haddad et al., 2025). At the same time, this elasticity is heterogeneous across individuals: wealthier and more financially literate investors respond more strongly to interest-rate fluctuations, consistent with findings on participation margins, portfolio rebalancing, and the role of financial knowledge in household finance (Vissing-Jørgensen, 2002; Lusardi and Mitchell, 2014b; Calvet et al., 2009; D'acunto et al., 2023).

Finally, we connect to portfolio choice models recently incorporated into macroeconomic

frameworks and use our evidence to evaluate their performance against novel data. Recent work builds on Baumol (1952) and Tobin (1956) by introducing multiple assets into incomplete-markets models (e.g., Aiyagari, 1994; Kaplan and Violante, 2014; Kaplan et al., 2018; Auclert et al., 2020, 2025; Melcangi and Sterk, 2024; Kekre and Lenel, 2022). Adjustment costs or asset participation in these models are typically disciplined by targeting the distribution of assets to match indirect moments such as marginal propensities to consume, but they are rarely confronted with evidence on individuals' actual portfolio reallocations. Moreover, safe liquid assets are often modeled as a single instrument whose returns move one-for-one with the policy rate. We provide direct evidence on within-household reallocations across liquid accounts, allowing us to discipline the elasticity of these movements. Our results suggest that standard models tend to overstate households' interest-rate sensitivity, highlighting the need to make portfolio frictions explicitly wealth-dependent.

Alvarez et al. (2012) is closely connected, as they use portfolio adjustment evidence to identify adjustment frictions. We show that models matched only to cross-sectional holdings reproduce portfolios but overstate responsiveness to interest rates. This elasticity is key for assessing households' responses to monetary policy. Similarly, Fagereng et al. (2019) use administrative data to evaluate a consumption–saving model, showing that portfolio adjustment frictions are essential for matching households saving facts across the wealth distribution.

2 Data and Institutional Setting

We use proprietary administrative records from one of Iceland's largest retail banks. The records contain daily balances and detailed product information for all bank accounts held by the bank's individual customers from January 2016 through September 2024. Beginning in January 2018, we also observe the interest rate associated with each account and all account inflows and outflows, including transaction descriptions. We additionally observe debit- and credit-card activity, overdrafts, and other loans. The data also cover financial portfolios held through the bank's affiliated broker. For these portfolios, we observe end-of-month holdings by asset type—including investment funds, stocks, bonds, and other securities—as well as all

transactions at a daily frequency. Taken together, these data allow us to measure customers' financial portfolios across the bank and its affiliated broker, the returns on the products they hold, and the transfers through which they adjust their portfolios.

The administrative records contain individual and family identifiers, allowing us to follow customers over time, link members of the same family, and identify transfers between them. They also include demographic characteristics such as age, gender, and registered place of residence. For a subset of customers, the administrative records are linked to responses to four online surveys. These surveys provide measures of financial knowledge, understanding of inflation, education, and other individual characteristics.

We first describe Iceland's banking and payments environment. We then present the administrative and survey data, explain the construction of our analysis sample and main variables, and assess the coverage and representativeness of the data.

2.1 Institutional Environment

Iceland is a small, high-income, and technologically advanced economy. Its population was approximately 384,000 at the beginning of 2024, and nominal GDP per capita was approximately $84,500 in 2023, 89% above that of France (Statistics Iceland, 2024; International Monetary Fund, 2026). Retail banking is concentrated among three large commercial banks of broadly similar size, which together account for about 95% of banking-system assets (International Monetary Fund, 2023a). These institutions provide households with traditional bank accounts, credit, and access to financial-market products through affiliated brokers.

Banking and payments in Iceland are highly digital. In 2021, 95% of individuals reported using internet banking, far above the European Union average of 58% (Eurostat, 2025), and cash accounted for only 7% of point-of-sale transactions in 2022 (Central Bank of Iceland, 2024b). Iceland has also operated a retail fast-payment system since 2003, among the first in the world (Bech et al., 2017). Throughout our sample period, transfers, including those across banks, reach the recipient in real time and are free of charge (Central Bank of Iceland, 2018a; International Monetary Fund, 2023b). Households can therefore reallocate funds without paying a transaction fee or waiting for the funds to arrive.

An important feature of Icelandic retail banking is that households can earn higher deposit

rates without necessarily committing their funds for a fixed period: most high-yielding deposits have no minimum commitment period. As a consequence, the share of household deposits earning high interest rates is substantially larger in Iceland than in Europe (Central Bank of Iceland, 2024a). Each of the three large banks offers such high-yield accounts, and their posted rates are similar across banks and move closely with the Central Bank key rate.[3] The availability of high-yielding, readily accessible deposits is therefore a general feature of the Icelandic banking system rather than an idiosyncrasy of our partner bank.

Finally, in Iceland, deposit accounts are registered to individuals rather than held jointly, including within married couples (Gathergood and Olafsson, 2026). Checking accounts also commonly carry prearranged overdraft facilities (Gathergood and Olafsson, 2026): a pre-agreed limit up to which the balance may go negative, with the amount drawn charged interest at the bank's posted overdraft rate rather than a fixed NSF fee. Additionally, bills are collected through a centralized claims system: a creditor registers a claim against the payer's national identification number, and the claim is presented among the payer's unpaid claims in online banking together with its due date (Central Bank of Iceland, 2025). Together with the instantaneous, fee-free transfers described above, advance visibility of payment obligations and access to overdrafts lower the need to hold large balances in low-return accounts as a buffer against large or unexpected payments. Iceland therefore provides a setting in which the mechanical reasons for holding balances in low-return accounts are minimal.

2.2 Sample Selection

Among all customers with open accounts at the bank, we aim to retain those who appear to use the bank as their primary financial institution. We label these customers *active clients* and require persistent evidence of checking-account use, expenditures, and income. These conditions are intended to identify clients for whom our data provide a sufficiently complete picture of income, expenditures, and financial portfolios. They are also important for interpreting inactivity: without them, an apparent failure to adjust portfolios within the bank could simply reflect financial activity conducted through another institution.

[3] Appendix D.3 compares deposit menus and posted savings rates at the three large banks over the sample period.

Specifically, we classify a customer as active in a given month if the following conditions are satisfied:

1. *Resident adult.* The customer is at least 18 years old and registered as residing in Iceland.
2. *Active checking account.* The customer holds a checking account in regular use: for most of the preceding year, the account carries a nonzero balance and shows movements within the month.
3. *Regular expenditures.* The customer pays for daily life through the bank: food purchases of at least EUR 50 per month for most of the preceding year, and total consumption expenditure averaging at least EUR 200 per month over the calendar year.
4. *Regular income.* The customer's income arrives at the bank: regular income deposits—such as salaries, pensions, or benefits—of at least EUR 500 per month for at least half of the preceding year, and averaging at least EUR 1,000 per month over the calendar year.

All monetary thresholds are expressed in September 2024 euros. The resulting sample contains approximately 58,000 to 71,000 active customers in a given month. Appendix A provides the complete construction of the active-client indicator, including the treatment of brief interruptions in activity, shorter account histories, and the initial years of the sample. We assess the coverage and representativeness of the resulting sample below.

Unless otherwise stated, our empirical analyses use observations for active customers. For analyses of portfolio composition and comparisons across wealth groups, we additionally restrict the sample to customer-months with nonnegative financial wealth.

2.3 Financial Products and Portfolio Measurement

The records allow us to observe each customer's holdings across all products offered by the bank and its affiliated broker. To measure portfolio allocation, we group the institution's product-specific labels into interpretable categories. At the bank, we distinguish checking accounts, savings accounts, time deposits and other restricted accounts, foreign-currency accounts, and credit-card balances. At the broker, we separately identify holdings of investment funds,

stocks, and bonds. For details on the classification, see Appendix D.[4]

The paper studies portfolio choice across a narrow subset of these products: checking accounts, savings accounts, and holdings in a short-term fund through the affiliated broker, which we call the *liquid fund*. We refer to these products collectively as *liquid, short-term, safe assets*, or simply as liquid assets. Balances in all three can be converted into spendable funds almost immediately and at no cost, are held on demand, and carry virtually no risk to their nominal value. Restricting attention to this category is intentional: it minimizes differences in risk, maturity, and the time required to make funds available for payments across the assets we study. The resulting choice set is therefore highly homogeneous, with the remaining distinctions lying almost entirely in returns and payment functionality. Unless otherwise stated, all references to assets and portfolios in the analysis refer to this category. We first document how much of customers' wealth sits in these and other products, and then describe what each of the three allows its holder to do.

Table 1 summarizes balances across the product categories observed in the data. Each balance is first averaged within an individual over the days of a year; statistics are then computed across individuals within each year and averaged across years with equal weight, with all values expressed in real September 2024 euros. Checking and savings accounts are the most widely held products, and in a typical year 99 percent of customers hold a positive balance in at least one liquid, short-term, safe asset. Together with the liquid fund, they account for 72 percent of observed financial assets in the average portfolio, although the fund itself is held by only 3 percent of customers. The remaining categories are considerably less common and make up correspondingly smaller shares of the average observed portfolio. Focusing on liquid, short-term, safe assets therefore allows us to study an allocation decision faced by virtually every customer and involving the largest component of the average observed portfolio. Importantly for the analysis of aggregate movements, balances within this category are concentrated: the median customer holds EUR 3,285, compared with a mean of EUR 15,340, and the top 10 percent of holders account for 63 percent of the total.

[4]The appendix describes the sources behind the mapping; how balances in each category can be spent and moved, the deposit-insurance coverage they receive, and the restrictions that define time deposits; the mandate, costs, and realized return of the liquid fund; the corresponding products and posted rates at large Icelandic banks; and a benchmark of the resulting deposit aggregates against the Central Bank's series on national household deposits.

Table 1: Descriptive Statistics: Balances

		Share of		September 2024 EUR			
	Share > 0	total assets	liquid safe	Mean	Median	P90	Top 10%
Liquid safe assets	0.99	0.72	–	15,340	3,285	37,930	0.63
Checking	0.96	0.35	0.49	3,269	881	7,550	0.61
Savings	0.82	0.36	0.50	10,640	603	27,670	0.67
Liquid funds	0.03	0.01	0.01	940	0	0	0.64
Checking wealth (net)	0.78	–	–	2,123	719	7,334	–
Time deposits	0.20	0.05	–	2,137	0	361	0.82
Other illiquid	0.34	0.15	–	3,201	0	5,729	0.66
Foreign currency	0.16	0.02	–	714	0	11	0.89
Affiliated Broker (all)	0.13	0.05	–	8,142	0	1,587	0.77
Credit card (net)	0.10	–	–	−797	−270	1	–

Notes: The sample is active clients; monetary values are in real September 2024 euros. Each statistic is computed across individuals within a year and then averaged across years with equal weight. Balances are individual-year means of daily balances. Balance rows cover 2016–2024; brokerage-related rows and all share columns cover 2017–2024, as brokerage data begin in 2017. "Share > 0" is the share of individuals whose average balance over the year is strictly positive. "Top 10%" is the share of the total held by the top decile *of positive holders* rather than of the whole sample. Shares of total assets and of liquid safe assets are means of individual daily shares, conditional on a positive denominator. Liquid funds are included both in liquid safe assets and in brokerage. Values are converted at 152 ISK per EUR.

We now turn to what each product allows its holder to do. Checking and savings accounts offer similar functionality. Both can receive transfers, make transfers to accounts at the same or another bank, and be used to pay credit-card bills through online banking. Transfers between them are instantaneous and free, with no restrictions on amount or frequency. Checking accounts can additionally be linked to a debit card and commonly include an overdraft facility; savings accounts offer neither and cannot carry negative balances. Both products receive identical statutory deposit-insurance coverage. Cash is reachable from either account: since April 2022 customers can withdraw directly from a savings account at the bank's ATMs by authenticating with the national electronic ID, and before that date a transfer to checking was required first, which takes seconds with a few taps on a phone. Debit-card purchases are the one transaction that must be funded from checking.[5] When

[5]Appendix D.1 gives the details with their sources: how balances in each account can be spent and accessed, how fast and at what cost money moves between accounts and across banks in Iceland, the deposit-guarantee

computing liquid wealth, we subtract the amount drawn on checking-account overdrafts from total liquid assets.

The liquid fund is managed by the bank's asset-management arm and held through its affiliated broker. It invests in short-term assets issued by the government and by banks, mainly bank deposits and Treasury bills, and its stated benchmark is the Central Bank's deposit rates, which it has historically tracked net of fees. Shares can be bought and redeemed through the bank's own channels, with a minimum purchase of about EUR 65 and no transaction cost, and redemption proceeds reach the customer's bank account on the following business day. Fund shares are not covered by deposit insurance and cannot be used directly for payments. The liquid fund can therefore be viewed as a very safe, short-term asset whose unit price never fell in any month of our sample, with the practical differences from a deposit being the absence of insurance and a one-business-day delay before funds become available for payments.[6] Table 2 summarizes the relevant differences across the three products.

Table 2: Characteristics of Liquid, Short-Term, Safe Assets

	Debit Card	Overdraft Facility	ATM Cash	Deposit Insurance	Transfers to other banks	Time to Checking
Checking	✓	✓	✓	✓	✓	Already available
Savings	✗	✗	✓†	✓	✓	Instant
Liquid Fund	✗	✗	✗	✗	After redemption	One business day

Notes: This table summarizes the main differences among liquid, short-term, safe assets. A check mark indicates that a feature is directly available, while a cross denotes that it is unavailable. Liquid-fund redemptions settle within one business day, after which the proceeds can be used. †Cash can be withdrawn from a savings account at the bank's ATMs by authenticating with the national electronic ID rather than a card, available since April 2022. Before that date a transfer to checking was required first.

Despite their very similar characteristics, these products paid substantially different returns. Figure 1 reports annualized nominal posted rates between January 2018 and September 2024 on standard checking and savings accounts and on the bank's Online Savings account, together with the Central Bank key rate, which the liquid fund has tracked net of its fee. The checking and savings rates shown were available to every customer. Online Savings

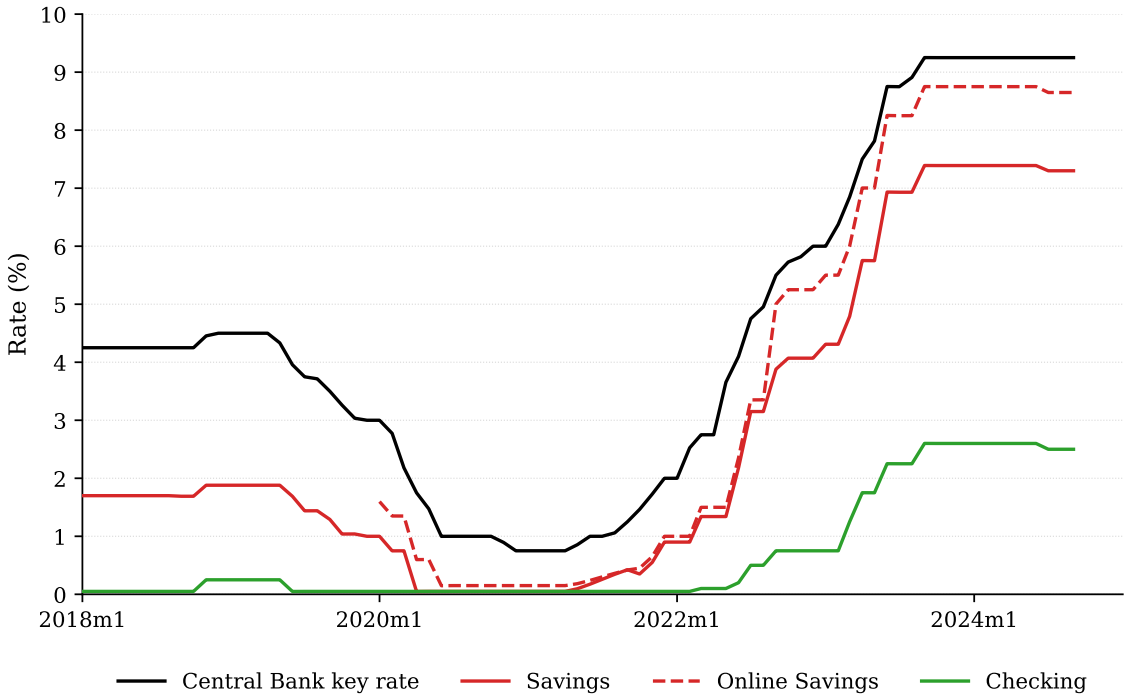
scheme, and the restricted products left out of our liquid category.

[6]Appendix D.2 gives the details and the sources behind them: the fund's mandate and holdings, its fees and redemption terms, and a comparison of its realized return with the Central Bank's key rate over the sample.

first appears in our data in January 2020, could be opened and managed by any customer through online banking or the mobile application, and carried no notice period.[7]

The return differences across products widened considerably as interest rates increased. By the end of our sample, the representative checking account paid approximately 2.5%, compared with 7.3% on the standard savings account, 8.6% on Online Savings, and 8.9% on the liquid fund. Customers could therefore capture nearly all of the return available on the liquid fund without leaving the bank or giving up deposit-insurance coverage.

Figure 1: Interest Rates on Liquid, Short-Term, Safe Assets



Notes: This figure reports annualized nominal posted rates on representative products offered by the bank between January 2018 and September 2024: a checking account, a standard savings account, and the Online Savings account introduced in 2020, together with the Central Bank of Iceland key rate, the liquid fund's stated benchmark.

This combination of product characteristics and return variation provides an unusually clean setting in which to study portfolio allocation. Differences in risk, maturity, and practical access are limited and constant over time; the products are available through the

[7]Appendix D.3 shows that the other large Icelandic banks offered comparable savings products at similar posted rates. Appendix D.2 documents the liquid fund's realized net return and its co-movement with the key rate over the sample.

same institution; transfers between deposit accounts are instantaneous and free; and fund redemptions settle within one business day. At the same time, the products offer substantially different returns, and these differences vary over time. We can therefore study how customers allocate and adjust their portfolios while limiting the role of risk, investment horizon, product access, monetary adjustment costs, and delays in transfers.

2.4 Income and Consumption Measures

Although we observe every movement through customers' accounts and cards, income and consumption are not reported as comprehensive variables and must therefore be inferred from the transaction records. We construct both measures using transaction labels, counterparty identifiers, and merchant information.

We measure income as the sum of labor income—either labeled as such by the bank or inferred from recurring payments associated with the same non-person counterparty identifier—and identified government benefits, pensions, interest, dividends, rental income, and other labeled income sources. We do not treat proceeds from the sale of financial assets as income: although we observe the sale, we generally do not observe the corresponding purchase price and therefore cannot measure capital gains. Income is measured as received and is therefore net of taxes withheld at source and of mandatory pension contributions. When constructing monthly income, we correct for the timing of salary payments. Salaries in Iceland are typically paid on the first of the month or, when that falls on a weekend or holiday, on the last business day of the preceding month; we assign such payments to the month that begins on the first. Appendix C provides the complete classification and timing rules.

We construct consumption expenditures from debit- and credit-card purchases and from account outflows, including bill payments, direct debits, and electronic payments to firms. Using transaction descriptions and merchant information, we assign expenditures to standard consumption categories following the COICOP classification whenever possible. When a transaction cannot be assigned to a category, we nevertheless include it if its transaction type is likely to represent consumption; examples include generic e-commerce and invoice payments, and certain credit-card adjustments. We exclude transfers to other individuals and

clear nonconsumption outflows, including taxes, loan payments, and purchases of financial assets. Appendix B details the classification, presents narrower and broader measures, and validates the resulting aggregates against national accounts data.

Income and consumption enter the definition of active clients, are used to study heterogeneity in portfolio behavior, and provide a natural scale for measuring the economic importance of forgone returns.

2.5 Sample Characteristics and External Benchmarks

In this subsection, we describe the active-client sample and compare its main characteristics with corresponding measures for Iceland whenever comparable data are available. We summarize the main comparisons here; Appendices A, C, B, and D.4 report the full set of benchmarking exercises for the sample, income, consumption, and deposits, respectively. The sample contains approximately 65,000 active clients in an average January cross-section, equivalent to 23.2% of Iceland's adult population. Although the data come from a single bank, the sample reproduces the national picture well: along the observable dimensions reported in Table 3, active clients resemble Icelandic adults closely, and the distribution and dynamics of their income, consumption, and deposits track the corresponding national series. The one systematic difference is that active clients have somewhat higher income than the population average. This is a direct consequence of our definition, which requires regular inflows and spending so as to select customers who use the bank as their primary financial institution, and imposes a floor on income and consumption expenses.

The demographic composition of active clients is close to that of Iceland's adult population: gender, marital status, mean age, and the age distribution are all similar. The main difference is geographic, as 71.1% of active clients live in the capital area, compared with 63.9% of Icelandic adults.

Income level is somewhat higher among active clients but closely track the dynamics of national benchmarks. Mean and median monthly income are 10% and 6% higher, respectively, partly reflecting the income thresholds in our definition of active clients, while the shape of the income distribution is nearly identical. Mean consumption is very similar and so are the dynamics. The series also align closely over time: annual log changes in mean income,

Table 3: Sample Characteristics and External Benchmarks

	Active clients	Iceland	Correlation of growth with Iceland
Panel A. Demographics	*January cross-sections, 2018–2024*		
Number of individuals	64,762	278,963	
Female (%)	50.7	49.2	
Married (%)	43.7	43.1	
Capital-area resident (%)	71.1	63.9	
Mean age (years)	46.5	46.6	
Age distribution (%)			
18–20	3.9	4.9	
21–30	18.8	19.4	
31–40	18.3	18.5	
41–50	17.8	16.6	
51–60	17.3	15.5	
61 and over	23.8	25.1	
Panel B. Income and consumption	*annual, EUR, Sept. 2024 prices*		
Income			
Mean	51,204	46,470	0.88
Median	41,866	39,350	0.96
P50/P20	1.45	1.46	
P80/P50	1.51	1.51	
Consumption			
Mean	40,264	40,851	0.95
Median	34,368	–	
P50/P20	1.60	–	
P80/P50	1.59	–	
Panel C. Aggregate deposit growth	*quarterly, 2017Q1–2024Q3*		
Checking	10.2	10.2	0.95
Savings	17.2	14.8	0.82
Total deposits	13.3	10.8	0.64

Notes: Panel A compares January cross-sections of active clients with Statistics Iceland registers, adults 18 and over. Panel B covers individuals resident all twelve months and active in at least one, with yearly statistics averaged over 2018–2023; Icelandic income is from tax registers, after tax and conditional on positive income, and Icelandic consumption is household final consumption per adult excluding imputed rents, for which no national median exists. The Panel B correlations are of annual log changes of the nominal series, five changes covering 2019–2023. Panel C is computed on rolling balanced panels of active clients, comprising individuals active at both t and $t-12$, so that clients entering or leaving the active sample are not recorded as deposit growth; checking, savings and total deposits map to central-bank current accounts, sight deposits and total household deposits. Amounts are converted at the September 2024 average rate of 152 ISK per EUR. Sources and construction details for each panel are given in Appendices A, C, B, and D.4.

median income, and mean consumption have correlations of 0.88, 0.96, and 0.95 with their national counterparts. Appendix C extends the income comparison to the whole distribution and plot quarterly dynamics. Appendix B compares our consumption measure with national accounts in coverage, quarterly growth, and composition across categories, and shows how

each comparison changes under narrower and broader definitions of consumption.

Deposit growth among active clients closely tracks the national household aggregates reported by the Central Bank for the categories we study, with quarterly growth correlations of 0.95 for checking and 0.82 for savings, and it is nearly identical to growth across the bank's entire client base. Appendix D.4 reports the share of national household deposits held by active clients, and the category-by-category comparison.

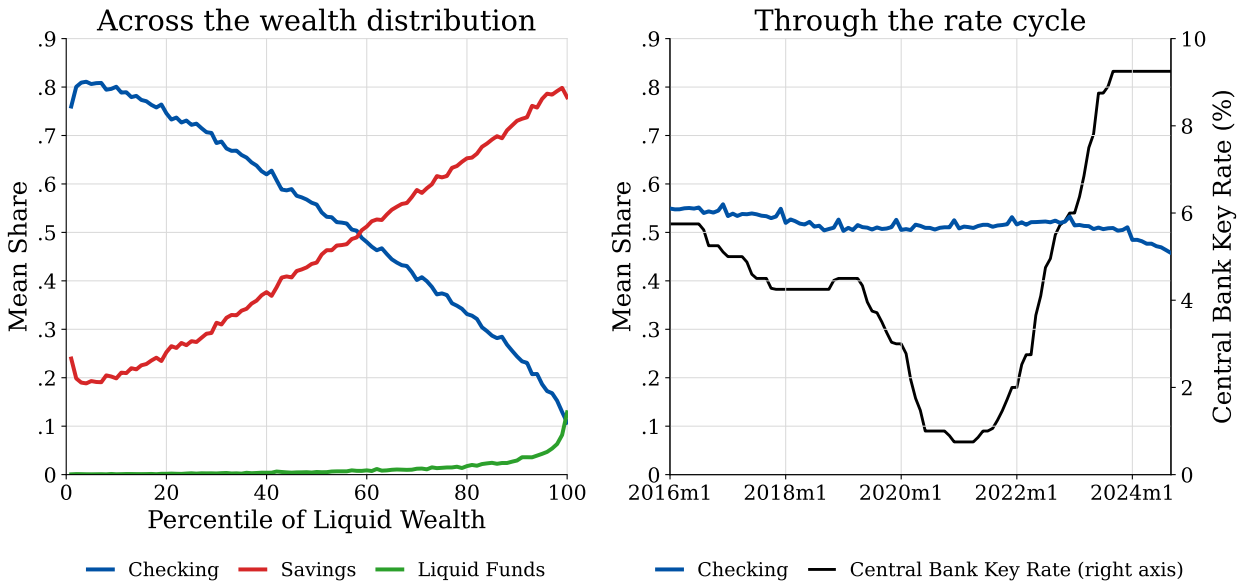
3 Portfolio Allocation and Adjustment

The previous section documented substantial differences in returns across liquid assets with very similar non-pecuniary characteristics: Checking deposits, savings deposits, and the liquid fund are available on demand at the same bank, carry no nominal risk, and can be moved between at no cost and without delay, yet they pay markedly different interest rates. Absent frictions, a household would keep in checking only what it needs for transactions and hold the rest in the highest-yielding asset, whatever its wealth and however small the spread. We now ask where individuals actually hold their funds and what drives the allocation. We first document a sharp contrast: portfolio allocation displays a steep wealth gradient but is stable over the interest rate cycle. Wealthier individuals hold substantially larger shares in higher-return assets, yet spreads that widen from zero to over six percentage points leave average portfolio shares nearly unchanged. The same contrast holds within individuals: allocations respond strongly to changes in their own wealth but little to changes in spreads. We then quantify the interest income this inaction forgoes, and examine how responses to interest rate changes vary across wealth levels and individual characteristics.

Figure 2 illustrates this contrast. The left panel plots the average share of each asset in the liquid, short-term, safe portfolio by percentile of net liquid wealth; the right panel plots the average share held in checking deposits across individuals in each month, together with the Central Bank key rate. Both panels give equal weight to each individual irrespective of portfolio size, so they describe the average household rather than the average króna.

The left panel of Figure 2 shows a steep wealth gradient. The checking share falls from about 80 percent in the bottom decile to roughly 10 percent in the top percentile. Savings

Figure 2: Portfolio Shares across the Asset Distribution and Time



Notes: Shares are computed for each individual and month as the average of the daily shares. Left panel: shares are averaged within individual and year; individuals are ranked each year into percentiles of their average net liquid wealth; the figure reports each percentile's mean share averaged over 2016–2024. Right panel: unweighted mean of the monthly checking share across individuals, with the Central Bank key rate on the right axis. Both panels include individual-months with a non-negative net liquid position; shares are of gross holdings. Holdings of the liquid fund are observed from 2017 onward; in 2016 the checking and savings shares are shares of the two deposit types only.

deposits account for most of the corresponding increase and dominate wealthier individuals' portfolios. The liquid fund plays a smaller role: its share remains below 2 percent through the 80th percentile and reaches 13 percent in the top percentile. Its limited use is consistent with savings deposits offering nearly identical returns (Figure 1) while retaining deposit insurance.

The right panel of Figure 2 shows little reallocation over the interest rate cycle. The key rate falls from 5.75 to 0.75 percent before rising to 9.25 percent, while the spread between the highest-yielding deposit and checking widens from essentially zero in 2020–21 to over six percentage points in 2023–24. Despite this increase in the opportunity cost of holding checking deposits, the average checking share remains close to one half: it averages 51 percent when the key rate is at its trough and 48 percent when it is at its peak. Thus, a large increase in the return available outside checking is accompanied by only a small change in average allocations, even though transfers between these assets involve almost no change in risk, no transaction costs nor delays.

We quantify these patterns by regressing individual checking shares on wealth deciles and the interest rate. The wealth gradient could reflect differences in demographics, income levels and volatility, or persistent characteristics such as financial literacy. High checking shares among low-wealth individuals could also reflect volatile transaction needs. Finally, the flat time series could hide a response to the rate that is offset by a slow trend or by the changing composition of the sample. The specifications in Table 4 address these possibilities through demographic controls, recent income and spending histories, a time trend, and individual fixed effects; the last asks whether the same person reallocates when her own wealth or the interest rate changes.

We divide individuals into deciles of liquid wealth, $d_{it} \in \{1, \ldots, 10\}$, defined as the sum of the three assets net of any checking overdraft, using two definitions that capture different notions of wealth. In the first, we sort individuals into deciles based on their level of wealth in a given month relative to others. In the second, deciles are calculated separately for each individual by ranking their monthly wealth levels from 1 (lowest) to 10 (highest) over time, to capture their wealth relative to their own history.[8] We estimate

$$\text{share}_{it}^{C} = \alpha + \beta^{r} \cdot r_t + \sum_{j=2}^{10} \beta_j^{a} \cdot \mathbb{I}_{(d_{it}=j)} + X_{it}' \cdot \delta + \nu_i + \varepsilon_{it} \tag{1}$$

where share_{it}^{C} is individual i's checking share in month t and r_t is the Central Bank key rate, normalized to have mean zero. We use the key rate rather than the deposit spread for three reasons: it is observed over the entire sample, the deposit spread moves almost one-for-one with it, and it is the rate set by monetary policy.[9]

The controls X_{it} include age, age squared, gender, marital status, the number of children, residence in the capital area, and a linear time trend. The specifications with own-history deciles and with log wealth include individual fixed effects, ν_i, so that the wealth coefficients

[8] A third definition, based on each individual's average wealth over the sample period, is reported in the appendix.

[9] First, the bank's deposit rates are observed only from 2018, whereas the key rate covers the full sample, 2016–2024. Second, if the spread is well approximated by $s_t = a + \gamma\, r_t$, a regression on r_t recovers γ times the coefficient on s_t, with the intercept absorbed in the constant. This approximation is close: Figure 1 shows that the checking rate rises by about 0.3 for each point of the key rate, so the spread rises by about 0.7, and over 2018–2024 a regression of the spread on the key rate has a slope of 0.69 and an R^2 of 0.96. Responses to the spread are therefore the estimates below divided by $\gamma \approx 0.7$. Third, the coefficient on the key rate is of independent interest, as it measures the transmission of monetary policy to household portfolios.

compare the same individual's checking share across their own wealth distribution.[10] To account for recent cash flows and their variability, one specification also includes the mean and standard deviation of log real income and log real consumption over the preceding twelve months. This restricts the sample to 2019 onward and requires observations in at least eight of those months.

In a further specification, we replace wealth deciles and the interest rate with log real liquid wealth and the log key rate, keeping the individual fixed effects. The coefficients then measure the change in the checking share associated with a proportional change in wealth or in the rate. Standard errors are clustered by individual and month to account for dependence within individuals over time and across individuals within a month.

Table 4 confirms the steep wealth gradient.[11] Column (1) shows that individuals in the top decile of liquid wealth in a given month hold a checking share 69 percentage points lower than those in the bottom decile, with the gap growing steadily across deciles. The gradient remains equally steep after controlling for recent income and spending histories in column (3). Column (2) shows that it also holds within individuals: checking shares fall as individuals' own wealth increases.

By contrast, the relationship with the interest rate is economically small in every specification. The estimated coefficient on the key rate is approximately zero in column (1). Within individuals, column (2), a one percentage point increase in the key rate is associated with a 0.27 percentage point decline in the checking share. Applied to the 8.5 percentage point increase between the 2021 trough and the 2024 peak, during which the deposit spread widened by about 6 percentage points, this estimate implies a decline of only 2.3 percentage points in the checking share. Column (4) expresses both relationships in proportional terms: the checking share falls by 8 percentage points per log point of liquid wealth and by 1.25 percentage points per log point of the key rate. Portfolio allocation is thus substantially more sensitive to proportional changes in wealth than to proportional changes in the policy rate.

The additional estimates in Table 4 and Table 16 are worth noting. A one-unit increase in

[10] With individual fixed effects, we omit gender, which is time invariant, and the linear time trend, which, once individual effects absorb each person's birth year, is collinear with age.

[11] Table 16 in the appendix reports the full set of coefficients for the specifications in Table 4, together with two further specifications: deciles based on each individual's average wealth over the sample period, and the log specification without individual fixed effects.

Table 4: The Share of Checking Deposits in Liquid, Short-Term, Safe Portfolios

	(1)	(2)	(3)	(4)
Liquid wealth (deciles relative to the 1st)				
2nd decile	−3.29	−2.40	−3.13	
	(0.16)	(0.16)	(0.19)	
4th decile	−17.96	−8.32	−19.28	
	(0.34)	(0.26)	(0.32)	
6th decile	−34.83	−13.72	−36.44	
	(0.41)	(0.29)	(0.41)	
8th decile	−49.88	−18.98	−50.82	
	(0.44)	(0.35)	(0.54)	
10th decile	−68.81	−24.24	−69.45	
	(0.49)	(0.58)	(0.61)	
ln(liquid wealth)				−8.07
				(0.14)
Interest rate				
Key rate (r_t, pp)	−0.02	−0.27	−0.27	
	(0.05)	(0.05)	(0.05)	
ln(key rate)				−1.25
				(0.17)
Consumption and income history (months $t-1$ to $t-12$)				
Mean $\ln c$			−2.77	
			(0.25)	
Mean $\ln y$			3.32	
			(0.29)	
Std. dev. $\ln c$			12.51	
			(0.57)	
Std. dev. $\ln y$			4.18	
			(0.22)	
Demographic controls	Yes	Yes	Yes	Yes
Time trend	Linear	—	Linear	—
Wealth measure	Monthly	Own history	Monthly	Log level
Individual FE	No	Yes	No	Yes
Sample period	2016–24	2016–24	2019–24	2016–24
Observations	5,465,569	5,465,569	3,447,780	5,465,569
adj. R^2	0.300	0.701	0.307	0.715

Notes: The dependent variable is the share of checking deposits in liquid, short-term, safe holdings (checking deposits, savings deposits, and the liquid fund), in percent, for an individual in a month. Liquid wealth is the sum of the three assets net of any checking overdraft; the sample consists of individual-months with a non-negative position. Holdings of the liquid fund are not observed in 2016 and in July 2024; in those months shares and liquid wealth are computed as if fund holdings were zero. Columns (1)–(3) estimate regression (1), with deciles of liquid wealth ranked within each month (columns (1) and (3)) or within the individual's own history (column (2)); column (3) uses the 2019–2024 sample described in the text and adds the consumption and income history controls. Column (4) replaces the deciles and the rate by the logarithms of real liquid wealth and of the key rate. Demographic controls are listed in the text; Table 16 reports their coefficients together with two further specifications. Standard errors, in parentheses, are two-way clustered by individual and month.

the standard deviation of log consumption is associated with a 12.5 percentage point higher checking share; the corresponding association for log income is 4 percentage points, results consistent with a link between cash-flow management and portfolio allocation. Female clients hold 9 to 10 percentage points less in checking than otherwise similar male clients, and checking shares decline by about 0.6 percentage points per year in the pooled specifications. Finally, the adjusted R^2 rises from 0.30 in column (1) to 0.70 in column (2), which includes individual fixed effects, consistent with an important role for persistent individual heterogeneity.

