Knowing Versus Doing: Inflation Expectations, Decision-Making Ability, and Real-World Financial Choices*

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Abstract

We combine administrative bank data with a pre-registered experiment to study how decision-making ability shapes the transmission of inflation expectations into household choices. For the same households, we observe elicited inflation expectations, choices in scripted decision problems, and realized spending, allowing us to distinguish the formation of beliefs from their translation into action. We measure decision-making ability (DMA) using violations of revealed-preference axioms in an incentivized portfolio-choice task. The pass-through of inflation expectations to durable spending differs sharply by DMA: high-DMA households shift purchases forward when they expect higher inflation, while low-DMA households move in the opposite direction. This heterogeneity is also present in hypothetical choices and survives conditioning on the level and precision of inflation beliefs, indicating that the friction lies not only in belief formation but in households' ability to map beliefs into appropriate actions. Low-DMA households are no less confident in their decisions, but are systematically less likely to make theory-consistent choices. Finally, DMA predicts stock-market participation, risky-asset participation, overdraft use, and the coholding of liquid savings and expensive credit. Our results identify decision-making ability as an important constraint on the expectations channel of monetary transmission and a common predictor of household financial choices.

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Key Words: Inflation expectations; decision-making ability; monetary policy transmission; household finance

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1 Introduction

Households' inflation expectations are a central ingredient of modern monetary policy. In textbook New-Keynesian models, a rise in expected inflation lowers the perceived real interest rate, shifts consumption forward, and raises current demand, a mechanism that forms the backbone of forward-guidance policies at the zero lower bound and of unconventional fiscal policy. For that mechanism to operate, two things have to happen in sequence. A household must form a belief about future inflation, and it must translate that belief into a purchase. A friction can bind at either step, and the two call for different remedies. A friction at the first step is an information problem, for which central-bank communication is the natural instrument. A friction at the second step is a problem of the household's mental model: it holds a sensible belief and does not act on it, and supplying more information does not fix that. Two largely separate literatures speak to the two steps. A first strand studies the formation of inflation expectations, documenting that cognitive ability, experience, and exposure shape the level, the accuracy, and the precision of stated beliefs (D'Acunto et al., 2023a; Das et al., 2020; Weber et al., 2022; Malmendier and Nagel, 2016). A second strand links inflation expectations to spending, mostly through self-reported plans or qualitative readiness-to-spend items, although some recent work reaches registry or scanner data (Bachmann et al., 2015; Coibion et al., 2019, 2022; Vellekoop and Wiederholt, 2019; D'Acunto et al., 2021; D'Acunto et al., 2023b). Because the two steps are studied apart, on different samples, and because the second usually stops short of a realized purchase, an ability gradient documented somewhere in this chain cannot be assigned to a step. The household that states an implausible forecast and the household that ignores a sensible one look alike in the aggregate, and the policies that would help them are not the same. Locating the gradient, rather than establishing that it exists, is the question this paper is designed to answer.

Answering it requires observing the belief, the stated plan, and the realized purchase for the same household. The closest antecedents are a series of papers by D'Acunto and coauthors, which established most of what is known about the role of cognitive ability in this chain and which we build on directly. D'Acunto et al. (2023a) link Finnish Defence-Forces IQ scores to inflation expectations and show that the textbook relationship between expected inflation and the readiness to buy durables holds only among high-IQ men; D'Acunto et al. (2023b) show that whether unconventional

fiscal and monetary policies shift durable spending through expectations depends on households' cognitive capacity; and D'Acunto et al. (2021) show how the prices households encounter shape the beliefs they form. Together that work makes a persuasive case that cognitive ability governs the chain from inflation expectations to household behavior, and our results on the chain as a whole agree with it. What that design cannot settle is where in the chain ability binds, because the belief and the choice are elicited in the same instrument and the choice is a stated intention rather than an observed purchase.[1] That distinction is important as stated intentions are a well-documented imperfect guide to realized behavior, diverging from it in both magnitude and sign (Manski, 1990; Bertrand and Mullainathan, 2001). A cognitive gradient in expectations formation and in stated plans therefore need not translate one-for-one into a gradient in realized purchases: it could be amplified, if higher-ability households follow through on their plans more reliably, or dampened, or even reversed, if they act on margins that intention questions miss.

We are not the first to connect inflation expectations to real-world behavior. Our contribution is that we can assign the ability gradient in that connection to a step. For each of the same households we observe the full subjective density of expected inflation and how precisely it is held, the recommendation given in a scripted decision problem in which every payoff-relevant fact is supplied, and the month-by-month realized share of durables in total expenditure taken from bank records. The three together let us show that an ability gradient is present at the belief-formation step, and that the gradient in realized behavior survives conditioning on the belief and on its precision, so that the friction we document sits at the second step rather than at the first. A further advantage of the administrative data is that realized consumption is observed at daily frequency and can be categorized into durables and non-durables, which lets us target precisely the component of spending on which the Euler-equation prediction is sharpest.

This paper combines two ingredients that, to our knowledge, have not previously been joined: (i) a long, daily-frequency, individual-level panel of administrative bank-account data from a large Icelandic retail bank, and (ii) a pre-registered online experiment and survey, administered in October 2021 to a sample of roughly 3,382 of that bank's customers, measuring Decision-Making Ability (DMA) alongside standard inflation- and unemployment-expectations modules, numeracy, Raven's

[1] The question used is the qualitative Consumer Confidence Survey item "*now is a good time to make major purchases such as furniture, electrical or electronic devices*".

matrices, and detailed demographic and educational information. DMA is operationalized as the combined severity of an individual's violations of the Generalized Axiom of Revealed Preference (GARP) and First-Order Stochastic Dominance (FOSD) in an incentivized portfolio-choice task (Choi et al. (2007, 2014)). Our data reveal that DMA correlates only modestly with Raven's progressive matrices ($\rho \approx 0.33$), numeracy ($\rho \approx 0.26$), and formal education ($\rho \approx 0.10$), and all of our substantive findings survive the inclusion of these measures as controls. In other words, DMA captures a component of generalized cognitive capacity that is missed by conventional proxies.

We document three sets of results.

Result 1: The pass-through of inflation expectations to real durable expenditures differs sharply by DMA. Using the panel bank data, we construct, for each individual and each month, the year-on-year change in the share of durables (furniture, cars, and electronics) in total household expenditure and merge it with the household's stated one-year-ahead inflation expectation from the survey. We estimate specifications in which the coefficient on expected inflation is allowed to vary with DMA. In the full sample, the aggregate relationship between expected inflation and the durable share is weak, consistent with the mixed findings of prior work. Once we allow the slope to differ by DMA, however, a sharp heterogeneity emerges: the coefficient on expected inflation is negative for high-DMA households and positive for low-DMA households, with a highly significant interaction. The implied elasticities differ not just in magnitude but in sign: low-DMA households increase durable purchases during the period they expect higher inflation, while high-DMA households reduce the durable share of their basket during the period they expect high prices. These results replicate whether DMA is measured as a binary, a continuous, or a percentile score, and are robust to controls for numeracy, Raven's score, education, income, liquidity, and demographics.

A symmetric pattern emerges in mortgage indexation choices. Iceland's mortgage market is an unusually clean laboratory for this question, because CPI-indexed and nominal mortgages coexist and households actively choose between them at origination. Low-DMA households are significantly more likely to hold CPI-indexed mortgages overall and respond to higher expected inflation by shifting further into indexation; high-DMA households move in the opposite direction, even though the interaction is not statistically significant.

The sign of the gradient is itself informative. The textbook Euler-equation prediction is a negative relationship between expected inflation and future durable spending, exactly what we see for high-DMA households. Low-DMA households move in the opposite direction. Our survey-based evidence below makes this interpretation concrete.

Result 2: DMA predicts the understanding of inflation and the ability to map beliefs into decisions. The survey was explicitly designed to unpack the mechanism behind the interaction in Result 1. Three pieces of evidence converge. First, high-DMA households acquire more information when forming expectations: asked to choose how many of a set of professional inflation and unemployment forecasts they wish to see, high-DMA respondents request systematically more; and the accuracy of their point forecasts, measured by the absolute distance from realized values, is substantially higher. Second, in scripted decision scenarios, high-DMA respondents are more likely to give the qualitatively correct answer: to bring forward a durable purchase when expecting higher near-term inflation; to recommend a fixed-rate (fixed at current inflation) mortgage to a friend who expects higher later-future inflation; and to delay a discretionary purchase when employment uncertainty is high. Third, high-DMA respondents are substantially more accurate when asked to state the central bank's inflation target. Each of these differences is independent of numeracy, Raven's score, and education. Taken together, Results 1–3 support the interpretation that the DMA-based heterogeneity in the durable-share pass-through is driven not by different preferences or information sets mechanically, but by differences in whether households can correctly map their macro beliefs into the appropriate household choice.

Result 3: DMA is a strong, robust predictor of four of the most-studied household finance puzzles. Beyond the interaction with expectations, DMA has first-order predictive power for the set of household finance outcomes that motivated Campbell (2006)'s original agenda: stock-market participation, risky-asset-market participation, the use of overdraft credit,[2] and the coholding of liquid savings together with expensive revolving debt. Comparing the bottom and the top tercile of the ability distribution, equity-market participation is nine percentage points higher and risky-asset-market participation thirteen percentage points higher, while coholding is nine and overdraft use ten percentage points lower. These differences persist once we condition on age, gen-

[2]Overdrafts dominate the unsecured consumer credit market, representing approximately 10% of all household loans

der, marital status, residence, and education, and the two participation margins also survive the Raven score. None of the four survives the addition of numeracy, which absorbs the ability coefficient while remaining large and significant itself. That is a weaker claim than the one we make for the pass-through interaction, where ability is the measure that survives the same horse race, and Section 4 is explicit about the difference. A natural reading is that DMA captures a difficult-to-proxy form of economic rationality that governs precisely those household decisions where standard cognitive and educational measures have delivered disappointing explanatory power.

This paper makes three main contributions. First, we locate the cognitive friction in the chain that runs from inflation expectations to spending. The literature closest to ours is that of D'Acunto et al. (2023a,b, 2021), which established that cognitive capacity governs this chain, and our findings for the chain as a whole confirm theirs. Because the belief and the choice are elicited in the same survey instrument there, however, the gradient cannot be attributed to belief formation rather than to the use of the belief. Observing the subjective density, the scripted recommendation, and the realized purchase for the same households allows that attribution, and we show that the gradient is present at both steps but that the gradient in realized behavior is not explained by the gradient in beliefs. Three features of the design make this possible: an outcome that is *realized* expenditure recorded in bank transactions rather than a qualitative intention; a measure of cognition that is choice-based, incentivized, and gender- and age-neutral, rather than a psychometric score administered to male conscripts alone; and transaction categories that isolate durables, the component of spending on which the Euler-equation prediction is sharpest. A further result that the design delivers is that the gradient is not one of degree: the pass-through runs in opposite directions for low- and high-DMA households.

Second, we introduce DMA to the inflation-expectations literature. GARP- and FOSD-violation scores have been used by Choi et al. (2014), Echenique et al. (2020), and Kim et al. (2021) in cross-sectional samples, and by Carvalho et al. (2024) in panel data. To our knowledge, no prior paper has linked these measures to inflation expectations, to monetary-policy understanding, or to the realized consumption response to expectations. We show that DMA is a powerful predictor of the pass-through heterogeneity and that the predictive content of DMA is not captured by Raven scores, numeracy, or education.

Third, we link DMA to four of the most-studied household finance puzzles. Low-DMA house-

holds simultaneously (i) hold more unsecured consumer credit, (ii) cohold liquid low-yield savings and expensive consumer credit, (iii) participate less in equity and risky-asset markets, and (iv) make mortgage-indexation choices that, under reasonable beliefs about future inflation, appear to raise the real risk of their balance sheet. The conjunction of these patterns within a single, linked bank-survey sample is new. It suggests that these classic household finance puzzles share a common cognitive root.

The remainder of the paper proceeds as follows. Section 2 places the paper in three literatures: the formation of inflation expectations and their link to spending, the measurement of decision-making quality, and the canonical puzzles of household finance. Section 3 describes the Icelandic setting, the administrative panel, the survey and the bridge-file protocol that links them, and the incentivized portfolio-choice task from which we construct DMA; it also reports how weakly DMA correlates with the Raven score, numeracy and education, and shows that it is not a proxy for survey effort. Section 4 establishes the third result, the ability gradient in the four household finance puzzles, and is deliberately placed first among the results because it shows that the measure predicts consequential financial behavior before we ask it to do anything about inflation. Section 5 is the core of the paper and takes the two steps of the transmission mechanism in turn. Section 5.1 shows how ability shapes the belief itself; Sections 5.2 and 5.3 show that it predicts the understanding of inflation and the ability to map a belief onto the action it implies in scripted problems where every payoff-relevant fact is supplied; and Section 5.4 turns to realized durable spending and mortgage indexation in the bank data. Section 5.5 rules out the two competing explanations a reader will reach for first, belief uncertainty and decision confidence, and asks whether any conventional measure of ability produces the same interaction. Section 6 concludes.

2 Related Literature

The paper sits at the intersection of three literatures.

(i) Inflation expectations and household behavior. A large and rapidly growing body of work studies how households form inflation expectations and whether those expectations move real decisions. Bachmann et al. (2015) use the Michigan Survey of Consumers and find a weak, if any,

positive effect of inflation expectations on readiness to spend on durables in normal times. Coibion et al. (2022) exploit information-provision experiments in the U.S. to move households' beliefs exogenously and document that these do impact their spending decsions. Vellekoop and Wiederholt (2019) use Dutch panel data to show that the Euler-equation logic shows up in spending but that the relationship is noisy. Malmendier and Nagel (2016) emphasize the role of lifetime inflation experiences in shaping beliefs. D'Acunto et al. (2021) show that exposure to grocery prices shapes inflation beliefs. D'Acunto et al. (2023b) evaluate whether unconventional fiscal and monetary policies can shift durable spending intentions via expectations, and find that the answer depends on households' cognitive capacity, with the textbook mechanism concentrated among higher-ability households.