3.1 Further Evidence

This section provides three further pieces of evidence on the contrast between the sensitivity of portfolios to wealth and their limited responsiveness to interest rates. The first uses actions rather than allocations. We observe every transfer between an individual's accounts and show that transfer activity mirrors the patterns in shares: it rises with wealth but changes little over the interest rate cycle. The second uses monetary policy surprises to instrument for the interest rate and asks whether the limited reallocation also holds for exogenous rate changes. The third uses well-defined changes in cash flows, an anticipated income payment and the loss of a job, to trace how individuals adjust their portfolios when their wealth changes.

Portfolio Adjustment Actions

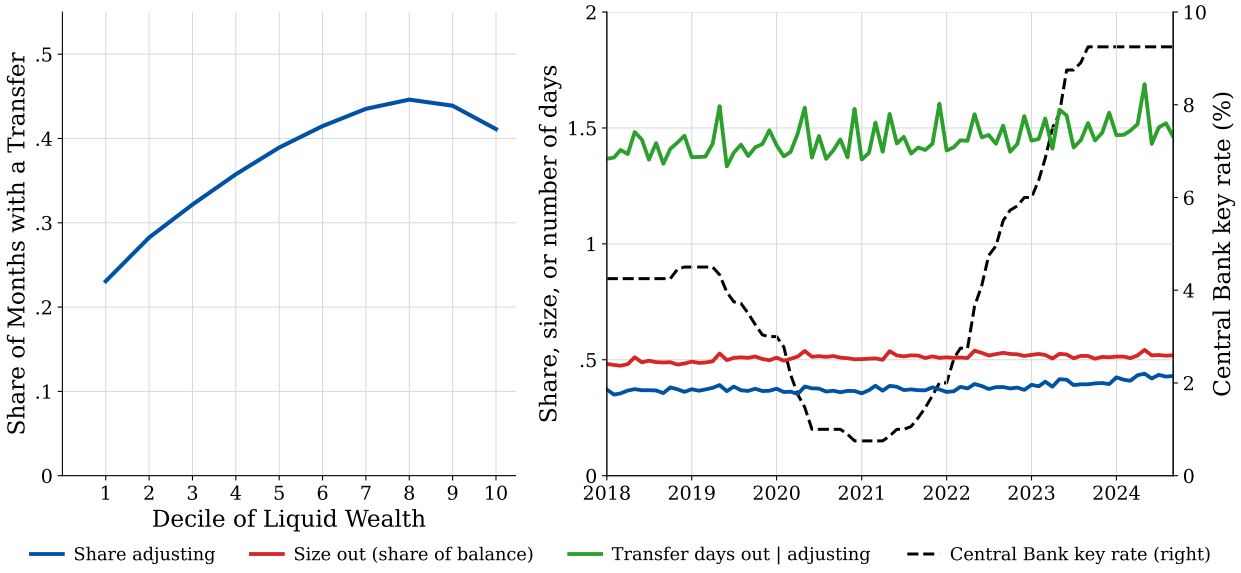
Our data record every transfer between an individual's accounts at the bank, its direction and its size.[12] Figure 3 shows that the patterns in allocations reappear in actions: wealthier individuals move funds between checking and savings more often than poorer ones, while the frequency, number, and size of these moves are largely independent of the interest rate.

The left panel shows the share of months in which an individual makes at least one manual transfer between checking and savings, by decile of liquid wealth. Reallocation is common and increases with wealth: individuals in the bottom decile move funds in 23 percent of months, those in the top deciles in more than 40 percent. The right panel shows that this activity does

[12]We identify all transfers between an individual's own accounts and to the bank's affiliated brokerage platform, and use the available metadata to track movements to external brokers. A transfer is classified as automatic, as opposed to manual, when the same amount recurs at weekly, biweekly, or monthly intervals at least three times.

not respond to the rate. The share of individuals making a manual transfer stays between 37 and 43 percent across the entire rate cycle. Conditional on transferring, individuals move funds out of checking on 1.4 to 1.5 days per month, and the amount they move is about half of the checking balance before the transfer, both unchanged as the opportunity cost of holding checking deposits rose from close to zero to over six percentage points. Households do act, and often, but the frequency and size of their actions respond very little to the opportunity cost.

Figure 3: Portfolio Adjustments across the Asset Distribution and Time



Notes: The left panel shows the share of months in which an individual makes at least one manual transfer between checking and savings accounts, in either direction, by decile of liquid wealth; Figure 32 in the Appendix shows the two directions separately. Deciles are formed each year on the individual's average liquid wealth, as in Figure 2; the figure reports the average over 2018–2024. The right panel shows, for each month, the share of individuals making at least one manual transfer between checking and savings (blue), the size of transfers out of checking as a fraction of the checking balance immediately before the transfer, capped at one (red), and the number of days with a manual transfer out of checking among individuals making at least one (green), together with the Central Bank key rate (right axis). The sample is individual-months with a non-negative net liquid position from January 2018, when transfer records begin, to September 2024. Manual transfers exclude automatic transfers of a fixed amount at weekly, biweekly, or monthly intervals.

The same pattern holds within individuals: the probability of a manual transfer differs by 32 percentage points between the highest and lowest own-wealth deciles, while the estimated rate response implies an increase of only 4 percentage points over the cycle, from a base of 38 percent (Table 17). Excluding automatic transfers leaves the wealth gradient largely

unchanged (Figure 30). Transfers into brokerage, time-deposit, foreign-currency, and other restricted accounts occur in only 1 to 3 percent of months and also show little sensitivity to interest rates (Figure 31).

Instrumenting Rate Changes Using Monetary Policy Shocks

The estimates of Section 3 relate the checking share to the key rate as it moves over the cycle. The Central Bank sets the rate in response to inflation and activity, which may also affect checking shares, so those estimates can be biased. To address this concern, we instrument changes in the key rate with monetary policy surprises, unexpected changes in the policy rate around the central bank's announcements, following a well-established approach in monetary economics (Nakamura and Steinsson, 2018). In the United States, these surprises are generally measured from the prices of interest rate futures in a narrow window around each announcement. Iceland has no such market. We exploit instead that, before each meeting of the Monetary Policy Committee, the three largest banks publish forecasts of the decision, and we measure the surprise at a meeting as the difference between the decision and the median of the three forecasts.

We denote by u_t the surprise in month t, which is zero in months without a meeting.[13] Surprises are small and infrequent: they are nonzero at 22 of the 61 meetings in our sample period and, with few exceptions, equal to a quarter of a percentage point. They nonetheless have a persistent effect on the rate: the key rate remains above its pre-surprise level for about a year after a positive surprise. Appendix E describes the construction of the surprises, examines their predictability, and reports the responses of aggregate variables.

Because a surprise identifies a change in the rate, we estimate the relationship in differences. For an individual i and a window of h months,

$$\Delta_h \text{share}_{it}^{C} = \alpha + \beta^{r}\, \Delta_h r_t + \beta^{a}\, \Delta_h \ln a_{it} + \varepsilon_{it}, \tag{2}$$

where the change in the key rate is instrumented with the surprises of the same h months, $\sum_{j=0}^{h-1} u_{t-j}$. We estimate the equation on the population of Section 3 with $h = 6$. The control

[13] March 2020 is the only month with two meetings, both unscheduled; Appendix E describes how they are treated.

holds fixed the individual's own change in liquid wealth over the window, so β^r is comparable to the within-person estimate of Table 4.

Table 5 reports the results. The instrumented estimate in column (2), -0.28 percentage points per percentage point of the key rate, is indistinguishable from the OLS estimate in column (1) and from the within-person estimate of Table 4. Instrumenting the rate therefore does not reveal a larger response: households reallocate as little after unexpected changes in the key rate as after anticipated ones. Windows of three and twelve months, and the log of the key rate in place of its level, give the same picture (Table 18 in the Appendix).

Table 5: The Response of the Checking Share to Instrumented Rate Changes

	(1) OLS	(2) IV
$\Delta_h r_t$	-0.27	-0.28
	(0.13)	(0.19)
$\Delta_h \ln a_{it}$	-6.52	-6.52
	(0.21)	(0.21)
Constant	-0.66	-0.66
	(0.20)	(0.21)
First stage γ	–	2.05
	–	(0.31)
Effective F	–	43.8
Observations	4,593,579	4,593,579
Months	99	99
adj. R^2	0.089	0.089

Notes: Estimates of equation (2) with $h = 6$. The dependent variable is the six-month change in the checking share, in percentage points; the regressors are the six-month changes in the Central Bank key rate, in percentage points, and in the log of real liquid wealth. In column (2) the change in the key rate is instrumented by the sum of the monetary policy surprises over the same six months (Appendix E). The sample is active individual-months with a non-negative net liquid position and positive holdings at both ends of the window, July 2016 to September 2024. Standard errors in parentheses are Driscoll–Kraay with eight lags. The first stage regresses the change in the key rate on the instrument and the control; the effective F is the squared t statistic of the instrument. Table 18 in the Appendix reports three- and twelve-month windows and a specification in the log of the key rate.

Responses to Income Fluctuations

We now provide clean evidence of active portfolio adjustment around two well-defined cash-flow events unrelated to changes in interest rates: the release of vacation pay each May, an anticipated inflow, and job loss, a persistent reduction in income. Around each event, we

track log net liquid wealth, the checking share, and the probability of a transfer from checking to savings: how much wealth changes, where it is held, and whether households actively move funds.

Icelandic law entitles employees to vacation pay of at least 10.17 percent of wages. For many workers, vacation pay accumulates in a blocked account at the bank and is released on May 11. About a quarter of active clients receive the payment in a given year, and the median payment is about 700 euros.[14] We identify a job loss by the first unemployment-benefit payment of a sustained spell.[15] Over the following year, income excluding benefits falls by about 2,100 euros per month, and benefits replace about 60 percent of the loss.

For both events we estimate, separately for each month τ relative to the event,

$$y_{i\tau} - y_i^{\text{pre}} = \beta_\tau \, x_i + \gamma_{c(i)\tau} + \varepsilon_{i\tau}, \tag{3}$$

where y_i^{pre} is the outcome in a pre-event reference period, x_i measures exposure to the event, and $\gamma_{c(i)\tau}$ are fixed effects for cells defined by the timing of the event and the quintile of average liquid wealth before it. For vacation pay, only recipients are included: x_i is the payment in millions of krónur, the reference month is April, and cells are year by wealth quintile, so β_τ measures how the change in the outcome since April varies with the amount received among recipients in the same year and wealth quintile. For job loss, x_i equals one for individuals entering unemployment and zero for clients who have regular income and receive no benefits, and cells are entry month by wealth quintile. Because earnings begin to fall a few months before the first benefit payment, the reference period is the average over months -6 to -4; β_τ then measures the difference in the change since that period between the two groups within a cell. Sample restrictions and the construction of the cells are described in Appendix F.

Figure 4 shows that households quickly reallocate the May inflow. The payment raises

[14] Of the krónur released, 84 percent are credited to checking and the rest directly to savings. Employers often deposit on these accounts just variable pay for salaried workers, so for most recipients the payment is well below 10 percent of annual income. Appendix F describes the account and the recipients.

[15] The individual receives benefits in at least two of the three months after the first payment, and income excluding benefits falls below half of its median over the previous year. Benefits are labeled in the data from 2019; we take the first such spell of each individual and exclude entries in 2020, the pandemic year (Appendix F shows that including them gives similar responses).

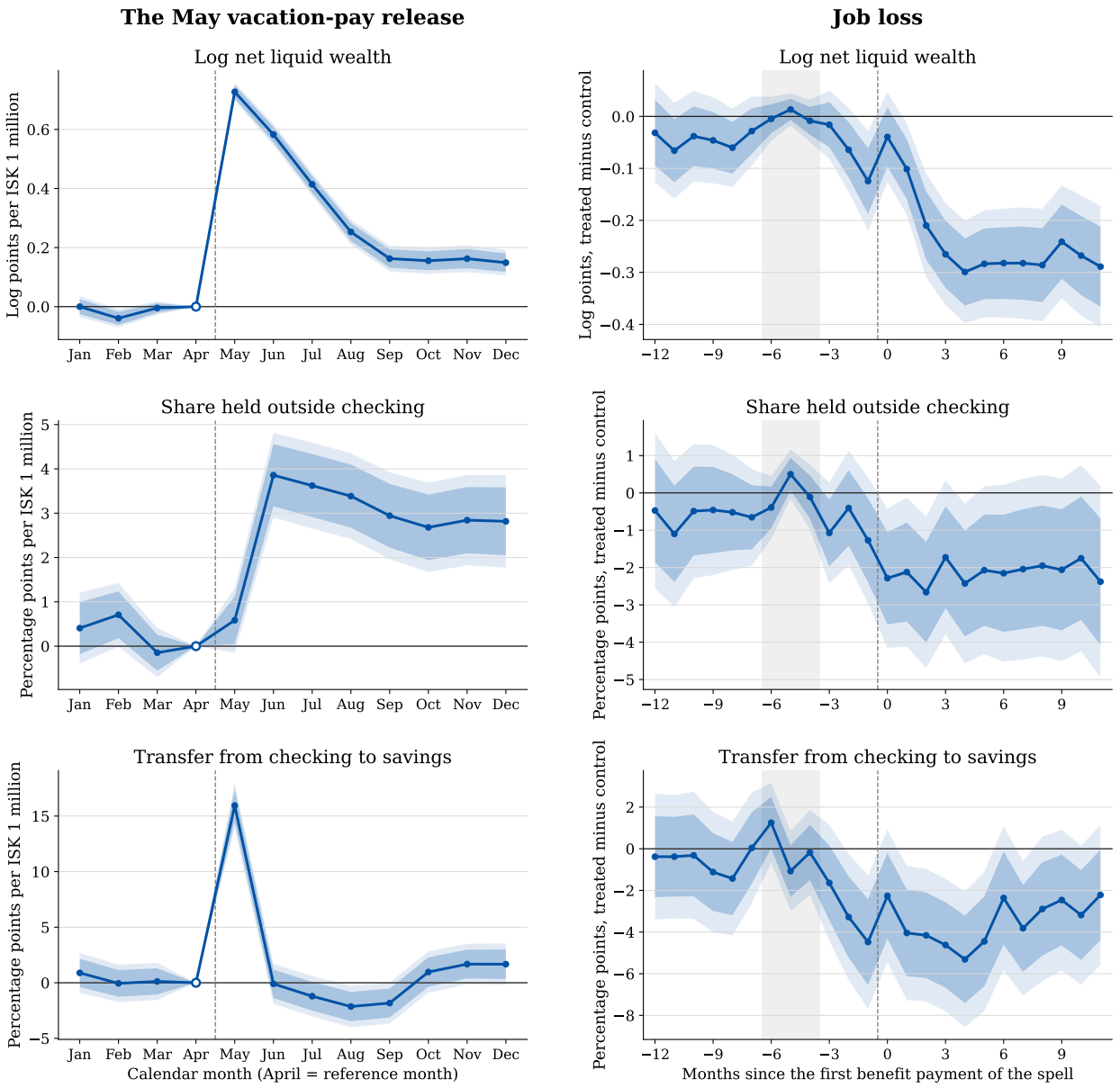
wealth: per million krónur received, net liquid wealth is 0.73 log points higher in May. Households respond to the extra funds: the probability of transferring funds from checking to savings rises by 16 percentage points. The striking feature is how quickly households move the additional wealth out of checking. Since most of the payment enters checking, leaving other balances unchanged would mechanically raise the share held in low-return checking accounts. Instead, the share outside checking is 3.9 percentage points higher per million received by June. Households thus move enough funds to raise the share held outside checking.

The response to a job loss is the mirror image. Earnings stop before benefits start: income and wealth begin to fall about three months before the first benefit payment, which is why the reference period ends in month -4. Over the following year, net liquid wealth is 0.24 log points lower than among comparison individuals, who keep their regular income; the share outside checking falls by 2.1 percentage points, and the probability of transferring funds to savings falls by 3.5 points. Had households covered the fall in income from checking alone, the share outside checking would have risen. Instead, they reduce transfers into savings and draw down balances outside checking alongside their checking balances.

Relative to the change in wealth, these allocation responses are comparable to the within-person estimate in Table 4. Over the first year of unemployment, the checking share rises by 2.1 percentage points while log wealth falls by 0.24, implying an increase of about 9 percentage points per log point of wealth lost. Three months after the May release, the checking share is 13 percentage points lower per log point of additional wealth still held.[16] Both are close to the 8-percentage-point decline per log point of wealth in column (4). Although these estimates capture different sources and horizons of wealth variation—a persistent income loss, a transitory inflow, and the broader within-person variation—all indicate substantial reallocation as wealth changes. Together, the two events sharpen the contrast with the weak response to interest rates: households that barely adjust to a six-percentage-point widening of the spread move funds between accounts within a month of a cash inflow.

[16]This is the ratio of the checking-share response to the log-wealth response, both estimated from payment size within cells.

Figure 4: Portfolio Responses to Two Cash-Flow Events



Notes: Estimates of β_τ in equation (3). Left: slope on the May payment, per ISK 1 million, of the change since April (hollow marker), within year × wealth-quintile cells; recipients with a positive net liquid position throughout the year, 2018–2023 (81,401 recipient-years). Right: difference between individuals entering a sustained unemployment-benefit spell in month 0 and clients with regular income and no benefits, within entry-month × wealth-quintile cells, in the change from the mean of months −6 to −4 (shaded); positive net liquid position in all months from −12 to +12 (1,237 job losers, 91,031 control observations). Outcomes: log net liquid wealth; savings deposits plus the liquid fund as a share of gross liquid holdings, in percentage points; and an indicator for at least one transfer from checking to savings in the month, in percentage points. Dark bands: pointwise 95 percent confidence intervals; light bands: simultaneous 95 percent sup-t bands (Montiel Olea and Plagborg-Møller, 2019); standard errors clustered by individual. Appendix F gives the samples, winsorization and cells.

3.2 Return Heterogeneity and Forgone Interest Income

Wealthier individuals earn systematically higher returns on their portfolios by allocating smaller shares to low-return assets, making the return on liquid, short-term, safe assets wealth dependent. The left panel of Figure 5 illustrates this relationship by plotting the weighted average return on these assets by wealth percentile, where individuals are grouped each year based on their average asset holdings. The figure reveals that individuals in the top percentiles earn returns more than 2 percentage points higher than those in the bottom percentiles over the sample period. Importantly, this return gap does not reflect differences in risk, maturity, fees, or meaningful delays in accessing funds; it arises from differences in how individuals allocate their liquid, short-term, safe assets.[17]

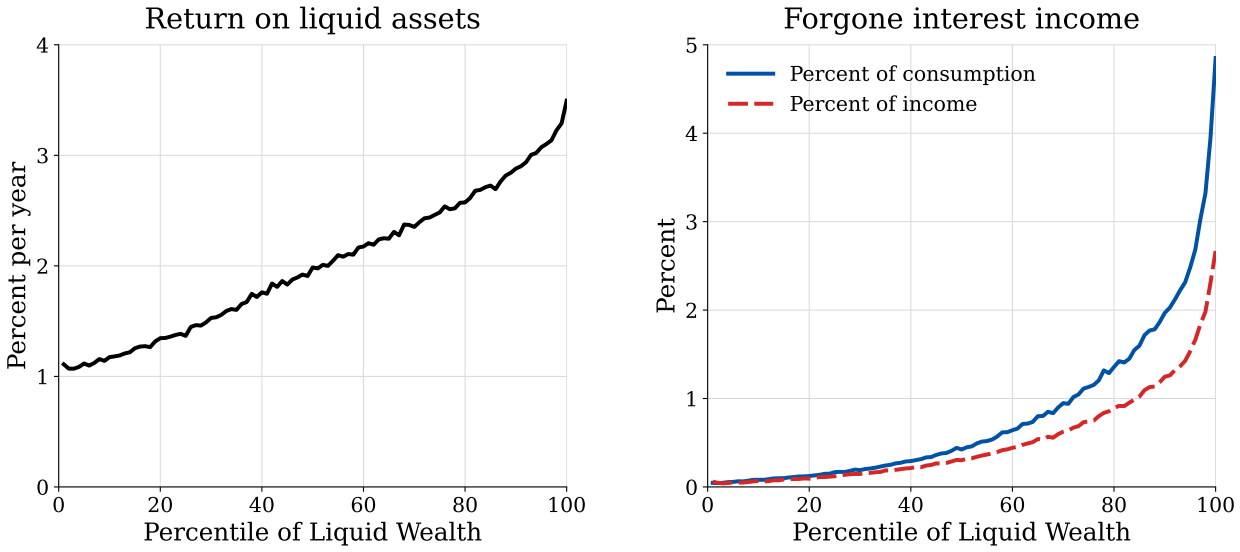
The wealth dependence of returns on assets with similar characteristics, and its implications for wealth inequality, has been emphasized in prior research (see Fagereng et al., 2020). Our setting, in which individuals allocate across assets that are nearly identical in risk, liquidity, and maturity, allows us to directly quantify the interest income forgone from not selecting the highest-return option, what we refer to as the "cost" of portfolio allocation. A higher return on assets reduces the *unit* cost per króna invested, but it does not necessarily reduce the *total* cost, as the latter scales with wealth. To measure this cost, we compare the after-tax interest income from the observed portfolio with that from a counterfactual portfolio in which the individual's daily liquid holdings earn the return on the liquid fund. We normalize the difference by annual consumption expenditures:

$$\text{cost}_{it} = \frac{\left(r_{it}^{L} - r_{it}\right) a_{it}}{c_{it}}. \tag{4}$$

Here, r_{it} and r_{it}^{L} are the annual after-tax returns on the observed and counterfactual portfolios, a_{it} denotes average liquid holdings, and c_{it} annual consumption expenditures. The term $(r_{it}^{L} - r_{it})$ is the forgone spread, that is, the return gap relative to the allocation that maximizes returns, and its product with a_{it} is the total forgone interest income. We compute interest income under each allocation from daily holdings and returns, measuring the pretax return

[17] Section 4.1 shows that the return gap is not driven by product availability, by tiered pricing, or by other mechanical differences in the terms that bank clients are offered.

Figure 5: Return Heterogeneity and Forgone Interest Income by Wealth



Notes: Returns and costs are computed for each individual and calendar year from 2018 to 2024; the year 2024 covers January to September. Each year, individuals are grouped into percentiles of their average liquid wealth. The figure reports the mean of each percentile, averaged across the seven years. Left panel: individuals' realized weighted-average return on liquid, short-term, safe assets, averaged across years. Right panel: the forgone after-tax interest income as a percentage of annual consumption expenditure and of annual income. The forgone interest is the difference between the interest that the individual's daily holdings would have earned at the Central Bank key rate net of the liquid fund's management fee of 0.35 percent and the interest they earned. Interest income is taxed at 22 percent above an annual allowance of ISK 150,000 in 2018–2019 and ISK 300,000 from 2020. Cost measures are winsorized at the 99.5th percentile within each year. The sample consists of individual-years with positive average liquid wealth. Figure 33 in the appendix reports the median cost and the forgone interest income in krónur and euros, and Figure 36 the cost when the benchmark is the liquid fund's realized return.

on the liquid fund as the Central Bank key rate net of the fund's management fee. We then calculate the tax liability under each allocation, taking into account the annual allowance and the interest that the individual earns on her other accounts at the bank.[18] The resulting ratio expresses the cost in consumption-equivalent units: how much consumption is effectively left on the table in the allocation of liquid, short-term, safe assets.[19]

The right panel of Figure 5 reports the cost, averaged across individuals and years. While wealthier individuals earn higher returns on their liquid, short-term, safe assets, their money

[18]The management fee is 0.35 percent a year, and interest income is taxed at 22 percent above an annual allowance. Because the allowance is applied under each allocation, the reallocation can change taxable interest income. Appendix G provides details, and Figure 36 reports the results using the fund's realized return as benchmark.

[19]We do not interpret a higher cost as evidence of suboptimal behavior. If there are valid reasons for choosing lower-yielding allocations, the measured cost is what would be required to rationalize them.

left on the table increases substantially with wealth. It is 0.4 percent of annual consumption for the median individual, 2.0 percent at the 90th percentile, and 4.9 percent for the wealthiest individuals. Although high-wealth individuals allocate more efficiently, their larger asset balances result in higher absolute losses.

Because allocations change little with interest rates (Table 4), their cost varies substantially over the rate cycle. Appendix Figure 35 compares years of low, medium, and high interest rates. The checking-share profiles across the wealth distribution remain very similar in the three periods. Yet these similar allocations imply very different forgone returns: the average spread widens from less than 1 percentage point in low-rate years to more than 3 percentage points in high-rate years. The cost rises accordingly, from 0.2 to 0.6 percent of consumption for the median individual (Figure 34).

3.3 Who Responds to Interest Rates?

The limited response of the average individual to interest rates does not mean that nobody responds. This subsection asks who does. We first examine whether the response differs across the wealth distribution. We then use survey data to look beyond wealth and ask whether responsiveness is related to what individuals know about interest rates and inflation.

Responses across the Wealth Distribution

To ask whether wealthier individuals respond more or less to rate movements, we estimate equation (1) with the key rate interacted with the wealth deciles and with month fixed effects in place of the rate itself:

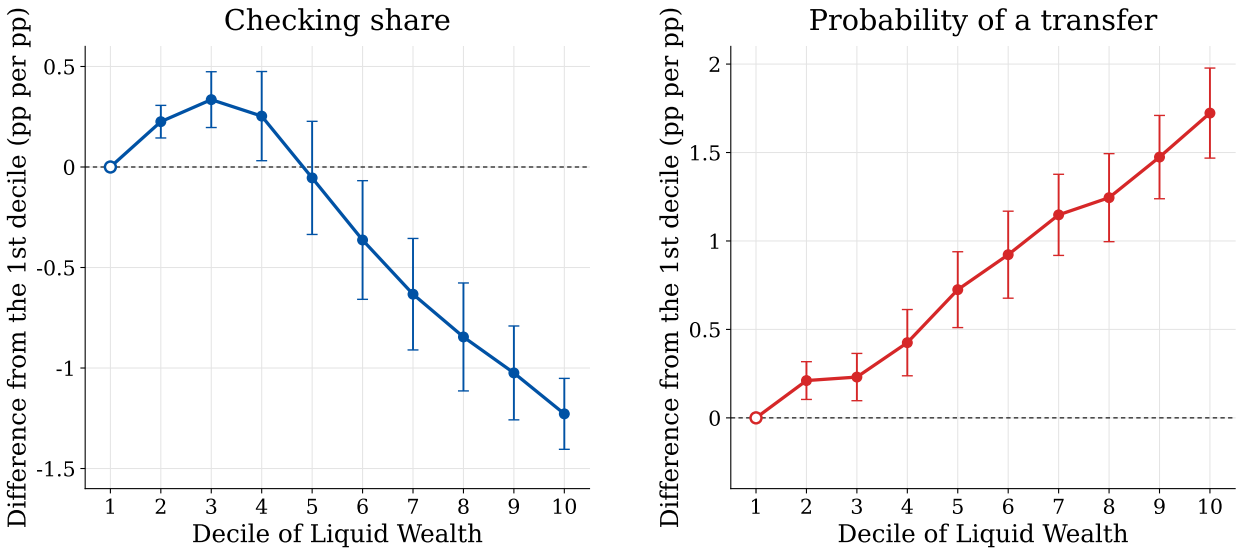
$$\text{share}_{it}^{C} = \sum_{j=2}^{10} \beta_j^a \cdot \mathbb{I}_{(d_{it}=j)} + \sum_{j=2}^{10} \theta_j \cdot \mathbb{I}_{(d_{it}=j)} \cdot r_t + \delta_t + X_{it}' \cdot \delta + \varepsilon_{it}. \tag{5}$$

The month fixed effects δ_t absorb the key rate itself and other aggregate forces that affect all deciles equally. Each coefficient θ_j therefore measures the response of the checking share to the key rate in decile j relative to that in the bottom decile. Identification comes from how differences in checking shares across deciles vary with the key rate over time, controlling for shocks common to all deciles. We estimate the same specification for transfers, replacing

the checking share with an indicator for a transfer between checking and savings. Appendix Table 19 reports the estimates.

Wealthier individuals not only hold portfolios with higher returns; they are also the ones who move when the return outside checking rises. Figure 6 plots the estimates of $\{\theta_j\}_{j=2}^{10}$. The response to the rate rises steeply with wealth. Up to the median of the distribution, the response does not differ from that of the bottom decile. Above it, the difference grows with each decile. Individuals in the top decile lower their checking share by 1.2 percentage points more than those in the bottom decile for each percentage point increase in the key rate, a difference of 10 percentage points over the 8.5 point rise between the 2021 trough and the 2024 peak. The right panel shows the same gradient in actions: the top decile raises its probability of moving funds between checking and savings by 1.7 percentage points more per point of the key rate than the bottom decile.

Figure 6: The Response to the Interest Rate across the Wealth Distribution



Notes: Estimates of θ_j in equation (5), the response to the key rate in each decile of liquid wealth relative to the bottom decile, with 95 percent confidence intervals. Left: the checking share, in percentage points per percentage point of the key rate. Right: the probability of at least one manual transfer between checking and savings in the month, in percentage points per percentage point of the key rate. Deciles of liquid wealth are ranked within each month; the bottom decile is the reference and is set to zero. Both regressions include month fixed effects, the decile dummies and the demographic controls of Table 4. The sample is individual-months with a non-negative net liquid position, 2016–2024 for the checking share and 2018–2024 for transfers, the period with transfer records. Standard errors are two-way clustered by individual and month. Table 19 in the Appendix reports the estimates, together with the specifications with individual fixed effects and with the consumption and income history controls.

The gradient is robust (Table 19 in the Appendix). It holds within individuals: when the same person is wealthier than in her own past, her checking share responds more to the rate. Adding the consumption and income histories of Table 4 leaves the estimates unchanged. The gradient also survives instrumenting the rate: in the six-month-difference specification of Table 5, with the deciles fixed at the start of the window and the interactions of the rate change with the deciles instrumented by the monetary policy surprises, the top decile responds 0.6 percentage points more than the bottom decile per point of the key rate, against 0.4 without instrumenting (Table 21 in the Appendix).

Beyond Wealth: Attention and Knowledge

Beyond wealth, what characteristics of an individual are associated with a higher-return allocation on average, and with a stronger response to interest rates? We draw on two sources: surveys among bank clients, and records of how often clients log in to the bank. We first explore the role of attention, which the literature identifies as a central friction in household financial decisions (Lu and Wu, 2026). We measure it in two ways, which may capture attention to different relevant margins: how often an individual logs in, which we interpret as attention to her own portfolio allocation, and how well she knows the current rate of inflation, which we interpret as attention to the general economic environment. We then explore the role of financial knowledge, measured by the standard financial literacy questions (Lusardi and Mitchell, 2014a) and by whether the individual works in the financial industry.[20] Throughout, we distinguish two questions that we believe are different: whether a characteristic is associated with a higher return portfolio on average, and whether it is associated with a stronger response to interest rates.

We add each measure to equation (5) in two places:

$$\text{share}_{it}^{C} = \underbrace{\kappa \cdot k_i}_{\text{level}} + \underbrace{\eta \cdot k_i \cdot r_t}_{\text{response}} + \underbrace{\sum_{j=2}^{10} \beta_j^a \cdot \mathbb{I}_{(d_{it}=j)} + \sum_{j=2}^{10} \theta_j \cdot \mathbb{I}_{(d_{it}=j)} \cdot r_t + \delta_t + X_{it}' \cdot \delta}_{\text{terms of equation (5)}} + \varepsilon_{it}. \quad (6)$$

where $k_i = \{0, 1\}$ indicates the characteristic under study. The coefficient κ captures

[20] Appendix H describes the surveys, the samples they cover, the questions asked, and the construction of each measure, including the login records.

differences in allocations on average, while η captures differences in the response to interest rates, both conditional on wealth and the other controls. A negative κ means a lower checking share at any rate; a negative η means a larger reduction in that share as rates rise. Importantly, the two need not go together: individuals may hold higher-return portfolios without adjusting them as rates change, or adjust them without holding better portfolios. Each measure is estimated separately, on the sample for which it is observed.

We estimate four versions of equation (6), one per measure. The first two capture attention. In the first, k_i measures login activity. We rank all clients by the average number of days per month in which they log in to the bank's app or website, over their months in the sample, and split them into terciles. The regression includes two indicators, one for the middle and one for the top tercile, with the bottom tercile as the reference group. This measure comes from the bank's records, so the regression uses the full sample of Table 4. In the second, k_i measures awareness of inflation. It comes from a 2023 survey of the bank's clients with 4,085 respondents, which also provides the two measures below; Appendix H describes the survey, its sample, and each question. Here k_i equals one for individuals whose reported inflation rate over the previous twelve months is within two percentage points of the published rate at the time of the response, about seven in ten of respondents.

The other two capture financial knowledge. In the third regression, k_i equals one for individuals who answer all four financial literacy questions correctly, about one in eight of respondents. In the fourth, k_i equals one for individuals who report working in the financial industry, 269 respondents. The three survey regressions use every month in which a respondent belongs to the sample of Table 4. Of the 4,085 respondents, 3,897 appear in that sample; the rest were invited under the bank's own definition of an active client, which is looser than ours, or never hold non-negative net liquid wealth. Table 6 reports the estimates.

Let us first focus on the attention measures. The two do not tell the same story. Attention to one's own accounts is associated with a better allocation on average, but not with a stronger response to interest rates. Attention to the economic environment is associated with a stronger response, but not with a better allocation on average.

Consider login activity first. Individuals in the top tercile hold a checking share 18 percentage points lower than those in the bottom tercile, conditional on wealth and the other

Table 6: Attention, Knowledge, and the Response to Interest Rates

	Level κ	Response η	Individuals	Observations
Login activity: middle tercile	−9.98	0.03	96,551	5,465,569
	(0.26)	(0.05)		
Login activity: top tercile	−18.35	0.29		
	(0.28)	(0.04)		
Aware of inflation ($\leq$ 2 pp)	−1.13	−0.19	3,840	271,699
	(1.01)	(0.14)		
Financially literate	1.29	−0.45	3,896	275,711
	(1.32)	(0.19)		
Works in finance	−2.72	−0.33	3,897	275,717
	(1.61)	(0.24)		

Notes: Four regressions of equation (6): the checking-share regression with month fixed effects and the key rate interacted with the deciles of net liquid wealth, ranked within month in the full sample of Table 4, column (1), plus the characteristic k_i, entered in level and interacted with the key rate. The key rate is demeaned within each sample, so κ is the difference in the checking share (pp) at the average rate and η the difference in its response (pp per pp of the key rate). Login activity: terciles of the individual's average number of days per month with a login to the bank's app or website, over her months in the sample (cut points 9.79 and 17.17 days per month; the 1.9 percent of individuals with no login are in the bottom tercile); the middle and top terciles enter together, relative to the bottom one. Aware of inflation: the absolute difference between the inflation rate over the past twelve months reported in the 2023 survey and the latest published rate at the response date is at most 2 pp (answers with absolute value above 100 set to missing); this regression includes dummies for the survey month (June to September 2023). Financially literate: all four literacy questions answered correctly (2023 survey). Works in finance: employed in the financial sector (2023 survey). Samples: login activity, all individual-months of Table 4, column (1); survey rows, all months of the 2023 respondents in that sample. Controls: age, age squared, female (a missing gender code is coded male), number of children, married, capital area; no individual fixed effects. Standard errors, in parentheses, are two-way clustered by individual and month. Details in Appendix H.

controls. This gap is large: it is more than a quarter of the difference between the top and the bottom decile of liquid wealth in Table 4. The middle tercile sits halfway. Their response to rates, however, is not stronger. If anything, it is weaker: a one point increase in the key rate is associated with a reduction in the checking share that is 0.2 percentage points smaller for the top tercile than for the bottom one, and no different for the middle tercile. Awareness of inflation shows the opposite pattern. Individuals who know the current inflation rate with precision hold the same allocation on average, but reduce their checking share by 0.2 percentage points more per point of the key rate.

We interpret these two results as capturing attention to different decisions. The return on checking is the lowest among liquid assets at any level of rates, so the decision that matters for the level is to notice when the balance in checking has grown and move the excess. Watching one's own accounts may be what that decision needs: an individual who logs in often sees how much she holds in checking relative to her other accounts, and can move it away whatever

the rate. Individuals who do so hold little in checking at any rate. The response to rates is a different decision. It requires noticing that the return outside checking has changed, which is information about the environment rather than about one's own accounts. Knowing the current inflation rate may capture attention to aggregate variables of this kind, such as interest rates, and individuals who have it move more when the rate moves. On this interpretation, the level of the allocation reflects attention to one's own portfolio, and the response to rates reflects attention to the environment.

Financial knowledge seems to matter in the response rather than in the level. Financially literate individuals hold the same checking share as the rest at the average rate, but cut it by close to 4 percentage points more over the 8.5 point rise in the key rate between 2021 and 2024. In the units of Figure 6, this is about a third of the difference between the top and the bottom decile of wealth. Individuals working in finance show the same pattern, with a smaller and less precise estimate. Appendix H shows that the literacy result holds with the continuous score and when each characteristic is allowed its own trend.

Taken together, this section shows that the characteristics associated with a higher-return allocation on average are not necessarily the ones associated with a stronger response to rates. Holding little in checking at any rate goes with paying attention to one's own accounts. Moving out of checking when rates rise goes with paying attention to economic variables and with understanding the financial system.

4 What Explains the Allocation?

The evidence so far can be summarized in a few facts. In an environment with minimal frictions, individuals still hold a large share of their liquid wealth in checking, the account that pays the lowest return at any level of rates, and forgo a sizable amount of interest as a result. The allocation barely moves when the spread between checking and the alternatives widens. Individuals do act, but on inflows rather than on rates. The response to rates is concentrated among the wealthy and among individuals who pay attention to the economy. This section asks which explanations can account for these facts together. We first rule out explanations in which the allocation reflects the terms individuals face rather than their

behavior. We then ask whether adjustment frictions of the kind used in standard portfolio choice models can account for them.

4.1 What the Gap Is Not

A first set of explanations attributes the allocation to the terms the bank offers rather than to the individual: the high-return products may not be available to everyone, savings rates may rise with balances, moving money may cost time or money, and the rates we compare with may not be the rates individuals can obtain. None of these survives the data.

Access and balance tiers. During the sample period, the bank's deposit accounts were open to every client on the same terms, and the rates paid did not depend on wealth in any significant way. Balance tiers existed, but they were small and shrank further over the sample.[21] Moreover, in 2020 the bank introduced an online savings account that dominates every other liquid account: it pays the highest posted savings rate, a single rate regardless of the balance, with no minimum and no notice period, it is opened in the app in minutes, and the bank promoted it to all its clients. A direct check that neither access nor tiers produce the patterns of Section 3 is to condition on the clients who hold this account in 2023. Every fact carries through among them (Figure 28 in the Appendix): the checking share falls with wealth, the return rises with wealth, and the posted rates on checking and on savings are the same at every level of wealth. The cost of the allocation is lower among holders, but it still rises steeply with wealth. These are individuals who all hold the same highest-return account and receive the same return on checking, so what separates the wealthy from the rest is how they use the accounts they have.

Fees and delays. Moving money between accounts costs nothing and happens in real time in online banking or the app. Liquid fund balances settle on the next business day, also at no cost. As Figure 3 shows, moving balances is common even at the bottom of the wealth distribution. A monetary cost of acting cannot explain the lack of action, nor can delays, at least between bank accounts. The one-day settlement of the fund might deter some clients

[21] The tiered savings account paid 4.90 percent at its base tier and 5.10 percent at its top tier in March 2023.

from parking funds there, but one day of waiting is a small price for the several percent of consumption left on the table. In any case, since 2020 the online savings account has offered nearly the same return with no delay, and the money left in checking is just as large when measured against it (Panel D of Figure 28 in the Appendix).

Unexpected expenses. One might keep money in checking to meet an expense that arrives without warning. In this setting there is little to gain from doing so. Moving money from savings to checking is free and immediate, so a balance in savings is as available as a balance in checking when the expense comes, and a balance in the fund is available the next business day. Checking accounts can also carry an overdraft facility, which is requested in the app at no charge; about a third of active clients use one in a given year, with a limit of about half a month of spending for the typical user.[22] And most bills do not arrive without warning. As described in Section 2.1, bills are collected through a centralized claims system: the creditor registers the claim, and it appears among the individual's unpaid claims in online banking with its due date, so she sees what is due and when before the money has to be there. Holding a cushion in checking protects against nothing that a cushion in savings would not. Moreover, among wealthier individuals, where the forgone interest is concentrated, the money left in checking at the end of the pay cycle seems too large for unexpected expenses: about a month of spending for the median individual in the top decile and considerably more on average.

The liquid fund. The liquid fund is a different product from a deposit, and one may ask whether the facts depend on us including it on the pool of liquid safe assets. They do not. The fund is held by 3 percent of individuals and makes up 4 percent of liquid assets, and the facts can be reproduced with bank accounts alone. Figure 29 in the Appendix takes 2023, when the bank's online savings account provides a clean benchmark within the bank, and recomputes the checking share, the return, and the cost using checking and savings accounts only, with the online account's rate as the benchmark. The lines are indistinguishable from those with the fund over most of the distribution and differ only in the top percentiles, where

[22] In 2023, the median overdraft limit was ISK 290,000, about half a month of consumption expenditure, and the rate charged was around 16 percent, 7 points above the key rate.

fund holders are concentrated and the online account pays slightly less than the benchmark with the fund. The patterns are about how individuals split their money between the accounts they hold at the bank.

4.2 A Portfolio Choice Model with Adjustment Frictions

A natural explanation for the facts above is that adjusting a portfolio is costly: acting may require paying a cost each time, or individuals may attend to their accounts only occasionally. We ask whether frictions of this kind can account for the evidence by studying a portfolio choice model with adjustment frictions. The exercise also carries a message beyond our setting. Two-asset models with adjustment frictions are a workhorse in macroeconomics and household finance, where they shape the distribution of liquid wealth, marginal propensities to consume, and the transmission of monetary policy to household portfolios. Their frictions are typically disciplined by indirect moments, such as the distribution of asset holdings, and are rarely confronted with direct evidence on how individuals reallocate their portfolios. Our data allow us to do so. We calibrate the frictions to the observed frequency of portfolio adjustments, consider both a state-dependent and a time-dependent version, and ask whether the model reproduces both the cross-section of holdings and their response to interest rates. Both versions capture the wealth gradient in portfolio shares, but they overstate the sensitivity of portfolios to interest rates and place the response at the wrong end of the wealth distribution. Adjustment frictions alone therefore do not account for the facts, and models that rely on them may overstate how strongly household portfolios respond to monetary policy.

The framework builds on a two-asset Baumol–Tobin model with income risk and incomplete markets.[23] Households receive a stochastic income stream y_t and can save in two assets: low-yield deposits d_t earning rate r_t^d, and higher-yield deposits b_t earning r_t with $r_t > r_t^d$. Markets are incomplete: households cannot fully insure against idiosyncratic income shocks.

Portfolio reallocation faces two possible frictions, and we solve versions of the model with each friction in isolation. First, moving funds across accounts entails a fixed monetary cost F.[24] This friction generates state-dependent (s, S) inaction regions, as in many applications

[23] These models are widely used in macroeconomics and finance; (see, e.g., Kaplan and Violante, 2014; Melcangi and Sterk, 2024; Cocco et al., 2005).

[24] Modeling the cost as a monetary rather than utility cost is standard practice in the literature, from

in economics where financial incentives determine whether adjustment is made. Second, with exogenous probability λ each period, households receive an "adjustment opportunity" that allows costless portfolio rebalancing. This friction is meant to captures time-dependent inaction or inattention.[25]

The household that begins the period with liquid cash-on-hand w and can rebalance between low- and high-yield deposits solves:

$$V^A(w,b) = \max_{c,d',x} u(c) + \beta \mathbb{E}\left[V(y',d',b')\right]$$

subject to:

$$\begin{aligned} c + d' &= w + x \\ b' &= b(1+r) - x \\ d' &\geq \underline{d}\,;\; b' \geq \underline{b} \\ y' &= \Gamma(y,\epsilon') \end{aligned}$$

where x is the value of the transfer between high- and low-yield deposits, $\underline{d}$ and $\underline{b}$ exogenous borrowing limits, and $\Gamma(y,\epsilon')$ is the Markov process for income that describes the transition between y and y' with ϵ' being the value of an iid shock. We normalize average income to have mean 1: $\mathbb{E}(y) = 1$.

The household's problem when not adjusting is:

$$V^N(w,b) = \max_{c,d'} u(c) + \beta \mathbb{E}\left[V(y',d',b')\right]$$

subject to:

$$\begin{aligned} c + d' &= w \\ b' &= (1+r)\, b \\ d' &\geq \underline{d} \\ y' &= \Gamma(y,\epsilon') \end{aligned}$$

Finally, the household's beginning-of-period problem depends on the friction governing funds reallocation:

Baumol (1952) and Tobin (1956) to Cocco et al. (2005), Kaplan and Violante (2014), and others.

[25] For an application see Auclert et al. (2020).

State-Dependent Friction (fixed cost F):

$$V(y, d, b) = \max\{\, V^A(w - F,\, b),\; V^N(w,\, b)\,\}.$$

Time-Dependent Friction (opportunity with probability λ):

$$V(y, d, b) = \lambda\, V^A(w,\, b) + (1 - \lambda)\, V^N(w,\, b).$$

where liquid cash-on-hand is

$$w \equiv y + d(1 + r^d).$$

Calibration and Mapping to the Data

Some parameters are taken from external sources, while others are chosen to match moments in the data. The model period is one month. Preferences over consumption are CRRA $u(c) = c^{1-\sigma}/(1-\sigma)$ with an intertemporal elasticity of substitution (IES) $= 0.5$, i.e. $\sigma^{-1} = 1/2$. Idiosyncratic income follows a lognormal AR(1) process:

$$\log y' = \rho\, \log y + \sigma_\epsilon\, \epsilon',$$

where ϵ' is i.i.d. standard normal.

For the income process we adopt a U.S. calibration widely used in the literature. Following Floden and Lindé (2001) and Auclert et al. (2024), we target an annual persistence of 0.91 and choose the innovation variance so that the cross-sectional standard deviation of (annual) log gross earnings is 0.92. Because these targets are annual while the model period is monthly, we select monthly (ρ, σ_ϵ) so that the simulated monthly process, when aggregated to the annual frequency, reproduces the targeted persistence and dispersion.[26] The implied monthly parameters are $\rho = 0.988$ and $\sigma_\epsilon = 0.145$.

For asset returns, we interpret the low-yield deposits as checking deposits and set their annual real return to $r^d = -3\%$ and the high-return deposits as savings deposits and set

[26] Specifically, we simulate the monthly AR(1) process, construct annual income as $y_t^A = \sum_{m=0}^{11} y_{t+m}$, compute $\log y_t^A$, and then search over (ρ, σ_ϵ) to match the annual AR(1) persistence 0.91 and the standard deviation 0.92.

their annual return to $r = 1\%$. These values are consistent with a zero nominal return on checking deposits, a 4% nominal return on savings accounts, and an assumed inflation rate of 3%, roughly in line with pre-Covid inflation levels. We assume that agents are not allowed to borrow, so $\underline{d}$ and $\underline{b}$ are set to zero.

We calibrate the discount factor and portfolio adjustment parameters to match selected moments in the data as described below. The empirical moments of portfolio shares and returns are computed using average daily asset holdings. Because the model is in discrete time, we must assume an intra-period timing of consumption and, when a portfolio reallocation occurs, the timing of the adjustment within the period. We assume consumption is distributed evenly over the month at a constant rate, and that reallocations take place at the midpoint of the month.[27]

We set the discount factor β to match the lower tail of the liquid asset distribution. The goal is to capture the idea that limited adjustment may partly reflect low wealth. Specifically, we target the ratio of average liquid assets to annual consumption for individuals in the 5th decile, which is 0.28—roughly three months of consumption.[28] We then calibrate the trading-friction parameters, F or λ, to match the share of individuals making at least one monthly transfer between checking and savings accounts, which is 40%. Table 7 reports the parameters that managed to match the selected moments exactly. The obtained value of F corresponds to 0.1% of average monthly income.[29]

Results

We begin by evaluating how the models replicate the cross-sectional allocation of liquid assets. The left panel of Figure 7 shows that both the state- and time-dependent specifications generate an increasing share of high-return assets across wealth deciles, consistent with the empirical profile in Figure 2 (reproduced in the figure). While the models capture the upward gradient, they predict a much steeper slope: for instance, the share for households in the 8th decile is overstated by more than 20 percentage points relative to the data.

[27] See Appendix K for the exact derivations.

[28] See footnote of Figure 37 in the Appendix for details on the computation.

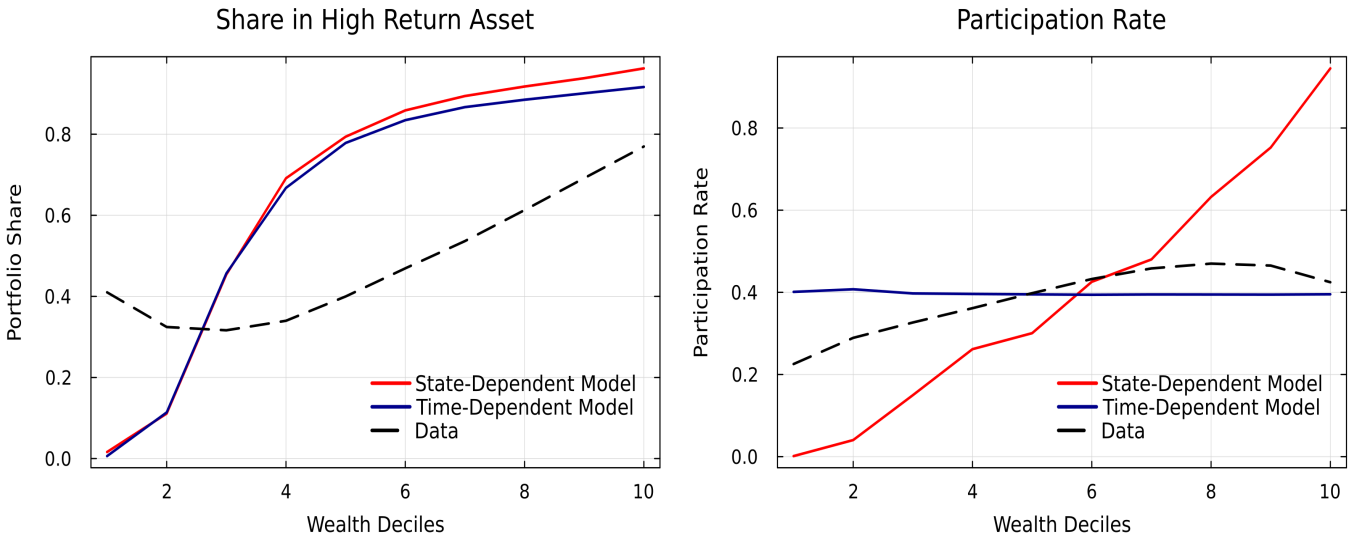
[29] For reference, with a per-capita disposable income of roughly $50,000 US dollars per year in Iceland, this implies an adjustment cost of about $4 each month the individual decides to adjust.

Table 7: Internally Calibrated Parameters

	State-Dependent	Time-Dependent
F	0.001	
λ		0.4
β	0.9755	0.9815

Notes: This table reports the internally calibrated parameters for each model: the discount factor β and the trading-friction parameters, F or λ. These are simultaneously chosen to match the ratio of average liquid assets to annual consumption for households in the 5th decile (0.28) and the observed share of households making at least one monthly transfer between checking and savings accounts (40%).

Figure 7: Portfolio Shares and Rebalancing Rates Across Wealth Deciles in the Models



Notes: The left panel plots average annual shares of high-return assets across wealth deciles; the right panel plots monthly participation rates, defined as the share of individuals who rebalance between accounts in a given month. Dashed lines represent the data moments.

The models reach this cross-sectional pattern even though they display very different likelihoods of rebalancing between accounts across the wealth distribution. The right panel of Figure 7 shows that, in the time-dependent specification, the share of individuals rebalancing is flat at 40% across deciles—by construction, rebalancing occurs only when an exogenous trading opportunity arrives. By contrast, in the state-dependent specification individuals endogenously choose to rebalance in an (s, S) fashion.[30] Because wealth and income comove

[30]See Figure 45 in the Appendix for an example of the policy function.

in these models, higher-wealth households are more likely to hit the adjustment boundary and move funds from low-return to high-return accounts, so rebalancing likelihood rises with wealth.

Overall, both types of frictions generate broadly similar implications for households' portfolio allocation across the wealth distribution, despite generating very different likelihoods of rebalancing between accounts. The cross-sectional predictions are not far from the data, suggesting that these simple mechanisms can go a long way toward capturing observed heterogeneity in portfolio choices. However, calibrating the models to match cross-sectional moments does not guarantee that they generate the right dynamics over the business cycle. This distinction is particularly relevant as heterogeneous-agent models have recently been popularized to study monetary policy transmission. In these models, households that are not at their borrowing constraint adjust consumption in response to interest-rate changes according to the Euler equation.[31]

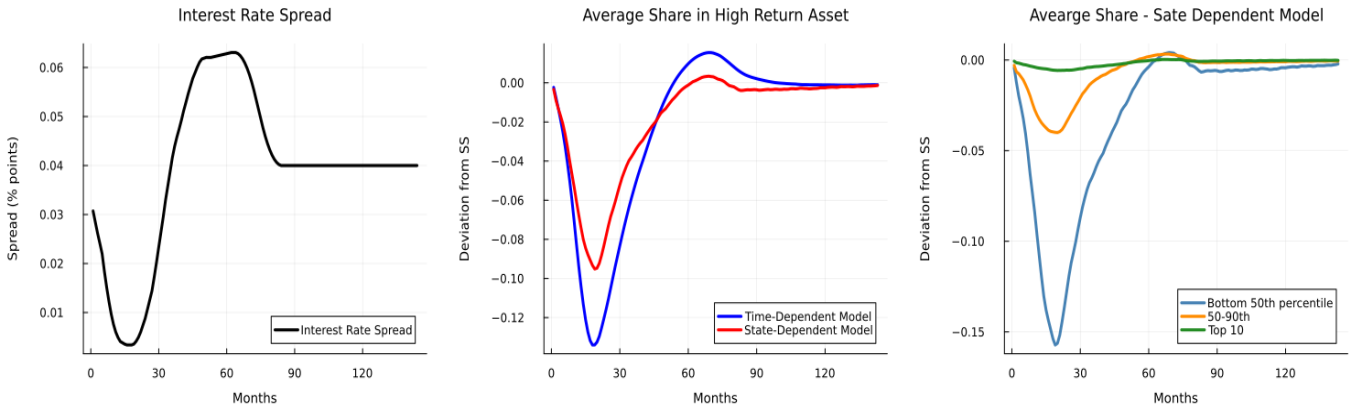
We next show that both types of models overestimate the portfolio response to interest rates. To illustrate this, we initialize the economy in steady state and expose agents to a perfect-foresight path of interest rates on high- and low-return assets that replicates the evolution observed during the Covid-19 cycle.[32] The left panel of Figure 8 plots the implied spread, $r - r^d$, which first compresses as policy rates fall to the lower bound and subsequently widens as rates increase during the recovery.

The center panel of Figure 8 shows that the average portfolio shares in the models fluctuate strongly with the spread, in stark contrast to the near-flat profile in the data (Figure 2). This excessive sensitivity arises under both types of frictions. In the state-dependent economy, the share of households that rebalance moves sharply with the spread, while in the time-dependent economy participation remains mechanically constant (Figure 47); nonetheless, portfolio shares still swing widely whenever trading opportunities arrive. The right panel highlights a further discrepancy: Unlike in the data (Figure 6), where responsiveness is concentrated among higher-wealth households, the models predict that fluctuations are largest among

[31] See Kaplan et al. (2018).

[32] The path is constructed using the bank's rates on high-return savings and checking deposits. Real rates are obtained by subtracting median household inflation expectations from the central bank inflation expectation survey. See Figure 46 for the exact path.

Figure 8: Model Responses to an Interest-Rate Shock



Notes: The left panel shows the path of the spread, $r - r^d$, generated by the assumed interest-rate shock. The center panel plots the average share of high-return assets across all households in each model. The right panel displays the average share of high-return assets by wealth deciles in the state-dependent specification.

low-wealth households.[33]

Overall, we build on popular models of portfolio adjustment and show that, while they do a reasonable job of matching cross-sectional patterns, they struggle to reproduce the business-cycle response to an interest-rate shock. In particular, they overstate the sensitivity of portfolio shares to interest-rate fluctuations and misrepresent the distribution of responsiveness across the wealth distribution. Our results point to the need for additional mechanisms beyond simple trading frictions to account for the heterogeneous portfolio adjustments observed in the data.

5 Who and What Drives Aggregate Deposit Fluctuations?

In this section, we highlight new insights that inform the literature on the relation between monetary policy and financial intermediation. We document that fluctuations in the share of cheap core deposits over the business cycle—crucial for bank lending—are primarily driven by wealthier individuals actively adjusting their portfolios in response to return spread changes,

[33]As shown in Figure 48, this pattern also arises in the time-dependent specification.

rather than by shifts in the distribution of deposit holdings across the wealth spectrum.

Low-yield deposits are central to bank lending, as they are not perfectly substitutable by other funding sources and directly affect banks' credit supply (Kashyap and Stein, 1995). Although it is well documented that the share of low-yield deposits declines when central banks raise policy rates (Drechsler et al., 2017), what drives these aggregate shifts remains an open question. In particular, it is not known whether the decline reflects active portfolio reallocation in response to yield changes, or whether it rather stems from either heterogeneous income changes (Salgado et al., 2019) or shifting consumption desires (Sterk and Tenreyro, 2018) that coincide with the monetary cycle and, as shown earlier, also shape portfolio choices. To shed light on the relative importance of these channels, we exploit the Covid-19 recession episode.

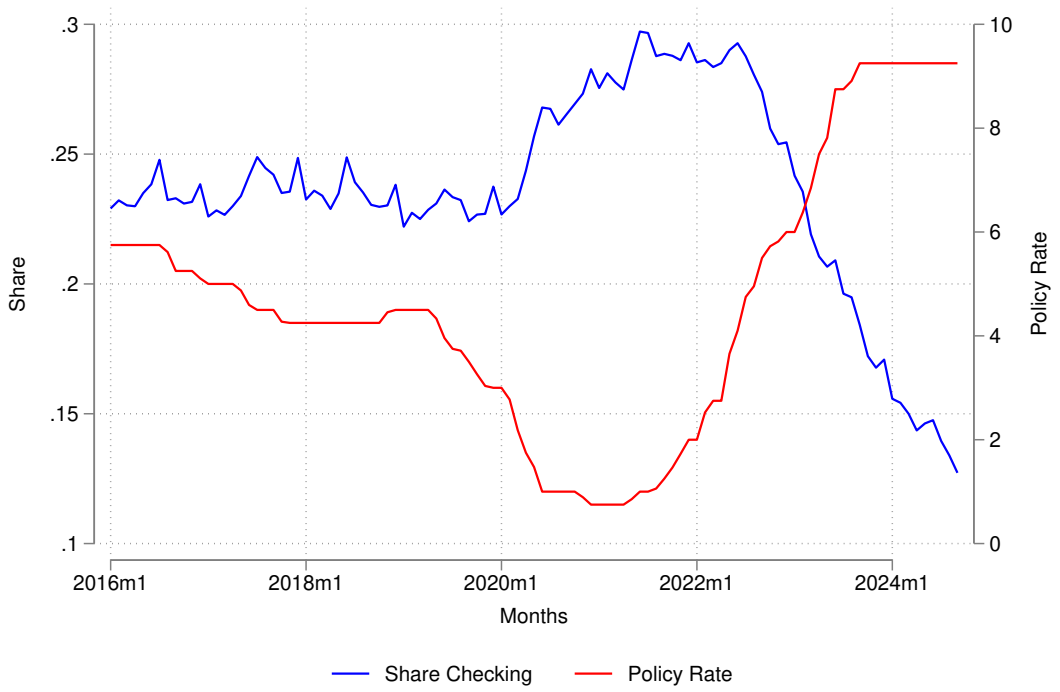
In our setting—where the interest rate on savings deposits closely tracks the yield available through brokered alternatives—we examine whether individuals reallocate funds from low-yield checking accounts into high-yield savings accounts as interest rates rise.[34] We refer to the sum of checking and savings deposits as *core deposits*. Figure 9 plots the evolution of the share of checking deposits within core deposits at the bank level, along with the central bank policy rate. Consistent with findings from other countries, we observe a negative correlation: as policy rates increase—and the spread widens—the share of funds held in low-return checking deposits declines.[35]

The aggregate share of checking deposits, s_t, can be written as a weighted average of group-level shares s_{gt}, with weights ω_{gt} given by each group's share in total core deposits. Its fluctuations can be decomposed into two components: a *redistribution* term and a *portfolio*

[34]Because savings rates are competitive with brokered alternatives, households have little incentive to move funds outside the bank—such as into money market funds. This justifies our focus on internal reallocations between checking and savings accounts, which still raise the marginal cost of funding for banks. Figure 38 in the Appendix shows that deposits as a share of total bank liabilities at the institution under study remained stable over the cycle and even increased during the Covid-19 period.

[35]Figure 39 and Figure 40 in the Appendix compare the evolution of the share of checking deposits within core deposits for active clients at our partner bank and for the full population across all Icelandic banks, showing that this pattern holds at the national level. They also show that the share of core deposits remains stable over the cycle, both at our bank and in the aggregate. This stability is expected, as the spread between savings deposits and outside alternatives does not widen during this period.

Figure 9: Policy Rate and Share of Checking Deposits



Notes: This figure plots the evolution of the aggregate share of checking deposits relative to total checking plus savings deposits of active clients alongside the central bank policy rate.

adjustment term:[36]

$$s_t = \sum_g \omega_{gt} \cdot s_{gt} \quad \longrightarrow \quad \Delta s_t \approx \underbrace{\sum_g \Delta\omega_{gt} \cdot s_{gt-\tau}}_{\text{Redistribution}} + \underbrace{\sum_g \omega_{gt-\tau} \cdot \Delta s_{gt}}_{\text{Portfolio Adjustment}} \tag{7}$$

The first term, *Redistribution*, captures movements in the aggregate checking share due to changes in the distribution of core deposit balances across groups g, $\Delta\omega_{gt}$, interacted with heterogeneity in groups checking shares, $s_{gt-\tau}$. Based on our earlier findings, if funds shift towards low-wealth individuals—who tend to hold a higher fraction of their deposits in checking accounts—this redistribution will mechanically increase the aggregate share of checking deposits. In other words, movements in s_t can reflect shifts in who holds deposits,

[36] Specifically, given a group of individuals g: $s_{gt} \equiv \frac{\text{checking}_{gt}}{\text{checking}_{gt}+\text{savings}_{gt}}$ and $\omega_{gt} \equiv \frac{\text{checking}_{gt}+\text{savings}_{gt}}{\sum_g(\text{checking}_{gt}+\text{savings}_{gt})}$ where $\text{checking}_{gt} = \sum_{i\in g} \text{checking}_{it}$ and equivalently for savings. The decomposition ignores the cross-product term $\sum_g \Delta\omega_{gt} \cdot \Delta s_{gt}$, which is later shown to be quantitatively negligible.

even if individuals' own portfolio shares remain unchanged.

The second term, *Portfolio Adjustment*, captures movements in the aggregate checking share due to individuals adjusting their own portfolios, Δs_{gt}. That is, even if the distribution of core deposits across individuals remains unchanged, shifts in the checking share within individual portfolios can drive aggregate changes.

Figure 10 decomposes the 12-month change in the aggregate checking share into *Redistribution* and *Portfolio Adjustment* components, grouping individuals each month by deciles of core deposits. The figure shows that variation in the aggregate checking share is driven primarily by *portfolio adjustment*—changes in the share of checking deposits within individual portfolios—rather than by *redistribution* across wealth groups. Even during the Covid-19 recession—when household savings rose due to limited consumption opportunities and government transfers—most of the change in aggregate checking shares reflects within-household portfolio decisions, not shifts in the distribution of core deposits.

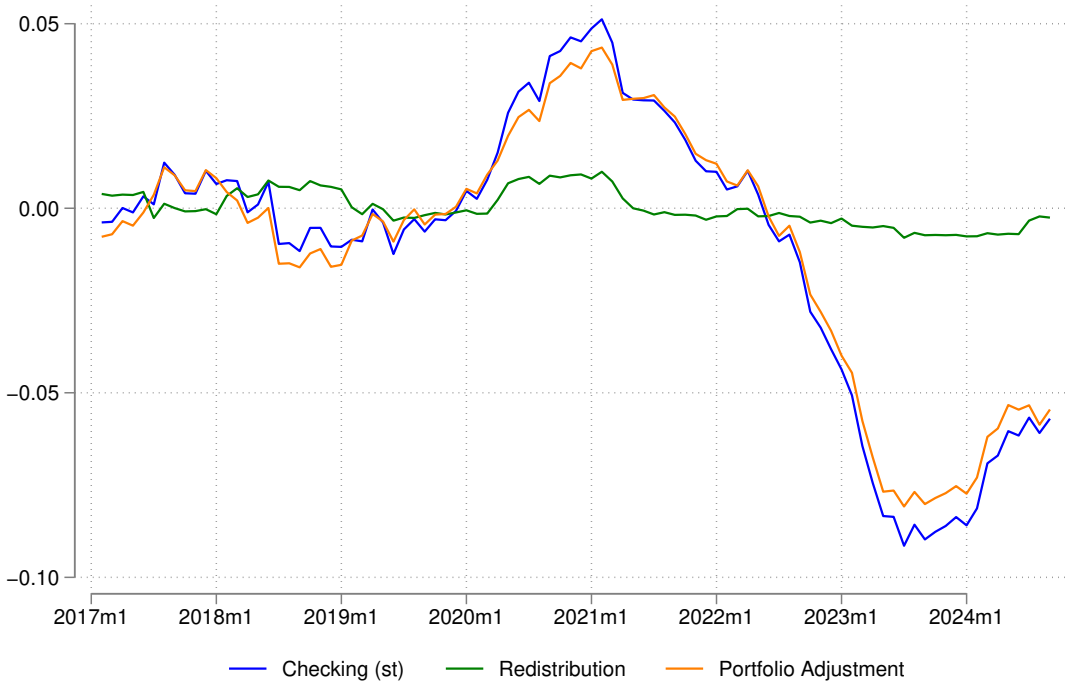
Redistribution across individuals of different wealth levels contributes little to the overall change because core deposits are highly concentrated among the wealthiest households. Individuals in the top decile alone hold over 60% of total core deposits, meaning that substantial shifts in wealth would be required to affect the aggregate share of checking deposits. During the Covid-19 recession, there is a modest redistribution toward lower-wealth individuals—the share of core deposits held by the top 10% declines from 66.6% in 2019 (pre-pandemic) to 64.2% in 2021 (i.e., during the downturn)[37]—but this change is not large enough to significantly move the aggregate checking share.

Therefore, because changes in the aggregate are not driven by redistribution, we must focus on the factors that cause individuals' checking shares to fluctuate Δs_{gt} to understand what drives aggregate deposit shares Δs_t. Given the concentration of core deposits, this ultimately means understanding what makes wealthy depositors tick.

One possibility is that relatively uniform savings patterns during the Covid-19 recession led to temporary shifts in deposit allocations. Another is that changes in interest rate spreads account for the observed aggregate variation. While average responses to interest rates are

[37] Figure 41 in the Appendix shows the distribution of core deposits by wealth group. Figure 42 next to it shows the average share of checking deposits in core deposits by wealth levels for different years.

Figure 10: Decomposition of Changes in the Aggregate Checking Share



Notes: This figure shows the 12-month change in the aggregate share of checking deposits, decomposed into two components: *Portfolio Adjustment* (green), capturing changes in individuals' checking shares within their own portfolios, and *Redistribution* (orange), capturing changes due to shifting weights in the distribution of core deposits across individuals.

modest, wealthy households are significantly more responsive, suggesting that rate movements may explain much of the aggregate reallocation, even if income effects are the main driver for most households. To explore this, we estimate a more flexible specification than those used in previous sections:

$$s_{it} = \underbrace{\beta^r \cdot r_t^L + \sum_{j=1}^{10} \beta_j^{ar} \cdot \mathbb{I}_{(d_{it}=j)} \cdot r_t^L}_{\text{Interest rate terms}} + \sum_{j=1}^{10} \beta_j^a \cdot \mathbb{I}_{(d_{it}=j)} + \sum_{j=1}^{10} \beta_j^{a\log(a)} \cdot \mathbb{I}_{(d_{it}=j)} \cdot \log(a_{it}) + X_{it}'\delta + \alpha + \varepsilon_{it} \tag{8}$$

where s_{it} is individual i's share of checking in core deposits, r_t^L is the interest rate on the liquid fund, d_{it} denotes individual i's decile of core deposits at time t, a_{it} is their level of

real core deposits, and X_{it} includes controls such as a polynomial in age, gender, and wealth group-specific time trends. Relative to the regressions in Section 3, this specification is written in terms of core deposits and the liquid fund rate, and allows for decile-specific slopes in both the interest rate, the time trend, and the log of assets, $\log(a_{it})$. The rationale is that both the rank and the level of wealth within the group may shape portfolio responses during the cycle.

We aggregate individual-level predictions from equation (8) to construct a predicted aggregate share, $\widehat{s}_t = \sum_i \omega_{it} \cdot \widehat{s}_{it}$, and decompose its predicted yearly change, $\Delta\widehat{s}_t$, into the component driven by interest rate movements and the component driven by all other regressors.[38]

The left panel of Figure 11 shows that nearly all the predicted variation in the aggregate series is explained by the interest rate terms in equation (8), with wealth and other controls contributing little. This highlights the central role of interest rate movements in driving aggregate changes in the share of checking deposits.

The center and right panels decompose changes in the predicted average checking share for the top and middle wealth groups, $\Delta\widehat{s}_{gt}$.[39] For the fifth wealth decile (right panel), interest rates explain only a small share of the variation; most changes are associated with other covariates. By contrast, for the top wealth decile (center panel), the contribution of other factors is minimal, and interest rates account for virtually all of the observed fluctuations. This difference has direct implications for aggregate dynamics: Because wealthy households both hold the majority of deposits and respond strongly to interest rate changes, aggregate shifts in checking shares are largely the result of their portfolio adjustments to interest rates.

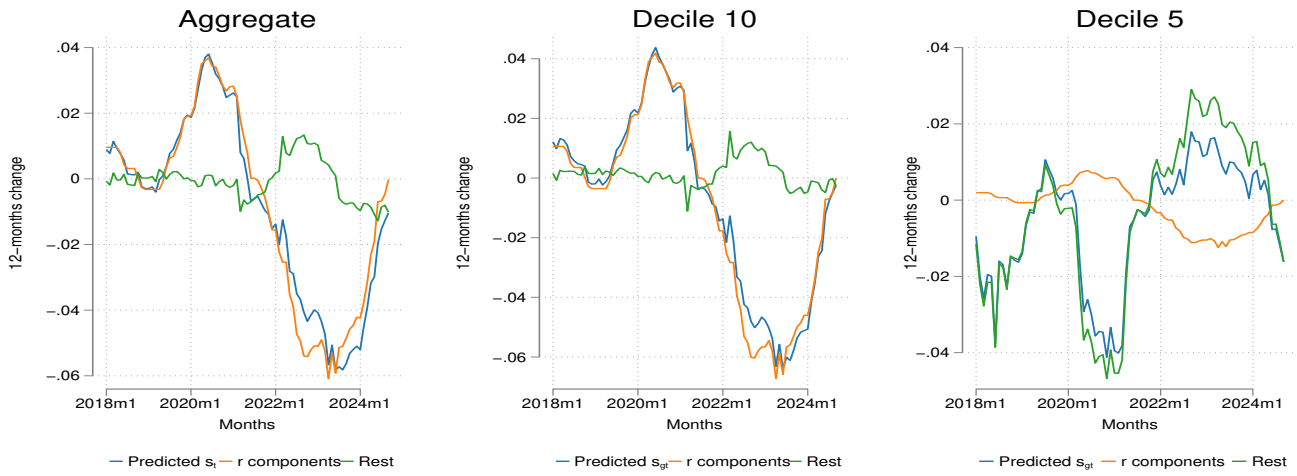
6 Conclusion

This paper studies how individuals allocate their liquid, short-term, safe assets—checking, savings, and brokered liquid funds—that are identical in risk, maturity, and transfer frictions

[38] Figure 43 shows that the predicted changes in aggregate checking shares, $\Delta\widehat{s}_t$, closely track the observed changes. The interest rate component is computed as the 12-month difference in the predicted value of the terms labeled "Interest rate" in equation (8).