(ii) Cognitive ability, rationality, and household financial decision making. The measurement of decision-making quality in economics goes back at least to Afriat (1967) and the revealed-preference tradition. Choi et al. (2007) and Choi et al. (2014) develop the modern GARP-violation-based measure of rationality used in this paper, and show, in a representative sample of the Dutch CentERpanel, that their measure predicts wealth holdings and financial choices. Echenique et al. (2020) and Kim et al. (2021) extend this framework to intertemporal and inequality-aversion contexts. In parallel, a second literature uses psychometric or administrative measures of intelligence and numeracy. Grinblatt et al. (2011, 2012) show that IQ predicts stock-market participation and trading performance in Finnish register data. Agarwal and Mazumder (2013) link cognitive ability to credit-card mistakes. Cole et al. (2014) examine whether education improves financial outcomes. Lusardi and Mitchell (2014) survey the financial-literacy literature; Lusardi et al. (2017) develop a life-cycle model of endogenous financial-literacy investment. Our contribution is to bring a choice-based measure of decision-making ability (DMA) into the inflation-expectations literature and to show that it outperforms conventional cognitive proxies in predicting how a household converts an inflation belief into a realized purchase. On the level of household financial outcomes, by contrast, we find that ability and numeracy are not separable. We also show, consistent with Choi et al. (2014), that DMA is not reducible to Raven scores, numeracy, or education.

(iii) Household finance: participation, credit use, and mortgage choice. The household finance literature synthesized by Campbell (2006) and Gomes et al. (2021) emphasizes a small number of puzzles: non-participation in risky asset markets, the coholding of liquid savings with expensive revolving debt, and suboptimal mortgage choice. Calvet et al. (2007) and Calvet et al. (2009) measure the welfare cost of investment mistakes in Swedish data. Gathergood (2012); Gathergood and Weber (2014); Gathergood and Olafsson (2024) document coholding in European households. Campbell and Cocco (2003) and Koijen et al. (2009) analyze the choice between fixed- and adjustable-rate mortgages; in contexts with CPI-indexed instruments, Campbell (2013) highlights the importance of indexation in managing inflation risk. Our contribution is twofold. First, we show that DMA organizes all four puzzles (participation, risky-asset holding, use of unsecured consumer credit, and coholding of low-yield assets and expensive consumer credit) in the same direction, within a single sample, and after controlling for numeracy, Raven scores, and education. Second, we show that DMA interacts with inflation expectations to drive mortgage-indexation choice, bridging the household finance and inflation-expectations literatures.

Other related strands. Our paper also relates to the rapidly growing literature using bank-administrative data to study household behavior (Ganong and Noel, 2019; Baker, 2018; Olafsson and Pagel, 2018) and the combination of these data with online surveys and experiments (Carvalho et al., 2024; D'Acunto et al., 2024; Fuster et al., 2025), to information experiments on macro expectations (Armantier et al., 2016; Cavallo et al., 2017), and to the measurement of inattention to inflation (Candia et al., 2021; Weber et al., 2022).

3 Institutional Setting, Data, and Measurement

3.1 The Institutional Setting

Our empirical setting is Iceland, a small open economy that offers several features that make it unusually well-suited for studying the transmission of inflation expectations into household financial decisions.

First, its monetary policy regime and inflation history provide a nice setting to evaluate the influence of inflation expectations. Iceland operates under an explicit inflation-targeting regime

since 2001 when the Central Bank of Iceland adopted a formal 2.5% inflation target, alongside a floating exchange rate. In practice, however, inflation has been persistently and substantially above target for much of the post-adoption period. This history means that Icelandic households have direct, lived experience of inflation as an economically meaningful force, not a theoretical abstraction, and have had repeated occasions to form and revise inflation expectations in a salient environment.

Second, a distinctive and institutionally important feature of the Icelandic retail banking system is that households actively choose between two types of mortgage at origination: CPI-indexed mortgages, on which the principal is adjusted monthly in line with the Consumer Price Index, and nominal (non-indexed) mortgages, where the principal is fixed in nominal terms. This choice is consequential: because Icelandic inflation has on average exceeded the central bank's 2.5% target since the adoption of the inflation-targeting regime, the realized cost of CPI-indexed mortgages has historically been higher than borrowers who expected inflation to be anchored at target would have anticipated at origination. Households who took out indexed mortgages during periods of low expected inflation and subsequently experienced high realized inflation found their real debt burden rising rather than eroding, reversing the typical inflation-borrower dynamic. Conversely, households that took out indexed mortgages during periods where inflation expectations were broadly in line with realizations experienced the standard debt erosion channel: rising prices gradually reduced the real value of their outstanding obligations. This institutionalized choice between indexed and nominal debt creates a clean mapping between a household's inflation expectations and its optimal balance-sheet decision, making Iceland a quasi-experimental setting in which we can directly test whether expectations translate into financially consequential choices.[3]

Third, Iceland has a compact and highly concentrated retail banking sector, dominated by a small number of large banks. This concentration is an advantage for research: a single bank's customer base spans a broad cross-section of the population, rather than selecting on the characteristics, for instance income, wealth, and financial sophistication, that predict bank choice in more fragmented systems. We collaborate with one of Iceland's largest retail banks, which serves approximately 30% of the Icelandic population. The bank provides us with transaction-level ad-

[3]For a discussion of the welfare implications of mortgage indexation in inflation-prone economies, see Campbell (2013) and Koijen et al. (2009).

ministrative data spanning 2018–2024, recorded at daily frequency and covering expenditure flows, account balances, mortgage contracts, securities holdings, and loan positions for each customer. We supplement these administrative data with a customized survey, administered to a sample of the bank's customers in October 2021, that elicits subjective inflation and unemployment expectations, their spending plans, decision-making ability (DMA), Raven scores, financial literacy, and detailed demographic and financial information.

3.2 Administrative bank data

The bank panel is constructed from pseudonymized transaction records provided under a strict data-sharing agreement where the research team never received personally identifiable information. We observe, for each individual in our sample, daily transaction flows that we categorize into durable expenditures (furniture, cars, and electronics), non-durable expenditures, and services, as well as account balances, mortgage type and outstanding balance, securities holdings, and loan positions by type. The panel spans January 2018 through September 2024.

3.2.1 Representativeness and External Validity

A natural concern with any bank-based sample is selection: customers of a single institution may differ systematically from the broader population on dimensions relevant to our analysis. We therefore compare our survey sample with Statistics Iceland national benchmarks on a set of key demographic and economic characteristics.

The comparison is reassuring. The gender composition of our sample is close to the national average, with women comprising approximately 50% of respondents. The age distribution is broadly representative of working-age adults, though, as is typical in online surveys, the oldest age groups are somewhat underrepresented relative to the national population. Income and education distributions in the sample closely track national figures from Statistics Iceland, with average monthly household income and the share of university-educated respondents both lying within a narrow band of the population benchmarks. Home ownership rates in the sample (65%) are comparable to the national rate, which is consistent with Iceland's high owner-occupancy rate relative to other European countries. The mortgage characteristics of the sample, including the share holding CPI-indexed, non-indexed, and mixed contracts, also align closely with aggregate figures from the Central Bank

of Iceland's household debt statistics.

These comparisons suggest that self-selection into the survey does not generate large observable differences between our sample and the Icelandic population, lending confidence to the external validity of our findings. Because the bank serves nearly 30% of the population, its customer base is structurally less selected than the customer base of a niche or specialized institution, and the breadth of the transaction panel means that our expenditure and financial outcomes are observed behavior rather than self-reported intentions, further reducing measurement concerns.

3.3 Survey Design

In October 2021 the bank distributed survey invitations to approximately 60,000 customers, aged 18 and over, via email. To preserve respondent privacy, we employed an anonymized bridge-file protocol: the research team generated a set of unique survey links attached to anonymized identifiers; the bank held the mapping between these identifiers and customer email addresses and sent invitations on our behalf; and survey responses were returned to the research team attached only to the anonymized identifier. Incentive payments were processed through the same protocol, with the bank crediting participant accounts on the basis of the anonymized identifier list we provided. At no stage did the research team receive email addresses, names, or payment details. Of the customers invited, 3,382 completed the survey, yielding a completion rate of approximately 5.5%. No survey reminders were sent because the target sample size was reached quickly.

We report the English version of the survey (which was administered in Icelandic) in Appendix B. On average, survey participants spent about x minutes answering the survey. The average compensation was X ISK and the response rate (5.5%), which is high for this kind of a survey (see, e.g., Epper et al., 2020).

3.4 Measuring Decision-Making Ability

We measure Decision-Making Ability (DMA) using the incentivized portfolio-choice task developed by Choi et al. (2007, 2014). In the task, each participant faces a sequence of 15 budget problems. In each problem, they are endowed with a fixed budget and must allocate it between two Arrow-Debreu assets: one that pays off if a fair coin lands heads (Asset 1) and one that pays off if it lands tails (Asset 2). The relative prices of the two assets vary across problems, tracing out a rich set of

budget lines in the payoff space. One problem is randomly selected for payment at the end of the survey, and the participant receives the payoff determined by the coin flip.

The key feature of the task is that it generates revealed-preference data that can be tested for consistency with utility maximization. A participant whose choices are fully rationalizable by a well-behaved utility function will never violate the Generalized Axiom of Revealed Preference (GARP). We quantify the severity of GARP violations using the Critical Cost Efficiency Index (CCEI) of Afriat (1967), which measures the minimum fraction by which each budget constraint must be relaxed to eliminate all violations. A CCEI of 1 indicates perfect consistency; lower values indicate more severe violations. Alongside GARP, we measure violations of First-Order Stochastic Dominance (FOSD): a participant violates FOSD whenever they choose an allocation that is stochastically dominated, that is, one that yields weakly less in every state and strictly less in at least one state than another feasible allocation. Our primary DMA measure is a unified measure of violations of GARP and of monotonicity with respect to FOSD, constructed so that higher values correspond to higher decision-making ability.

Because GARP characterizes the rationalizability of choices by a utility function and FOSD captures a minimal notion of probabilistic coherence, the combined score is a direct measure of how well a participant makes decisions under uncertainty. Crucially, it does not reward any particular risk attitude, a risk-neutral and a highly risk-averse participant can both achieve perfect scores, and it is gender- and age-neutral in the sense that the task places no premium on domain-specific knowledge or formal training.

3.4.1 Correlations with Other Ability Measures

A natural question is how DMA relates to the other cognitive and educational measures collected in the survey: Raven's progressive matrices, numeracy, and highest completed education. Table 10 reports the pairwise correlations between these measures and DMA, and several patterns stand out.

First, while DMA is positively and significantly correlated with all other measures, the magnitudes are modest. Its correlation with the Raven score is 0.333, with numeracy 0.261, and with education only 0.096. This confirms that DMA captures a component of cognitive capacity that is not reducible to fluid intelligence (Raven), quantitative reasoning (numeracy), or formal schooling.

Second, the GARP-only score is similarly correlated with the other measures but somewhat less strongly, suggesting that the FOSD component adds an independent signal. Third, the strongest pairwise correlation in the table is between Raven and numeracy (0.422). Fourth, education has the weakest correlations with all other measures, consistent with a large literature documenting that formal schooling is a noisy proxy for cognitive ability.

Taken together, these correlations justify treating DMA as a distinct dimension of decision-making quality. In the regressions that follow, we control for Raven scores, numeracy, and education, so that any estimated effect of DMA on financial choices and inflation-expectation pass-through reflects variation in decision-making quality that is orthogonal to these conventional proxies.

3.4.2 Survey Effort vs. DMA

A potential concern is that DMA scores may partly reflect survey effort rather than genuine decision-making quality, respondents who spend more time on the task may mechanically achieve higher scores. Tables 12 and 13 address this directly by regressing time spent on the survey on DMA and the other ability measures, separately for incentivized and non-incentivized respondents. The coefficient on DMA in the bivariate specification is small in magnitude (0.326) and, crucially, loses statistical significance entirely once Raven scores, numeracy, and education are included as controls (coefficient 0.147, $p > 0.10$). The R-squared values throughout are negligible, ranging from 0.002 to 0.009, indicating that ability measures collectively explain less than one percent of the variation in time-on-task. These patterns hold symmetrically across the incentivized and non-incentivized subsamples, and the interaction terms between incentives and DMA are uniformly insignificant. We therefore conclude that the DMA score is not a proxy for respondent effort or time investment, and interpret variation in DMA as reflecting genuine differences in decision-making quality rather than differences in survey engagement.

3.5 Summary statistics and balance

Table 11 compares the two ability groups on the variables that enter the regressions below, using the same split as the rest of the paper: the bottom tercile of the ability distribution against the top two. Low-ability respondents have *higher* stated inflation expectations, 3.68 against 3.52, are about four years older, marginally higher income, slightly more likely to be female, have slightly

fewer children, and are slightly less likely to own real estate. The gap in the stated expectation is 0.16 percentage points, which matters for the interpretation of what follows: the two groups do not differ much in what they expect, and Section 5.1 shows that what distinguishes them is the precision with which the belief is held rather than its level. The differences are small in magnitude, which is what one would expect of a measure that is close to orthogonal to income and education, and they are nonetheless precisely estimated, so we condition on all of them throughout rather than relying on the groups being balanced. Appendix Table 14 reports the full set of survey variables by ability tercile.

4 DMA and Real-World Financial Choices

4.1 Four household finance puzzles

We begin by documenting the relationship between DMA and four of the most-studied puzzles in the household finance literature: non-participation in equity markets, non-participation in risky-asset markets more broadly, the use of overdraft credit, and the coholding of low-yield liquid savings alongside expensive consumer credit. These four margins were identified by Campbell (2006) as central puzzles because they represent documented behavioral anomalies: patterns of financial choice that are difficult to rationalize under standard models and that conventional demographic and educational controls leave largely unexplained. Our administrative bank data allow us to measure each outcome directly from transaction and balance records, without relying on self-reports.