[39] Figure 44 shows that the decomposition also closely captures the actual changes in checking shares for each group.

Figure 11: Decomposing Aggregate Changes in the Share of Low-Return Deposits



Notes: This figure decomposes 12-month changes in the model-predicted share of checking deposits into the portion explained by interest rate movements and the portion explained by all other covariates in equation (8). The left panel shows aggregate changes, the center panel shows the decomposition for the top wealth decile, and the right panel for the fifth wealth decile. Wealth deciles are constructed using core deposit balances. Interest rate effects are computed by holding all covariates constant except the interest rate.

but offer different yields. This asset class dominates the financial portfolios of households: Participation is nearly universal; for most households their financial portfolios consist exclusively of liquid, short-term, safe assets; and even among those that do participate in risky assets markets, these assets constitute the largest share of their financial portfolio for most. This asset class is also important to banks as it constitutes the largest share of bank liabilities.

Using a panel of detailed and comprehensive individual transaction-level bank data linked to rich demographics and survey data, we show that most households adjust only modestly to movements in interest rates. In contrast, wealthy households are several times more responsive than the average. They also allocate larger shares to higher-yield options and earn substantially higher returns on their liquid portfolios—about two percentage points per year. Survey measures of financial literacy and inflation knowledge are associated with greater responsiveness, while attention to one's own accounts, measured by logins, is associated with a higher-return allocation at any rate.

Our portfolio-action evidence clarifies the aggregate picture of low-cost deposit fluctuations.

Business-cycle movements in the share of low-rate deposits are driven primarily by a relatively small group of active, wealthier depositors who move funds when spreads widen. This reflects both the high concentration of deposits among these households and the fact that they are the only ones who respond significantly to rate changes.

A simple portfolio framework with either state-dependent or time-dependent frictions can reasonably match the cross-section of holdings, but both specifications overstate households' sensitivity to interest-rate spreads. This tension is informative: models that fit average allocations need additional ingredients—for instance, limited attention, information frictions, or salience—to reproduce the weak behavioral response we observe in the bulk of the distribution.

These findings have important implications for banks and for monetary policy. If most depositors remain inattentive while a minority of affluent households arbitrage spreads, deposit betas and funding costs will depend disproportionately on the behavior of that group. On the policy side, heterogeneous pass-through implies that rate changes transmit unequally through household liquid returns. Light-touch interventions—clearer disclosure of product yields, default "sweep" rules from checking to higher-yield accounts, or periodic reminders—could raise average cash returns without restricting choice, though the effectiveness of such tools remains an empirical question. Future work could test targeted information or salience interventions, and track the role of mobile design and aggregators.

Taken together, the evidence points to a simple message: Even when safe, liquid options are near-perfect substitutes and transfers are easy, most households do not chase yield. A small, financially savvy share does, and their actions drive aggregate adjustments. Recognizing this heterogeneity is essential for modeling portfolio choice, for understanding banks' deposit pricing, and for gauging how monetary policy reaches households' liquid balances.

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A Construction of the Active-Client Sample

The active-client indicator identifies individual-months in which the bank observes enough of a person's financial activity. It is defined monthly, but reflects activity over the twelve months ending in month t rather than activity in month t alone. The full filter is available only from 2018: the income and consumption records it uses do not exist earlier, whereas checking-account records are complete from 2016. Clients in 2016–2017 are therefore classified by a different, forward-anchored rule that is not directly comparable. Section 2.2 summarizes the conditions; this appendix states them exactly, and then documents population coverage, the margin along which the filter selects, the treatment of brief interruptions, and sensitivity to the thresholds.

A.1 The Bank's Customer Base and What the Filter Selects

Between 233,252 individuals in January 2016 and 285,660 in September 2024 hold an account at the bank in a given month. This customer base is heterogeneous: alongside individuals who use the bank as their main financial institution, it contains non-residents, custodial accounts held for children, accounts that were opened but never meaningfully used, accounts that were once active and have since gone dormant, and clients who bank primarily elsewhere and keep only a secondary relationship here.

On this customer base we apply the active-client filter, which identifies the individual-months in which a client's routine income and spending run through the bank. The filter is deliberately demanding. We interpret a selected observation as one in which the bank is the client's primary transactional institution, so that income, consumption, and portfolio holdings can be measured meaningfully. It does not follow that we observe a client's entire financial position; accounts held at other institutions and non-bank wealth remain unobserved.

A.2 The Rule from 2018 Onward

An individual i is active in month t when four conditions hold simultaneously: residence and adulthood, a checking account in regular use, regular expenditures, and regular income.

Writing each as a 0/1 indicator, the active-client flag is their product,

$$A_{it} \;=\; R_{it} \cdot K_{it} \cdot S_{it} \cdot Y_{it}, \tag{9}$$

so that failing any one condition is sufficient to be inactive. Residence is evaluated in month t alone; the other three are evaluated over the twelve months ending in t. Table 8 collects every threshold.

Residence and adulthood (R_{it}). The bank's party register must record the individual as at least 18 years old with a registered domicile that is not abroad. This is the only contemporaneous condition.

Checking account in regular use (K_{it}). From daily balances we construct the signed net checking position, the account balance less any overdraft drawn, and summarize it in two ways each month: whether its median across days is non-zero, and whether its within-month coefficient of variation—the standard deviation of the daily position divided by the absolute value of its mean—is at least 0.01. The first asks whether an account is open and carrying a position; the second asks whether that position moves, which distinguishes an account in use from a static balance.

Regular expenditures (S_{it}). A monthly indicator records whether food purchases through the bank reach EUR 50.

Regular income (Y_{it}). A monthly indicator records whether at least EUR 500 of income is deposited at the bank. The measure is the one defined in Section 2.4: inflows the bank identifies as income—salary, benefits, pensions, interest and dividends—together with recurring inflows from the same non-person counterparty. We label the condition *regular* income because it must be met in a majority of the months of the window, not because the underlying measure is restricted to recurring payments.

Annual gates. Spending and income must each also satisfy a calendar-year condition: mean monthly consumption of at least EUR 200 and mean monthly income of at least EUR 1,000.

Two features of these gates should be stated explicitly. The mean is taken over the months of the calendar year in which the individual appears in the relevant transaction source, not over all twelve months, so it is an average of observed months rather than an annual total divided by twelve. And because it is a calendar-year quantity applied to every month of that year, an individual's status in month t depends on the year as a whole, including months after t.

Table 8: Activity conditions and thresholds

Condition	Monthly indicator	Threshold	Months of 12
Resident adult	Age, from the party register	≥ 18 years	month t
	Registered domicile	Not abroad	month t
Checking in use	Median daily net checking position	$\neq 0$	9
	Coefficient of variation of that position	≥ 0.01	8
Regular expenditures	Food purchases	$\geq$ EUR 50	8
	Annual gate: mean monthly consumption	$\geq$ EUR 200	calendar year
Regular income	Regular income deposited	$\geq$ EUR 500	6
	Annual gate: mean monthly income	$\geq$ EUR 1,000	calendar year

Notes: All four conditions must hold. Rolling windows span $t-11, \ldots, t$ and include the current month; in partial windows the required number of months is scaled by $\lceil N\tau/12 \rceil$, with the denominators described in the text. Annual gates are calendar-year averages taken over months in which the individual appears in the relevant transaction source. Euro amounts are in constant September 2024 prices, deflating by the Icelandic consumer price index and converting at 152 ISK per EUR.

A.3 Short Histories and the Years Before 2018

Customers enter the data throughout the sample period and therefore do not always have twelve months of history. Rather than excluding their first year, we scale each rolling requirement to the number of months observed. If a condition must be satisfied in τ months of a full twelve-month window, we require it in $\lceil N\tau/12 \rceil$ of the N observed months. Checking-account data begin in January 2016, while spending and income data begin in January 2018, when those data become available. Rounding up makes the requirements relatively strict when histories are very short.[40]

Because spending and income cannot be observed before 2018, the full active-client rule cannot be applied in 2016–2017. Residence and checking-account use alone are insufficiently

[40]With one observed month, every condition must hold in that month; with two, the eight- and nine-month conditions must hold in both months, while the six-month condition must hold in one.

selective. We therefore supplement these conditions with evidence that the individual satisfies the full active-client rule after 2017. Define

$$H_i = \mathbf{1}\left\{ \sum_{t\in 2018} A_{it} \geq 6 \quad \text{or} \quad \sum_{t\in 2019} A_{it} \geq 8 \right\}, \tag{10}$$

where A_{it} is the full indicator defined in equation (9). For months through December 2017, we then set

$$A_{it} = R_{it} K_{it} H_i.$$

Thus, a client must satisfy the residence and checking conditions and must also be confirmed as active for a sufficient number of months in either 2018 or 2019.

As a final step, we bridge interruptions of up to two consecutive months between periods in which the individual is classified as active, preventing brief gaps from generating mechanical exits and reentries.

The 2016–2017 sample should therefore be interpreted as the earlier history of clients subsequently confirmed to use the bank actively. It excludes individuals who cannot be confirmed as active using their 2018–2019 records. Because the classification rule changes in January 2018, changes crossing that date reflect both changes in behavior and changes in sample composition. Figure 12 reports the average number of active clients in each year.

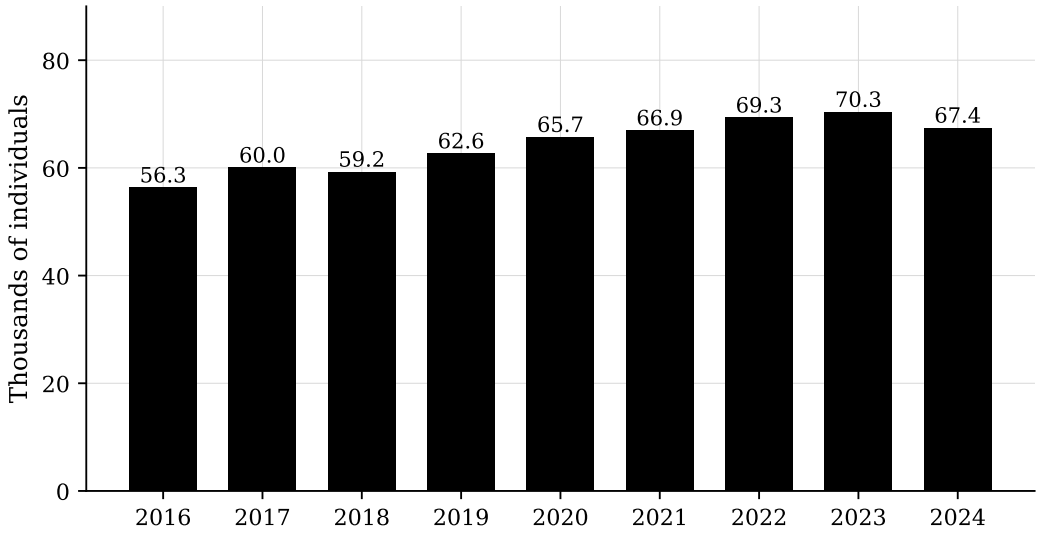
B Measuring Consumption Expenditure

Measuring consumption from bank transactions requires choices about how to treat outflows that cannot be classified unambiguously. Excluding these transactions may omit genuine purchases, whereas including them may capture transfers or other non-consumption payments. We construct our baseline measure to balance these concerns, then examine narrower and broader alternatives and benchmark the resulting aggregates against national accounts data.

B.1 The Outflows We Observe

We construct consumption expenditure from card purchases and non-card outflows from deposit accounts. Card purchases cover all debit and credit cards issued by the bank. Non-card

Figure 12: Average Number of Active Clients per Month



Notes: Each bar is the average across the months of the year of the number of individuals classified as active under the operative indicator, which includes the gap smoothing described above. The 2024 average covers January through September. The years 2016 and 2017 are governed by the reduced rule with anchor and are not directly comparable with the later years.

outflows include direct debits, invoice payments, standing orders, and electronic payments to firms. Transactions may include a category label supplied by the bank and information about the merchant, but either can be missing. When the category label is missing and the merchant is identified, we use the merchant information to assign a category whenever possible. We also use this information to verify the bank's existing classifications. The available labels range from precise categories, such as bakeries and gasoline stations, to broader categories such as e-commerce and invoice payments.

B.2 What Counts as Consumption

We review each transaction label and assign it to a division of the Classification of Individual Consumption According to Purpose (COICOP) whenever possible. We construct mappings for both the 1999 and 2018 versions of COICOP. The analysis in this appendix uses the 1999 classification because it is the version used by Statistics Iceland in the national accounts against which we benchmark our measure.

Our baseline measure includes all expenditures assigned to a COICOP division. It

also includes transactions that clearly represent purchases but cannot be allocated to a particular division, such as payments to online marketplaces, generic online payments, and deal aggregators. We additionally include cash withdrawals, prepaid-card loads, payments through applications or payment services, and generic invoice payments. These transactions identify a means of payment rather than the item purchased, but excluding them would understate consumption by individuals who use these payment methods.

We also include card purchases without a category label, since cards are rarely used for taxes, loan payments, saving, or transfers. Bank corrections, which account for only 0.1 % of measured expenditure, are included as well. Altogether, approximately one-third of measured consumption cannot be assigned to a COICOP division. These transactions enter total consumption but are excluded from comparisons of expenditure composition.

We exclude unlabeled outflows from deposit accounts because they may represent consumption, taxes, loan payments, saving, or other financial transactions. We also exclude transfers to other individuals, which may represent gifts, loans, reimbursements, or shared expenses rather than consumption. The next subsection examines the sensitivity of our results to these classification choices.

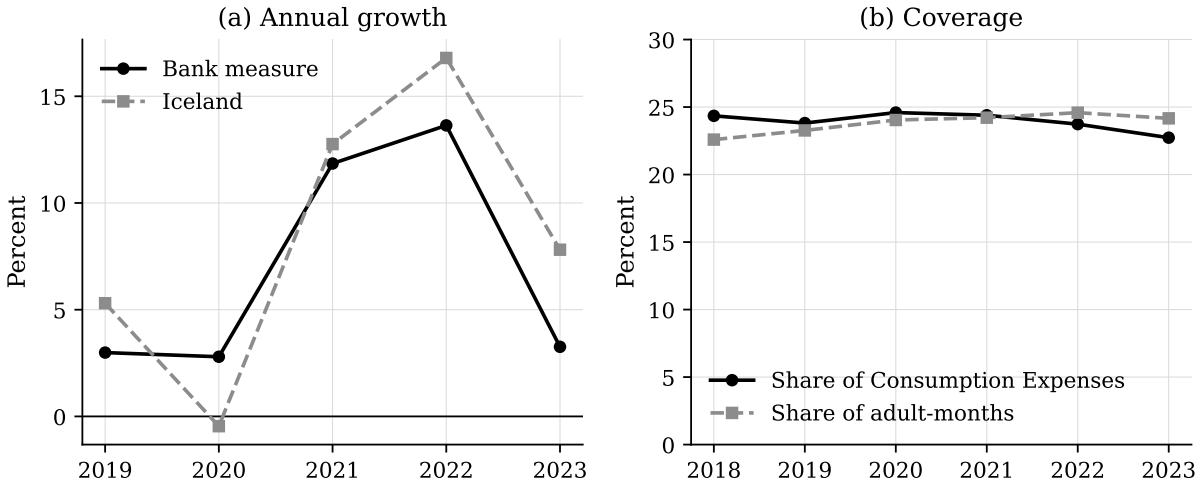
B.3 How the Measure Compares with Iceland

Our measure aggregates the outflows of resident bank clients that we classify as consumption. Assessing its coverage requires a national consumption aggregate defined on a comparable basis. Statistics Iceland table THJ02103 allows us to isolate final consumption by resident households—including their purchases abroad but excluding purchases in Iceland by non-residents—and to subtract imputed rentals for housing (Statistics Iceland, 2026b). Both adjustments align the benchmark with our data: our sample contains only residents, and imputed rent is recorded as consumption in the national accounts but generates no financial outflow. The distinction between resident and territorial consumption is important: in 2020, territorial consumption fell by 6.3 %, while consumption by resident households increased by 0.7 %. Imputed rentals are also substantial, accounting for between 14.7 and 16.5 % of

resident consumption.[41]

Panel (a) of Figure 13 compares annual growth in our measure with growth in the national benchmark. The two series move in the same direction in every year, although our measure grows somewhat more slowly in four of the five comparisons. The largest difference occurs in 2023, when the 4.6 percentage-point gap can be decomposed into approximately 1.8 points from slower growth in the number of active clients relative to the adult population and 2.7 points from slower growth in spending per active client relative to national consumption per adult. Panel (b) reports coverage, defined as total measured consumption among active clients divided by the national benchmark. Coverage ranges between 23 and 25 %, close to the share of adult person-months represented by active clients.

Figure 13: The Consumption Measure and the Icelandic Aggregate



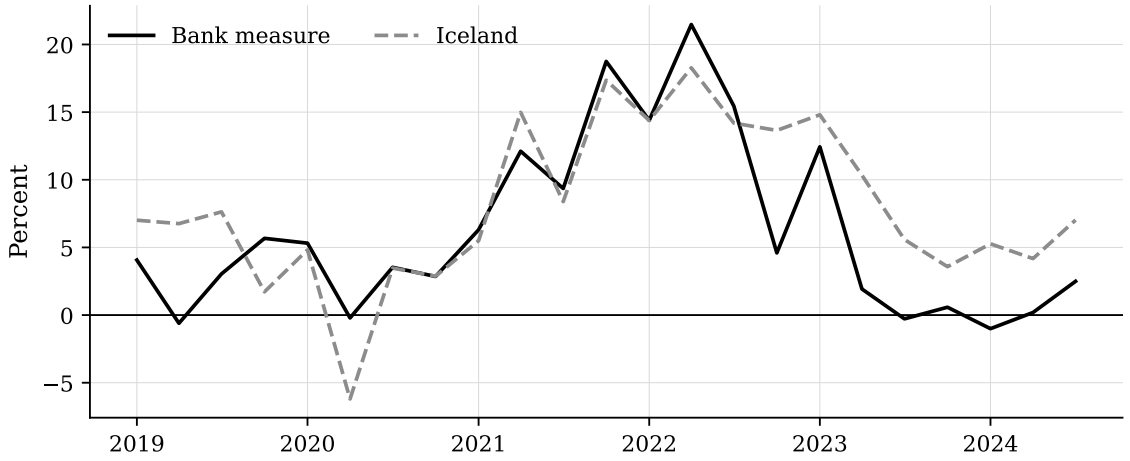
Notes: The bank series sums measured consumption across active person-months. The national benchmark is final consumption expenditure by resident households, excluding imputed rentals for housing, from Statistics Iceland. Panel (a) reports annual growth in the two series. Panel (b) reports coverage, defined as the bank aggregate divided by the national benchmark, together with active person-months as a share of adult person-months. Because short histories reduce measured active membership in 2018, the 2019 growth rate may be overstated; Appendix A provides details.

We also compare the series at a quarterly frequency using private final consumption from Statistics Iceland table THJ01601 (Statistics Iceland, 2026a). The quarterly benchmark is broader than the annual measure: it includes consumption by non-profit institutions serving

[41]The table reports current prices in millions of ISK. We use the vintage downloaded on March 5, 2026, following the revision published on February 27, 2026. The revision changed aggregate consumption by at most 1.2 %.

households and does not provide a category breakdown, so imputed rents cannot be removed. We therefore use the quarterly series only to compare growth rates. Over 2018Q1–2024Q3, the correlation between quarterly year-over-year growth in our measure and the national series is 0.8. Figure 14 plots the two series.

Figure 14: Quarterly Growth in Consumption



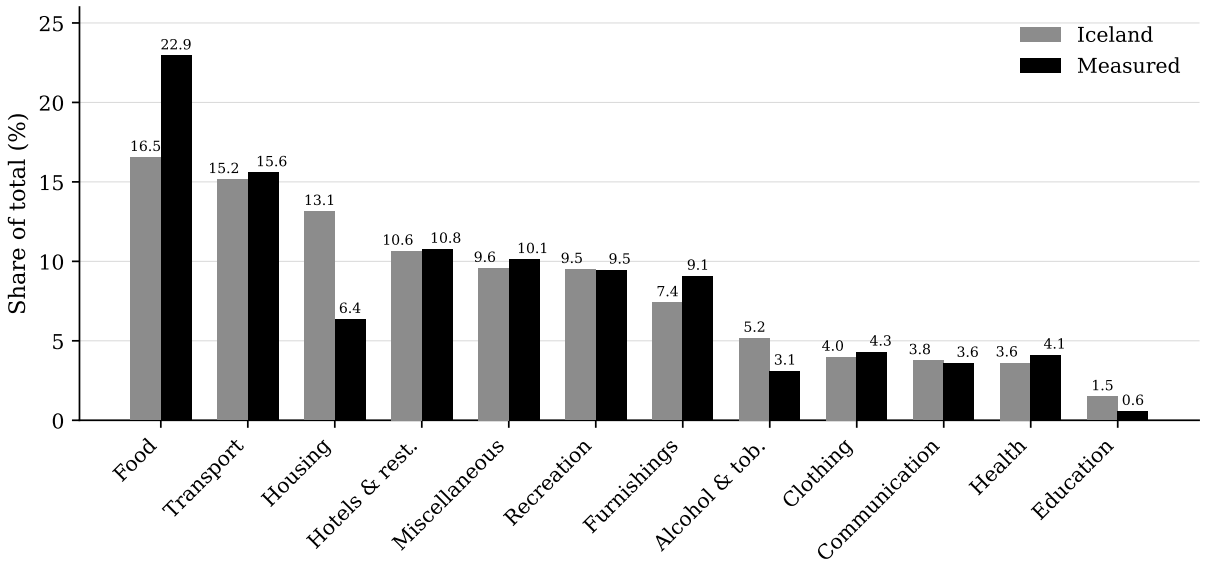
Notes: Year-over-year growth in measured consumption summed across active person-months, and in private final consumption from Statistics Iceland (THJ01601), 2019Q1–2024Q3. The quarterly benchmark includes imputed rentals for housing and consumption by non-profit institutions, neither of which can be removed at this frequency, so the two series are comparable in growth but not in level.

As an additional validation of our consumption measure, we compare the distribution of classified expenditure across COICOP divisions with the corresponding distribution of resident household consumption. Because roughly one-third of the baseline measure cannot be assigned to a COICOP division, the comparison uses only its classified component. On the national side, we use resident consumption by division and exclude imputed rentals, as above. We focus on 2019 because it is the only year for which Statistics Iceland reports resident and non-resident consumption separately by division.

Figure 15 shows that the two compositions are similar. Eight of the twelve divisions differ by less than one percentage point. The largest differences are in food, whose share is 6.4 points higher in our measure, and housing, whose share is 6.8 points lower. Grocery purchases are particularly easy to identify in the bank data, whereas rent and utilities are often paid through transfers or direct debits that cannot always be assigned specifically to

housing. Overall, the similarity in expenditure shares provides an additional validation of the classified component of our consumption measure.

Figure 15: Composition of Consumption by COICOP Division, 2019



Notes: Shares of each side's own total, in percent. The measured side is the classified measure summed over the 67,349 clients active in at least one month of 2019. The national side is resident consumption by division, the total less spending by non-resident households, with imputed rentals for housing removed. The decomposition between residents and tourists is published for 2019 only, as experimental statistics (Statistics Iceland, 2020); that release uses preliminary figures whose total is 0.3% below the revised national accounts.

B.4 Sensitivity to the Inclusion Boundary

Some outflows cannot be classified unambiguously as consumption. To assess whether our results depend on how these transactions are treated, we construct five nested measures that progressively expand the set of included outflows. The narrowest contains only expenditure assigned to a COICOP division. Subsequent measures add generic purchase categories, unlabelled card purchases, transfers to other individuals, and unlabelled non-card outflows. Our baseline is the third measure: it includes unlabelled card purchases but excludes transfers and unlabelled deposit-account outflows, which are more likely to contain non-consumption transactions. These definitions were determined independently of their correspondence with the national benchmark.

Table 9 shows that the inclusion boundary has a substantial effect on the level of measured consumption. In 2023, coverage ranges from 14.7 % when only expenditure assigned to a COICOP division is included to 41.7 % under the broadest definition. Our baseline measure covers 22.7 % of the national benchmark, close to the approximately 23.2 % of Icelandic adults represented by active clients. This correspondence provides a useful validation of the scale of our measure.

Turning to dynamics, our baseline appears to track the national benchmark at least as well as the alternative measures. Its annual growth rates are, on average, closest to the national series. This is the more informative comparison because the annual benchmark can be restricted to resident households and adjusted to exclude imputed rents. At the quarterly frequency, the narrower measures have slightly higher correlations, but the available benchmark is less comparable because it includes non-profit institutions serving households and imputed rents. Overall, the inclusion boundary has a large effect on the level of measured consumption but a less systematic effect on its dynamics. Our baseline provides a middle ground between omitting genuine purchases and including transfers or other non-consumption outflows.

Table 9: Sensitivity to the Inclusion Boundary

	Coverage		Annual growth	Quarterly
Measure	2018	2023	deviation	correlation
Mapped to a COICOP division	15.7	14.7	5.0	0.72
+ Generic categories	18.9	18.3	6.1	0.73
+ Unlabelled card purchases (ours)	24.3	22.7	2.8	0.68
+ Transfers to other people	42.5	40.7	4.1	0.66
+ Unlabelled non-card outflows	49.8	41.7	6.6	0.57

Notes: The measures are nested, with each row adding the transactions indicated to the measure in the preceding row. The third measure is used throughout the paper. Coverage is measured in percent and equals aggregate expenditure among active person-months divided by final consumption expenditure of resident households excluding imputed rentals for housing, from Statistics Iceland table THJ02103. Annual growth deviation is the mean absolute difference, in percentage points, between the growth of each measure and the national benchmark over 2019–2023. Quarterly correlation is the correlation between quarter-on-quarter growth in each measure and private final consumption from Statistics Iceland table THJ01601 over 2018Q1–2024Q3.

C Measuring Income

We construct income from inflows into clients' accounts. Not every inflow represents income: it may instead reflect a transfer, a loan, the sale of an asset, a reversed transaction, or business activity. We therefore combine the bank's transaction labels with information about counterparties and the regularity of payments to identify income.

C.1 What Counts as Income

For every inflow, we observe its amount, date, a category label assigned by the bank, and an identifier for the counterparty. We classify an inflow as income in one of two ways. First, we include inflows whose labels directly identify them as income. These consist of salary and government benefit payments (including state pensions, disability and unemployment benefits, and housing and child benefits), as well as interest, dividends, holiday pay, rental income, board-membership income, child support, interest relief, other income, and lottery winnings.

Second, we use payment regularity to identify income that arrives without an informative label. Not all workers register their salary with the bank, and some receive income from multiple sources. As a result, salaries and other recurring income may appear only as generic transfers. We count all payments from a firm or other institutional counterparty as income if it pays the client in at least six distinct calendar months; counterparties identified as private individuals are excluded. Deposits explicitly labeled as salary account for 51 % of measured income, while recurring payments and the remaining labeled categories account for the rest.

Icelandic salaries are commonly paid near the end of one month for the month that follows. To align income with the month it covers, we assign all income receipts dated on or after the 25th to the following month. Each income month therefore runs from the 25th of the preceding month through the 24th of the current month and contains one complete pay cycle. The monthly and quarterly income series used in the paper follow this convention.

We exclude proceeds from the sale or redemption of any existing asset because we observe the amount received but not the original purchase price and therefore cannot isolate capital

gains. We also exclude all loan disbursements because borrowing does not constitute income, and generic transfers from other individuals because they may represent gifts, loans, or reimbursements.

We observe the amount deposited, which for most components is already net of tax. Wages arrive net of income tax withheld at source and of the employee's mandatory pension contribution, and often also of union dues and voluntary supplementary pension saving. Taxable transfers are withheld in the same way: state pensions and unemployment benefits arrive net of income tax, while child and housing benefits are not taxable and arrive in full. Interest and dividends arrive net of the flat capital-income tax withheld by the payer.

C.2 How the Measure Compares with Iceland

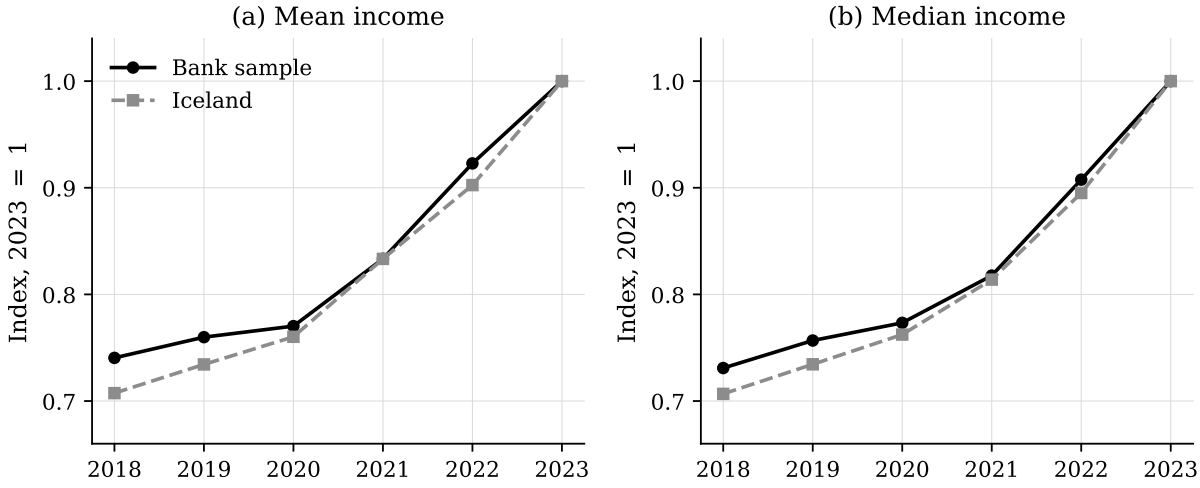
We first compare annual income in the bank data with disposable income from Statistics Iceland table TEK01001. The national measure is defined as total income less taxes and is reported for individuals with positive income. Our sample is more selected: the active-client filter requires at least EUR 500 of income in six of the preceding twelve months and a calendar-year average of at least EUR 1,000 per month. Active clients represent approximately 28 % of Icelandic income recipients, and their mean and median income are, on average, 10.2 and 6.4 % above the corresponding national figures. The measures also differ in their treatment of mandatory pension contributions. These contributions are withheld before payment and therefore do not appear in our data, whereas TEK01001 subtracts taxes but not pension contributions.

Because the levels are not directly comparable, Figure 16 indexes each series to its own 2023 value. Mean and median income in the bank sample closely track their national counterparts. Between 2018 and 2023, mean and median income in the bank data increase by 35 and 37 %, respectively, compared with 41 % for both national series.

We next compare the shape of the income distribution. Statistics Iceland table TEK01006 reports percentiles of total income before tax rather than disposable income. We convert each published percentile to an after-tax amount using the statutory income-tax schedule for the corresponding year.[42] Table 10 reports the rates, thresholds, and credits used in this

[42]For gross annual income y in year t, we compute $\tilde{y} = y - \max\{T_t(y) - C_t, 0\}$, where $T_t(y)$ applies the

Figure 16: Annual Income and the Icelandic Benchmark



Notes: Panel (a) reports mean income and panel (b) reports median income, with each series indexed to its own 2023 value. The bank sample comprises individuals who are resident throughout the year and active in at least one month, with income summed over the full calendar year. The national series is disposable income from Statistics Iceland table TEK01001, conditional on positive income.

calculation.

The conversion is necessarily approximate. It applies the ordinary wage-income schedule at every percentile, regardless of the composition of income, and does not account for individual deductions or the separate taxation of capital income. Coverage also differs: TEK01006 includes capital income and realized capital gains, whereas our measure includes identified interest and dividends but excludes proceeds from asset sales.

To remove the remaining level difference, we divide every percentile by the median of the corresponding distribution. Figure 17 reports these ratios averaged over 2018–2023. Between the twentieth and eightieth percentiles, the two distributions are nearly identical: the largest difference is 1.1 % for the ratios averaged across years and 3.5 % in any individual year. The main differences occur in the tails. Income relative to the median is 17.4 % higher at the bottom decile in our sample, consistent with an active-client filter that requires regular income and spending. The bank distribution also has a thicker upper tail: the difference is 3.6 % at the ninetieth percentile, 10.1 % at the ninety-fifth, and 31.5 % at the ninety-ninth.

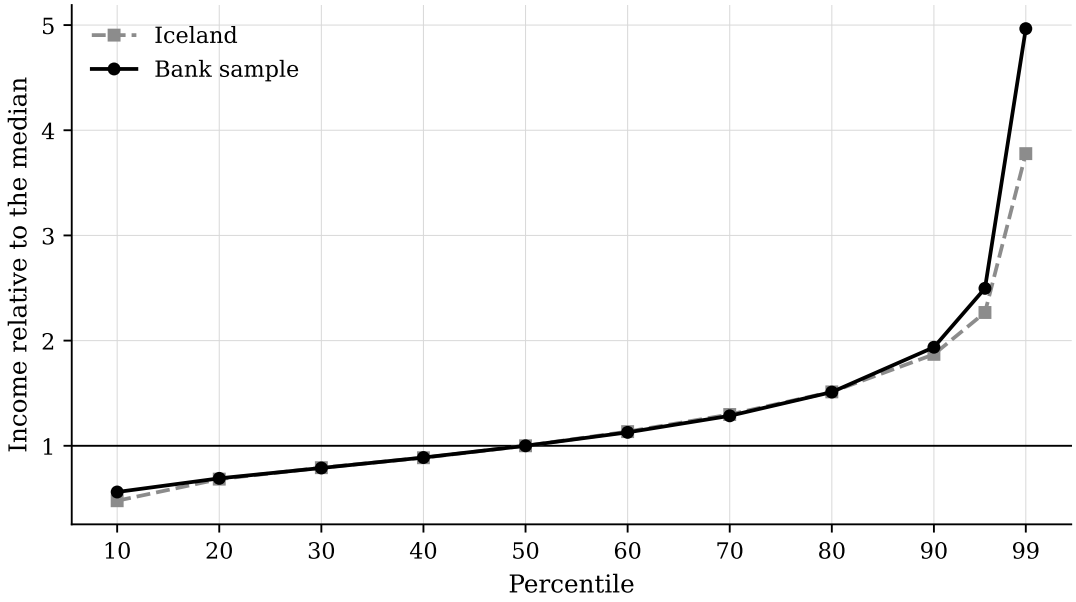
statutory marginal rates to the income falling within each bracket and C_t is the non-refundable personal tax credit.

Table 10: Statutory Income-Tax Schedule Used in the Conversion

	Marginal rate (%)			Threshold		Personal
Year	First	Second	Third	Lower	Upper	credit
2018	36.94	46.24	—	10,725	—	646.7
2019	36.94	46.24	—	11,125	—	677.4
2020	35.04	37.19	46.24	4,043	11,350	655.5
2021	31.45	37.95	46.25	4,188	11,758	609.5
2022	31.45	37.95	46.25	4,446	12,481	647.0
2023	31.45	37.95	46.25	4,920	13,812	716.0

Notes: Thresholds and personal tax credits are expressed in thousands of ISK per year. Rates combine the state income-tax rate with the average municipal rate across municipalities, approximately 14.44 %. The personal credit is non-refundable: it reduces tax owed but cannot generate a refund. Two tax brackets applied in 2018 and 2019 and three from 2020 onward.

Figure 17: Income Distribution Relative to the Median



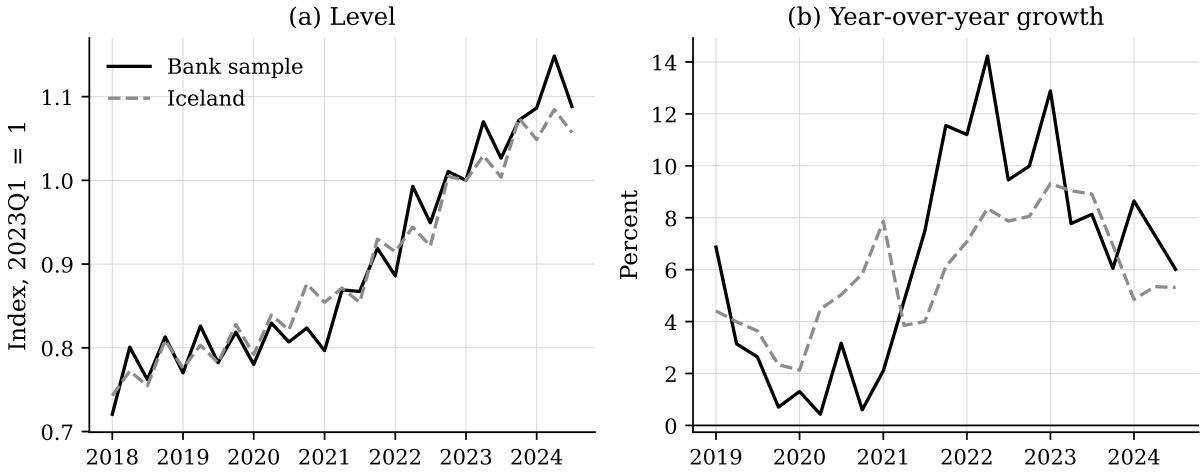
Notes: Income at each percentile is divided by the median of the same distribution. The figure reports these ratios averaged over 2018–2023. The bank distribution is untrimmed. National percentiles are from Statistics Iceland table TEK01006 and are converted from pre-tax to after-tax amounts using the statutory schedule reported in Table 10.

Finally, we evaluate income dynamics at a quarterly frequency using total taxable payments per recipient from Statistics Iceland table TEK02011. This series covers wages, pensions, unemployment benefits, and other taxable transfers. Unlike our measure, it is reported before

tax and does not have the same income coverage. We therefore use it to compare dynamics rather than levels.

Figure 18 indexes both quarterly series to 2023Q1. The series move closely together, with correlations of 0.979 in indexed levels, 0.788 in quarter-on-quarter growth, and 0.651 in year-over-year growth. For this comparison, bank income is winsorized within each quarter at the ninety-ninth percentile to limit the influence of the upper tail.

Figure 18: Quarterly Income Dynamics



Notes: Panel (a) reports quarterly income per recipient, with both series indexed to 2023Q1. Panel (b) reports year-over-year growth. Bank income follows the 25th-to-24th income-month convention described above and is winsorized within each quarter at the corresponding ninety-ninth percentile. The bank sample is fixed within each calendar year and comprises individuals who are resident throughout the year and active in at least one month. The national series is total taxable payments per recipient from Statistics Iceland table TEK02011. Because this series is measured before tax, it is used to compare income dynamics rather than levels.

Taken together, these comparisons show that the bank measure closely tracks national income growth and reproduces the shape of the income distribution. The main differences are concentrated at the bottom, where the active-client requirements impose selection, and at the top, where the bank sample has a thicker income tail.

D Deposit Products and Account Classification

Measuring portfolio allocation requires assigning each account to an economically meaningful category. The distinctions that matter for our classification are whether balances in the

account can be spent directly at the point of sale with a debit card or withdrawn as cash at an ATM, whether the account can be overdrawn, whether withdrawals are subject to a notice period or a fixed term, whether balances are indexed to the consumer price index, and the currency in which they are denominated. Together these separate checking accounts from savings accounts, on-demand deposits from restricted ones, domestic and foreign currency accounts, and indexed from non-indexed products. The bank records identify accounts only by a product-specific name which does not captures these characteristics. We combine these administrative labels with detailed information about each product to construct the classification used throughout the paper, covering every account held by the bank's individual customers between January 2016 and September 2024.

We assign each account to a single category using the product names recorded for it. To establish what each product is, we draw on the descriptions supplied with the data, the terms and conditions of individual products as described in current and archived versions of the bank's website, and the bank's published rate schedule. Icelandic banks publish the posted rate on every deposit product in a single dated table, reissued whenever any rate changes, and these tables often record a product's notice period, minimum balance, or eligibility condition alongside its rate. Together the sources describe how an account is opened, the rules governing deposits and withdrawals, the channels through which balances can be moved, and how interest is credited. Positions held through the affiliated broker, reported as end-of-month holdings, already carry an asset type and are grouped directly into investment funds, stocks, bonds, and other securities.

The resulting categories are checking accounts, savings accounts, time deposits and other restricted accounts, foreign-currency accounts, and credit-card balances. We divide restricted accounts into non-indexed time deposits, indexed time deposits, and longer-horizon products such as pension and housing-savings accounts. Accounts denominated in a currency other than the króna are classified as foreign-currency accounts whatever their underlying product type. In a few cases, credit-card balances are positive which represent prepaid account or excess payments, and therefore we count them as assets; overdrafts and card debt are recorded separately as liabilities. Products outside these categories enter a residual category, retained

in deposit totals but not analysed separately.[43]

The following subsections document what a customer can do with each category, describes the liquid fund product offered by the broker, discuss comparable products at other large Icelandic banks and compares the resulting deposit aggregates with national household deposits.

D.1 Access to Deposit Balances

The categories differ in how their balances can be spent and acceded. Checking accounts hold transaction balances that can be used directly at the point of sale with a debit card, and may carry an overdraft line, savings accounts hold balances that can be moved instantly at no cost but have no debit card nor overdraft facility, and restricted accounts limit withdrawal by a notice period, a fixed maturity, or a condition attached to the purpose of the account.

Checking accounts can be linked to a debit card and, subject to a credit assessment, to an overdraft facility—a pre-agreed limit up to which the balance may go negative, charged interest at the bank's posted overdraft rate. Savings accounts offer neither. In other respects the two are close. Moving money between them takes a few taps in the mobile application or a single instruction in online banking; the transfer is free and settles instantly, so the funds are immediately available to spend from checking. Since April 2022 cash can also be withdrawn from any account at the bank's automated teller machines by authenticating with an electronic credential rather than a card. Before that date, drawing cash against a savings balance meant first transferring it to checking, which was free and immediate.

Digitally initiated transfers are free and reach the recipient immediately, whether the recipient banks at the same institution or elsewhere. Iceland has operated a retail fast-payment system since 2003, among the first in the world (Bech et al., 2017): retail transfers settle in real time around the clock, while amounts above ISK 10 million are routed through the real-time gross settlement system, which is open during banking hours (Kristinsson, 2024; Central Bank of Iceland, 2020). Reallocating between checking and savings is therefore

[43]The residual accounts for 1.45% of deposits, pooled over 2017–2024 in the panel of active clients. It consists mainly of custody accounts, accounts tied to legal collection, and special-terms accounts whose conditions we could not establish.

instantaneous and free.

Deposits are protected by a statutory guarantee scheme administered by the Depositors' and Investors' Guarantee Fund under Act nr. 98/1999, membership of which is compulsory for commercial banks, savings banks and other credit institutions. The Act protects deposits by balance rather than by product. Checking and savings balances therefore carry identical protection. Since September 2020 the guarantee has been capped at the ISK equivalent of EUR 100,000 per depositor per institution; before that the Act provided for repayment in full, limited to the assets of the fund, with each depositor's claim met in full up to a priority amount in the event of a shortfall (Althingi, 1999, 2020).

Restricted deposits differ because access to principal is limited by contract. A non-indexed time deposit fixes the balance for a term chosen when the account is opened, of one, three, six or twelve months, during which the principal cannot be withdrawn and the account can be neither amended nor terminated. Indexed deposits were subject to a regulatory minimum for most of the sample: Central Bank rules permitted indexation to the consumer price index only where each deposit was bound for at least 36 months (Central Bank of Iceland, 2001, 2018b). That requirement lapsed on 1 June 2023 (Central Bank of Iceland, 2023), and the bank introduced a consumer-price-indexed account with a ninety-day withdrawal notice on the same day. No indexed account was available on demand at any point in our sample. The longer-horizon products are pension and housing-savings accounts, whose withdrawals are tied to a purpose or an eligibility condition, and a future-savings account for minors whose deposits, interest and indexation are bound until the owner turns 18. A bound deposit account cannot be terminated before its binding period has elapsed.

D.2 The Affiliated Liquid Fund

The liquid fund is managed by the bank's asset-management arm and held through the affiliated broker. Its mandate is to hold between 40 and 100 percent of the portfolio in deposits at credit institutions, with the remainder in bills and short-term bonds issued or guaranteed by the government or by financial institutions; in practice its largest exposures are to the three large commercial banks and the Treasury. The portfolio carries no inflation indexation, and its assets have an average life of two to four months. On the standardised

seven-point scale used to classify funds by volatility, it sits in the lowest band.

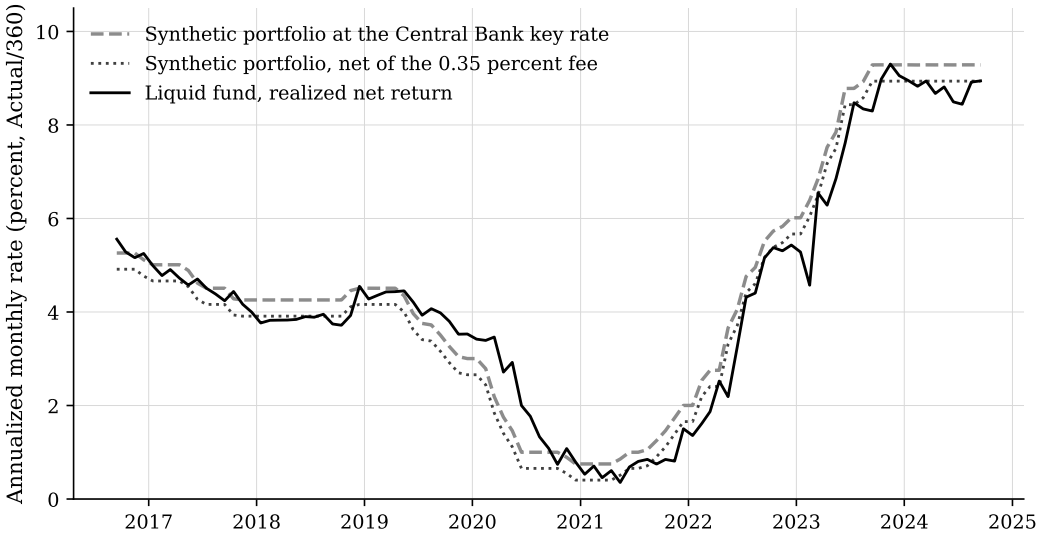
The fund can be purchased and redeemed through the bank's own channels. The minimum purchase is ISK 10,000, about EUR 65, purchases and redemptions carry no cost, and redemption proceeds reach the customer's bank account on the following business day. Investors pay an annual management fee of 0.35 percent. Fund shares are not covered by deposit insurance, and balances cannot be used directly for payments: they become available only after redemption.

The fund's composition and its realized performance both support treating it as a liquid, short-term, safe asset. Its own stated benchmark is the Central Bank's key rate. Figure 19 compares its net return, computed from the published daily unit price, with the return on a synthetic portfolio that accrues at the Central Bank's key interest rate. The two track each other closely, with a correlation of 0.98. Over our sample the fund returned 4.44 percent a year against 4.68 percent for the synthetic portfolio. When the key rate is stable, as in 2018 and from late 2023, the fund pays the key rate less its fee. When the key rate changes, the fund follows with a lag of one to two months, because it holds term deposits and bills that reprice as they mature: it returned more than the net-of-fee portfolio while rates fell in 2019 and 2020, and less while they rose in 2022 and 2023. In no month did its unit price fall: across 97 months the smallest monthly return was 0.03 percent and the largest 0.78 percent. The fund is therefore a nominal, short-duration store of value whose return tracks the policy rate net of a small fee and whose monthly return was never negative, distinguished from a deposit by the absence of insurance and by a one-day delay in converting it into spendable balances.

D.3 Deposit Products at Other Icelandic Banks

The menu described above is not specific to one institution. Iceland's three large commercial banks—Arion banki, Íslandsbanki and Landsbankinn—together hold about 95 % of banking assets (International Monetary Fund, 2023a), and their retail deposit menus are closely similar: checking accounts, savings accounts, and deposits subject to a notice period or a fixed maturity. Two of the three added a digitally managed savings account around 2020. At all three, savings accounts are free to hold and free to use: there is no account-maintenance

Figure 19: The Liquid Fund Return and the Central Bank Key Rate



Notes: Monthly returns, annualized, on the liquid fund and on a synthetic portfolio accruing daily at the Central Bank's key interest rate, before and after deducting the fund's management fee of 0.35 percent a year, September 2016 to September 2024. The fund series is computed from its published daily unit price, which is net of the management fee and of the fund's other operating costs. The price published for a business day includes the interest accrued until the next business day, and month-end values are dated accordingly. All series are annualized by multiplying the monthly change by 360 over the number of days in the month.

fee, no charge for access to online banking, and no fee on transfers made there.

More importantly, Figure 20 plots posted savings rates at the three banks against the Central Bank key rate. Rates are similar across banks, and the accounts paying them are available to every customer.

D.4 Comparison with National Household Deposits

We compare the classified balances with the Central Bank of Iceland's monthly series on deposits held by resident households at all deposit-taking institutions (Central Bank of Iceland, 2026). The household sector is S.14: it includes sole proprietors operating under personal identification numbers and excludes non-residents and non-profit institutions serving households. The Central Bank measures end-of-month positions including accrued interest and indexation; on the bank side we use end-of-month balances.

Taken across all of the bank's clients, its personal deposit book is between 27.0 and 32.1 percent of national household deposits. Active clients hold 46 to 57 percent of that book, 53

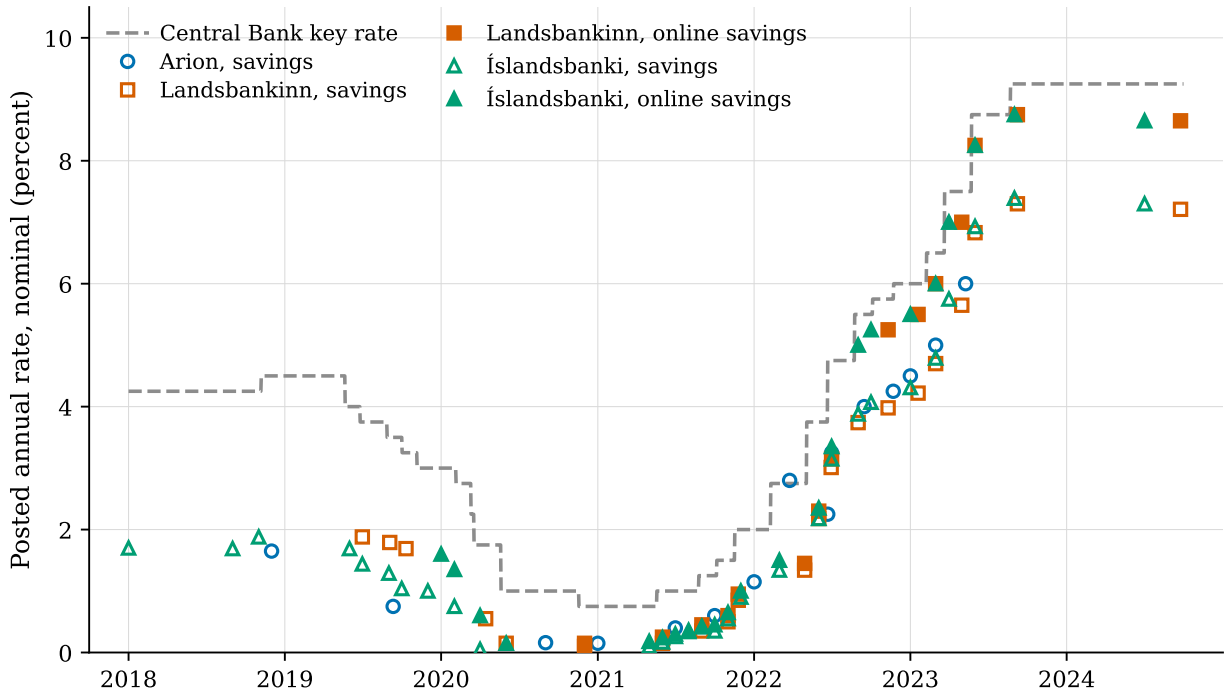


Figure 20: Posted savings rates at Iceland's three large banks

Notes: Posted nominal rates on savings accounts at each of the three large banks constructed from public interest rates tables; the dashed grey line is the Central Bank of Iceland key rate. Hollow markers are the standard savings account, solid markers the account introduced around 2020 and managed online.

percent on average, so the balances we study amount to 15.9 percent of national household deposits.

Growth comparisons use a rolling balanced panel of active clients—those active in both month t and month $t-12$—which prevents entry into and exit from the active sample from being recorded as deposit growth. The panel holds 52,000 to 63,000 clients, with year-over-year retention of about 92 percent. The two sides are measured on different margins: the panel follows the same individuals for twelve months, whereas the national aggregate also reflects new depositors.

Table 11 maps each category to its national counterpart and reports composition shares and correlations of quarterly year-over-year growth, for the balanced active panel and for all bank clients. Co-movement is strong in most categories: 0.95 for checking, 0.82 for savings, 0.97 for indexed time deposits, 0.93 for foreign currency, and 0.88 for checking plus savings (Figure 21). The correlations for the active sample are close to those for all bank clients

throughout, so the active sample tracks the national series about as well as the whole bank does.

Table 11: Deposit categories at the bank and in national household deposits

		Share of deposits (%)		Corr. of growth	
Bank category	National counterpart	Bank	Iceland	Active	All clients
Checking	Current accounts	17.4	16.3	0.95	0.98
Savings	Sight deposits	51.9	41.9	0.82	0.85
Time deposits, non-indexed	Other term deposits	5.3	16.0	0.59	0.56
Time deposits, indexed	Indexed deposits	4.5	9.6	0.97	0.93
Other restricted	Holiday pay + suppl. pension	16.0	16.2	0.83	0.83
Foreign currency	Foreign-currency deposits	3.4	3.8	0.93	0.96
Checking + savings	Current + sight	69.3	58.1	0.88	0.87
Total	Household deposits	100.0	100.0	0.64	0.61

Notes: Correlations of quarterly year-over-year growth, 2017Q1–2024Q3. "Active" uses the balanced panel of clients active in both t and $t-12$; "All clients" uses the bank's full personal book. Shares are pooled over 2017Q1–2024Q3; bank shares are percentages of total deposits. The national foreign-currency series is cross-cutting: its balances also appear within the account-type categories. The Central Bank reports foreign currency as a separate cut of balances that are already counted by account type, so its five account-type rows sum to 100 percent on their own and the foreign-currency row counts some of them again. Our classification of accounts at the bank, by contrast, is mutually exclusive: a foreign-currency account is counted only as foreign currency.

E Monetary Policy Surprises

This appendix documents the monetary policy surprises used in Section 3.1 to instrument changes in the key rate. It describes how the surprises are constructed from commercial banks' published forecasts of the Central Bank's decisions, examines their validity as an instrument, and shows the responses in aggregate variables.

E.1 Construction

The standard modern approach to identifying monetary policy surprises relies on the change in the price of interest rate futures in a narrow window around the policy announcement (Nakamura and Steinsson, 2018). Iceland has no liquid market for such contracts. We rely instead on an institutional feature: before each meeting of the Central Bank's Monetary Policy Committee, the research departments of the country's commercial banks publish a

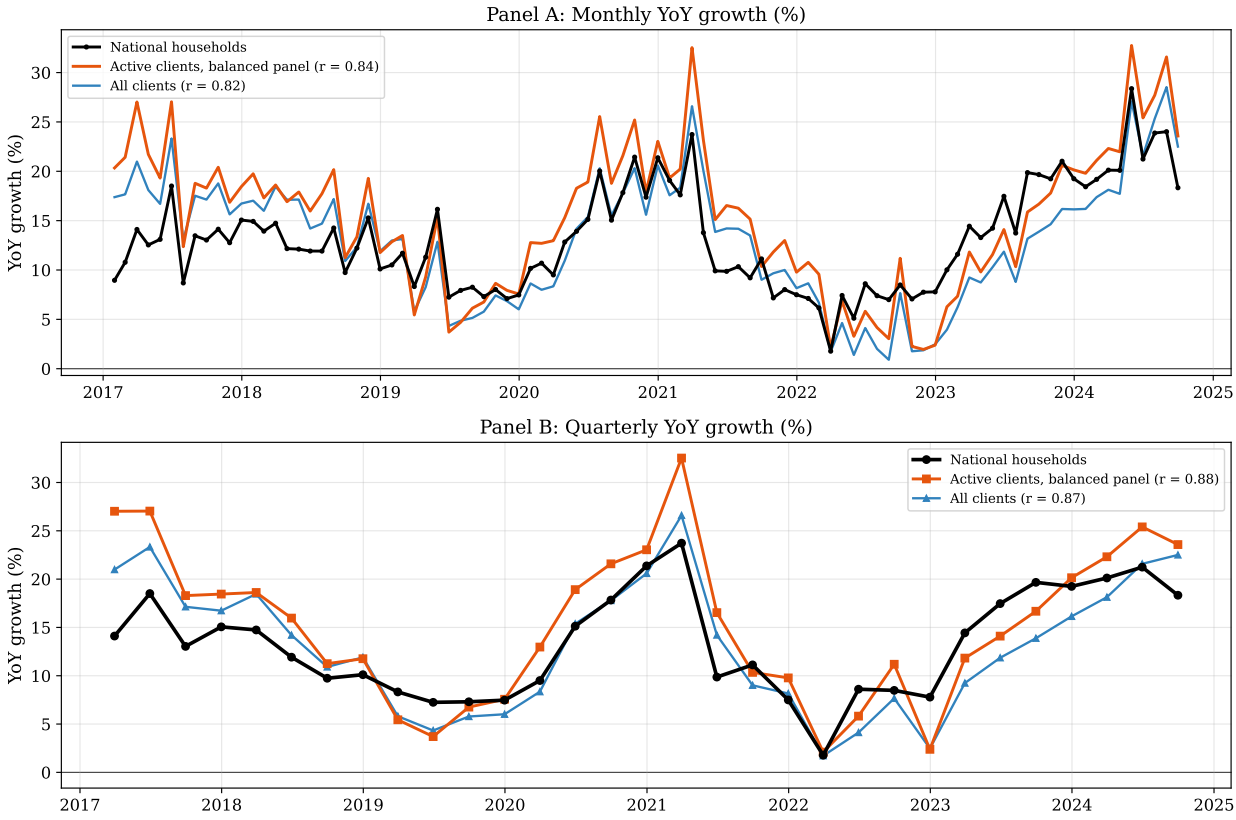


Figure 21: Checking plus savings: growth at the bank and nationally

Notes: Year-over-year growth of checking plus savings deposits at the bank, against current plus sight deposits of resident households at all deposit-taking institutions (Central Bank of Iceland). "Active clients" is the balanced panel of clients active in both month t and month $t-12$; "all clients" is the bank's full personal book. Panel A reports monthly year-over-year growth, Panel B the same growth rate at end-of-quarter months. Correlations with the national series are shown in the legend of each panel.

note stating the decision they expect. The three largest banks, Íslandsbanki, Arion banki, and Landsbankinn, have done so at nearly every meeting since 2010; the notes appear on the banks' websites, typically five to seven days before the decision, and are reported in the business press. Each note states the expected change in the key rate, which we record as a forecast of the change in percentage points, using the last note each bank published before the meeting.

The Monetary Policy Committee announces its decisions on scheduled Wednesdays, eight times a year through 2019 and six times a year since 2020. Our data cover the 108 decisions from November 2010 to May 2025. We have forecasts from Íslandsbanki for 98 of these decisions, from Arion banki for 92, and from Landsbankinn for 106, and from at least one of

the three for every scheduled meeting. We define the surprise at meeting τ as the difference between the change in the key rate decided by the committee and the median of the three banks' forecasts,

$$u_\tau = \Delta r_\tau - \text{median}_b \, \widehat{\Delta r}_\tau^{\,b}, \tag{11}$$

where the median is taken over the banks for which we have a forecast for that meeting. Since the paper's panel is monthly, the monthly shock is the sum of the surprises at the meetings held in the month; March 2020 is the only month with two meetings.

On 11 March 2020, the committee brought forward by one week the decision scheduled for 18 March, announcing the new date one day in advance, and cut the key rate by half a point; on 18 March it met again in an emergency session and cut by a further half point. No bank published a forecast for either decision. We treat both cuts as fully unanticipated, so that the surprise equals the change, and we report throughout the paper how the estimates change when the two meetings are excluded.

Figure 22 shows the decisions, the forecasts, and the resulting surprises. Forecasts track decisions closely. The median forecast is exactly right at 70 of the 106 scheduled meetings, and the three banks published the same forecast at 56 of the 85 meetings at which all three published.

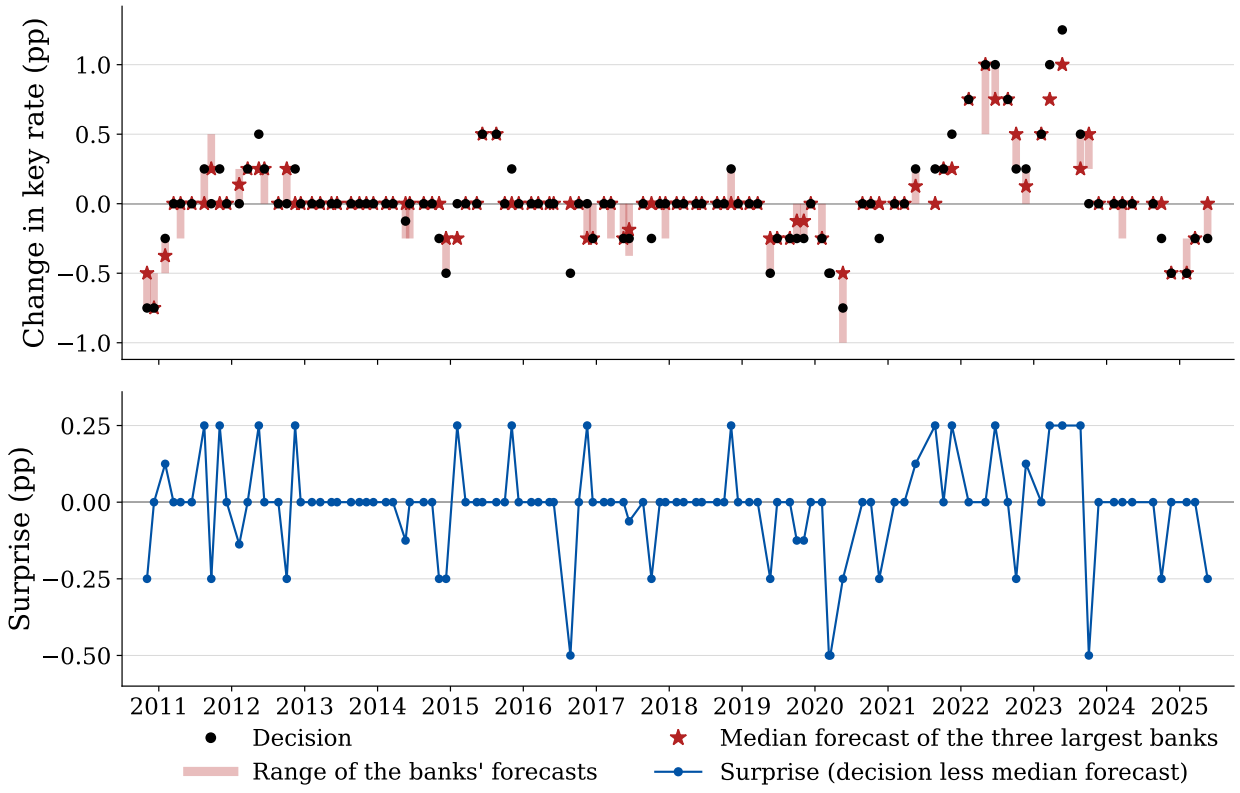
E.2 Aggregate Responses

This subsection documents the aggregate behavior of the surprises: how the key rate, prices, unemployment, and the exchange rate move in the months after one. We use local projections (Jordà, 2005) in which the key rate is instrumented by the surprise:

$$y_{t+h} = \alpha_h + \beta_h \, r_t + \sum_{\ell=1}^{7} \delta'_{h,\ell} w_{t-\ell} + \varepsilon_{h,t}, \qquad h = 0, \ldots, 36, \tag{12}$$

where y_{t+h} is the variable of interest h months after the surprise, r_t is the key rate, instrumented by the monthly surprise u_t, and w_t collects the key rate, the surprise, and the other variables under study. The coefficient β_h is the response of y to a surprise that raises the key rate by one percentage point on impact. We use monthly data from November 2010 to May 2025 on

Figure 22: Central Bank Decisions, Bank Forecasts, and Monetary Policy Surprises



Notes: One observation per rate decision of the Central Bank of Iceland's Monetary Policy Committee, November 2010 to May 2025 (108 meetings). Top panel: the decided change in the key rate (black dots), the median of the forecasts of the change published before the meeting by the three largest banks (red stars), and the range of those forecasts (red bands). Bottom panel: the monetary policy surprise, defined as the decision less the median forecast. No forecast was published for the two unscheduled meetings of March 2020, whose half-point cuts are treated as fully unanticipated. Decisions and forecasts are in percentage points.

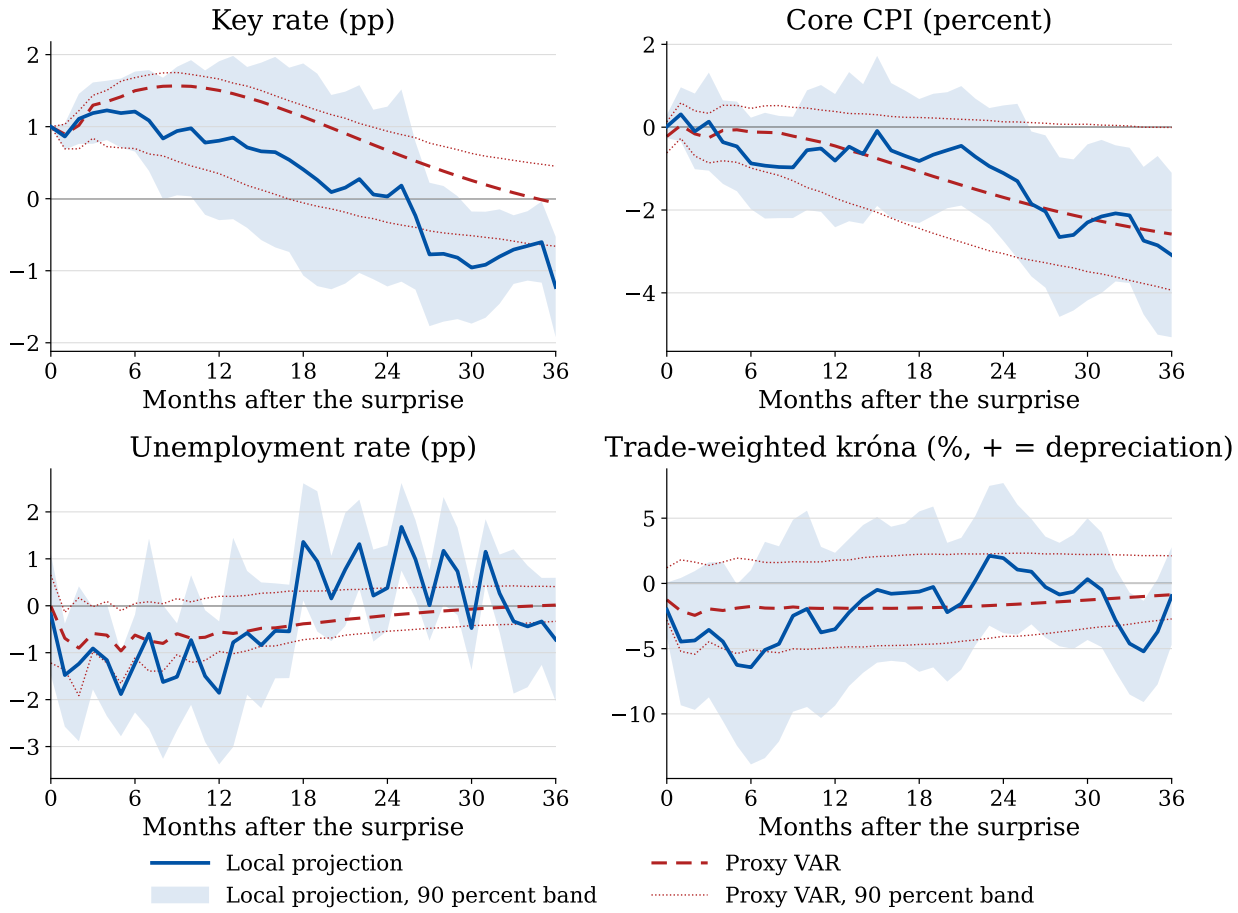
the key rate, the log of the consumer price index excluding housing, the seasonally adjusted unemployment rate, and the log of the trade-weighted exchange rate, defined so that an increase is a depreciation.[44]

Figure 23 presents the responses over a 36-month horizon, together with those from the vector autoregression. The surprises are a strong instrument, with a first-stage t statistic of

[44]Sources: Central Bank of Iceland via the BIS (key rate and effective exchange rate) and Statistics Iceland (prices and unemployment). The monthly surprise is the sum of the surprises at the meetings held in the month, and zero in months without a meeting. The controls include one lag more than the six used in the vector autoregression, so that heteroskedasticity-robust standard errors are valid (Montiel Olea and Plagborg-Møller, 2021). As a complement, we estimate a six-lag vector autoregression in the four variables identified with the surprise as an external instrument (Gertler and Karadi, 2015), with bootstrap confidence bands.

7.9, and the key rate they move stays above its initial level for about a year. Core prices fall gradually, by 2 to 3 percent after three years, as in similar economies (see Holm et al., 2021), and the króna appreciates, as in the Central Bank's own estimates for Iceland (Pétursson, 2023). The unemployment rate, however, moves in the opposite direction to the textbook response, although the estimate is imprecise. More generally, the sample is short and the surprises small, 37 months with a nonzero surprise, most of a quarter of a point, so the responses beyond the first stage are imprecisely estimated.

Figure 23: Responses of Aggregate Variables to a Monetary Policy Surprise



Notes: Responses to a monetary policy surprise that raises the key rate by one percentage point on impact, over 36 months, from monthly data for November 2010 to May 2025. Solid lines: local projections, equation (12), in which the key rate is instrumented by the surprise, with seven lags of the four variables and of the surprise as controls; shaded areas are 90 percent confidence bands based on heteroskedasticity-robust standard errors. Dashed lines: a six-lag vector autoregression in the four variables, identified with the surprise as an external instrument; dotted lines are 90 percent confidence bands from a moving-block bootstrap. Core CPI is the consumer price index excluding housing. The exchange rate is the trade-weighted nominal effective rate, so a positive response is a depreciation of the króna.

E.3 Predictability

We follow Ramey (2016) and Bauer and Swanson (2023) and check whether the surprise is predictable from information available before each meeting. We regress the surprise at each scheduled meeting on its own two lags, that is, the surprises at the previous two meetings, and on three blocks of variables: core inflation and employment growth over the previous twelve months; the three-month changes in the Icelandic stock market index, the aluminium price, the króna–euro rate and the euro three-month rate, and the level of the VIX; and the previous decision, the level of the key rate, and its change over the previous twelve months, which test whether the banks systematically under- or over-predict the committee during a cycle. Each variable is measured with the latest value available one week before the meeting, when the banks typically publish their notes, allowing for publication lags.[45]

Table 12 reports the results. The surprise shows no significant serial correlation on its own, but it is predictable: employment growth enters positively, and with the macro variables held fixed the own lags enter negatively; the joint test rejects at any conventional level, with an R^2 of 0.15 in the third column. The committee has tightened by more than the banks expected when employment had been growing, the pattern Bauer and Swanson (2023) document for the Federal Reserve, where the R^2 of the corresponding regressions ranges from 0.10 to 0.40. The result is robust to measuring every predictor one month earlier, though the predictabe stock market rather than employment.