Each of the four puzzles has a clear empirical counterpart in our data. Every outcome is measured at the level of the individual over the whole panel rather than in any one month: each is an indicator for whether the behavior is observed at any point between January 2018 and September 2024. Non-participation is therefore the failure to hold any equity position at any point in the sample period, with a broader definition extending to bond funds and mutual funds alongside equities. The overdraft puzzle concerns the use of costly overdraft balances, a form of expensive unsecured credit that dominates the consumer credit market in Iceland, representing approximately ten percent of all household loans and used at some point by 56 percent of our sample. The coholding puzzle refers to the simultaneous holding of liquid savings above a meaningful threshold and expensive revolving consumer debt, a pattern that is difficult to rationalize unless households

face strong liquidity or precautionary motives that outweigh the interest-rate differential. Together, these four outcomes span both the asset and liability sides of the household balance sheet and capture both participation failures and active misallocation of existing resources.

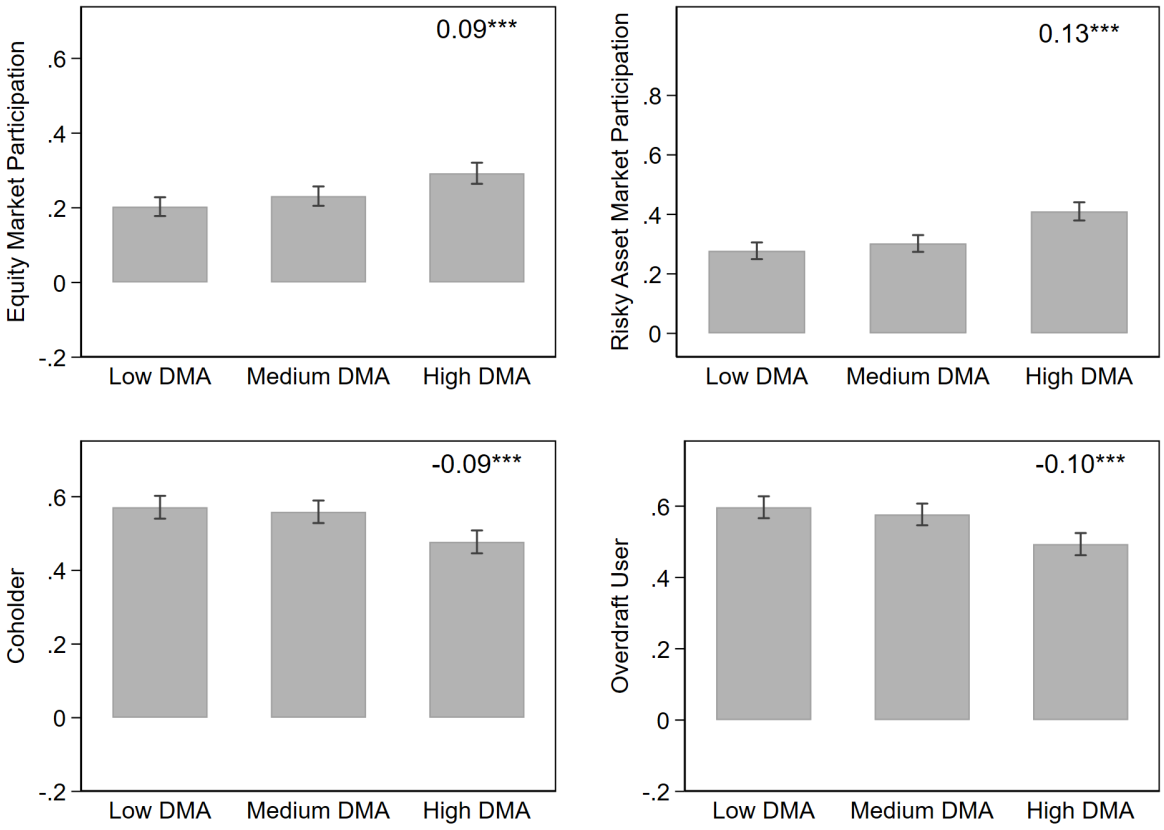
We estimate cross-sectional logit specifications at the individual level, one observation per respondent, regressing each outcome on ability and progressively richer sets of controls. Ability enters as the indicator for the bottom tercile, with the top two terciles as the base category, which is the split used in the pass-through results of Section 5 and throughout the rest of the paper; a negative coefficient therefore means that the low-ability group is less likely to hold the outcome in question. Column (1) includes ability alone. Column (2) adds age, age squared, gender, marital status, and capital-region residence. Column (3) adds the highest degree completed, and column (4) replaces education with the Raven score, so that the two conventional measures are each given their turn rather than entering together.

Figure 1 shows the unadjusted gradient and Table 1 the regression estimates. The figure keeps all three ability terciles rather than the binary split, because the shape of the gradient is itself informative: on each of the four margins the middle tercile sits between the other two, so the relationship is monotone in ability and is not driven by an unusual group at one end. Comparing the bottom and the top tercile, equity-market participation is 8.9 percentage points higher, risky-asset-market participation 13.2 percentage points higher, coholding 9.4 percentage points lower, and overdraft use 10.3 percentage points lower, and all four differences are significant at one percent. Against a base of 20.3 percent of the bottom tercile ever holding equity, the first of these is a gradient of almost half.

Table 1 estimates the same four gradients on the paper's binary split and adds controls one block at a time. Unconditionally, low ability lowers the log-odds of equity participation by 0.317 (0.124) and of risky-asset participation by 0.295 (0.101), and raises those of coholding by 0.206 (0.087) and of overdraft use by 0.255 (0.085); all four are significant at five percent. Adding demographics in column (2) and the highest degree completed in column (3) leaves the sign and the magnitude essentially unchanged, and three of the four remain significant at five percent, coholding being the exception from column (2) onward.

Column (4) is where the two sides of the balance sheet part company. Replacing education with the Raven score leaves the ability gradient intact on the asset side, at -0.186 (0.101) for

Figure 1: The four household finance puzzles across the ability distribution



Notes: Unadjusted sample means, one observation per survey respondent, by tercile of the decision-making ability distribution, $N = 2{,}991$. Each outcome is an indicator for whether the behavior is observed at any point in the panel: holding any equity, holding any risky asset, using overdraft credit, and holding liquid savings alongside expensive revolving consumer credit. Vertical bars are ninety-five percent confidence intervals. The number above each high-ability bar is the high-minus-low tercile difference, with stars from a two-sided test of equality of means: *** $p < .01$, ** $p < .05$, * $p < .1$. The figure keeps all three terciles because the middle group sits between the other two on every margin, which the binary split used for inference elsewhere cannot show. It reports raw means and no controls; the regression-adjusted gradients, on the binary split, are in Table 1.

Table 1: The four household finance puzzles and decision-making ability

Panel A	Equity Market Participation (P1)				Risky Asset Market Participation (P2)			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Low DMA	-0.329***	-0.293***	-0.246**	-0.186*	-0.362***	-0.352***	-0.297***	-0.228**
	(0.094)	(0.097)	(0.098)	(0.101)	(0.085)	(0.088)	(0.089)	(0.091)
Age		-0.017	-0.032**	-0.020		-0.031**	-0.052***	-0.036**
		(0.016)	(0.016)	(0.016)		(0.014)	(0.015)	(0.014)
Female		-0.789***	-0.844***	-0.755***		-0.656***	-0.729***	-0.615***
		(0.091)	(0.092)	(0.092)		(0.082)	(0.084)	(0.083)
Married		0.397***	0.343***	0.364***		0.406***	0.344***	0.368***
		(0.092)	(0.093)	(0.093)		(0.085)	(0.086)	(0.086)
Capital region		0.713***	0.640***	0.666***		0.688***	0.599***	0.634***
		(0.110)	(0.111)	(0.111)		(0.097)	(0.099)	(0.097)
Highest degree			0.120***				0.152***	
			(0.019)				(0.018)	
Raven score				0.098***				0.118***
				(0.022)				(0.020)
Numeracy score								
Observations	2,991	2,991	2,990	2,991	2,991	2,991	2,990	2,991
Panel B	Coholder				Overdraft User			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Low DMA	0.213***	0.157*	0.137	0.103	0.250***	0.197**	0.175**	0.131
	(0.078)	(0.083)	(0.084)	(0.086)	(0.079)	(0.084)	(0.084)	(0.087)
Age		0.197***	0.205***	0.200***		0.205***	0.213***	0.208***
		(0.015)	(0.016)	(0.015)		(0.015)	(0.016)	(0.015)
Female		0.210***	0.231***	0.190**		0.181**	0.204**	0.156**
		(0.078)	(0.079)	(0.079)		(0.079)	(0.079)	(0.080)
Married		0.049	0.073	0.068		0.008	0.035	0.031
		(0.082)	(0.082)	(0.082)		(0.082)	(0.083)	(0.083)
Capital region		-0.346***	-0.310***	-0.320***		-0.379***	-0.340***	-0.348***
		(0.088)	(0.089)	(0.088)		(0.089)	(0.090)	(0.090)
Highest degree			-0.051***				-0.057***	
			(0.017)				(0.017)	
Raven score				-0.053***				-0.064***
				(0.019)				(0.019)
Numeracy score								
Observations	2,991	2,991	2,990	2,991	2,991	2,991	2,990	2,991

Notes: Logit estimates, one observation per survey respondent. Each dependent variable is an indicator for whether the behavior is observed at any point in the panel: holding equity (P1), holding any risky asset (P2), coholding liquid savings alongside expensive revolving consumer credit, and using overdraft credit. Ability enters as the indicator for the bottom tercile, with the top two terciles as the base category, which is the split used throughout the paper; a negative coefficient therefore means that the low-ability group is less likely to hold the outcome in question. Column (1) includes ability alone, column (2) adds age, age squared, gender, marital status, and capital-region residence, column (3) adds the highest degree completed, and column (4) replaces education with the Raven score. Age squared is included wherever age is and is suppressed here. Numeracy is not in any column; the specification that adds it is reported in the text. Coefficients are log-odds and are not marginal effects. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

equity participation and −0.228 (0.091) for risky assets, and removes it on the liability side, at 0.103 (0.086) for coholding and 0.131 (0.087) for overdraft use. Coholding is the weakest of the four throughout: it is significant unconditionally, marginal once demographics enter, and short of conventional levels in columns (3) and (4). The two participation puzzles are the robust ones.

One further comparison belongs here, because a referee will ask for it and because the answer is not the one earlier drafts of this paper gave. Entering numeracy alongside the Raven score, which no column of Table 1 does, removes the ability gradient on all four outcomes: −0.103 (0.103), −0.132 (0.094), 0.083 (0.086) and 0.105 (0.087), none of them significant, and the same holds when education is included as well. Numeracy itself is large and significant at one percent on both participation margins, at 0.426 (0.054) and 0.489 (0.049), and significant at five percent for overdraft use. On these four level outcomes, decision-making ability and numeracy are therefore not separable: each predicts the puzzles, and the data cannot say which does the work.

That is a weaker claim than the one we are able to make for the pass-through interaction in Section 5, where the same horse race leaves ability as the measure that retains most of its size while the conventional proxies collapse (Table 9). The contrast is informative rather than awkward: whether a household participates in the stock market is a question about financial competence broadly, on which numeracy has as much claim as anything else, whereas converting a macroeconomic belief into the correct adjustment to a spending plan is the narrower task that the revealed-preference measure was built to capture. The level results establish that ability travels with the canonical puzzles, in the spirit of Choi et al. (2014), who show that GARP-violation scores predict wealth accumulation in the Dutch CentERpanel; the pass-through results are where the measure earns its keep against the alternatives.

5 DMA and the Pass-Through of Inflation Expectations

Section 4 establishes that decision-making ability predicts four canonical household finance puzzles. This section asks a narrower and theoretically sharper question: whether ability governs the rate at which a household's macroeconomic beliefs are converted into the financial choices that theory says should respond to them. That is distinct from asking whether high-ability households make better choices on average. It asks about an interaction, not a level.

The distinction matters because the textbook mechanism requires two things in sequence. A household must form a belief about future inflation, and it must act on that belief in the direction the Euler equation implies. A friction at either step breaks the chain, and the two call for different remedies. If households are misinformed, supplying better information helps. If they are well informed but cannot map a belief onto the relevant margin, supplying more numbers does nothing. Separating the two requires observing the belief, the stated plan, and the realized choice for the same household, which is what the linkage between our survey and the administrative panel provides.

The section proceeds in four steps. Section 5.1 shows that ability shapes the belief itself, which is why an ability gradient in behavior is not on its own evidence about the second step. Section 5.2 shows that ability predicts the cognitive inputs the mechanism requires, and Section 5.3 that it predicts the ability to map a belief onto the action it implies in scripted scenarios where every payoff-relevant fact is supplied. Section 5.4 turns to realized spending and mortgage choices in the bank data. Section 5.5 rules out the two competing explanations that a reader will reach for first.

5.1 Step (i): ability shapes the belief itself

Before asking whether ability governs how beliefs are acted on, we have to establish how beliefs differ by ability in the first place. If they did not, any gradient in behavior would trivially be a gradient in the second step. They do differ, and in a specific way.

Table 2: The belief and its precision, by decision-making ability

	Low DMA	High DMA	Difference	p
Belief				
Point forecast, next 12 months (%)	3.61	3.51	−0.11	0.373
Point forecast, 12 to 24 months (%)	2.96	2.72	−0.24	0.068
Density mean (%)	5.04	4.44	−0.60	0.000
Belief precision				
Density standard deviation, σ^e (pp)	2.43	2.01	−0.42	0.000
Gap between point forecast and density mean (pp)	2.54	1.86	−0.68	0.000
Bins carrying positive mass (of ten)	4.26	4.22	−0.04	0.753
All mass in a single bin (share)	0.249	0.149	−0.100	0.000
Mass in seven or more bins (share)	0.276	0.236	−0.040	0.020
Response quality				
Probabilities sum to 100 (share)	0.906	0.953	+0.047	0.000

Notes: Respondent-level means. "Density" refers to the Engelberg et al. (2009) distribution elicited over ten bins; σ^e is computed with the mass-at-midpoints estimator. Low DMA is the bottom tercile of the ability distribution. p-values are from two-sided t-tests of the difference in means.