Predictability from public information does not by itself invalidate the surprise as an instrument, which requires only that it be unrelated to the unobserved determinants of the outcome; it does indicate that the surprise partly reflects the committee's response to information the banks had not incorporated. As a check, we have repeated the estimates with an alternative instrument, the residual from the regression in the third column, estimated for each meeting on the other meetings so that no meeting's own surprise enters its fitted value. The two instruments are correlated 0.92, and the results are qualitatively unchanged.

[45] Monthly series enter with the latest month completed before that date, and employment one month further back, as Statistics Iceland publishes the labour force survey about one month after the reference month; the VIX enters with its last daily value before that date. The two unscheduled March 2020 meetings, for which no forecast exists, are excluded and are not used as lags. Standard errors are Newey–West with two lags; adding a third and a fourth own lag changes nothing.

Table 12: Predictability of the Monetary Policy Surprise

	(1)	(2)	(3)	(4)
Surprise, previous meeting	−0.091	−0.153	−0.154	−0.309
	(−1.01)	(−1.88)	(−1.71)	(−2.32)
Surprise, two meetings before	−0.119	−0.204	−0.204	−0.255
	(−1.33)	(−2.40)	(−2.48)	(−3.22)
Core inflation, 12 months (pp)		0.010	0.005	0.009
		(1.80)	(0.85)	(1.40)
Employment growth, 12 months (pp)		0.012	0.013	0.015
		(2.98)	(3.02)	(2.66)
Stock market, 3-month return (pp)			0.002	0.002
			(1.03)	(0.80)
Aluminium price, 3-month change (pp)			0.001	0.000
			(0.52)	(0.20)
ISK/EUR, 3-month change (pp)			−0.001	−0.001
			(−0.41)	(−0.29)
Euro 3-month rate, 3-month change (pp)			0.056	0.028
			(0.96)	(0.56)
VIX (level)			0.004	0.001
			(1.80)	(0.24)
Previous decision (pp)				0.148
				(1.52)
Key rate before the meeting (pp)				−0.011
				(−1.33)
Change in key rate, previous 12 months (pp)				−0.018
				(−1.39)
p-values of block tests				
Own lags	0.332	0.019	0.016	0.004
Macro		0.007	0.012	0.031
Financial			0.310	0.957
Policy cycle				0.180
All regressors	0.332	0.003	< 0.001	< 0.001
R^2	0.020	0.105	0.148	0.205
adj. R^2	0.001	0.069	0.067	0.101
Meetings	104	104	104	104

Notes: The dependent variable is the surprise at each scheduled meeting of the Monetary Policy Committee, in percentage points, February 2011 to May 2025 (104 meetings; the first two meetings of the sample have no second lag). Each column adds a block of regressors to the previous one. Regressors are measured with the latest value available one week before the meeting: monthly series with the latest month completed before that date, employment one month further back, the VIX with its last daily value. Newey–West t statistics with two lags in parentheses. The block tests are Wald tests of the joint significance of each block, on the same covariance matrix; the last row tests all regressors jointly.

F Responses to Income Fluctuations

This appendix documents the two cash-flow events of Section 3.1: the institutions, the data, the samples, and the robustness of the estimates in Figure 4. It also defines the response per log point of wealth quoted in the text.

F.1 The May Vacation-Pay Release

The Holiday Allowance Act (No. 30/1987) entitles every wage earner to a holiday allowance of at least 10.17 percent of wages, accrued at each wage payment over a holiday year that runs from May 1 to April 30. The Act allows three ways of paying it: on the last workday before the employee's holiday, together with the monthly salary where a majority of the employees agree to it, or, under collective agreements, by regular deposits into a holiday-allowance account in the employee's name at a bank, which pays out the balance with interest at the start of the holiday. Banks offer accounts for this purpose; at the bank the balance is bound until May 10 and paid automatically on May 11 to the account the employee has designated, and early withdrawals are possible only by exception. We observe only payments from such accounts. Not all of the allowance goes into the account. Workers paid by the hour have the allowance on all their wages deposited. Salaried workers instead receive their regular salary while on holiday, so for them only the allowance on overtime and shift premia is deposited. This is why, for most recipients, the May payment is a small fraction of annual income rather than 10.17 percent of it.

We identify holiday payments using a bank-specific transaction code. In May of 2018–2023, 32 percent of active clients receive such a payment (124,596 of 391,026 client-months), from a fifth in 2019–2020 to two fifths in 2021–2023. Table 13 describes the payment, in nominal krónur. The median is ISK 106 thousand (about 700 euros), and the distribution is wide: a tenth of payments are below 7 thousand and a tenth above 545 thousand. The income denominators are our income measure of Section 2, labor income and benefits net of tax, so the ratios are payment over recorded income rather than over wages. The median payment is 27 percent of one month's income and 2.1 percent of income over the previous year; a

tenth of recipients receive more than 12 percent of their annual income. Relative to balances, the median payment is 84 percent of the April checking balance and 17 percent of April net liquid wealth.

Table 13: The May Vacation-Pay Release: Size of the Payment

	p10	p25	Median	Mean	p75	p90
Payment, ISK thousand	7	31	106	210	260	545
Percent of one month's income (February–April average)	1.7	8.0	27.2	49.8	65.9	144.8
Percent of income over the previous twelve months	0.1	0.6	2.1	3.9	5.0	11.6
Percent of the April checking balance	3.3	16.9	84.4	524.1	364.6	1,168.1
Percent of April net liquid wealth	0.6	3.3	17.0	135.2	84.6	331.3

Notes: Distribution across the 81,401 recipient-years of Figure 4 (2018–2023), in nominal krónur. One month's income is the average monthly income over February–April. Income over the previous twelve months is the sum from May of the previous year to April, for the 62,550 recipient-years with all twelve months observed. Balances are April averages of daily balances.

Recipient-years qualify if the client has positive net liquid wealth and a defined checking share in April, and is observed in at least three months between November and April with positive average net liquid wealth over those months. This average defines baseline wealth, and we assign qualifying recipients to its quintiles separately by year. We then balance the panel within each year: a recipient-year is dropped if the client is inactive, or has non-positive net liquid wealth, in any month of that calendar year. Each remaining recipient-year is observed in all twelve months, so the same clients are behind every point in the figure. The balanced sample contains 81,401 recipient-years.

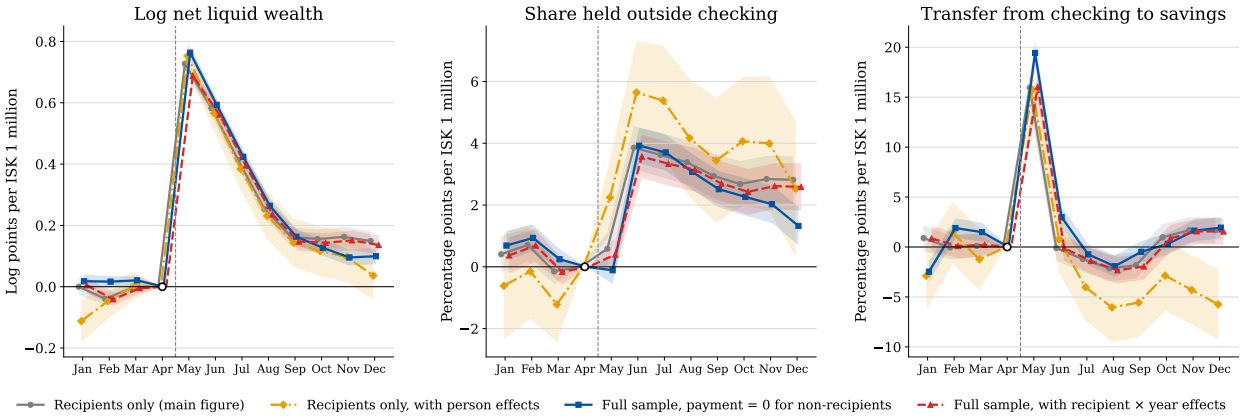
Payments are winsorized at the 2.5th and 97.5th percentiles, and changes in log wealth since April at the 1st and 99th percentiles within each month. The share and the transfer indicator are not winsorized. We estimate each month's payment slope within year $\times$ baseline-wealth-quintile cells. For the joint tests and the simultaneous confidence bands, we obtain the covariance across monthly slopes from a stacked regression with payment $\times$ month interactions, clustering by client.

Robustness. Figure 24 overlays the main estimates with three alternatives. First, adding person fixed effects to the cells identifies the slope from years in which the same client

received more or less than usual; clients with a single recipient-year drop out, leaving 70,183 recipient-years for 21,025 clients, and standard errors are two to three times larger. The arrival responses are unchanged, wealth +0.75 log points in May and the transfer probability +15.7 points, and the share response in June is larger, +5.6 points. The persistence is weaker within person: the wealth increment is gone by December and the share is 2.5 points higher with a standard error of 1.1. The January wealth lead grows to −0.11 log points, so person effects do not remove the correlation between the payment and the earnings year. Within person, the transfer probability is 4 to 6 points below its April level from July to December, which suggests that part of the May transfer is a transfer the client would otherwise have made later in the year. Second, we add the 171,279 non-recipient client-years that satisfy the same sample rules, with a payment of zero, so that the slope is identified partly from the comparison of recipients with non-recipients, as Brunnermeier and Nagel (2008) treat inheritances. The wealth and share responses are similar and the transfer response on arrival larger (+19.4 points), but the transfer leads, which are clean among recipients, now reject (−2.5 points in January), because non-recipients differ from recipients in ways unrelated to the payment. Third, we add to that regression a dummy for being a recipient in a given year. It absorbs the average difference between recipients and non-recipients, so the slope is again identified only by differences in the amount received among recipients, as in the main figure, and the estimates return close to the main ones: +0.69 log points and +16.0 points in May, +3.6 points in June, and a share 2.6 points higher in December.

The response per log point of wealth. The 13 percentage points quoted in the text is the ratio of the share response to the wealth response three months after the release, in August, both slopes on the payment within cells: the checking share is 13.4 points lower (standard error 1.4) per log point of wealth received and still held, with an Anderson–Rubin 95 percent confidence set of $[-16.3, -10.6]$. The ratio is a scaling of two reduced forms rather than a causal effect of wealth on the allocation; it asks how much of the money that is still held has been moved. It rises with the horizon, because the share response persists while the wealth increment decays: at six months it is −17.5 (2.4), with a confidence set of $[-22.7, -13.1]$. The ordinary least squares regression of the share change on the log-wealth

Figure 24: The May Release: Alternative Specifications



Notes: Slopes on the May payment, per ISK 1 million in nominal krónur, of the change in each outcome since April (hollow marker). Grey: the main estimates of Figure 4, within year × wealth-quintile cells among recipients. Orange: the same cells plus person fixed effects, on the 70,183 recipient-years of clients with at least two recipient-years. Blue: the full sample of active clients, recipients and non-recipients, with the payment set to zero for non-recipients and cells cut over all clients (252,680 client-years). Red: the full sample with recipient × year effects added. Bands are pointwise 95 percent confidence intervals; standard errors are clustered by client.

change in the same sample gives −7.8 at three months, close to the within-person coefficient of Table 4. With person fixed effects the three-month ratio is −18.0 (4.2).

F.2 Job Loss

The bank labels unemployment-benefit payments from January 2019 onward. We group consecutive months with a payment into spells, treating a gap of more than three months as the end of a spell. From 2019 on, we observe 37,999 spells for 26,555 clients.

Not every spell is a job loss. We keep a spell only if three conditions hold. First, the client had a regular income before the spell: the median of her monthly income over the previous twelve months, observed in at least eight of them, is at least ISK 150 thousand. Second, the first benefit payment is at least ISK 50 thousand. Third, the loss of income is sustained: in at least two of the three months after the first payment, the client still receives benefits and her income excluding benefits is below half of her previous regular income. We keep the first such spell of each client. Of the 37,999 spells, 8,057 meet the three conditions, and 7,026 are a client's first. Because labels start in January 2019, we cannot tell whether a spell observed

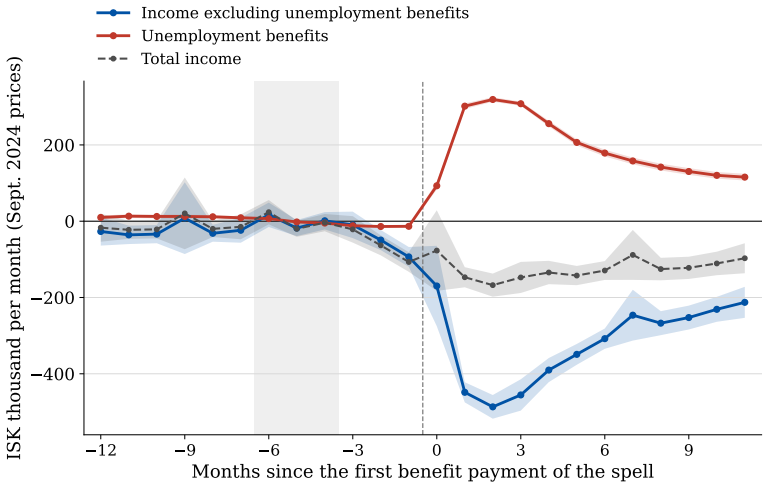
in the first three months of 2019 began earlier, so we use spells starting in April 2019 or later. Entries in 2020, mostly mass layoffs caused by the pandemic, are excluded from the main estimates. Including them changes the estimates little, as shown below. These two date restrictions leave 3,480 job losers. The balanced sample keeps the job losers with positive net liquid wealth in every month from -12 to $+12$, 1,237 of the 3,480.

The comparison group is drawn each entry month: up to 4,000 clients with a regular income above ISK 150 thousand and no benefit payment in that month, dropped from the comparison if they later enter a spell themselves. Job losers and controls are grouped into cells by entry month and quintile of baseline net liquid wealth, the mean over months -6 to -4. Within cells, baseline wealth is closely matched, but job losers hold 6 percentage points less outside checking. The estimates compare changes from the baseline, not levels; over months -12 to -7 the two groups show no differential trend in any of the three outcomes (joint tests, $p = 0.16$, 0.39 and 0.73).

Earnings start falling before benefits start. Income falls from month -3, and wealth is already 0.12 log points lower in month -1; this is why the baseline ends in month -4. Two things may explain the lag: the first benefit payment arrives with some delay after the last wage, and earnings may already be falling before the job ends, for instance through reduced hours or part-time work. Figure 25 decomposes the income path. Over months 0 to 11, income excluding benefits is ISK 318 thousand per month lower than for the controls and benefits are 194 thousand higher, a replacement rate of 61 percent; total income is 124 thousand lower.

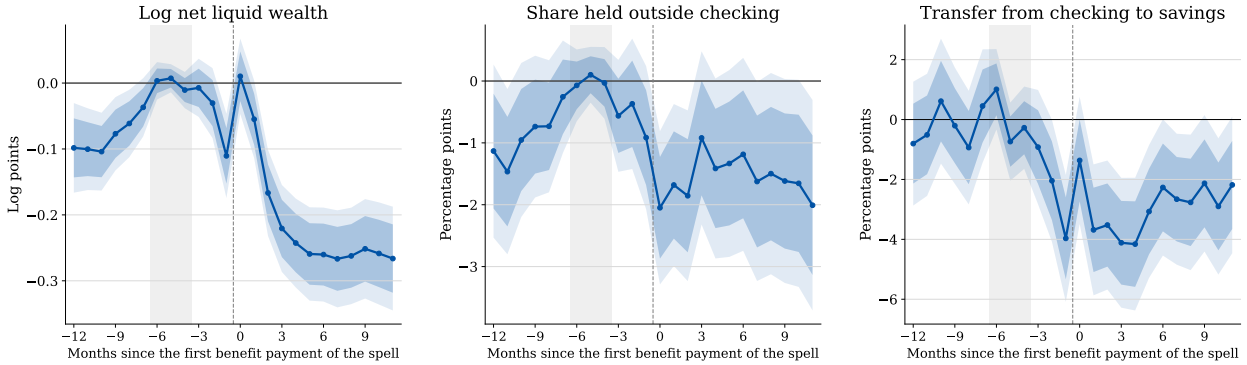
Figure 26 adds the 2020 entries, which more than double the sample (2,691 job losers, 1,454 of them in 2020). The responses are similar, -0.21 log points, -1.6 points and -2.9 points over the first year. The pre-event path is somewhat less clean, however: with the 2020 entries, wealth is already 0.08 log points lower in months -12 to -7, a gap that is small but statistically distinguishable from zero.

Figure 25: Job Loss: Income Excluding Benefits, Benefits, and Total Income



Notes: Treated-minus-control differences in monthly income, in ISK thousand at September 2024 prices, estimated as in the right column of Figure 4 on the same balanced sample. Income is dated by the 25th-to-24th convention of Appendix C; benefit payments on or after the 25th are dated to the following month accordingly, so that the two components sum to total income. Bands are pointwise 95 percent confidence intervals.

Figure 26: Job Loss: Including Entries in 2020



Notes: As the right column of Figure 4, with entries in 2020 included: 2,691 job losers and 118,112 control observations in the balanced sample. Dark bands are pointwise 95 percent confidence intervals, light bands simultaneous 95 percent bands over the months shown.

G Forgone Interest Income

This appendix describes how we measure the forgone interest income of Section 3.2, and reports the results under alternative measurement choices.

We compute the interest earned on checking and savings deposits day by day, as the balance times the annual rate paid on the account that day, divided by 365. The rate is the

one recorded on the individual's own account, so it reflects any terms specific to the product or to the balance. For the liquid fund, we only observe holdings at the end of each month and assume that the individual held that amount during the whole month. The return is the change in the fund's price, which is published daily and is net of fees.

In the counterfactual, the individual's holdings on each day earn the Central Bank key rate of that day less the liquid fund's management fee of 0.35 percent. This is a good approximation of what the fund pays when the key rate is stable (Appendix D.2). The realized return departs from it when the key rate changes unexpectedly. The fund holds mostly term deposits at banks and short-term bills, which mature in two to four months on average. Each of them pays the rate agreed when it was bought, so a change in the key rate reaches the fund's return with a lag of one to two months, as they mature and are reinvested. When rates fell in 2019 and 2020 the fund paid more than the key rate net of the fee, and when they rose in 2022 and 2023 it paid less. Since the key rate less the fee is a good proxy for what individuals can expect to earn on the fund, we use it as the benchmark.

Interest income is taxed at 22 percent above an annual allowance per person, which was ISK 150,000 in 2018 and 2019 and ISK 300,000 from 2020, about EUR 1,000 and EUR 2,000. Let B_{it} be the taxable interest income of individual i at the bank in year t. It includes the interest on her liquid holdings, I_{it}, and on her other accounts, such as time deposits or other interest income recorded by bank movements. The tax is $T_{it} = 0.22 \max\{B_{it} - A_t, 0\}$, where A_t is the allowance. In the counterfactual, the liquid holdings earn I^L_{it} instead of I_{it}, and the tax T^L_{it} is computed in the same way. The forgone interest income after tax is

$$F_{it} = \left(I^L_{it} - I_{it}\right) - \left(T^L_{it} - T_{it}\right), \tag{13}$$

which is the numerator of equation (4). The forgone interest is therefore untaxed for individuals who stay below the allowance, and taxed at 22 percent for those above it.

We compute the cost over the months of each year in which the individual is an active client. The sample includes the individual-years with positive average liquid wealth which are 83 percent of the total. Each year we rank individuals into percentiles of this wealth and compute the mean cost within each percentile. The figures report the average of these means

over the seven years from 2018 to 2024. We winsorize the cost at the 99.5th percentile of each year, because some individuals have very low measured consumption or income. Without winsorizing, the cost in the top percentile is 6.2 percent of consumption instead of 4.9, and it is unchanged at the 50th percentile.

Two other choices do not alter the results qualitatively. Figure 33 reports the median instead of the mean within each percentile, which is 0.3 percent of consumption at the 50th percentile of wealth and 3.8 percent in the top percentile. Figure 36 uses the fund's realized return as the benchmark, and the cost is 6 to 16 percent higher. In both cases, the cost rises steeply with wealth.

H Surveys and Login Records

This appendix describes the surveys and the login records behind the measures of Section 3.3, who the respondents are, how each measure is built, and the results for alternative measures.

H.1 The Surveys

The bank has collaborated with Copenhagen Business School in a series of online surveys of its clients. One of them, a survey of individuals conducted in 2023, contains the information we use in this paper: financial literacy, perceptions of inflation, and employment. The surveys were designed by the researchers and administered through the bank. The researchers gave the bank a list of anonymized identifiers and a unique survey link for each. The bank used its own records to email the invitations and to deposit the participation payments into the clients' accounts. The researchers never observed contact or payment details, and the bank never observed the answers. Responses are linked to the administrative records through the anonymized identifier.

In June 2023, the bank emailed an invitation to about 51,500 active clients, with reminders in June and September. 4,085 clients completed the survey, 80 percent of them in June and 18 percent in September.[46] The survey took about twenty minutes and paid 2,700 krónur, about

[46] 5,736 clients reached the end of the survey. We exclude the 1,546 who failed the attention checks built into the questionnaire and the 105 who broke off after a few minutes.

EUR 18, plus a lottery. It covers employment, education, income and spending expectations, inflation perceptions and expectations, and financial literacy. Of the 4,085 respondents, 3,897 are active clients under our definition with at least one month of non-negative net liquid wealth, and so enter the estimation sample of Table 4.

H.2 Who Responds

Table 14 compares the respondents with all active clients, and with the individuals who started the survey but did not reach its end. The statistics follow the conventions of Table 3. Respondents are about two years younger on average, 45 against 47, and more often married. They earn and spend about a fifth more. Their liquid wealth is similar on average and somewhat higher at the median. They hold less of it in checking, a share of 42 percent against 48. They also log in more often, 16 days a month against 14. The individuals who started the survey without finishing it look broadly like the respondents on all of this. They differ in being more often women and somewhat older, and their liquid wealth is not higher at the median. Overall, the respondents resemble the broader population of active clients, with somewhat higher income, and who pay more attention to their accounts.

H.3 The Measures

Financial literacy. The 2023 survey asks four financial literacy questions of the kind introduced by Lusardi and Mitchell (2014a). The questions are, in the order asked, with the correct answer underlined:

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

2. *Real interest rates.* Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy

Table 14: Survey Respondents and Active Clients

	All active clients (1)	Respondents (2)	Started, not completed (3)
Panel A. Demographics *January cross-sections, 2018–2024*			
Number of individuals	64,762	3,364	3,655
Female (%)	50.7	48.2	57.1
Married (%)	43.7	47.2	50.8
Capital-area resident (%)	71.1	74.6	71.5
Mean age (years)	46.5	44.6	46.8
Panel B. Income and consumption *annual, EUR, Sept. 2024 prices, 2018–2023*			
Income			
Mean	51,204	60,030	59,149
Median	41,866	52,553	49,728
Consumption			
Mean	40,264	47,393	48,441
Median	34,368	42,374	42,824
Panel C. Liquid wealth and allocation *EUR, Sept. 2024 prices, 2017–2024*			
Liquid safe assets			
Mean	15,340	15,220	15,103
Median	3,285	3,946	3,511
Net liquid wealth			
Mean	14,216	13,898	13,478
Median	2,901	3,439	2,892
Checking share (%)	48.5	42.2	42.9
Months with savings or fund balance (%)	80.1	86.5	86.0
Panel D. Attention			
Login days per month	13.7	15.7	15.1
In the top login tercile (%)	33.3	40.4	37.0

Notes: The sample is the active clients of Table 3. Column (1): all active clients. Column (2): the respondents of the 2023 survey. Column (3): the individuals who started the 2023 survey but did not reach its end; the 1,546 individuals who completed the survey but failed its attention checks are excluded from the survey sample and from this table. Panel A follows Panel A of Table 3: the January cross-sections of active clients, 2018 to 2024; each row is the yearly statistic averaged over the seven years, and the number of individuals is the average January count. Panel B follows Panel B of Table 3: individuals active in at least one month of the year and resident all twelve, full-year income and consumption, the yearly mean and median across individuals deflated by the year's CPI and averaged over 2018 to 2023. Panel C follows Table 1: balances are individual-year means of daily balances over the individual's active months; each statistic is computed across individuals within a year and averaged over 2017 to 2024. Liquid safe assets are checking, savings and the liquid fund; net liquid wealth is liquid safe assets net of the checking overdraft. The checking share is the mean of the individual's daily share of checking in liquid safe assets, on days with positive liquid safe assets. The last row is the share of the individual's active months with a positive savings or fund balance, from monthly balances. Panel D: login days are days per month with a login to the bank's app or website, a day with both counted twice, averaged over all the individual's active months and then across individuals. The top login tercile uses the terciles of Table 6, cut at 10.29 and 18.24 days per month on the individual's average over her months in the sample of Table 4, column (1); that row covers the individuals in that sample. Monetary values are in real September 2024 euros at 152 ISK per EUR.

with the money in this account?

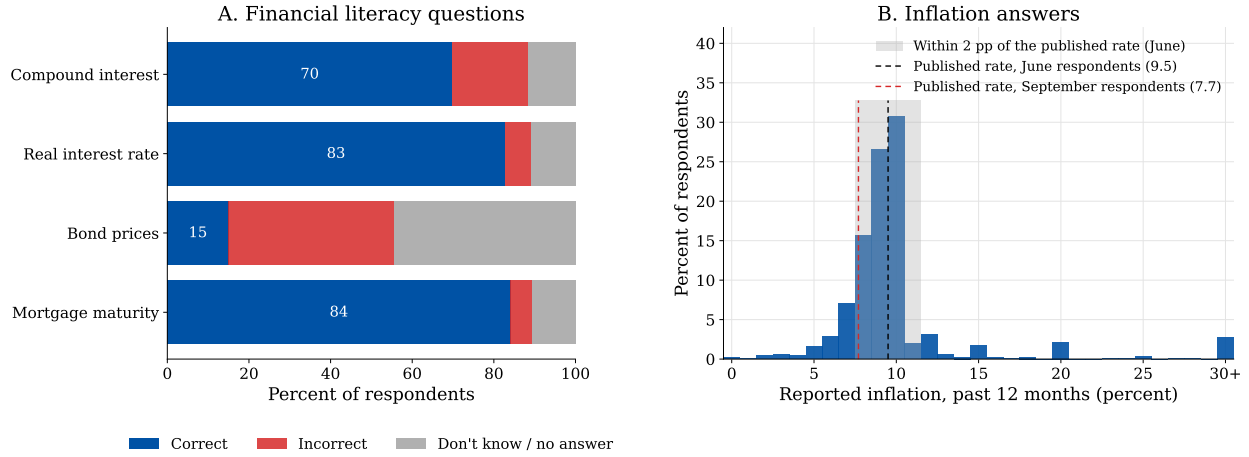
More than today / Exactly the same / Less than today / Don't know / Prefer not to say

3. *Bond prices.* If interest rates rise, what will typically happen to bond prices?
   They will rise / <u>They will fall</u> / They will stay the same / There is no relationship between bond prices and the interest rate / Don't know / Prefer not to say

4. *Mortgage terms.* Please tell me whether this statement is true or false: A 15-year mortgage typically requires higher monthly payments than a 30-year mortgage, but the total interest paid over the life of the loan will be less.
   <u>True</u> / False / Don't know / Prefer not to say

Panel A of Figure 27 reports the answers. The four questions are answered correctly by 70, 83, 15 and 84 percent of respondents, and about one in ten chooses "don't know" on each of them, except on the bond question, where 45 percent do. The literacy score is the number of correct answers, from 0 to 4, with "don't know" and "prefer not to say" counted as incorrect. Five percent of respondents score 0, 10 percent score 1, 26 percent score 2, 48 percent score 3, and 12 percent score 4. The financially literate individuals of Table 6 are those who answer all four questions correctly, and the score enters Table 15 as a continuous measure.

Figure 27: The Two Survey Measures



Notes: Respondents of the 2023 survey. Panel A: for each of the four financial literacy questions, the share of respondents answering correctly, incorrectly, and "don't know" or "prefer not to say", pooled as no answer. Panel B: distribution of the answers to the question on inflation over the past twelve months, in one-point bins, with the five negative answers pooled in the first bin, answers of 30 or more in the last bin, and answers above 100 in absolute value excluded. The dashed lines mark the latest twelve-month inflation rate published at the time of the response: 9.5 percent for respondents in June 2023 and 7.7 percent for those in September. The shaded band is the two-point window around the June value that defines the awareness measure.

Awareness of inflation. The survey asks "What do you think the Icelandic inflation rate has been over the past 12 months? Please give your best guess." The question names the twelve-month window ending in the month of the survey wave, and the answer is a free entry in percent.[47]

Panel B of Figure 27 plots the distribution of the answers. Respondents know the inflation rate well. We define an individual as aware of inflation if her answer is within two percentage points of the published rate. This holds for 72 percent of respondents: 76 percent of those answering in June, and 56 percent of those answering in September. Because the share of aware respondents depends on the month of the response in this way, the regressions with this measure include dummies for the survey month. The absolute distance between the answer and the published rate, capped at ten points, is the continuous measure of Table 15.

Working in finance. The employment block of the survey asks "The company or organization I work/have worked for best belongs to the following industry", with a list of 27 industries. We define working in finance as choosing "Financial and insurance activities". 278 respondents do, 7.5 percent of the 3,727 who report an industry, which makes finance the fourth most common industry among respondents after health and social work, education, and professional and technical services. The 358 respondents who do not report an industry are coded as not working in finance. 266 of the finance workers are in the estimation sample.

Login records. The login measure comes from the bank's own records rather than from the survey. The bank records every time that a client uses one of its channels: the app, the website, and the physical channels, that is, branches and cash machines. The records cover all clients from 2014. For each individual and month we count the days on which she logs in to the app or the website; a day with both counts once. The login measure is the individual's average of this count over her months in the estimation sample; a month without any login

[47]The index for the month of the wave was not yet published when the respondents answered, so we compare each answer with the latest twelve-month rate published at the time of the response. For respondents in June 2023 this is the May rate of 9.5 percent, published on May 26; the June rate came out on June 28, after the June responses. For respondents in September it is the August rate of 7.7 percent, published on August 30; the September rate came out on September 28, after the September responses. The fifteen respondents who answered on June 28 or later, and the 47 who answered in July and August, are compared with the latest rate published at their own response date.

counts as zero. The measure is a person average across the sample.

Clients use the app often. The average individual logs in on 14 days a month, and only 1.9 percent of individuals never log in over their time in the sample. We rank the 96,551 individuals who appear in the estimation sample of Table 4 on their average and split them into terciles. The cut points are 9.8 and 17.2 days per month. The individuals who never log in are in the bottom tercile. Table 6 enters the middle and top terciles as two indicators, with the bottom tercile as the reference group; Table 14 shows that survey respondents log in more often than the average client.

H.4 Robustness

Table 15 reports two checks. First, it replaces the indicators of Table 6 with the continuous measures. The literacy score gives a response of −0.23 (0.06) per correct answer, so the four-point gap between a respondent with all answers correct and one with none is about twice the gap between the literate group and the rest. The absolute inflation error gives +0.05 (0.03) per point of error, the mirror image of awareness: the further the answer from the published rate, the weaker the response. Second, columns (3) and (4) add the characteristic interacted with a linear trend, which absorbs any difference in the trend of the checking share between the two groups. The literacy score and the inflation error do not move, and the awareness indicator moves little. The finance estimate halves, which is why the text treats it with caution.

I Additional Figures

Table 15: Attention, Knowledge, and the Response to Interest Rates: Robustness

	Baseline		With $k_i\times$ trend			
	κ	η	κ	η	Individuals	Observations
	(1)	(2)	(3)	(4)		
Literacy score (0–4)	−0.06	−0.23	−0.06	−0.23	3,896	275,711
	(0.46)	(0.06)	(0.46)	(0.07)		
|Inflation error| (pp)	0.31	0.05	0.31	0.05	3,840	271,699
	(0.18)	(0.03)	(0.18)	(0.03)		
Aware of inflation ($\leq$ 2 pp)	−1.13	−0.19	−1.13	−0.24	3,840	271,699
	(1.01)	(0.14)	(1.00)	(0.15)		
Works in finance	−2.72	−0.33	−2.73	−0.17	3,897	275,717
	(1.61)	(0.24)	(1.61)	(0.25)		

Notes: Each row and column pair is one regression of equation (6), as in Table 6, with the characteristic in the row as k_i. Literacy score: number of the four literacy questions answered correctly (0–4). |Inflation error|: absolute difference between reported past-12-month inflation and the latest published rate at the response date, in pp, capped at 10 (answers with absolute value above 100 set to missing). Aware of inflation and works in finance: as in Table 6. Both inflation rows include dummies for the survey month (June to September 2023). Columns (3)–(4) add k_i interacted with a linear monthly trend, centred on the sample. Deciles of net liquid wealth ranked within month in the full sample; key rate demeaned within each sample; samples, controls (a missing gender code is coded male) and standard errors (two-way clustered by individual and month) as in Table 6.

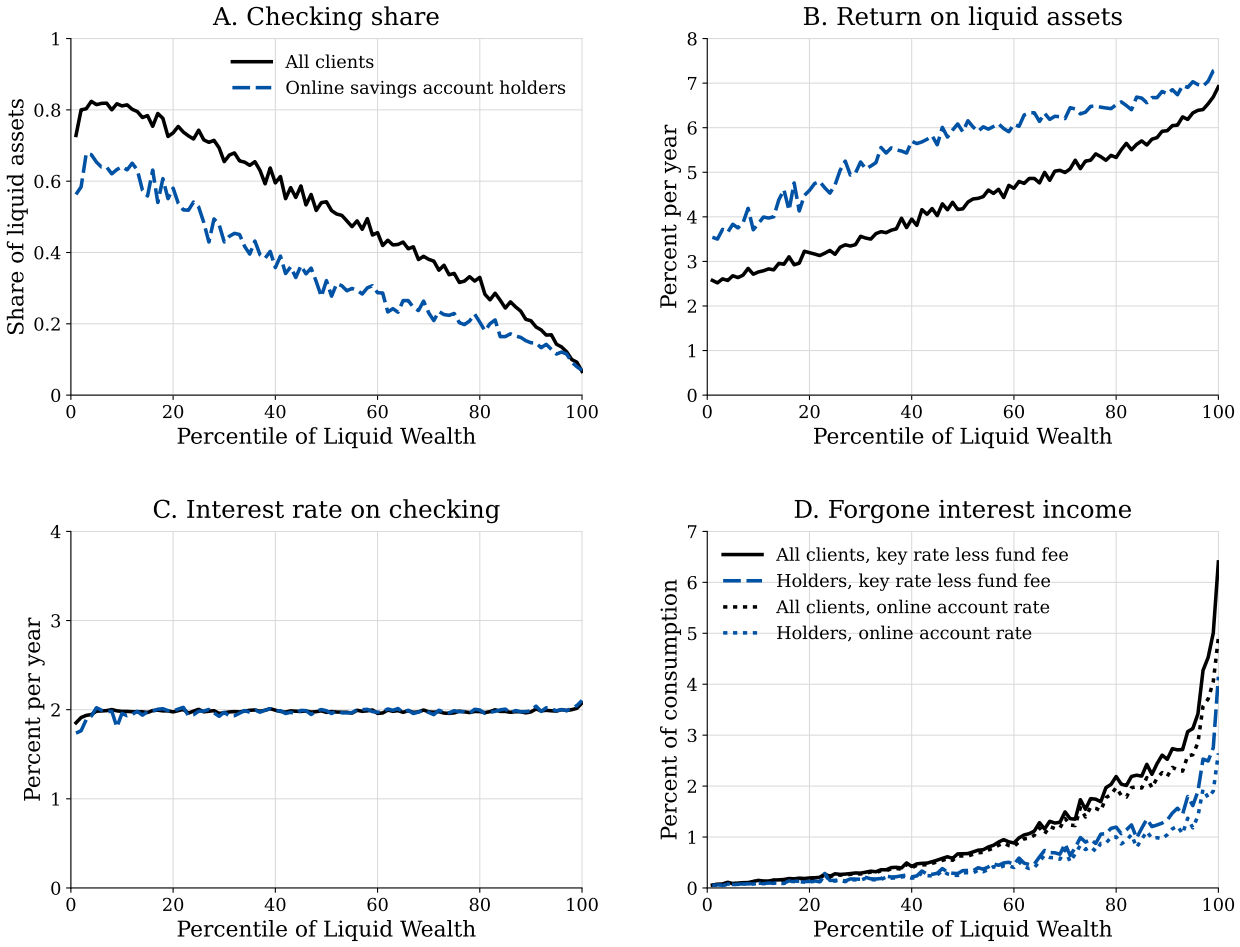


Figure 28: Clients with the Online Savings Account

Notes: The figure compares all active clients with the clients who hold the bank's online savings account, in 2023. The account pays the highest posted savings rate at the bank, is opened in the app, and has no notice period. Holders are the individuals with a positive balance in the account on at least one day of 2023. The sample is that of Figure 5 in 2023: individuals with positive average net liquid wealth, ranked into percentiles of net liquid wealth; holders are placed at their percentile in the full sample, so each point compares holders with all clients of the same wealth. Panel A reports the average checking share of liquid, short-term, safe assets, the mean of daily shares as in Figure 2. Panel B reports the return earned on these assets and Panel C the posted rate on the individual's checking account. Panel D reports forgone interest income after tax in percent of consumption expenditure, computed as in Figure 5, under the paper's benchmark, the key rate less the fund's fee, and under the online account's own rate applied to all deposit balances. Cost ratios are winsorized at the 99.5th percentile.