Table 2 reports the comparison. The point forecast, the object most inflation-expectations work uses, does not differ by ability: 3.61 percent against 3.51, a difference of -0.11 with $p = 0.373$. What differs is everything about how the belief is held. The mean of the elicited density is 0.60 percentage points higher for low-ability respondents ($p < 0.001$), its standard deviation is 0.42 percentage points higher ($p < 0.001$), and the gap between a respondent's own point forecast and the mean of their own density is 0.68 percentage points wider ($p < 0.001$).

The shape of the disagreement is informative. The number of bins carrying positive mass is the same in both groups, 4.26 against 4.22 with $p = 0.753$, so low-ability respondents are not simply spreading mass more thinly. They are more likely to put all of it in one bin, 0.249 against 0.149, and also more likely to spread it across seven or more, 0.276 against 0.236. The low-ability density distribution is bimodal in its concentration: either certainty or diffuseness, less often something in between. Appendix Figures 7 and 8 plot the two distributions.

Two things follow. First, a friction is already present at step (i), so an ability gradient in behavior is not yet evidence of the wrong mental model. Second, what distinguishes the two steps is whether the gap in *action* survives conditioning on the belief and its precision. Section 5.5 shows that it does.

5.2 Survey evidence: ability and the understanding of inflation

We next ask whether high-ability households possess the institutional knowledge that inflation-based financial decisions require. The supporting tables are numerous and are collected in Appendix A; the pattern is summarized here.

Appendix Table 15 regresses the absolute distance between each respondent's stated guess of the Central Bank of Iceland's inflation target and the true target of 2.5 percent on ability. A household that understands the monetary policy environment should know this number, so the distance from the truth is a clean measure of monetary policy literacy. Higher ability predicts more accurate guesses, with a coefficient of -4.218 ($p < 0.10$). The coefficient loses individual significance in the column where the Raven score and numeracy enter jointly, which is what one would expect of three correlated measures of one latent capacity rather than evidence against the result.

Ability also predicts how deliberately beliefs are formed. Appendix Tables 16 and 17 show that higher ability raises the probability of choosing to consult individual professional inflation forecasts,

rather than simply receiving their average, before reporting an expectation: 0.376 ($p < 0.01$), falling to 0.196 ($p < 0.01$) with all ability measures included. High-ability households are not merely better informed; they are more actively engaged in becoming informed. The same holds for unemployment. Appendix Table 21 shows that higher ability raises the probability of consulting at least one professional unemployment forecast, 0.225 ($p < 0.01$), falling to 0.138 ($p < 0.01$), so the information-acquisition result is not specific to inflation.

Forecast accuracy follows the same gradient. Appendix Tables 18, 19 and 20 regress the absolute distance between the stated inflation forecast and the realized value on ability, with and without controls for the number of professional forecasts consulted. Higher ability predicts substantially more accurate forecasts, -2.834 ($p < 0.01$). The effect survives controlling for the number of forecasts received, so the accuracy advantage is not a mechanical consequence of having consulted more of them, and with all ability measures entered simultaneously ability retains a coefficient of -0.827 ($p < 0.05$) alongside the Raven score and numeracy. The incentive interactions are uniformly small and insignificant, so the gradient does not depend on whether respondents faced a monetary reward for accuracy.

5.3 Mapping beliefs onto decisions: the scripted scenarios

Knowing the inflation environment is not the same as knowing what to do about it. The survey therefore puts respondents in decision problems where every payoff-relevant fact is supplied, there are no transaction costs, and the question directs attention to the problem. A failure under those conditions is not an information failure.

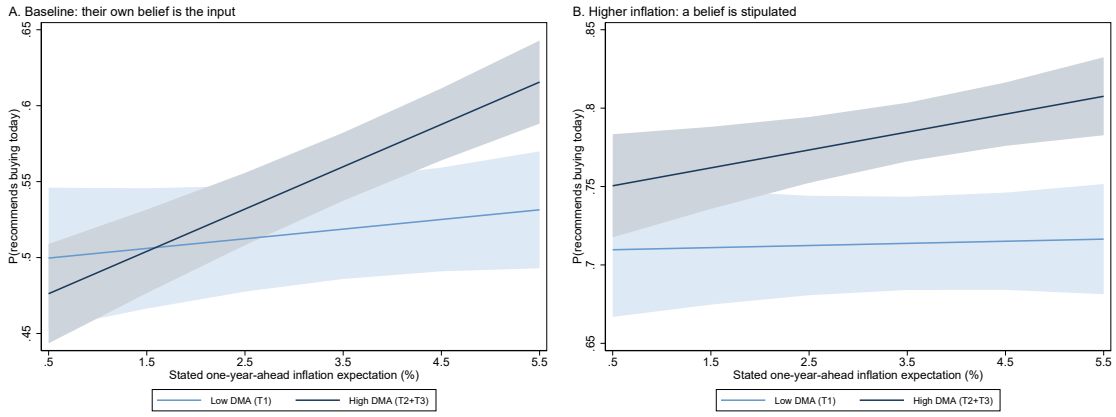
5.3.1 The durable purchase, with and without a stipulated belief

Respondents advise a friend who can buy a durable good now or in a year. The scenario comes in two versions. In the *baseline*, nothing is said about inflation, so the respondent's own expectation is the operative input. In the *stipulated* version a rate is supplied, which should crowd the respondent's own belief out.

The two versions discriminate between two readings of what ability is. If ability is the capacity to use a belief one holds, the gap between ability groups should be larger in the baseline, the only version in which the respondent must supply the belief. If ability is only the capacity to compute

with a number one is handed, both versions demand the same computation and the gap should be the same size in each.

Figure 2: Recommending an earlier purchase, by ability and by scenario version



Notes: The outcome is recommending that the friend buy today, coded as a 4 or 5 on the five-point response scale. The left panel is the baseline version, in which the respondent's own inflation expectation is the operative input; the right panel is the version in which a rate is stipulated. Both panels share a common vertical scale.

Table 3: The ability gap in the slope on the respondent's own expectation

	Ability gap	Std. err.	p
Baseline, the respondent's own belief is the input	0.0217	(0.0067)	0.001
Higher inflation, a belief is stipulated	0.0101	(0.0067)	0.131

Notes: High-minus-low difference in the slope of the recommendation on the respondent's own one-year-ahead inflation expectation, estimated separately in each version of the scenario. N = 2,774 and 2,770. Stacking the two scenarios, the difference between the two gaps is -0.0114 (0.0080), $p = 0.15$.

Figure 2 and Table 3 report the result. The ability gap is 0.0217 (0.0067), $p = 0.001$, in the baseline and 0.0101 (0.0067), $p = 0.131$, when a belief is stipulated. The gap is roughly twice as large, and individually significant, exactly where the household must supply its own belief.

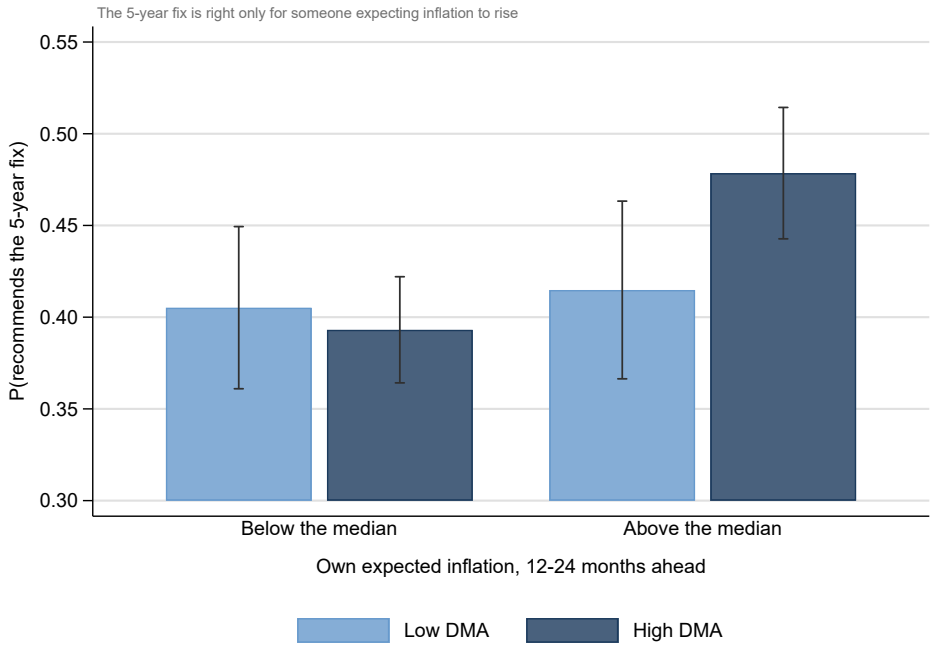
We are careful not to overstate this. Stacking the two scenarios, the difference between the two gaps is -0.0114 (0.0080) with $p = 0.15$, so the contrast runs in the predicted direction but is not itself significant. The defensible statement is that the gap is large and significant where the respondent supplies the belief and neither large nor significant where the belief is handed over, and that a test of equality between the two cannot reject. We do not claim the baseline gap is significantly larger. Appendix Table 22 reports the unconditional level comparison for the stipulated version, where higher ability raises the probability of recommending the earlier purchase by 0.120

(0.023), falling to 0.050 (0.025) with the three conventional measures entered alongside it.

5.3.2 The mortgage vignette

The second scenario asks respondents to advise a friend choosing between a one-year and a five-year fixed rate. Both options are non-indexed and differ only in when the rate resets, so the correct answer depends on the expected *path* of inflation rather than its level: the five-year fix is right only for a household expecting inflation to be higher later. Ability should therefore show up as a response to the belief rather than as a taste for one option, which is a sharper prediction than the durable scenario delivers.

Figure 3: Recommending the longer fix, by ability and by the respondent's own expected inflation path



Notes: Respondents are split at the median of their own 12 to 24 month inflation expectation, which sorts them by whether their belief points toward the longer fix. $N = 2{,}740$: respondents with an ability score, a 12 to 24 month expectation, and a recommendation. One row per person, demographic controls. Appendix Figure 9 reports the same relationship without the split.

Figure 3 splits respondents at the median of their own 12 to 24 month expectation. Below the median the two ability groups are indistinguishable. Above it they separate, 41.5 percent against 47.8 percent, a gap of 7.0 percentage points ($p = 0.03$). The interaction is 0.077 (0.041), $p = 0.06$,

estimated one row per person, and 0.094 (0.043), $p = 0.03$, pooling months and clustering. Low-ability respondents recommend the longer fix at essentially the same rate whatever they expect; only the high-ability group conditions on the belief. The unconditional comparison, in Appendix Table 23, gives a gradient of 0.114 (0.042) that falls to 0.049 (0.045) once the Raven score, numeracy, and education enter, which is the expected pattern for a level comparison in a scenario where the correct answer depends on the path of inflation rather than on who is answering. Appendix Table 25 scores the vignette four ways, against the respondent's own forecasts, against the headline index observed at fielding, against the sample median expectation, and without scoring at all. The ability gap is positive under every scoring, so the sign is not an artifact of the rule chosen, though the unconditional gap is small, between 0.5 and 3.8 percentage points, and reaches conventional significance in none of the four. The evidence that the groups differ comes from the interaction with the belief, not from the unconditional comparison.

The remaining scenario, reported in Appendix Table 24, asks respondents to advise on delaying a discretionary purchase in the face of employment uncertainty. It requires no inflation reasoning and tests precautionary logic instead, and serves as a benchmark showing that the ability gradient is not confined to problems with an inflation component. Sixty-three percent of respondents give the precautionary answer. Taken on its own, ability raises that probability by 0.284 (0.038); conditioning on the Raven score, numeracy, and education, which each carry their own positive and significant coefficient, it falls to 0.097 (0.040) and remains significant at five percent. The gradient in this scenario is therefore real but substantially shared with general cognitive ability. That is a sharper attenuation than the one the same horse race produces for the realized durable outcome, reported in Section 5.5.3 below, and it is what one would expect of a scenario with no inflation content.

5.4 From hypothetical scenarios to real-world choices

Correctly answering a scripted scenario is an easier task than acting on a belief when the money is one's own, where inertia, liquidity constraints, and competing demands intervene. Stated intentions are well-documented imperfect guides to realized behavior, diverging from it in both magnitude and sign (Manski, 1990; Bertrand and Mullainathan, 2001). The ability gradient documented above may therefore be attenuated, or reversed, once real-world frictions enter. Whether it survives is

what the linkage to the administrative panel lets us answer.

We merge each respondent's stated one-year-ahead inflation expectation from the October 2021 survey with their month-by-month realized financial choices in the bank transaction panel, and study two margins where the theoretical prediction is sharpest: the share of durable goods in total expenditure, and the choice between CPI-indexed and nominal mortgage debt.

Empirical framework. We estimate

$$\Delta s_{i,t} = \alpha + \beta_1 \cdot \text{LowDMA}_i + \beta_2 \cdot \pi_i^e + \beta_3 \cdot (\text{LowDMA}_i \times \pi_i^e) + X_{i,t}'\gamma + \mu_t + \varepsilon_{i,t}, \tag{1}$$

where $\Delta s_{i,t}$ is the year-on-year change in the share of durables, defined as furniture, cars, and electronics, in household i's total monthly expenditure in month t, measured in percentage points; π_i^e is the stated one-year-ahead inflation expectation from the October 2021 survey, in percent; LowDMA_i indicates the bottom tercile of the ability distribution; X collects demographics, log income, log liquidity, education, numeracy, and the Raven score; and μ_t are calendar-month effects. Standard errors are clustered at the household level. The estimation window is the twelve months from November 2021 to October 2022.

Three features of the specification should be stated before the results.

First, the parameter of interest is the interaction and not the main effect. Higher expected inflation lowers the perceived real interest rate and should shift durable consumption forward, so a household acting on the textbook logic buys sooner and reduces its durable share during the period in which it expected prices to be elevated. Whether that holds on average is a question the prior literature has answered ambiguously. Whether it holds differentially by ability is the question here.