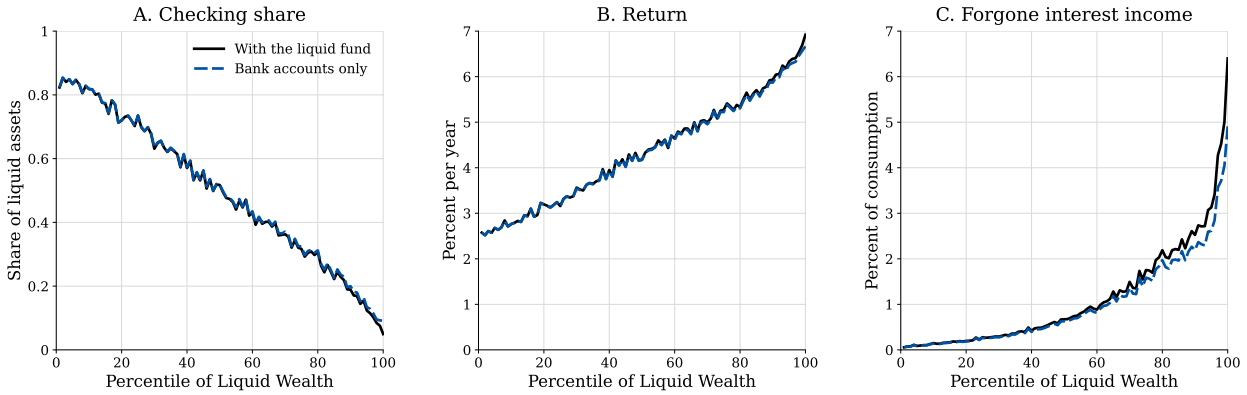
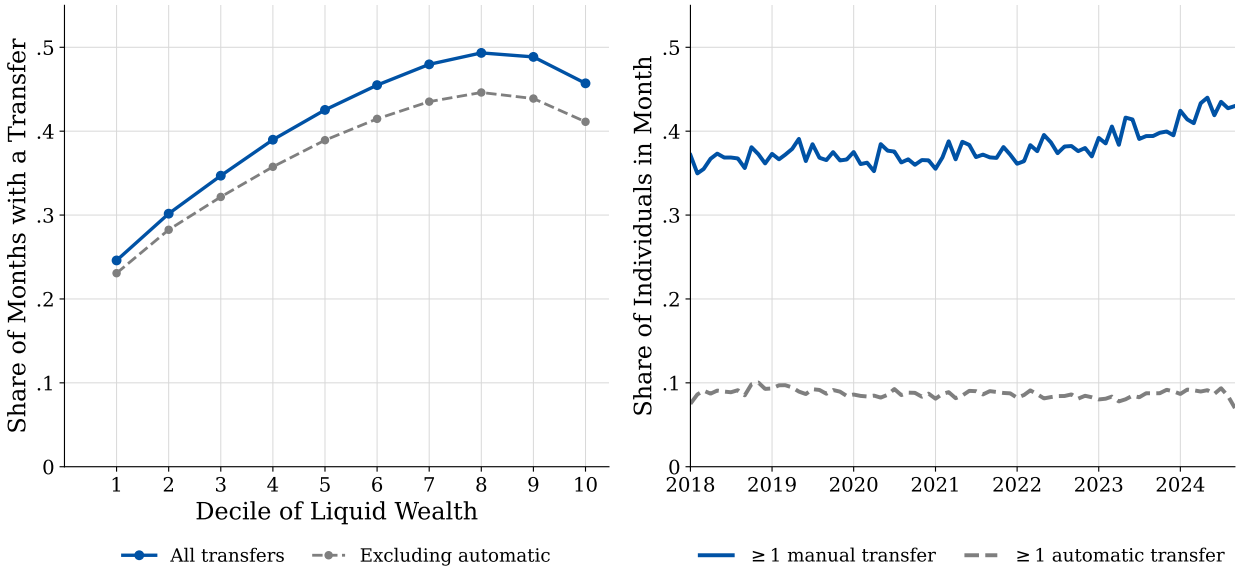


Figure 29: The Allocation with Bank Accounts Only

Notes: The figure recomputes three objects of Section 3 for 2023 with the liquid fund removed from the assets and from the benchmark. The sample is that of Figure 5 in 2023, individuals with positive average net liquid wealth, ranked into percentiles of net liquid wealth. The solid lines use the paper's definitions: the checking share and the return are computed on checking, savings and the liquid fund, and forgone interest is measured against the key rate less the fund's fee. The dashed lines use checking and savings accounts only: the checking share and the return are computed on these two accounts, and forgone interest is measured against the posted rate on the bank's online savings account, the highest posted savings rate at the bank in every month of 2023 and about a quarter of a point below the key rate less the fund's fee. Checking shares are yearly balance-weighted shares. Forgone interest is after tax, in percent of consumption expenditure, and winsorized at the 99.5th percentile. The fund is held by 2.6 percent of the sample and is 4 percent of liquid assets. Individuals are ranked on wealth including the fund in both sets of lines, so the top percentiles, where fund holders are concentrated, are where the lines differ.

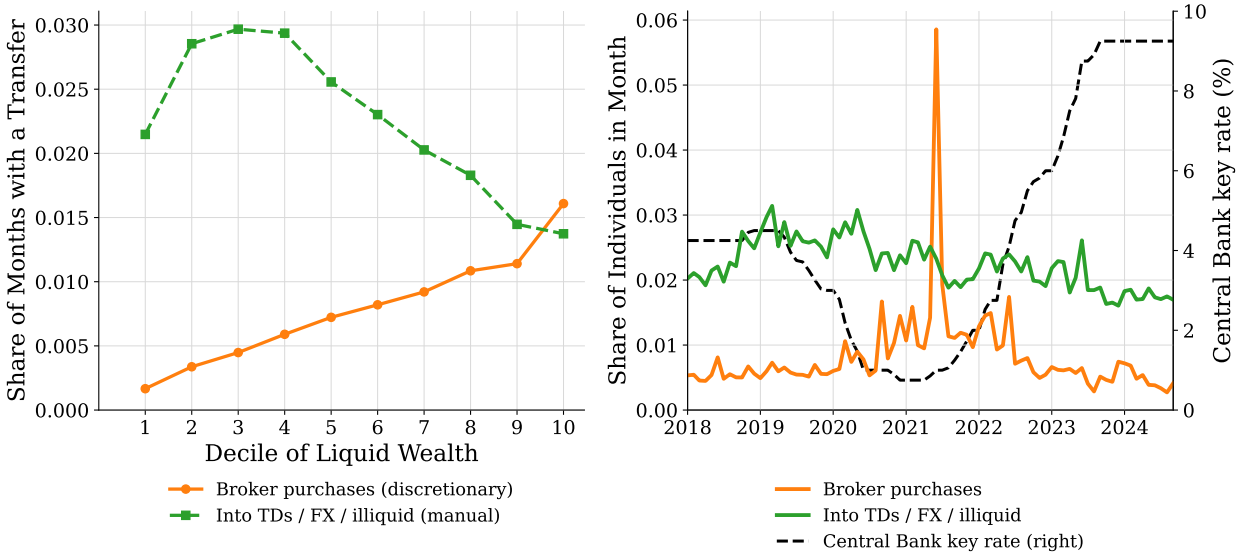
Figure 30: Automatic and Manual Transfers between Checking and Savings



Notes: The left panel shows the share of months in which an individual makes at least one transfer between checking and savings accounts, by decile of liquid wealth, counting all transfers (solid) and manual transfers only (dashed). The right panel shows, for each month, the share of individuals with at least one manual transfer and the share with at least one automatic transfer. A transfer is automatic when the same amount recurs at weekly, biweekly, or monthly intervals at least three times; all other transfers are manual. Sample and deciles as in Figure 3.

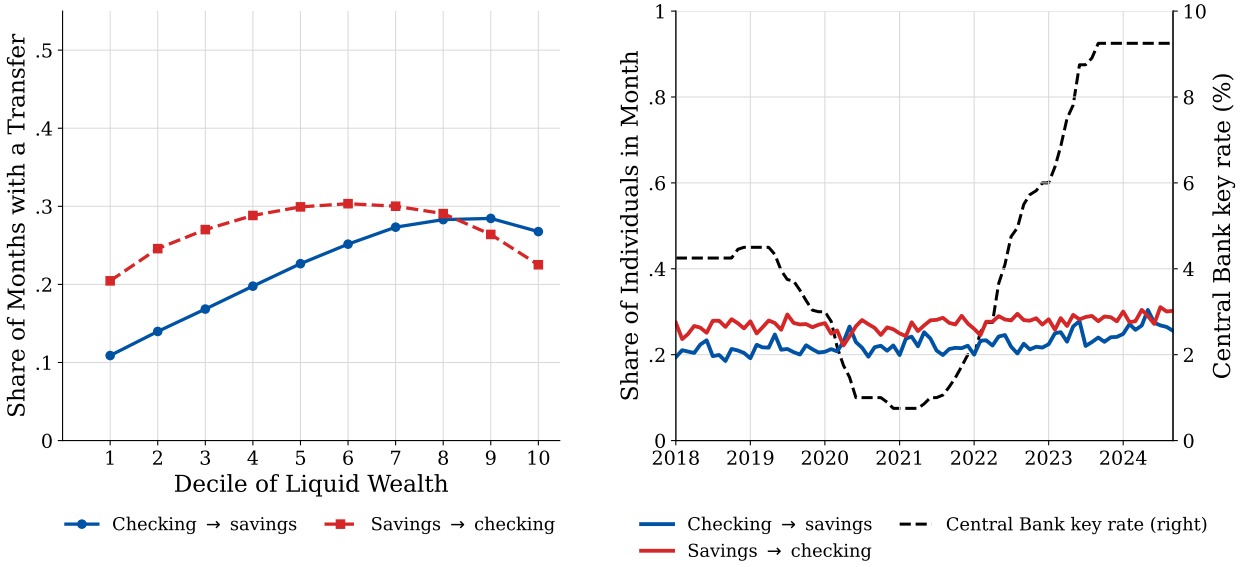
J Additional Tables

Figure 31: Transfers into Other Accounts



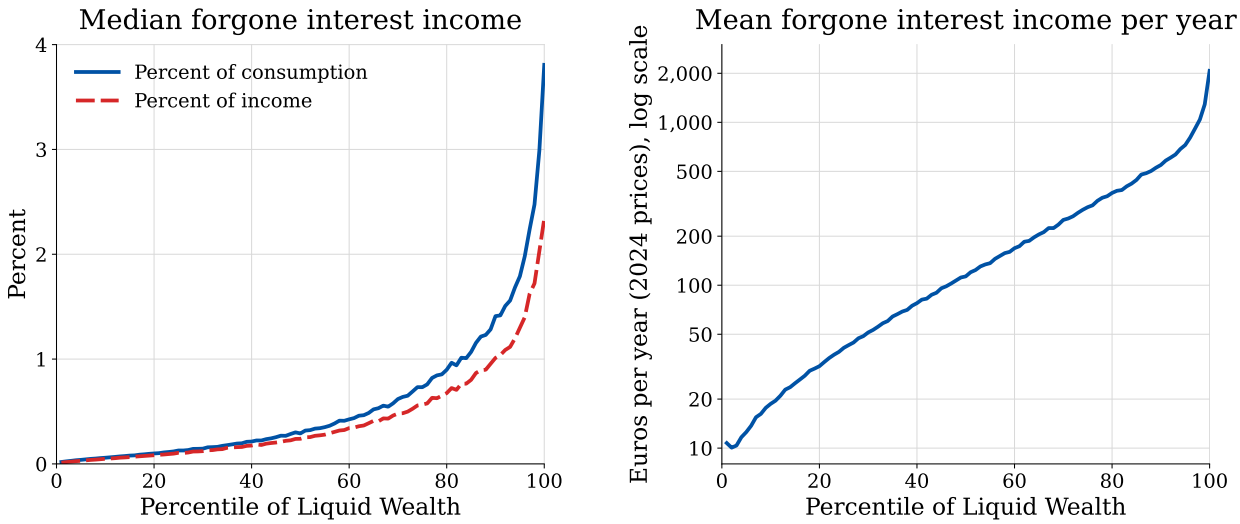
Notes: The left panel shows the share of months in which an individual makes at least one discretionary purchase through the bank's brokerage platform (orange) or at least one manual transfer into time deposits, foreign-currency, or other restricted accounts (green), by decile of liquid wealth. The right panel shows the same two shares for each month, together with the Central Bank key rate (right axis). Discretionary purchases exclude subscription plans of a fixed monthly amount. The spike in brokerage purchases in June 2021 coincides with a large initial public offering in Iceland. Sample and deciles as in Figure 3.

Figure 32: Transfers between Checking and Savings by Direction



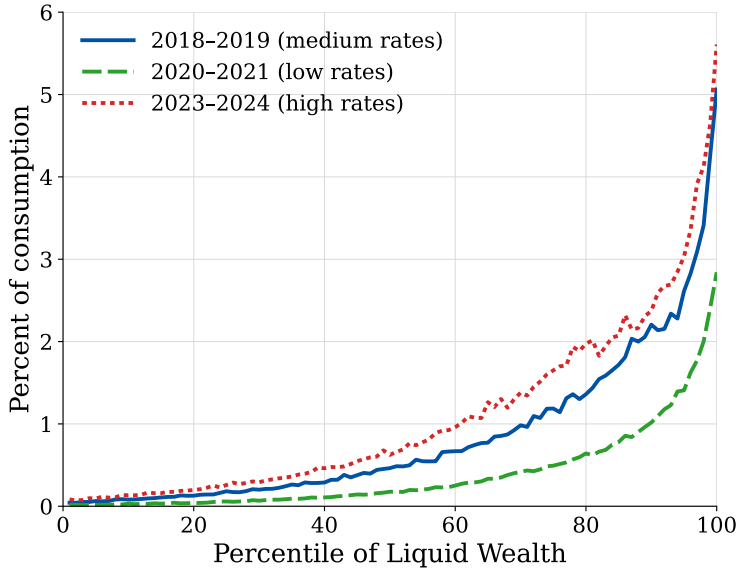
Notes: The left panel shows the share of months in which an individual makes at least one manual transfer from checking into savings (blue) and from savings into checking (red), by decile of liquid wealth. The right panel shows the same two shares for each month, together with the Central Bank key rate (right axis). Sample, deciles, and the definition of manual transfers as in Figure 3.

Figure 33: Median Forgone Interest Income, and Forgone Interest Income in Euros



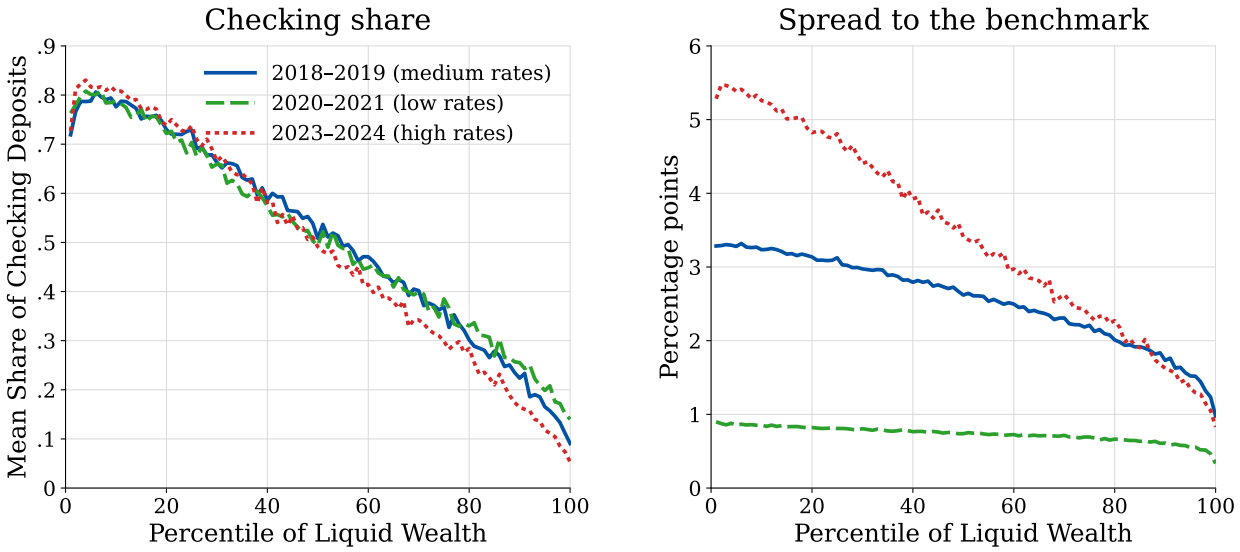
Notes: Left panel: median forgone after-tax interest income as a percentage of annual consumption expenditure and of annual income; Figure 5 reports the mean. Right panel: mean forgone after-tax interest income per year, in euros, on a logarithmic scale; amounts are expressed at an annual rate, deflated to September 2024 prices with the consumer price index, and converted at 152 krónur per euro. Both by percentile of liquid wealth: the statistic is computed for each percentile and calendar year from 2018 to 2024 and averaged across the seven years. Neither panel is winsorized. Definitions, ranking, and sample as in Figure 5.

Figure 34: Forgone Interest Income in Periods of Low, Medium, and High Interest Rates



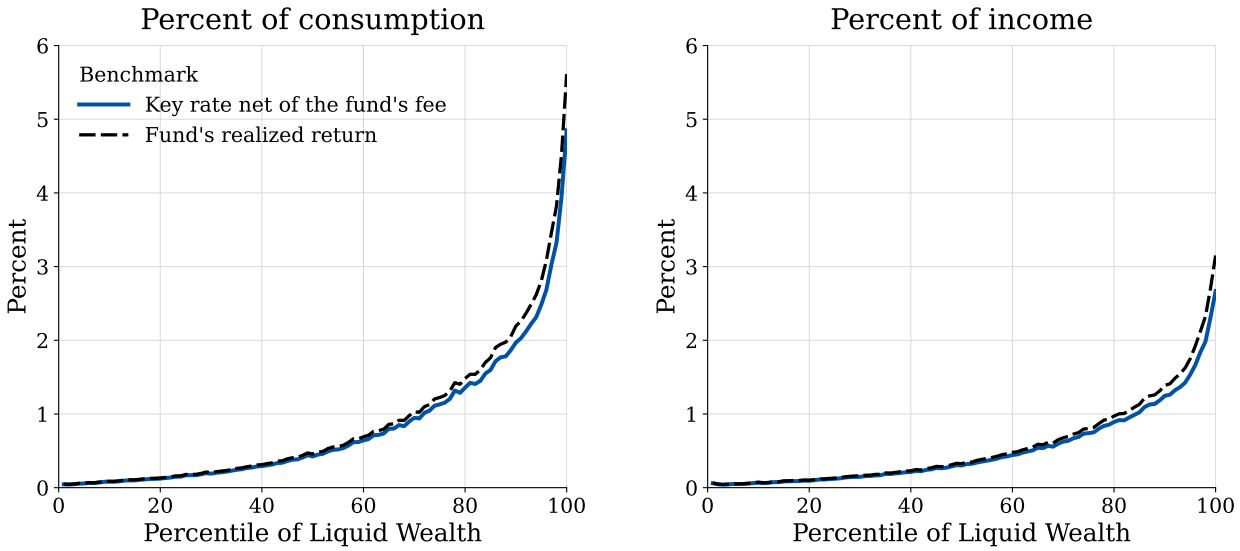
Notes: Forgone after-tax interest income as a percentage of annual consumption expenditure, by percentile of liquid wealth, averaged over the two years of each period. The Central Bank key rate averaged 4.1 percent over 2018–2019, 1.3 percent over 2020–2021, and 8.7 percent over 2023–2024; the year 2024 covers January to September. Definitions, ranking, winsorization, and sample as in Figure 5.

Figure 35: The Checking Share and the Forgone Spread in Periods of Low, Medium, and High Interest Rates



Notes: Left panel: mean share of checking deposits in the liquid, short-term, safe portfolio; shares are computed for each individual and month as the average of the daily shares and averaged within individual and year. Right panel: mean spread between the benchmark return, the Central Bank key rate net of the liquid fund's management fee of 0.35 percent, and the individual's realized return, in percentage points. Both by percentile of liquid wealth, averaged over the two years of each period. Ranking and sample as in Figure 5: individual-years with positive average liquid wealth net of the checking overdraft, whereas Figure 2 includes individual-months with a non-negative position.

Figure 36: Forgone Interest Income with the Liquid Fund's Realized Return as Benchmark



Notes: Forgone after-tax interest income as a percentage of annual consumption expenditure (left panel) and of annual income (right panel), by percentile of liquid wealth, under two benchmarks. The solid line uses the Central Bank key rate net of the liquid fund's management fee of 0.35 percent, as in Figure 5. The dashed line uses the fund's realized return, computed from its published daily unit price. Definitions, ranking, winsorization, and sample as in Figure 5.

Table 16: The Share of Checking Deposits in Liquid, Short-Term, Safe Portfolios

	(1)	(2)	(3)	(4)	(5)	(6)
Liquid wealth (deciles relative to the 1st)						
2nd decile	−3.29	−5.35	−2.40	−3.13		
	(0.16)	(0.38)	(0.16)	(0.19)		
3rd decile	−9.82	−12.07	−5.39	−10.37		
	(0.26)	(0.42)	(0.23)	(0.28)		
4th decile	−17.96	−20.08	−8.32	−19.28		
	(0.34)	(0.48)	(0.26)	(0.32)		
5th decile	−26.86	−26.09	−11.02	−28.60		
	(0.39)	(0.52)	(0.28)	(0.36)		
6th decile	−34.83	−32.35	−13.72	−36.44		
	(0.41)	(0.53)	(0.29)	(0.41)		
7th decile	−42.23	−38.91	−16.28	−43.42		
	(0.42)	(0.57)	(0.32)	(0.48)		
8th decile	−49.88	−44.84	−18.98	−50.82		
	(0.44)	(0.59)	(0.35)	(0.54)		
9th decile	−58.46	−52.90	−21.92	−59.12		
	(0.46)	(0.62)	(0.41)	(0.59)		
10th decile	−68.81	−65.44	−24.24	−69.45		
	(0.49)	(0.68)	(0.58)	(0.61)		
ln(liquid wealth)					−11.26	−8.07
					(0.08)	(0.14)
Interest rate						
Key rate (r_t, pp)	−0.02	−0.04	−0.27	−0.27		
	(0.05)	(0.05)	(0.05)	(0.05)		
ln(key rate)					−1.47	−1.25
					(0.18)	(0.17)
Demographics						
Age	1.39	1.51	−1.03	1.50	1.39	−1.08
	(0.03)	(0.04)	(0.11)	(0.04)	(0.04)	(0.10)
Age^2 (×100)	−1.25	−1.39	0.85	−1.27	−1.27	0.56
	(0.04)	(0.04)	(0.09)	(0.04)	(0.04)	(0.09)
Female	−9.61	−9.94		−8.91	−9.50	
	(0.21)	(0.23)		(0.24)	(0.22)	
Married	−0.19	0.60	0.83	−0.53	−0.14	0.07
	(0.23)	(0.24)	(0.26)	(0.24)	(0.23)	(0.24)
Number of children	0.12	0.25	0.96	0.51	0.20	0.74
	(0.13)	(0.12)	(0.13)	(0.15)	(0.14)	(0.12)
Capital area	0.59	0.88	−0.10	0.73	0.40	−0.36
	(0.22)	(0.23)	(0.31)	(0.24)	(0.22)	(0.29)
Linear trend (per year)	−0.57	−0.70		0.04	−0.01	
	(0.06)	(0.06)		(0.10)	(0.06)	
Consumption and income history (months $t-1$ to $t-12$)						
Mean $\ln c$				−2.77		
				(0.25)		
Mean $\ln y$				3.32		
				(0.29)		
Std. dev. $\ln c$				12.51		
				(0.57)		
Std. dev. $\ln y$				4.18		
				(0.22)		
Wealth measure	Monthly	Sample avg.	Own history	Monthly	Log level	Log level
Individual FE	No	No	Yes	No	No	Yes
Sample period	2016–24	2016–24	2016–24	2019–24	2016–24	2016–24
Sample length (years)	8.75	8.75	8.75	5.75	8.75	8.75
Observations	5,465,569	5,465,569	5,465,569	3,447,780	5,465,569	5,465,569
adj. R^2	0.300	0.230	0.701	0.307	0.283	0.715

Notes: The dependent variable is the share of checking deposits in liquid, short-term, safe holdings (checking deposits, savings deposits, and the liquid fund), in percent, for an individual in a month. Liquid wealth is the sum of the three assets net of any checking overdraft; the sample consists of individual-months with a non-negative position. Holdings of the liquid fund are not observed in 2016 and in July 2024; in those months shares and liquid wealth are computed as if fund holdings were zero. Columns (1)–(4) estimate regression (1), with deciles of liquid wealth ranked within each month (columns (1) and (4)), on the individual's average wealth over the sample period (column (2)), or within the individual's own history (column (3)); column (4) uses the 2019–2024 sample described in the text and adds the consumption and income history controls. Columns (5)–(6) replace the deciles and the rate by the logarithms of real liquid wealth and of the key rate. The key rate is demeaned within each column's sample in columns (1)–(4). Gender and the linear time trend are omitted in columns (3) and (6), which include individual fixed effects. Age squared is reported ×100 and the linear trend per year. Columns (1), (3), (4), and (6) are the four columns of Table 4. Standard errors, in parentheses, are two-way clustered by individual and month.

Table 17: The Probability of a Transfer between Checking and Savings

	(1)	(2)	(3)	(4)	(5)	(6)
Liquid wealth (deciles relative to the 1st)						
2nd decile	6.68	6.23	2.03	6.12		
	(0.23)	(0.60)	(0.12)	(0.24)		
3rd decile	11.71	10.96	3.66	10.82		
	(0.28)	(0.60)	(0.17)	(0.29)		
4th decile	16.09	16.03	4.93	15.22		
	(0.37)	(0.63)	(0.19)	(0.39)		
5th decile	20.50	19.76	6.28	19.64		
	(0.45)	(0.65)	(0.22)	(0.47)		
6th decile	23.77	22.95	7.27	22.88		
	(0.51)	(0.67)	(0.25)	(0.54)		
7th decile	26.63	25.65	8.33	25.53		
	(0.55)	(0.70)	(0.27)	(0.59)		
8th decile	28.77	27.12	9.70	27.61		
	(0.59)	(0.74)	(0.31)	(0.66)		
9th decile	30.92	30.18	11.02	29.75		
	(0.65)	(0.78)	(0.35)	(0.73)		
10th decile	32.51	32.14	12.66	31.31		
	(0.75)	(0.81)	(0.46)	(0.83)		
ln(liquid wealth)					5.35	4.56
					(0.11)	(0.14)
Interest rate						
Key rate (r_t, pp)	0.32	0.35	0.52	0.32		
	(0.06)	(0.06)	(0.05)	(0.06)		
ln(key rate)					1.37	1.61
					(0.17)	(0.17)
Demographics						
Age	−1.23	−1.28	0.12	−1.66	−1.21	0.44
	(0.04)	(0.04)	(0.15)	(0.05)	(0.04)	(0.14)
Age^2 (×100)	0.62	0.68	−0.19	0.97	0.58	−0.08
	(0.04)	(0.04)	(0.12)	(0.05)	(0.04)	(0.11)
Female	8.26	8.42		8.28	8.32	
	(0.25)	(0.25)		(0.27)	(0.25)	
Married	−1.76	−2.05	−1.23	−1.85	−1.76	−0.78
	(0.27)	(0.27)	(0.30)	(0.29)	(0.28)	(0.30)
Number of children	−1.22	−1.35	−1.74	−2.48	−1.25	−1.58
	(0.15)	(0.15)	(0.15)	(0.17)	(0.15)	(0.15)
Capital area	0.48	0.30	0.74	−0.22	0.39	0.85
	(0.27)	(0.27)	(0.36)	(0.28)	(0.27)	(0.35)
Linear trend (per year)	0.63	0.67		0.58	0.64	
	(0.08)	(0.08)		(0.11)	(0.08)	
Consumption and income history (months $t-1$ to $t-12$)						
Mean $\ln c$				6.39		
				(0.28)		
Mean $\ln y$				−0.32		
				(0.32)		
Std. dev. $\ln c$				−9.54		
				(0.54)		
Std. dev. $\ln y$				−2.25		
				(0.25)		
Wealth measure	Monthly	Sample avg.	Own history	Monthly	Log level	Log level
Individual FE	No	No	Yes	No	No	Yes
Sample period	2018–24	2018–24	2018–24	2019–24	2018–24	2018–24
Observations	4,371,655	4,371,655	4,371,655	3,449,255	4,369,897	4,369,897
adj. R^2	0.080	0.071	0.499	0.089	0.079	0.503

Notes: The dependent variable is 100 times an indicator for at least one manual transfer between checking and savings accounts, in either direction, in the month; coefficients are percentage points of probability. Manual transfers exclude recurring transfers of a fixed amount at weekly, biweekly, or monthly intervals. Specifications, samples, deciles, controls, and standard errors are those of Table 16. The sample is individual-months with non-negative net liquid wealth from January 2018, the first full year of transfer records, to September 2024; months with zero liquid holdings are kept. Columns 1–4: deciles of liquid wealth ranked within month (1, 4), on the individual's sample average (2), or within the individual's own history (3); column 4: 2019–2024, individuals present in ≥ 8 of months $t-1$ to $t-12$, with the consumption and income history controls. Columns 5–6: ln of real liquid wealth and ln of the key rate, on months with positive liquid wealth. The key rate is demeaned within the column's sample in columns 1–4. The female dummy and the linear trend are omitted in columns 3 and 6, which include individual fixed effects. Age^2 is reported ×100 and the trend per year. Standard errors are two-way clustered by individual and month.

Table 18: Instrumented Rate Changes: Other Windows and the Log of the Key Rate

	(1)	(2)	(3)	(4)	(5)	(6)
	OLS	IV	OLS	IV	OLS	IV
Horizon h (months)	3	3	12	12	6	6
Rate variable	Level	Level	Level	Level	Log	Log
$\Delta_h r_t$	−0.19	−0.22	−0.40	−0.39		
	(0.15)	(0.30)	(0.13)	(0.19)		
$\Delta_h \ln r_t$					−0.50	−0.73
					(0.53)	(0.52)
$\Delta_h \ln a_{it}$	−4.81	−4.81	−8.25	−8.25	−6.51	−6.51
	(0.14)	(0.14)	(0.31)	(0.30)	(0.21)	(0.21)
Constant	−0.42	−0.42	−0.86	−0.87	−0.71	−0.70
	(0.10)	(0.10)	(0.38)	(0.39)	(0.22)	(0.21)
First stage γ	–	1.42	–	2.78	–	0.79
	–	(0.26)	–	(0.49)	–	(0.11)
Effective F	–	30.1	–	31.5	–	46.9
Observations	4,940,379	4,940,379	4,056,626	4,056,626	4,593,579	4,593,579
Months	102	102	93	93	99	99
adj. R^2	0.050	0.050	0.135	0.135	0.089	0.089

Notes: Estimates of equation (2) for windows of three and twelve months, columns (1)–(4), and for the six-month window with the log of the key rate in place of its level, columns (5)–(6), where the coefficient is the change in the checking share per log point of the key rate. In the IV columns the change in the rate is instrumented with the surprises of the same h months. The dependent variable is the h-month change in the checking share, in percentage points; the control is the h-month change in the log of real liquid wealth. The sample is individual-months with a non-negative net liquid position and positive holdings at both ends of the window, starting in April 2016, January 2017 and July 2016 for $h = 3$, 12 and 6, and ending in September 2024. Standard errors in parentheses are Driscoll–Kraay with $h + 2$ lags. The first stage regresses the change in the rate on the instrument and the control; the effective F is the squared t statistic of the instrument.

Table 19: Differences in the Response to the Interest Rate across the Wealth Distribution: Checking Share

	(1)	(2)	(3)
Key rate × decile of liquid wealth (relative to the 1st decile)			
1st decile	0	0	0
	(ref.)	(ref.)	(ref.)
2nd decile	0.23	−0.31	0.22
	(0.04)	(0.04)	(0.04)
3rd decile	0.34	−0.55	0.33
	(0.07)	(0.06)	(0.06)
4th decile	0.25	−0.77	0.19
	(0.11)	(0.07)	(0.09)
5th decile	−0.05	−0.88	−0.14
	(0.14)	(0.07)	(0.11)
6th decile	−0.36	−0.98	−0.41
	(0.15)	(0.08)	(0.11)
7th decile	−0.63	−1.10	−0.67
	(0.14)	(0.09)	(0.12)
8th decile	−0.85	−1.29	−0.86
	(0.14)	(0.10)	(0.13)
9th decile	−1.02	−1.51	−1.03
	(0.12)	(0.10)	(0.12)
10th decile	−1.23	−1.80	−1.24
	(0.09)	(0.11)	(0.09)
Liquid wealth (deciles relative to the 1st)			
2nd decile	−3.29	−2.30	−3.14
	(0.15)	(0.12)	(0.17)
3rd decile	−9.83	−5.21	−10.38
	(0.24)	(0.17)	(0.24)
4th decile	−17.97	−8.14	−19.29
	(0.33)	(0.19)	(0.31)
5th decile	−26.87	−10.86	−28.61
	(0.39)	(0.19)	(0.36)
6th decile	−34.84	−13.62	−36.46
	(0.40)	(0.20)	(0.39)
7th decile	−42.25	−16.28	−43.44
	(0.38)	(0.21)	(0.41)
8th decile	−49.90	−19.03	−50.85
	(0.38)	(0.22)	(0.44)
9th decile	−58.49	−21.83	−59.17
	(0.37)	(0.23)	(0.44)
10th decile	−68.85	−23.72	−69.51
	(0.35)	(0.27)	(0.41)
Demographics			
Age	1.39	−0.77	1.49
	(0.04)	(0.09)	(0.04)
Age^2 (×100)	−1.24	0.93	−1.27
	(0.04)	(0.09)	(0.04)
Female	−9.62		−8.92
	(0.21)		(0.24)
Married	−0.20	0.83	−0.54
	(0.23)	(0.26)	(0.24)
Number of children	0.12	0.94	0.52
	(0.13)	(0.13)	(0.15)
Capital area	0.55	−0.07	0.68
	(0.22)	(0.30)	(0.24)
Consumption and income history (months $t-1$ to $t-12$)			
Mean $\ln c$			−2.93
			(0.26)
Mean $\ln y$			3.42
			(0.29)
Std. dev. $\ln c$			12.30
			(0.58)
Std. dev. $\ln y$			4.23
			(0.22)
Wealth deciles	Monthly	Own history	Monthly
Month FE	Yes	Yes	Yes
Individual FE	No	Yes	No
Sample period	2016–24	2016–24	2019–24
Observations	5,465,569	5,465,569	3,447,780
adj. R^2	0.303	0.703	0.309

Notes: Estimates of equation (5): the checking-share regression of Table 4 with month fixed effects in place of the key rate and the key rate interacted with the deciles of liquid wealth. The month effects absorb the rate itself, so the level of the response is not estimated; the first block reports the difference between the response to the key rate in each decile and in the first decile, in percentage points of the checking share per percentage point of the key rate. Column (1): deciles ranked within month, 2016–2024. Column (2): deciles within the individual's own history, with individual and month fixed effects, which absorb the female dummy. Column (3): 2019–2024, individuals present in at least eight of the previous twelve months, monthly deciles re-ranked within that sample, with the consumption and income history controls of Table 4, not interacted. Samples, decile dummies, demographic controls and the treatment of the months in which the fund is not observed are those of the corresponding columns of Table 16; the linear trend is absorbed by the month effects. Age squared is reported ×100. Standard errors, in parentheses, are two-way clustered by individual and month.

Table 20: Differences in the Response to the Interest Rate across the Wealth Distribution: Transfers

	(1)	(2)	(3)
Key rate × decile of liquid wealth (relative to the 1st decile)			
1st decile	0	0	0
	(ref.)	(ref.)	(ref.)
2nd decile	0.21	0.19	0.23
	(0.05)	(0.04)	(0.05)
3rd decile	0.23	0.35	0.22
	(0.07)	(0.05)	(0.07)
4th decile	0.43	0.50	0.45
	(0.10)	(0.05)	(0.09)
5th decile	0.72	0.62	0.71
	(0.11)	(0.05)	(0.10)
6th decile	0.92	0.73	0.89
	(0.13)	(0.05)	(0.11)
7th decile	1.15	0.83	1.09
	(0.12)	(0.05)	(0.11)
8th decile	1.24	0.98	1.23
	(0.13)	(0.06)	(0.12)
9th decile	1.47	1.10	1.46
	(0.12)	(0.06)	(0.12)
10th decile	1.72	1.19	1.70
	(0.13)	(0.08)	(0.13)
Liquid wealth (deciles relative to the 1st)			
2nd decile	6.68	2.02	6.13
	(0.22)	(0.11)	(0.23)
3rd decile	11.71	3.63	10.83
	(0.28)	(0.13)	(0.29)
4th decile	16.10	4.92	15.23
	(0.34)	(0.14)	(0.36)
5th decile	20.50	6.31	19.65
	(0.38)	(0.16)	(0.40)
6th decile	23.78	7.34	22.90
	(0.42)	(0.17)	(0.43)
7th decile	26.64	8.43	25.55
	(0.41)	(0.17)	(0.44)
8th decile	28.78	9.76	27.64
	(0.43)	(0.18)	(0.47)
9th decile	30.94	10.92	29.79
	(0.44)	(0.19)	(0.48)
10th decile	32.55	12.25	31.35
	(0.50)	(0.23)	(0.54)
Demographics			
Age	−1.23	0.29	−1.66
	(0.04)	(0.12)	(0.05)
Age^2 (×100)	0.61	−0.25	0.96
	(0.04)	(0.12)	(0.05)
Female	8.26		8.28
	(0.25)		(0.27)
Married	−1.74	−1.22	−1.83
	(0.28)	(0.30)	(0.29)
Number of children	−1.23	−1.72	−2.49
	(0.15)	(0.15)	(0.17)
Capital area	0.52	0.68	−0.17
	(0.27)	(0.35)	(0.28)
Consumption and income history (months $t-1$ to $t-12$)			
Mean $\ln c$			6.50
			(0.29)
Mean $\ln y$			−0.39
			(0.32)
Std. dev. $\ln c$			−9.35
			(0.55)
Std. dev. $\ln y$			−2.28
			(0.25)
Wealth deciles	Monthly	Own history	Monthly
Month FE	Yes	Yes	Yes
Individual FE	No	Yes	No
Sample period	2018–24	2018–24	2019–24
Observations	4,371,655	4,371,655	3,449,255
adj. R^2	0.081	0.500	0.091

Notes: The dependent variable is 100 times an indicator for at least one manual transfer between checking and savings accounts, in either direction, in the month; coefficients are percentage points of probability. The specification is that of Table 19: month fixed effects in place of the key rate and the key rate interacted with the deciles of liquid wealth; the first block reports the difference between the response in each decile and in the first decile, per percentage point of the key rate. The sample is that of Table 17: individual-months with non-negative net liquid wealth from January 2018, the first full year of transfer records, to September 2024, with months of zero liquid holdings kept; column (3): 2019–2024 with the history controls. Age squared is reported ×100. Standard errors, in parentheses, are two-way clustered by individual and month.

Table 21: The Response to Instrumented Rate Changes across the Wealth Distribution

	Deciles at $t-6$		Log wealth at $t-6$	
	(1) OLS	(2) IV	(3) OLS	(4) IV
Δ_6 *key rate* $\times$ *decile at* $t-6$ *(relative to the 1st)*				
1st	0 (ref.)	0 (ref.)		
2nd	0.21 (0.10)	0.10 (0.13)		
3rd	0.41 (0.15)	0.24 (0.21)		
4th	0.32 (0.18)	0.01 (0.23)		
5th	0.25 (0.17)	−0.12 (0.21)		
6th	0.03 (0.17)	−0.31 (0.20)		
7th	−0.17 (0.18)	−0.38 (0.25)		
8th	−0.26 (0.17)	−0.53 (0.22)		
9th	−0.32 (0.19)	−0.55 (0.24)		
10th	−0.37 (0.19)	−0.63 (0.24)		
Δ_6 key rate $\times \ln a_{i,t-6}$			−0.11 (0.03)	−0.14 (0.04)
$\ln a_{i,t-6}$			−0.20 (0.04)	−0.19 (0.04)
$\Delta_6 \ln a_{it}$	−6.68 (0.10)	−6.68 (0.10)	−6.65 (0.10)	−6.65 (0.10)
Month FE	Yes	Yes	Yes	Yes
First stage F (Driscoll–Kraay)	–	43.8	–	43.3
Observations	4,593,579	4,593,579	4,593,579	4,593,579
Months	99	99	99	99
adj. R^2	0.092	0.092	0.091	0.091

Notes: The dependent variable is the six-month change in the checking share, in percentage points, as in Table 5. Columns (1)–(2) interact the six-month change in the key rate with the deciles of net liquid wealth at $t-6$, ranked within month; the rows report the difference between the response in each decile and in the first, in percentage points of the checking share per percentage point of the key rate: the six-month-change analogue of the differences plotted in Figure 6. Columns (3)–(4) interact it with the log of real gross liquid holdings at $t-6$, demeaned within month; the coefficient is the additional response per log point of wealth. Deciles and wealth are fixed at $t-6$, before the window over which the rate changes. Every column includes month fixed effects, which absorb the change in the key rate itself, so the level of the response is not estimated; the decile dummies or the log of wealth at $t-6$; and the six-month change in the log of real gross liquid holdings. The IV columns instrument each interaction with the same interaction of the sum of the monetary policy surprises over the six months (Appendix E); the first-stage F is the squared t-statistic of each term's own instrument in its first stage, with Driscoll–Kraay standard errors as in Table 5, and is the same for every interaction since the instrument is one aggregate series. Standard errors, in parentheses, are two-way clustered by individual and month. The sample is that of Table 5: individual-months with non-negative net liquid wealth and positive gross liquid holdings at t and $t-6$, July 2016 to September 2024.

K Aggregate Fluctuations and Model

Model Appendix

Mapping to Data

We assume that when an agent chooses to consume c_t in month t, consumption occurs continuously at a constant rate over the period. Consider an individual who enters period t with cash-on-hand $w_t = y_t + d_t(1 + r^d)$, prior to any transfer into or out of the high-return asset. Suppose a portfolio adjustment of size $b'_t - b_t$ takes place at time $\tau \in [0, 1]$ within the period. Then, the average holdings of low-return (deposit) assets in period t are given by:

$$\begin{aligned}\overline{d}_t &= \int_0^\tau (w_t - c_t \cdot h)\, dh + \int_\tau^1 (w_t - c_t \cdot h) - (b'_{t+\tau} - b_t)\, dh \\ &= \frac{w + d'}{2} + \left(b'_{t+\tau} - b_t\right) \cdot \left(\tau - \frac{1}{2}\right)\end{aligned}$$

and the average holdings of high-return assets are,

$$\overline{b}_t = \tau \cdot b_t + (1 - \tau) \cdot b'_{t+\tau}$$

The share of low-return deposits in the portfolio is then computed as,

$$\text{share low}_t = \frac{\overline{d}_t}{\overline{d}_t + \overline{b}_t}$$

The average return on assets,

$$\text{average return}_t = \text{share low}_t \cdot r^d + (1 - \text{share low}_t) \cdot r$$

The forgone interest for not maximizing the return on the portfolio is

$$\text{forgone interest}_t = \overline{d}_t \cdot (r - r^d)$$

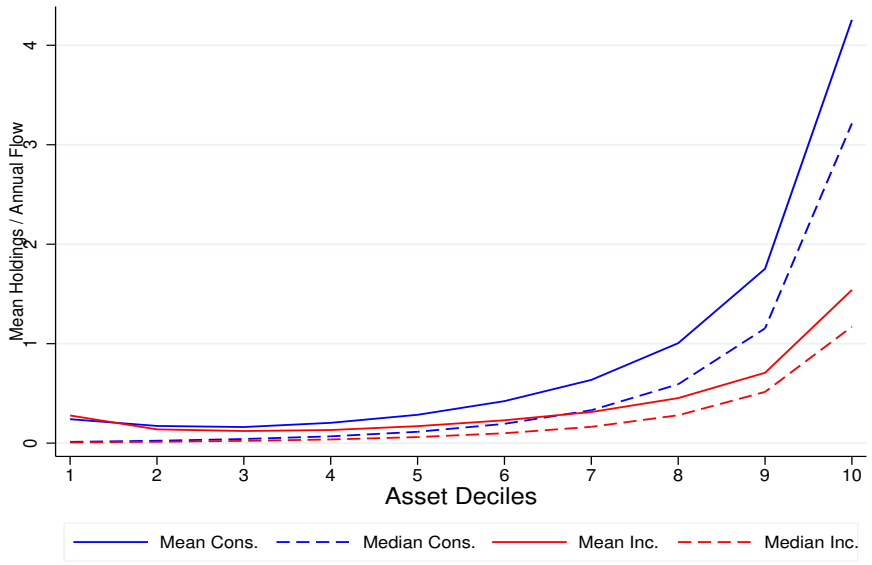
The size of the transfer as a share of the current level of liquid assets is:

$$\text{Transfer size} = \frac{b' - b}{w - c \cdot \tau} = \frac{b' - b}{w \cdot (1 - \tau) + (a + b' - b) \cdot \tau}$$

In the baseline, we assume that the reallocation occurs at the midpoint of the period $\tau = 1/2$.

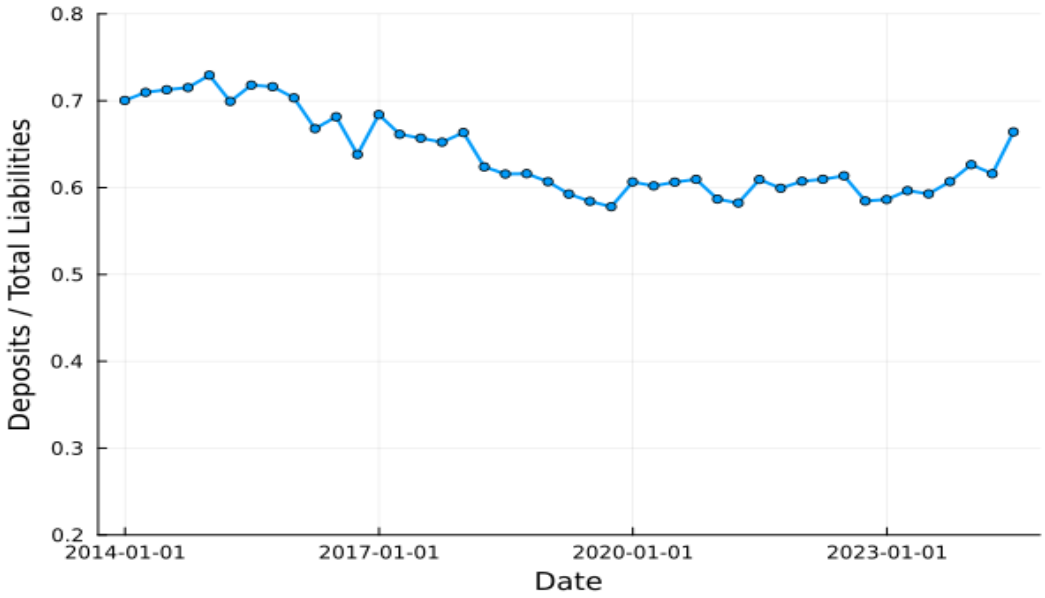
Additional Figures

Figure 37: Average Assets Holdings over Annual Consumption and Income



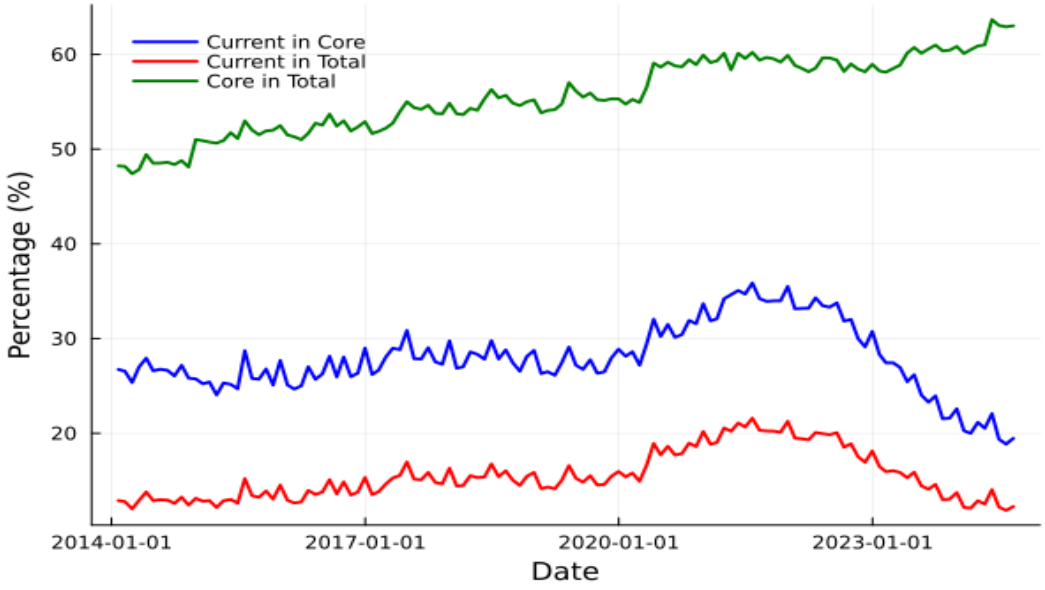
Notes: This figure shows the mean and median liquid safe asset holdings for each wealth decile. Asset holdings are computed as the average holding for each individual per year. Consumption and income are computed as annual sums for each individual. The plot displays the mean and median ratios of average annual asset holdings to total consumption or income for each wealth decile across all years. Wealth deciles are ranked by average annual asset holdings.

Figure 38: Deposits as a Share of Total Liabilities at the Partner Bank



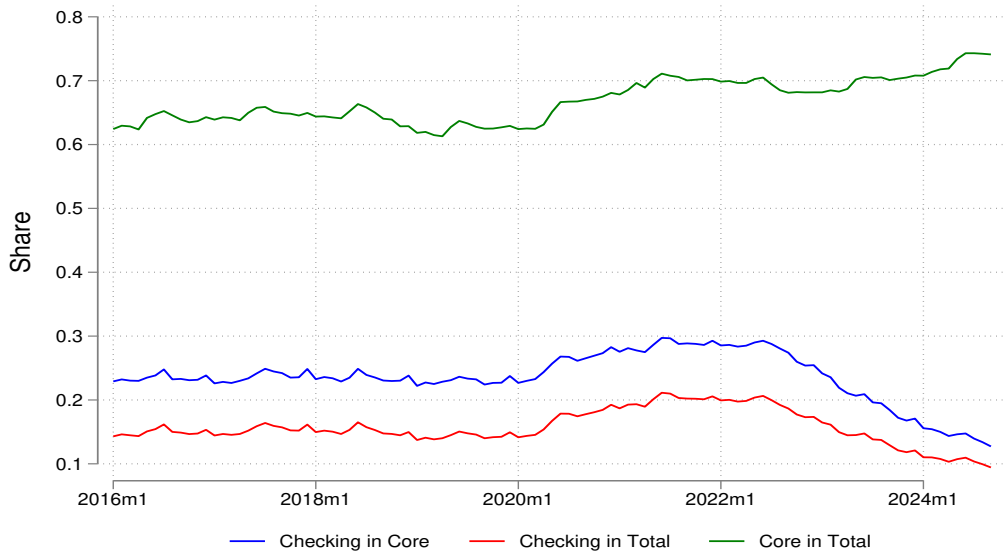
Notes: This figure shows the evolution of total deposits as a share of total liabilities for the partner bank between 2014 and 2024. Information comes from public quarterly balance sheets.

Figure 39: Aggregate Deposit Shares Across Icelandic Banks



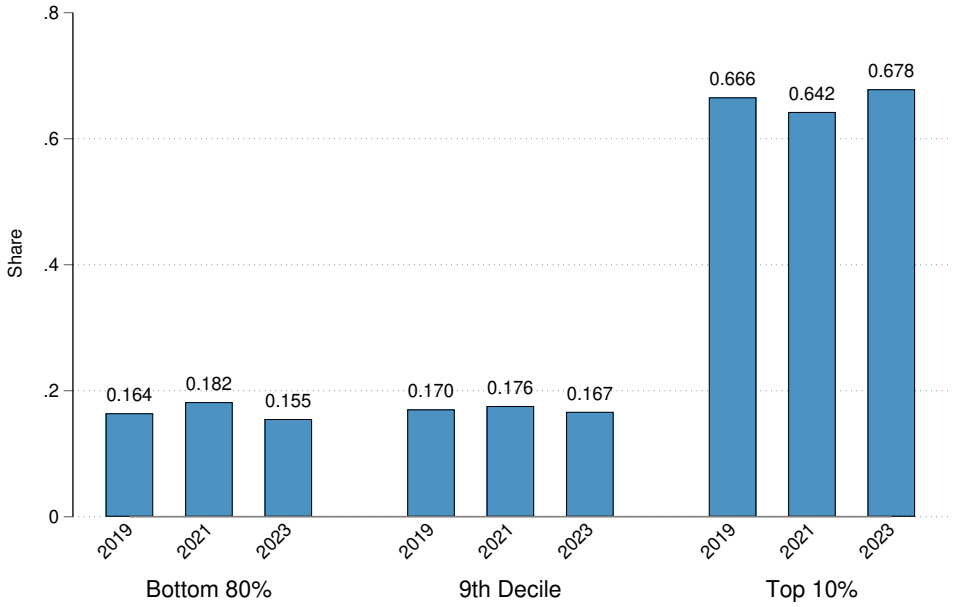
Notes: This figure shows the evolution of deposit shares across all banks in Iceland between 2014 and 2024. Data are sourced from the Central Bank of Iceland. Core deposits are defined as the sum of sight deposits (óbundin innlán) and current accounts (veltiinnlán). Total deposits include core deposits plus indexed deposits, holiday pay accounts, supplementary pension accounts, and other rerm deposits.

Figure 40: Deposit Shares for Active Clients at the Bank



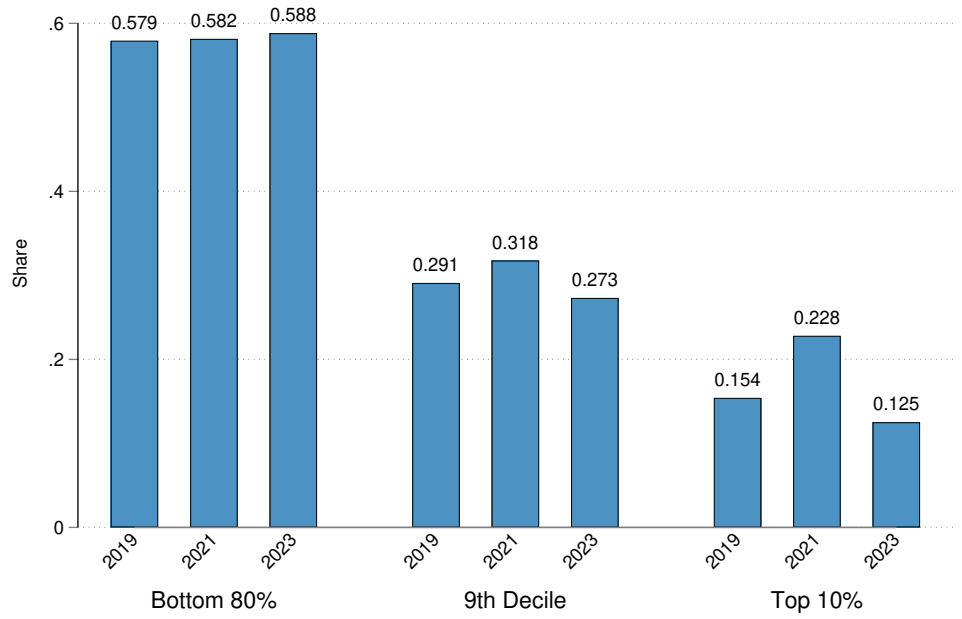
Notes: This figure shows the evolution of deposit shares for active clients at our partner bank between 2016 and 2024. Core deposits are defined as the sum of checking and savings deposits. Total deposits include core deposits plus all other forms of deposits held at the bank.

Figure 41: Share of Core Deposits Held by Wealth Group



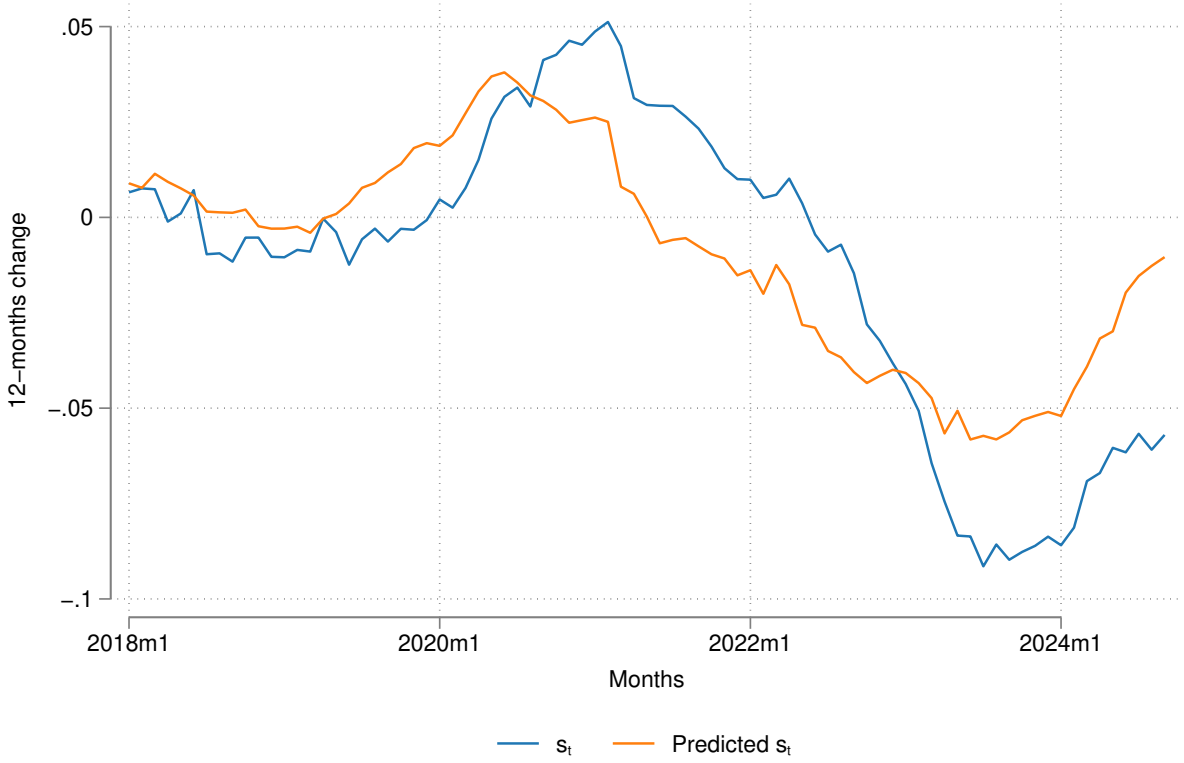
Notes: This figure shows the share of total core deposits held by different wealth groups.

Figure 42: Share of Checking in Core Deposits by Wealth Group



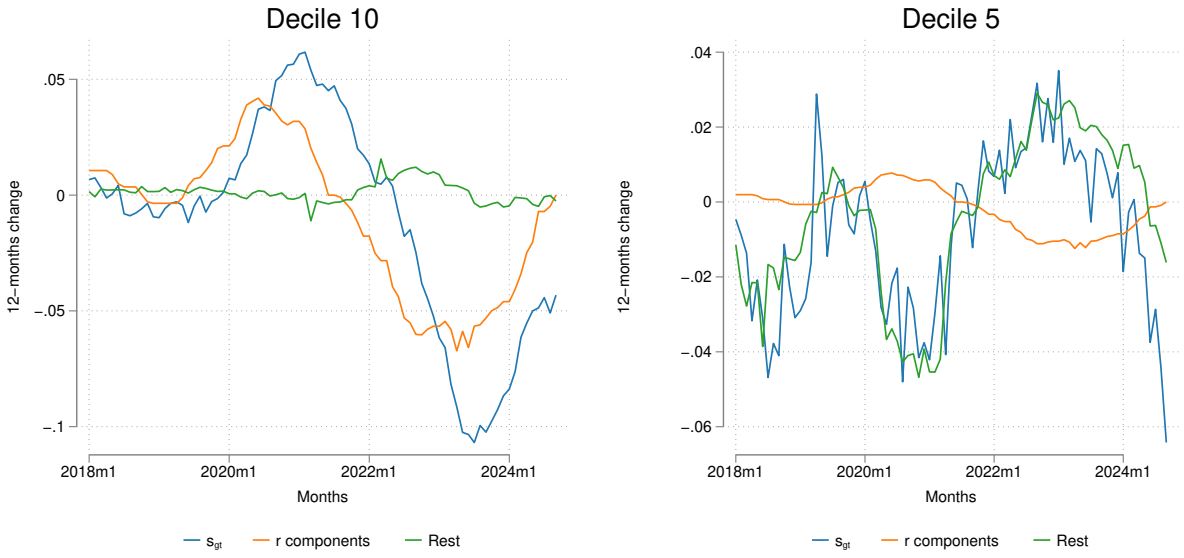
Notes: This figure shows the average share of checking accounts in core deposits held by different wealth groups.

Figure 43: Aggregate Fit



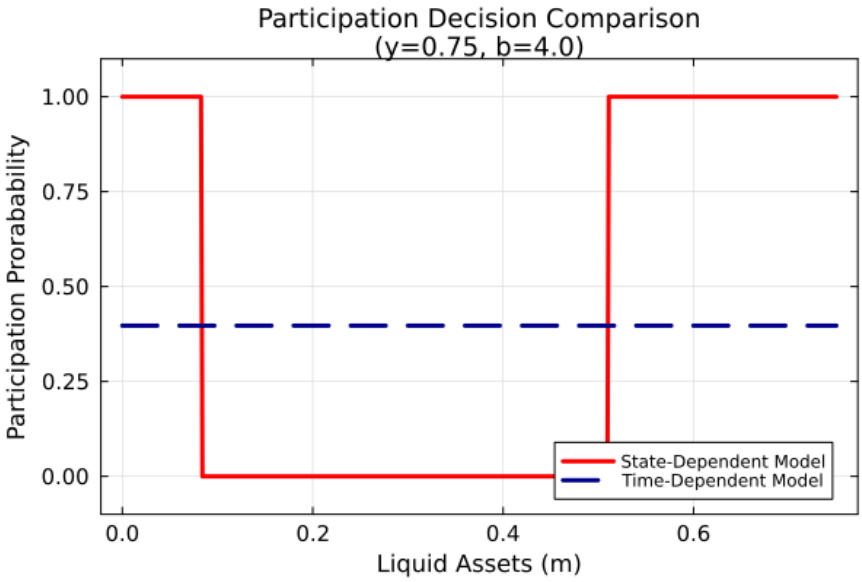
Notes: This figure shows the 12-month change in the aggregate share of checking deposits comparing the observed change in the aggregate share, Δs_t, with the predicted change from our model, $\Delta \widehat{s}_t$.

Figure 44: Decomposing Aggregate Changes in the Share of Low-Return Deposits



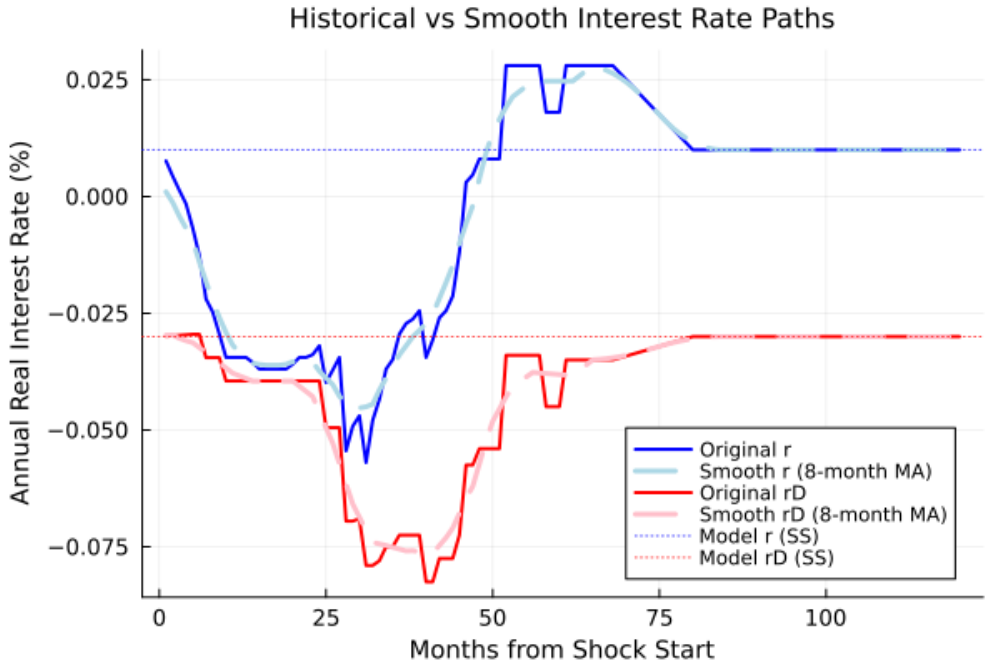
Notes: This figure plots 12-month changes in the actual share of checking deposits for the top wealth decile (left panel) and the fifth wealth decile (right panel), together with the corresponding model-predicted decomposition into the portion explained by interest rate movements and the portion explained by all other covariates in equation (8). Wealth deciles are constructed using core deposit balances. Interest rate effects are computed by holding all other covariates constant at their observed values and varying only the interest rate terms.

Figure 45: Rebalancing Likelihood for Different Models



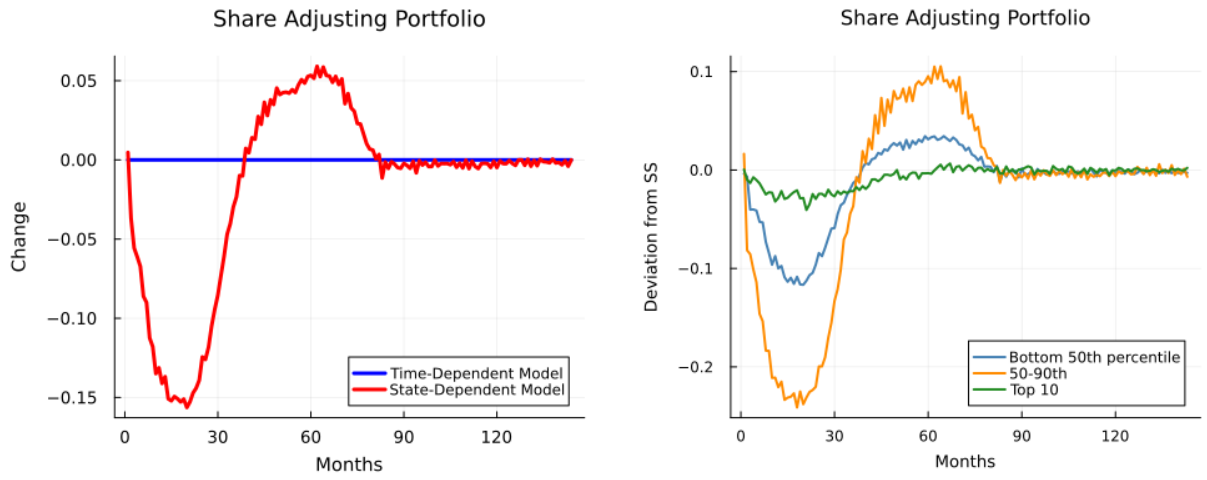
Notes: This figure plots the rebalancing decision between high- and low-return accounts for an individual with income $y = 0.75$ and holdings in the high-return account of $b = 4$ in the calibrated models.

Figure 46: Interest-Rate Paths Used in the Model



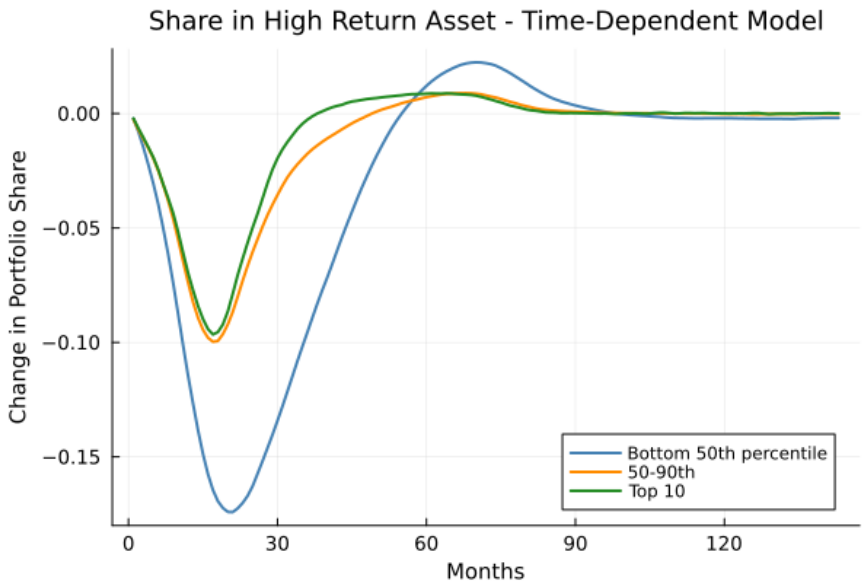
Notes: This figure plots the nominal interest rates on liquid funds (blue) and checking deposits (red). Solid lines show the data, dashed lines the 8-month moving averages used in the model, and dotted lines the steady-state values. Real rates are obtained by subtracting median household inflation expectations obtained from the inflation expectation survey of the Central Bank of Iceland.

Figure 47: Rebalancing Responses in the Models



Notes: This figure shows the change in the share of households rebalancing their portfolios following the interest-rate shock. The left panel plots the average rebalancing share across all households in both the state- and time-dependent models. The right panel shows the rebalancing share by wealth group in the state-dependent specification.

Figure 48: Portfolio Share Responses in the Time-Dependent Model



Notes: This figure shows changes in the share of high-return assets by wealth decile in the time-dependent model following the interest-rate shock.