Second, the base category is the high-ability group, so a positive β_3 says the belief-to-action link is weaker in the theoretically predicted direction among low-ability households. No sign needs reversing below.

Third, the sign of the interaction flips when ability is measured continuously rather than by a tercile indicator. The continuous index rises with ability whereas LowDMA marks the group that lacks it, so the two are signed against opposite things, and a positive binary interaction and a negative continuous interaction are the same finding. The three parameterizations should not be expected to agree in sign, only in what they imply.

The durable share.

Table 4: The change in the durable share and the belief-to-action link

	dc	dc	dc		dc		dc		dc	
Female	-0.053	-0.054	-0.063		-0.106		-0.108		-0.113	
	(0.237)	(0.238)	(0.238)		(0.246)		(0.247)		(0.246)	
Age	-0.026	-0.025	-0.023		0.003		0.004		0.006	
	(0.043)	(0.044)	(0.044)		(0.048)		(0.048)		(0.048)	
Decision Making Ability (DMA)										
Low DMA	-0.133	-0.132	-0.750	**	-0.144		-0.142		-0.718	**
	(0.245)	(0.245)	(0.360)		(0.246)		(0.246)		(0.355)	
Stated inflation, next 12 months (%)		-0.003	-0.072				-0.009		-0.073	
		(0.038)	(0.048)				(0.038)		(0.048)	
Decision Making Ability (DMA) # Stated inflation, next 12 months (%)										
Low DMA			0.171	**					0.159	**
			(0.074)						(0.073)	
Married					-0.498	**	-0.499	**	-0.481	*
					(0.251)		(0.251)		(0.251)	
Log Avg. Income					-0.260		-0.261		-0.261	
					(0.268)		(0.268)		(0.268)	
Log Avg. Liquidity					0.028		0.028		0.031	
					(0.092)		(0.092)		(0.092)	
Highest Degree					-0.012		-0.011		-0.013	
					(0.051)		(0.051)		(0.051)	
Block C Numeracy score: 0-4					0.028		0.029		0.027	
					(0.127)		(0.127)		(0.126)	
Raven Tasks Score					0.062		0.062		0.062	
					(0.061)		(0.061)		(0.061)	
Number of observations	25990	25990	25990		25974		25974		25974	

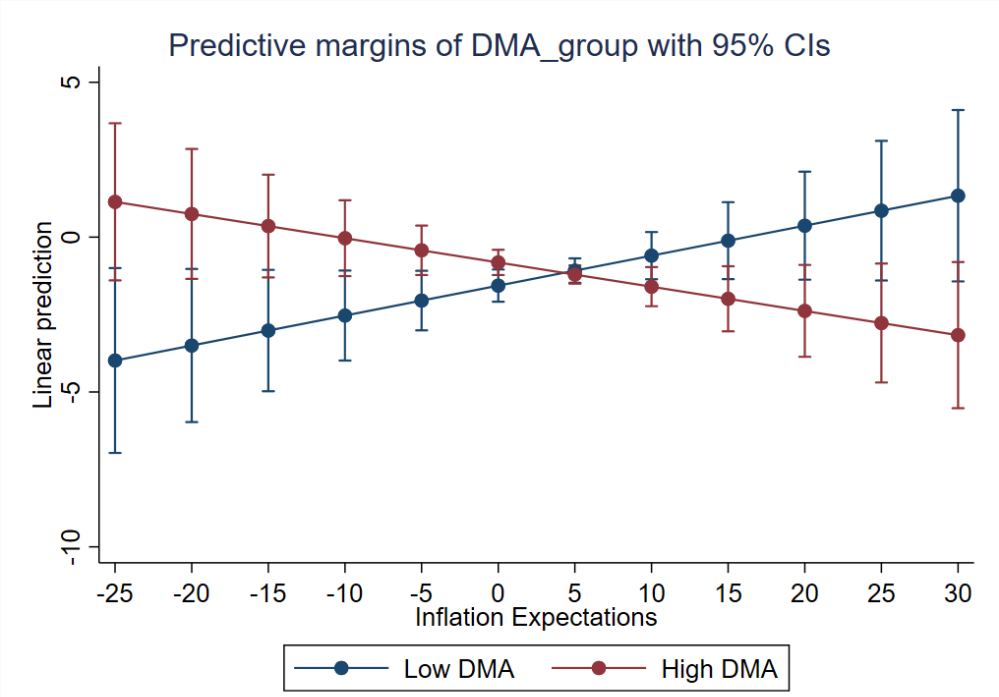
Notes: The dependent variable is the year-on-year change in the share of durables in total spending, in percentage points, where durables are furniture, cars, and electronics. Estimated by OLS on the twelve months from November 2021 to October 2022. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 4 reports the estimates. In the parsimonious specification the interaction is 0.171 percentage points per percentage point of expected inflation, with a standard error of 0.074, $p = 0.021$, on 25,990 household-months and 2,309 households. Adding income, liquidity, marital status, education, numeracy, and the Raven score gives 0.159 (0.073), $p = 0.030$, on 25,974 household-months and 2,307 households.

In specifications with main effects only, the aggregate relationship between stated expectations and the change in the durable share is small and statistically indistinguishable from zero, with a coefficient between -0.003 and -0.009. This null is consistent with the mixed findings of the prior literature (Bachmann et al., 2015; Vellekoop and Wiederholt, 2019), and the heterogeneity documented here suggests why: pooling households whose responses run in opposite directions attenuates the average toward zero.

Figure 4 plots the predicted change against the stated belief, separately by ability group, over the range the data cover. The two lines cross. The high-ability line slopes downward and the low-ability line slopes upward: high-ability households reduce their durable share during the period in which they expected higher inflation, consistent with having brought purchases forward, while low-

Figure 4: Predicted change in the durable share, by ability group and stated inflation expectation



Notes: Predictive margins from the fully controlled specification of Table 4, plotted over the tenth to ninetieth percentile of the belief distribution. Shaded areas are ninety-five percent confidence intervals.

ability households increase it, a pattern inconsistent with intertemporal optimization but consistent with a nominal confusion in which higher expected prices raise nominal outlays on big-ticket items rather than reallocating their timing.

We are precise about what the figure establishes. Estimated separately on the specification of column (5) of Appendix Table 26, the high-ability slope is -0.073 (0.048) and the low-ability slope is $+0.088$ (0.057), so their difference is the 0.161 of that column. Neither slope is individually distinguishable from zero; the difference between them is, with $p = 0.028$. The claim is about the contrast and not about either group on its own, which is the sense in which an average pass-through estimate can conceal rather than summarize the behavior beneath it.

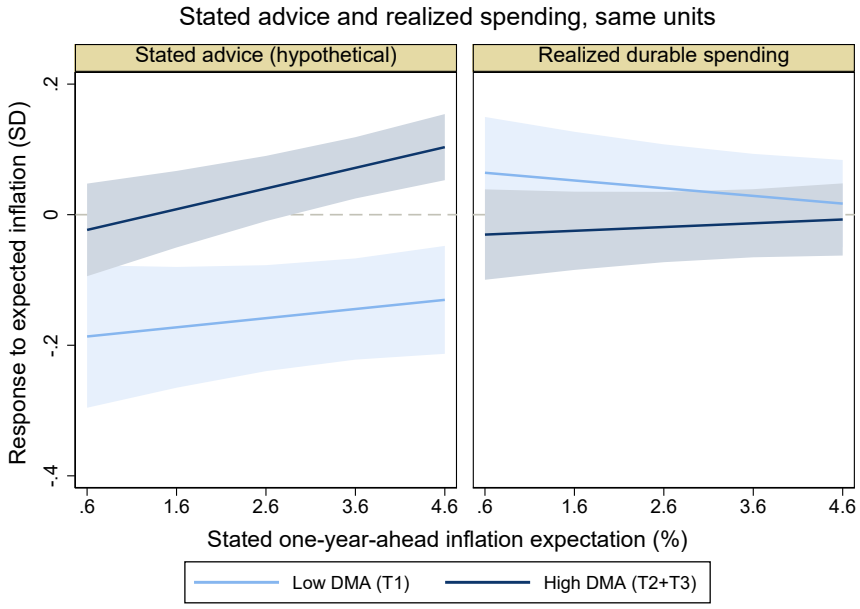
The estimate does not depend on the control set or on the parameterization of ability. Appendix Table 26 adds the controls one block at a time across seven columns and the interaction never leaves a narrow band. Appendix Table 27 replaces the indicator with the continuous index and Appendix Table 28 with the percentile rank; since the rank runs from 1 to 100, its coefficients are one hundredth of the continuous ones, which is the arithmetic check that the three describe one object. The continuous index gives -0.378 (0.170), $p = 0.027$, parsimoniously and -0.357 (0.169), $p = 0.035$, fully controlled; the percentile rank gives -0.0027 (0.0013), $p = 0.042$, and -0.0026 (0.0013), $p = 0.051$. The fully controlled percentile specification is the one estimate in the set that sits just outside five percent, which we note rather than round past.

The hypothetical and the realized decision on one scale. Sections 5.3 and the preceding paragraphs measure different things in different units: a recommendation in a scripted scenario, and a change in a spending share from bank records. Expressing both as a standard-deviation movement of the respective outcome per percentage point of expected inflation puts them on one scale.

Figure 5 reports the comparison. The ability gap is $+0.0177$ (0.0163) standard deviations in the hypothetical decision and $+0.0176$ in the realized one, and the difference is -0.0001 (0.0193), $p = 0.997$.

Two caveats belong with this number. It is small, and the claim rests on the sign pattern and the equality rather than on the magnitude. And no test of this precision could establish that the two are identical. What it does establish is that the hypothetical decision is not obviously

Figure 5: The hypothetical and the realized decision on a common scale



Notes: The ability gap in each outcome, expressed as a standard-deviation movement per percentage point of expected inflation. The hypothetical gap is +0.0177 (0.0163) and the realized gap +0.0176; the difference is −0.0001 (0.0193), $p = 0.997$. Stated expectations run from 0.6 to 4.6 percent between the tenth and ninetieth percentiles.

overstating the friction. The usual worry about scenario evidence is that respondents are careless when nothing is at stake, which would make the hypothetical gap the larger of the two. It is not larger. That is the sense in which the scenario earns the right to be read as informative about behavior in the bank data rather than as a separate exercise.

Robustness. Clustering is not doing the work: the fully controlled interaction has a clustered standard error of 0.073 against a heteroskedasticity-robust one of 0.070, so the inference above is the more conservative of the two. The result is also not mean reversion in lumpy purchases. Appendix Table 29 adds the household's own durable share over the twelve months preceding the estimation window, which is the natural control for a household that happens to have bought a car the year before. That control is powerful, carrying a coefficient of −61.1 (2.2), and it is available for every household in the estimation sample, so the comparison is between two specifications on identical rows. The interaction falls from 0.159 (0.073) to 0.130 (0.060), retaining 82 percent of its size, while the standard error falls by a fifth and the p-value is unchanged at 0.031. A result generated by mean reversion would not survive conditioning on the quantity that generates it. On

a pre-COVID placebo year the same regression gives +0.004 (0.112), $p = 0.97$ on 1,916 households, which is a precise zero rather than an underpowered one. Appendix Figures 10, 11 and 12 report the month-by-month window sweep, the same coefficient estimated twelve ways including one row per household weighted by months observed, and the level rather than the change.

5.4.1 Mortgage indexation

The Icelandic mortgage market provides a second, higher-stakes test. As described in Section 3.1, households choose at origination between CPI-indexed mortgages, whose principal is adjusted monthly in line with realized inflation, and nominal mortgages, whose principal is fixed. The welfare consequences depend on the borrower's inflation expectations. A household expecting high inflation should prefer nominal debt, whose real burden inflation erodes; a household that instead takes indexed debt passes the inflation cost back to itself through principal adjustment, reversing the standard debt-erosion channel.

One feature of this margin governs what it can establish. Durable spending is a flow, observed every month, so the design has considerable power. Mortgage indexation is a stock, and a household's contract is very nearly fixed within a twelve-month window. Although the mortgage regressions are estimated on a similar number of household-months, the independent variation is essentially cross-sectional. We state this in advance so that the asymmetry in what follows is read as a property of the outcome rather than as a weakness of the evidence.

The outcome has three categories: a non-indexed mortgage, a CPI-indexed mortgage, and no mortgage. Whether a household borrows at all is part of the choice under study, so not holding a mortgage is modelled rather than discarded. We estimate a multinomial logit with "no mortgage" as the base outcome, so every coefficient in Table 5 is relative to not borrowing and the table reports one panel per non-base outcome.

Levels. Ability predicts the composition of the mortgage book. Among holders, the share with a CPI-indexed contract is 0.377 for the low-ability group against 0.331 for the high-ability group ($p = 0.074$), the share with a non-indexed contract is 0.461 against 0.530 ($p = 0.011$), and the share with a mixed contract is 0.162 against 0.139 ($p = 0.242$). The comparison that clears conventional significance is the non-indexed one. The regression estimates agree: in Table 5 the low-ability

Table 5: Mortgage type held and decision-making ability

	(1)	(2)	(3)	(4)	(5)	(6)
Panel: Non-indexed mortgage						
Female	-0.084	-0.065	-0.065	0.168	0.172	0.172
	(0.111)	(0.115)	(0.115)	(0.120)	(0.125)	(0.125)
Age	0.161***	0.157***	0.157***	0.083***	0.079***	0.079***
	(0.024)	(0.024)	(0.024)	(0.028)	(0.028)	(0.028)
Low DMA	-0.307**	-0.264**	-0.230	-0.233*	-0.196	-0.193
	(0.124)	(0.128)	(0.191)	(0.131)	(0.135)	(0.216)
Stated inflation, next 12 months (pp)		0.012	0.015		0.006	0.006
		(0.018)	(0.023)		(0.021)	(0.024)
Low DMA × stated inflation			-0.009			-0.001
			(0.039)			(0.046)
Married				0.324***	0.316**	0.316**
				(0.123)	(0.126)	(0.127)
Log average income				0.890***	0.889***	0.889***
				(0.118)	(0.124)	(0.124)
Log average liquidity				0.145***	0.140***	0.139***
				(0.047)	(0.049)	(0.049)
Highest degree				0.008	0.014	0.014
				(0.027)	(0.028)	(0.028)
Numeracy score				0.169**	0.132*	0.132*
				(0.070)	(0.072)	(0.072)
Raven score				-0.001	-0.002	-0.002
				(0.031)	(0.032)	(0.032)
Panel: Indexed mortgage						
Female	0.237*	0.228	0.226	0.331**	0.333**	0.332**
	(0.135)	(0.141)	(0.141)	(0.140)	(0.145)	(0.145)
Age	0.129***	0.121***	0.122***	0.089***	0.073**	0.074**
	(0.029)	(0.029)	(0.029)	(0.031)	(0.032)	(0.031)
Low DMA	0.144	0.235*	0.088	0.099	0.198	0.044
	(0.138)	(0.142)	(0.205)	(0.148)	(0.152)	(0.210)
Stated inflation, next 12 months (pp)		-0.023	-0.043		-0.022	-0.043
		(0.021)	(0.031)		(0.022)	(0.030)
Low DMA × stated inflation			0.042			0.044
			(0.042)			(0.042)
Married				-0.074	-0.007	-0.001
				(0.138)	(0.143)	(0.144)
Log average income				0.701***	0.762***	0.765***
				(0.116)	(0.122)	(0.122)
Log average liquidity				0.013	-0.033	-0.034
				(0.051)	(0.052)	(0.052)
Highest degree				-0.038	-0.030	-0.031
				(0.031)	(0.033)	(0.032)
Numeracy score				-0.059	-0.059	-0.060
				(0.073)	(0.077)	(0.077)
Raven score				0.030	0.030	0.030
				(0.035)	(0.038)	(0.037)
Observations	30,311	28,171	28,171	30,279	28,151	28,151
Households	2,678	2,485	2,485	2,675	2,483	2,483

Notes: The outcome has three categories: a non-indexed mortgage, a CPI-indexed mortgage, and no mortgage. Estimated by multinomial logit with *no mortgage* as the base outcome, so every coefficient is relative to not borrowing, and one panel is reported per non-base outcome. Estimated on the twelve months from November 2021 to October 2022. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

indicator in the non-indexed panel is −0.307 (0.124) in the parsimonious specification and −0.233 (0.131) fully controlled, while in the indexed panel it is 0.144 (0.138) and 0.099 (0.148) and does not approach significance. Low-ability households are, relative to not borrowing, distinctly less likely to hold the contract whose real burden inflation erodes. They are not detectably more likely to hold the indexed one. The honest statement of the level result is about non-indexed debt.

Table 6: Change in mortgage indexation and decision-making ability

	index_change		index_change		index_change		index_change		index_change		index_change	
Female	0.011	*	0.011	*	0.011	*	0.010	*	0.010	*	0.010	*
	(0.006)		(0.006)		(0.006)		(0.006)		(0.006)		(0.006)	
Age	-0.001		-0.001		-0.001		-0.000		-0.001		-0.001	
	(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)	
Decision Making Ability (DMA)												
Low DMA	0.016	**	0.016	**	0.008		0.017	**	0.017	**	0.008	
	(0.007)		(0.007)		(0.009)		(0.007)		(0.007)		(0.010)	
Stated inflation, next 12 months (%)			0.001		-0.000				0.001		-0.000	
			(0.001)		(0.001)				(0.001)		(0.001)	
Decision Making Ability (DMA) # Stated inflation, next 12 months (%)												
Low DMA					0.002						0.002	
					(0.002)						(0.002)	
Married							-0.001		-0.001		-0.001	
							(0.006)		(0.006)		(0.006)	
Log Avg. Income							-0.003		-0.003		-0.003	
							(0.005)		(0.005)		(0.005)	
Log Avg. Liquidity							-0.001		-0.001		-0.001	
							(0.002)		(0.002)		(0.002)	
Highest Degree							-0.002	*	-0.003	*	-0.003	*
							(0.001)		(0.001)		(0.001)	
Block C Numeracy score: 0-4							-0.005		-0.005		-0.005	
							(0.003)		(0.003)		(0.003)	
Raven Tasks Score							0.003	*	0.003	*	0.003	*
							(0.002)		(0.002)		(0.002)	
Number of observations	26012		26012		26012		25996		25996		25996	

Notes: The dependent variable is the change in the CPI-indexed mortgage indicator over the sample period, which takes the values −1, 0, and 1 and is therefore estimated by OLS rather than by a binary model. Estimated on the twelve months from November 2021 to October 2022. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

Changes. Table 6 reports the change in indexation over the sample period. The main effect of low ability is 0.016 (0.007), significant at five percent in four of the six specifications: low-ability households were more likely to move toward indexed contracts over a year in which inflation was rising, which is the direction a household acting on the standard logic would avoid.

The interaction. The interaction between ability and the stated belief runs in the same direction as in the durable regressions but is not precisely estimated. For the indexed outcome it is 0.042 (0.042) in the parsimonious specification and 0.044 (0.042) fully controlled, with p of 0.314 and 0.292. Appendix Table 30 gives 0.037 (0.046) and 0.041 (0.046) under the majority-indexed definition, and the survey-based outcomes in Appendix Tables 31 and 32 are similar in sign and similarly imprecise.

The point estimates are economically substantial. Taken at face value, 0.044 implies that

across the five-percentage-point range separating the tenth and ninetieth percentiles of the belief distribution, the relative odds of holding an indexed rather than no mortgage move about twenty-five percent more for a low-ability household than for a high-ability one. They are also imprecise. The ninety-five percent confidence interval on the fully controlled estimate runs from -0.038 to 0.126, and the smallest effect this design could detect with eighty percent power is 0.117, roughly two and a half times the point estimate. The data are consistent with an interaction of the size the durable results would lead one to expect and equally consistent with none. We report the estimates and the interval, and rest no part of the argument on them.

What the mortgage evidence contributes. It supplies the exposure side of the story rather than a second independent test of the mechanism. The households whose spending responds least to their own inflation expectations are also the households less likely to hold debt that inflation erodes and more likely to have moved toward indexed debt as inflation rose. The transmission channel and the distributional consequence point the same way, and neither depends on the interaction being estimated precisely.

5.5 Ruling out the competing explanations

A household that does not act on its inflation expectation could be telling us three different things. It may have the wrong mental model of what the belief implies, which is what we measure with decision-making ability. It may hold the belief too imprecisely to act on, which is *belief uncertainty*, σ^e, and is uncertainty about the world. Or it may be unsure which action the problem calls for, which is *decision confidence* and is uncertainty about one's own reasoning. We measure all three so that they can be told apart. Appendix Figure 13 shows that they are empirically distinct: the decision-confidence distributions for the two ability groups lie almost on top of each other, while the σ^e distributions do not.

5.5.1 Belief uncertainty

Of the two rivals, belief uncertainty is the one that could in principle generate the result. As Table 2 shows, σ^e is 0.42 percentage points lower for high-ability respondents ($p < 0.001$), and a household holding a wider distribution may rationally respond less to its own point forecast. The test is to

give σ^e its own slope on π^e and ask whether the ability slope survives.

Table 7: Belief uncertainty as a competing explanation

Low DMA $\times$ π^e	Estimate	(s.e.)	Obs.
(1) Baseline, full sample	0.161**	(0.073)	25,982
Dropping respondents whose bins do not sum to 100			
(2) Same specification, σ^e sample only	0.127	(0.084)	24,242
(3) + σ^e level	0.129	(0.084)	24,242
(4) + $\sigma^e \times \pi^e$	0.129	(0.086)	24,242
(5) + both rivals, each with a slope	0.131	(0.086)	24,206
Keeping them, so the sample stays at that of row (1)			
(6) + rescaled σ^e and its slope	0.155**	(0.075)	25,750
(7) + mean-filled σ^e, indicator, slopes	0.159**	(0.077)	25,982

Notes: The dependent variable is the year-on-year change in the durable share, in percentage points. Row (1) is the headline specification. Rows (2) to (5) restrict to respondents for whom σ^e can be computed, which requires that the elicited bins sum to 100. Rows (6) and (7) hold the sample at that of row (1), either by rescaling the bins or by filling σ^e at its mean and adding an indicator. Standard errors clustered at the household level. ** $p < .05$.

Table 7 reports the ladder. The coefficient is flat across every column in which the sample is held fixed: the control absorbs none of it, and $\sigma^e \times \pi^e$ is itself only 0.021 (0.011). What moves is row (2), before any control enters at all. Computing σ^e requires that a respondent's bins sum to 100, and low-ability respondents fail that filter more often, 90.6 percent against 95.3 percent, so restricting to the σ^e sample changes the composition of the estimation sample. Rows (6) and (7) remove that step by rescaling the bins or by filling σ^e at its mean with an indicator, which holds the sample at that of row (1). Both land back on the baseline. The fall at row (2) is therefore sample composition rather than the control, which is a claim the two full-sample rows demonstrate rather than assert.

5.5.2 Decision confidence

The second objection is that low-ability households are unsure which action their belief calls for, so they sit still. Because the scenario stipulates every payoff-relevant fact, what remains is uncertainty about one's own reasoning, which we measure as a stated confidence rating on the respondent's own recommendation on a one to seven scale, following Bucher-Koenen et al. (2025). Confidence is flat across ability, 5.15 against 5.17 with $p = 0.72$, so unlike σ^e it cannot generate the result. The more informative question is how confidence relates to being right.

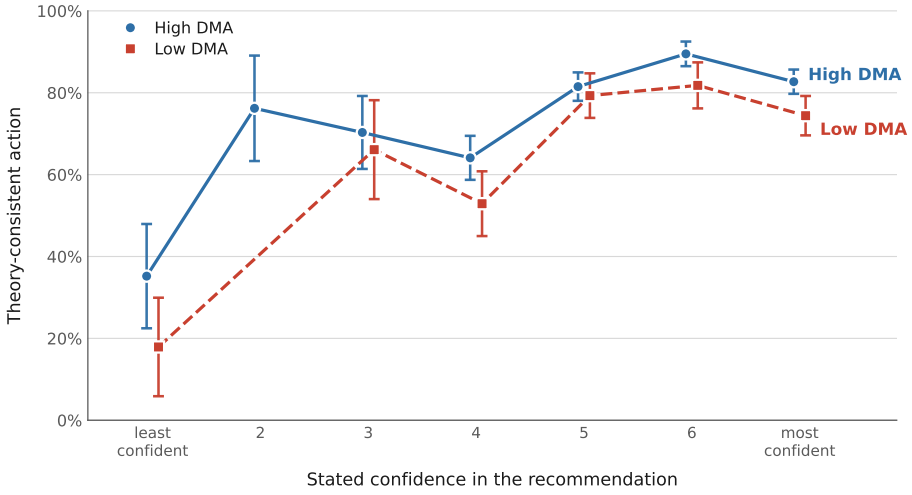
Table 8 and Figure 6 report the comparison. Low-ability respondents are no less confident,

Table 8: Equally confident, and more often wrong

	High DMA	Low DMA	Difference
Confidence (1 to 7)	5.40	5.34	−0.056 ($p = 0.36$)
Theory-consistent recommendation	78.9%	70.4%	−0.084*** (0.017)
at the same stated confidence			−0.078*** (0.017)
Informativeness of confidence (ROC area)	0.622	0.616	0.006 ($p = 0.81$)

Notes: Higher-inflation durable scenario, $N = 2{,}985$. The ROC area is the probability that a randomly chosen correct recommendation carried higher stated confidence than a randomly chosen incorrect one, and measures resolution rather than calibration level. Appendix Figure 14 explains the construction. *** $p < .01$.

Figure 6: The ability gap in correctness holds at every level of confidence



Notes: Share giving the theory-consistent recommendation, by stated confidence and ability group. Higher-inflation durable scenario, $N = 2{,}985$; cells with fewer than 25 respondents are omitted. Appendix Table 33 reports the underlying regression.

5.34 against 5.40 with $p = 0.36$, but they are 8.4 percentage points less likely to give the theory-consistent recommendation (0.017). Holding stated confidence fixed, the gap is 7.8 percentage points (0.017), and it survives controlling for σ^e and its interaction at -0.066 (0.024), $p = 0.005$. Both lines in Figure 6 slope upward and to the same degree, and the two groups' ROC areas are 0.622 and 0.616 with $p = 0.81$: within each group the more confident are more often right, equally so.

Three things follow. It is not caution: if low-ability households sensed they were on shaky ground their confidence would be lower, and it is not. It is not an inability to judge their own answers: they can tell their better answers from their worse ones as well as anyone. What is left is the level. Even when they feel sure, they are more often wrong, and nothing in their confidence signals it. Uncertainty about the decision is therefore not an alternative explanation for the main result.

5.5.3 Conventional measures of ability

A third possibility is that the gradient documented above is not specific to decision-making ability at all. Ability is only weakly correlated with the Raven score, numeracy, and education, but weak correlation is not orthogonality, and the relevant question is whether any of those conventional measures produces the same interaction with expected inflation.

Table 9 reports the comparison. Taken one at a time, ability produces the largest interaction of the four and the only one significant at five percent in both parameterizations. Entered together, the conventional measures move toward zero while ability remains the largest of the four.

The evidence here is suggestive rather than decisive, and we read it as such. In the binary parameterization the ability interaction falls from 0.143 to 0.126, close to its original size but with $p = 0.053$; in the standardized parameterization it falls to 0.046 with $p = 0.21$. With four correlated measures and a single interaction to allocate between them, the data do not separate their contributions sharply, and we would not want to rest much on the joint specification in either direction. What the table does support is a ranking. No conventional proxy produces the interaction on its own, and when all four compete, ability is the measure that retains most of its size. We therefore read the evidence as indicating that decision-making ability organizes this heterogeneity better than the conventional proxies do, and not as establishing that the conventional proxies play

Table 9: The interaction with expected inflation across measures of ability

	One at a time			All four together		
Measure × π^e	Est.	(s.e.)	p	Est.	(s.e.)	p
Panel A. Bottom tercile against the top two						
Decision-making ability	0.143	(0.067)	0.032	0.126	(0.065)	0.053
Raven score	0.108	(0.061)	0.077	0.061	(0.066)	0.360
Numeracy	0.082	(0.082)	0.321	0.023	(0.092)	0.803
Education	0.079	(0.068)	0.244	0.043	(0.071)	0.541
Panel B. Per standard deviation of the measure						
Decision-making ability	0.069	(0.032)	0.030	0.046	(0.036)	0.208
Raven score	0.051	(0.024)	0.035	0.025	(0.028)	0.365
Numeracy	0.053	(0.028)	0.061	0.024	(0.036)	0.499
Education	0.023	(0.031)	0.469	−0.006	(0.033)	0.852

Notes: The dependent variable is the year-on-year change in the durable share, in percentage points. Each entry is the interaction between the measure and the stated twelve-month inflation expectation. Estimates are signed so that a positive value runs against the Euler prediction. The left block gives each measure its own slope one at a time; the right block enters all four simultaneously, each with its own level and its own slope on π^e. Education is excluded from the control list throughout so that it enters only as a competing measure, which is why the baseline here is 0.143 rather than the 0.161 of Table 4. Demographic controls, same window, standard errors clustered at the household level. N = 27,882 one at a time and 27,874 together.

no part in it.

6 Conclusion

Inflation expectations play a central role in modern monetary policy because they are assumed to influence households' intertemporal choices. For this expectations channel to operate as standard models prescribe, two things must happen in sequence: households must form a belief about future inflation, and they must translate that belief into the spending response implied by the change in the perceived real interest rate. A friction can arise at either step, with very different implications. A household that holds an inaccurate or imprecise belief and a household that holds a sensible belief but fails to act on it may generate similar observed behavior, yet improving the information available to households addresses only the first problem.

This paper separates these two steps by combining a purpose-built survey and experiment with administrative bank data for the same individuals. We observe a choice-based measure of decision-making ability, respondents' inflation beliefs and the precision with which those beliefs are held, their choices in scripted decision problems, their confidence in those choices, and their subsequent

financial behavior in daily bank records. This linkage allows us to follow the chain from belief formation to hypothetical choice to realized behavior, and therefore to ask not simply whether decision-making ability matters for the expectations channel, but where in that channel it matters.

Our main finding is that decision-making ability governs how inflation beliefs are translated into actions. In the administrative data, the relationship between expected inflation and subsequent durable spending differs in sign across ability groups. High-DMA households behave in the direction implied by the standard intertemporal mechanism, shifting durable purchases forward as expected inflation rises, whereas low-DMA households move in the opposite direction. The same ability gradient appears in a hypothetical durable-purchase problem, and its magnitude is remarkably similar when hypothetical and realized choices are expressed in common units. The mortgage vignette provides complementary evidence: high-DMA households condition their recommendation on the expected path of inflation, while low-DMA households respond little to the belief itself. Thus, the ability gradient is not confined to stated intentions but extends to financially consequential choices made with households' own money.

The linked design also allows us to distinguish this friction from differences in the beliefs households hold. Decision-making ability is related to belief formation: high-DMA respondents hold more precise and internally consistent inflation beliefs, acquire more information, and forecast inflation more accurately. But differences in belief quality do not account for the heterogeneity in realized spending. The interaction between DMA and inflation expectations survives allowing belief uncertainty to affect the response to expected inflation directly. Nor does the result appear to reflect greater caution among low-DMA households. They are no less confident in their decisions than high-DMA households, and confidence is similarly informative about correctness within both groups. Yet, at a given level of confidence, low-DMA respondents are substantially less likely to choose the theory-consistent action. Taken together, the evidence points to a friction in the mapping from beliefs into choices, rather than simply to poorly formed beliefs or greater uncertainty about what to do.

These findings have implications for how we interpret the expectations channel of monetary transmission. An aggregate relationship between inflation expectations and spending combines households that respond in the direction predicted by the standard model with households whose responses are weak or run in the opposite direction. A small aggregate response can therefore

conceal a meaningful expectations channel for one part of the population and an inverted response for another. More importantly, successfully shifting households' inflation expectations is not sufficient for the mechanism assumed by standard models to operate. Households must also translate those changed expectations into the corresponding intertemporal choices. Information provision and central-bank communication can address frictions in belief formation, but may do little to address a friction in this second step.

The distributional implications reinforce this point. The households that are least likely to translate inflation expectations into theory-consistent spending choices are also less likely to hold nominal mortgage debt whose real burden is eroded by inflation and are more exposed to CPI-indexed debt. They are therefore potentially exposed to inflation through two channels: their spending response is less well aligned with their own inflation beliefs, while their balance sheets provide less protection from realized inflation. The mortgage estimates are less precise than the spending results, so we view this evidence as complementary rather than as a separate test of the mechanism, but the two margins point in the same direction.

Finally, the same choice-based measure of decision-making ability predicts a broader set of household financial behaviors. DMA is associated with participation in equity and risky-asset markets, overdraft use, and the coholding of liquid savings with expensive consumer credit. These relationships establish that the experimental measure captures economically meaningful variation in financial decision-making outside the inflation setting.

More broadly, our results suggest that the effectiveness of the expectations channel of monetary policy depends not only on whether households receive information and form beliefs about future inflation, but also on whether they can translate those beliefs into the intertemporal choices through which the channel is assumed to operate. Observing beliefs, decision-making ability, and realized behavior jointly reveals that this second step is an important constraint on the transmission of inflation expectations to household choices.

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Table 10: Correlation Matrix

	DMA	CCEI	Raven	Numeracy	Education
DMA (GARP + FOSD score)	1				
GARP consistency score (CCEI)	0.576***	1			
Raven Tasks Score	0.333***	0.225***	1		
Numeracy	0.261***	0.194***	0.422***	1	
Highest Education	0.096***	0.063***	0.200***	0.248***	1

Notes: Pairwise Pearson correlations on the survey cross section, one observation per respondent. DMA is the unified GARP and FOSD score; CCEI is the Critical Cost Efficiency Index computed from GARP violations alone; both rise with decision-making ability. Raven is the number of correct Raven's progressive matrices, numeracy the number of correct items on the four-item numeracy block, and education the highest degree completed. *** denotes significance at the 1% level.

Table 11: Summary statistics by decision-making ability

	Low DMA	High DMA	Diff (High−Low)
Inflation expectations	3.679	3.523	−0.156***
Age	46.054	41.714	−4.340***
Avg income (1,000 ISK)	1122.395	1100.253	−22.142***
Avg liquidity (1,000 ISK)	3321.525	3315.369	−6.156
Female	0.502	0.481	−0.022***
Married	0.455	0.453	−0.003
Number of children	0.538	0.570	0.032***
Real-estate ownership	0.660	0.672	0.013***

Notes: Low DMA is the bottom tercile of the ability distribution and High DMA the top two terciles, which is the split used throughout the paper. The first two columns report group means and the third the high-minus-low difference. Inflation expectations are the stated one-year-ahead point forecast in percent; income and liquidity are averages over the panel in thousands of Icelandic kronur; the remaining rows are indicators or counts. Stars are from two-sided tests of equality of means. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 12: Hours Spent on the Survey, Group with Incentives

	(1)	(2)	(3)	(4)	(5)
Incentives= 1	0.285	0.399***	0.071	0.236	0.458**
	(0.176)	(0.141)	(0.136)	(0.144)	(0.217)
Decision-making ability (DMA)	0.326**				0.147
	(0.162)				(0.166)
Incentives= 1 × Decision-making ability (DMA)	−0.305				−0.153
	(0.229)				(0.252)
Raven Tasks Score		0.048***			0.041**
		(0.015)			(0.017)
Incentives= 1 × Raven Tasks Score		−0.063***			−0.073***
		(0.024)			(0.028)
Block C Numeracy Score: 0–4			0.067**		0.014
			(0.030)		(0.035)
Incentives= 1 × Block C Numeracy Score: 0–4			−0.004		0.081
			(0.043)		(0.049)
Highest Degree of Education Completed				0.021*	0.010
				(0.013)	(0.014)
Incentives= 1 × Highest Degree of Education				−0.023	−0.017
				(0.017)	(0.018)
Constant	0.917***	0.902***	0.955***	1.001***	0.707***
	(0.121)	(0.082)	(0.097)	(0.103)	(0.153)
Observations	3,002	3,006	3,004	3,004	3,000
R-squared	0.002	0.004	0.003	0.001	0.007
Mean of Y	1.190	1.190	1.188	1.190	1.188

Robust standard errors in parentheses. Only observations with survey time under 10 hours (approximately 90% of the sample) are included. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 13: Hours Spent on the Survey, Group without Incentives

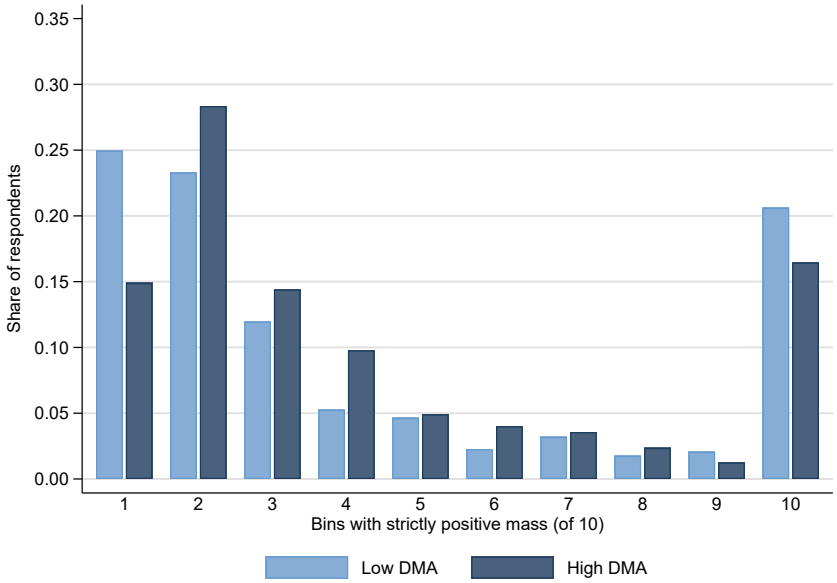
	(1)	(2)	(3)	(4)	(5)
Decision-making ability (DMA)	0.326**				0.147
	(0.162)				(0.166)
Raven Tasks Score		0.048***			0.041**
		(0.015)			(0.017)
Block C Numeracy Score: 0–4			0.067**		0.014
			(0.030)		(0.035)
Highest Degree of Education Completed				0.021*	0.010
				(0.013)	(0.014)
Constant	0.917***	0.903***	0.955***	1.001***	0.707***
	(0.121)	(0.082)	(0.097)	(0.103)	(0.153)
Observations	1,477	1,478	1,477	1,478	1,476
R-squared	0.003	0.007	0.003	0.002	0.009
Mean of Y	1.162	1.162	1.157	1.162	1.158

Robust standard errors in parentheses. Only observations with survey time under 10 hours (approximately 90% of the sample) are included. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A Supporting tables and figures for Section 5

Belief formation

Figure 7: Number of bins carrying positive mass, by ability group



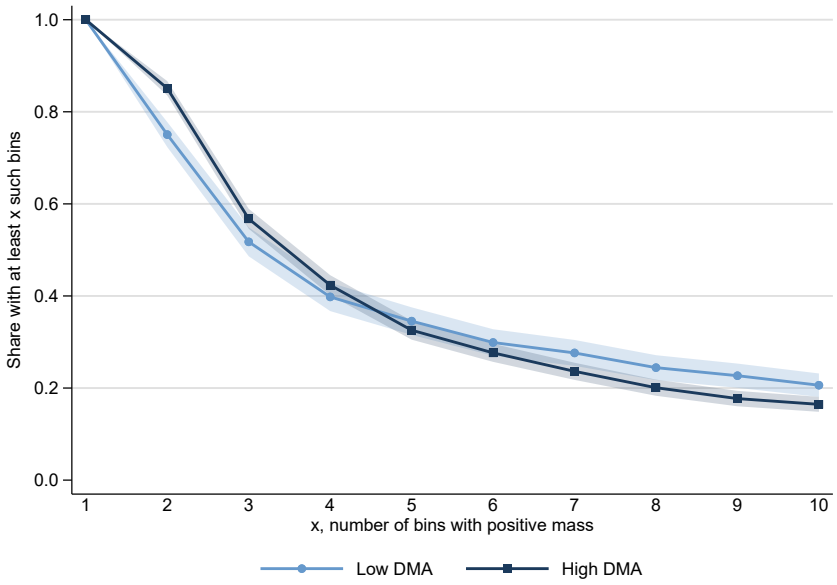
Notes: Distribution of the number of the ten elicited inflation bins to which a respondent assigns positive probability, separately for the two ability groups. Respondent-level data. The group means, 4.26 and 4.22, are reported in Table 2; the two distributions differ in shape rather than in mean, with the low-ability group more often placing all mass in one bin and more often spreading it across seven or more.

Table 14: Survey summary statistics

	Mean	SD	DMA Low	DMA Middle	DMA High	H vs. L
Panel A: Demographics						
Highest Education	5.230	2.320	4.988	5.098	5.603	0.000
Bachelor Degree	0.358	0.480	0.294	0.332	0.450	0.000
Working	0.645	0.479	0.616	0.640	0.679	0.002
Student	0.125	0.331	0.093	0.130	0.154	0.000
Retired	0.077	0.267	0.109	0.080	0.043	0.000
Disabled	0.052	0.223	0.063	0.060	0.034	0.001
Homeworking	0.009	0.095	0.012	0.012	0.004	0.059
Parental Leave	0.012	0.108	0.015	0.010	0.011	0.352
Unemployed	0.023	0.149	0.021	0.020	0.027	0.407
Temporarily Unable	0.030	0.170	0.035	0.027	0.028	0.401
Other	0.027	0.161	0.036	0.022	0.021	0.033
Panel B: Income and Spending						
Income Last 12 Months (kr.)	859,508	1,599,142	935,679	769,165	873,680	0.417
Income Next 12 Months (kr.)	943,861	2,946,437	1,051,236	780,239	999,867	0.730
Durable Last 6 Months (kr.)	1,047,802	2,767,015	1,082,481	984,532	1,076,418	0.963
Durable Next 6 Months (kr.)	585,285	2,169,700	661,634	501,881	592,272	0.517
Non-Durable Last 12 Months (kr.)	425,773	1,922,978	496,815	401,776	378,666	0.220
Non-Durable Next 6 Months (kr.)	334,820	1,797,165	406,219	300,819	297,297	0.233
How would you pay for an unexpected expenditure of 50,000 kr.?						
Credit Card, Pay in Full	0.392	0.488	0.386	0.377	0.412	0.219
Credit Card, Pay Over Time	0.068	0.251	0.072	0.083	0.048	0.016
Checking/Savings or Cash	0.551	0.498	0.500	0.555	0.597	0.000
Take an Overdraft	0.060	0.238	0.067	0.057	0.057	0.333
Borrow from Friend/Family	0.113	0.317	0.119	0.133	0.088	0.015
Payday Loan	0.012	0.111	0.015	0.013	0.009	0.175
By Selling Something	0.060	0.238	0.069	0.063	0.048	0.031
Wouldn't Be Able to Pay	0.043	0.204	0.056	0.054	0.020	0.000
Other	0.022	0.145	0.020	0.023	0.021	0.885
Panel C: Mortgage						
Own Home	0.650	0.477	0.646	0.632	0.673	0.188
Home Value (kr.)	66,515,084	33,707,945	66,553,872	65,103,672	67,801,729	0.496
Have Mortgage	0.779	0.415	0.768	0.767	0.801	0.126
Mortgage Amount (kr.)	27,400,261	16,498,739	25,937,794	28,238,858	27,995,166	0.044
Mortgage Monthly Payment (kr.)	141,280	185,386	129,708	152,067	142,255	0.042
CPI Indexed Mortgage	0.354	0.478	0.386	0.364	0.316	0.013
CPI Non-Indexed Mortgage	0.499	0.500	0.455	0.489	0.547	0.002
CPI Mixed Mortgage	0.147	0.354	0.159	0.147	0.137	0.286
Indexed Mortgage Interest Rate	3.172	1.321	3.285	3.217	2.997	0.029
Non-Indexed Mortgage Interest Rate	3.881	0.744	3.888	3.852	3.898	0.870
Mixed Mortgage Indexed Share (%)	45.337	23.766	41.706	45.108	49.451	0.033
Mixed Mortgage Indexed Rate	3.195	2.402	3.556	3.281	2.725	0.021
Mixed Mortgage Non-Indexed Rate	4.414	2.332	4.722	4.505	3.997	0.041
Panel D: Assets and Loans						
Hold Shares	0.309	0.462	0.269	0.300	0.358	0.000
Car Loans (kr.)	62,458	665,775	90,510	63,270	33,667	0.075
Loans to Buy Shares (kr.)	6,886	345,492	19,363	337	1,043	0.306
Student Loans (kr.)	175,507	1,116,972	151,786	219,607	154,961	0.941
Other Loans (kr.)	361,231	2,662,004	437,046	400,483	246,264	0.085

Notes: The table reports means and standard deviations for the full sample, and means separately by DMA tercile (Low, Middle, High). The column "H vs. L" reports the p-value from a two-sided t-test of the difference in means between the High and Low DMA groups. Asset variables in Panel D with very large magnitudes (shares, bonds, pension savings, money market funds, other savings) are omitted due to apparent data outliers; the panel retains the binary share-holding indicator and the loan variables. All monetary values are in Icelandic kronar (kr.).

Figure 8: Cumulative distribution of the number of bins carrying mass



Notes: The same data as Figure 7, plotted as the share of respondents assigning positive probability to at least the number of bins on the horizontal axis. The two curves cross, which is the sense in which the low-ability belief distribution is bimodal in its concentration rather than uniformly more diffuse.

Table 15: Distance from the Central Bank's inflation target

	(1)	(2)	(3)	(4)	(5)
Decision-making ability (DMA)	−4.218*				−0.889
	(2.481)				(0.865)
Raven Tasks Score		−0.774*			−0.450
		(0.458)			(0.306)
Block C Numeracy Score: 0–4			−1.829**		−1.287**
			(0.918)		(0.591)
Highest Degree of Education Completed				−0.352	−0.167
				(0.248)	(0.182)
Constant	4.740**	5.834**	7.230**	4.297*	9.984**
	(2.257)	(2.929)	(3.240)	(2.292)	(5.080)
Observations	3,091	3,096	3,095	3,095	3,089
R-squared	0.002	0.006	0.007	0.002	0.010
Mean of Y	1.578	1.576	1.576	1.576	1.578

Notes: The dependent variable is the absolute distance, in percentage points, between the respondent's stated guess of the Central Bank of Iceland's inflation target and the true target of 2.5 percent, so a negative coefficient means a more accurate guess. Columns (1) to (4) enter one ability measure at a time; column (5) enters all four simultaneously, so that each coefficient is conditional on the other three. Decision-making ability is the unified GARP and FOSD score, which rises with ability. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 16: Acquisition of professional inflation forecasts

	(1)	(2)	(3)	(4)	(5)
Incentives= 1	0.073	0.106**	0.013	0.055	0.036
	(0.059)	(0.042)	(0.050)	(0.044)	(0.073)
Decision-making ability (DMA)	0.376***				0.196***
	(0.053)				(0.056)
Incentives= 1 × Decision-making ability (DMA)	−0.032				0.012
	(0.076)				(0.080)
Raven Tasks Score		0.054***			0.044***
		(0.005)			(0.006)
Incentives= 1 × Raven Tasks Score		−0.011			−0.016*
		(0.007)			(0.008)
Block C Numeracy Score: 0–4			0.060***		0.003
			(0.011)		(0.012)
Incentives= 1 × Block C Numeracy Score: 0–4			0.011		0.024
			(0.016)		(0.017)
Highest Degree of Education Completed				0.019***	0.009**
				(0.004)	(0.004)
Incentives= 1 × Highest Degree of Education				−0.001	0.002
				(0.005)	(0.006)
Constant	0.097**	0.086***	0.197***	0.232***	−0.084*
	(0.041)	(0.029)	(0.035)	(0.030)	(0.051)
Observations	3,371	3,376	3,376	3,375	3,370
R-squared	0.027	0.052	0.023	0.015	0.066
Mean of Y	0.403	0.403	0.403	0.403	0.403

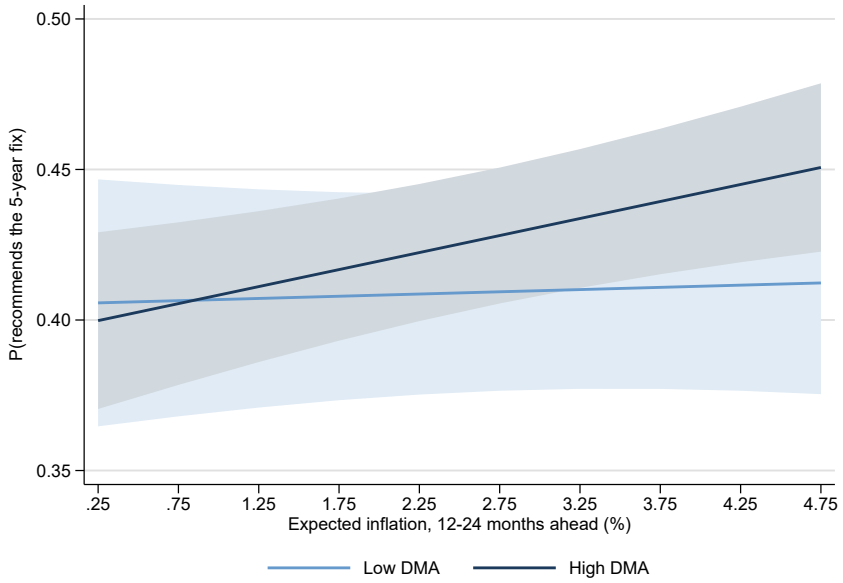
Notes: The dependent variable is an indicator for choosing to see each of the five professional inflation forecasts individually rather than only their average, before stating an expectation. Incentives= 1 marks the randomly selected half of respondents who were told that accuracy would be rewarded; each ability measure is also interacted with it, so the main effect of ability is its effect among the unincentivized and the interaction is the difference. Columns (1) to (4) enter one ability measure at a time; column (5) enters all four simultaneously, so that each coefficient is conditional on the other three. Decision-making ability is the unified GARP and FOSD score, which rises with ability. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 17: Acquisition of professional inflation forecasts, unincentivized respondents

	(1)	(2)	(3)	(4)	(5)
Decision-making ability (DMA)	0.376***				0.196***
	(0.053)				(0.056)
Raven Tasks Score		0.054***			0.044***
		(0.005)			(0.006)
Block C Numeracy Score: 0–4			0.060***		0.003
			(0.011)		(0.012)
Highest Degree of Education Completed				0.019***	0.009**
				(0.004)	(0.004)
Constant	0.097**	0.086***	0.197***	0.232***	−0.084
	(0.041)	(0.029)	(0.035)	(0.030)	(0.051)
Observations	1,670	1,671	1,671	1,671	1,670
R-squared	0.028	0.065	0.017	0.014	0.075
Mean of Y	0.380	0.379	0.379	0.379	0.380

Notes: As Table 16, but estimated on the unincentivized half of the sample alone, so that no incentive interaction enters. The dependent variable is an indicator for choosing to see each of the five professional inflation forecasts individually rather than only their average. Columns (1) to (4) enter one ability measure at a time; column (5) enters all four simultaneously, so that each coefficient is conditional on the other three. Decision-making ability is the unified GARP and FOSD score, which rises with ability. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Figure 9: The mortgage vignette without the median split



Notes: The probability of recommending the longer fix against the respondent's own 12 to 24 month expectation, by ability group, without discretizing the expectation at its median.

Table 18: Inflation forecast accuracy

	(1)	(2)	(3)	(4)
Incentives= 1	−1.441***	−1.043***	−0.808*	−0.424
	(0.310)	(0.237)	(0.472)	(0.293)
Decision-making ability (DMA)	−2.834***			
	(0.267)			
Incentives= 1 × Decision-making ability (DMA)	1.068***			
	(0.364)			
Raven Tasks Score		−0.421***		
		(0.017)		
Incentives= 1 × Raven Tasks Score		0.151***		
		(0.036)		
Block C Numeracy Score: 0–4			−0.805***	
			(0.106)	
Incentives= 1 × Block C Numeracy Score: 0–4			0.210	
			(0.135)	
Highest Degree of Education Completed				−0.125***
				(0.029)
Incentives= 1 × Highest Degree of Education				0.032
				(0.034)
Constant	4.327***	4.102***	4.202***	2.713***
	(0.225)	(0.108)	(0.372)	(0.253)
Observations	3,788	3,794	3,386	3,386
R-squared	0.059	0.171	0.088	0.018
Mean of Y	1.951	1.952	1.657	1.659

Notes: The dependent variable is the absolute distance, in percentage points, between the respondent's stated one-year-ahead inflation forecast and the realized rate, so a negative coefficient means a more accurate forecast. Columns (1) to (4) enter one ability measure at a time, each interacted with the incentive indicator. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 19: Inflation forecast accuracy, controlling for forecasts received

	(1)	(2)	(3)	(4)
Number of Prediction Forecasts Received	−0.166***	−0.123***	−0.120***	−0.187***
	(0.021)	(0.020)	(0.020)	(0.021)
Incentives= 1	−0.531	−0.533	−0.774	−0.385
	(0.357)	(0.351)	(0.472)	(0.290)
Decision-making ability (DMA)	−2.036***			
	(0.323)			
Incentives= 1 × Decision-making ability (DMA)	0.539			
	(0.409)			
Raven Tasks Score		−0.325***		
		(0.042)		
Incentives= 1 × Raven Tasks Score		0.078		
		(0.053)		
Block C Numeracy Score: 0–4			−0.763***	
			(0.106)	
Incentives= 1 × Block C Numeracy Score: 0–4			0.212	
			(0.135)	
Highest Degree of Education Completed				−0.113***
				(0.029)
Incentives= 1 × Highest Degree of Education				0.035
				(0.034)
Constant	3.590***	3.744***	4.302***	2.975***
	(0.293)	(0.282)	(0.373)	(0.257)
Observations	3,379	3,384	3,383	3,383
R-squared	0.042	0.081	0.094	0.033
Mean of Y	1.657	1.658	1.657	1.658

Notes: As Table 18, with the number of professional forecasts the respondent chose to see added as a control. The coefficient on the number received is itself negative and significant, and the ability coefficient survives it, which is the sense in which the accuracy advantage is not a mechanical consequence of having consulted more forecasts. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 20: Inflation forecast accuracy, all ability measures entered together

	(1)	(2)
Incentives= 1	−0.974*	−0.967*
	(0.548)	(0.549)
Decision-making ability (DMA)	−0.827**	−0.768**
	(0.322)	(0.320)
Incentives= 1 × Decision-making ability (DMA)	0.167	0.175
	(0.399)	(0.399)
Raven Tasks Score	−0.193***	−0.186***
	(0.039)	(0.039)
Incentives= 1 × Raven Tasks Score	0.029	0.029
	(0.048)	(0.048)
Block C Numeracy Score: 0–4	−0.564***	−0.548***
	(0.105)	(0.105)
Incentives= 1 × Block C Numeracy Score: 0–4	0.168	0.167
	(0.137)	(0.137)
Highest Degree of Education Completed	−0.033	−0.031
	(0.027)	(0.027)
Incentives= 1 × Highest Degree of Education	0.001	0.003
	(0.034)	(0.034)
Number of Prediction Forecasts Received		−0.072***
		(0.020)
Constant	5.389***	5.386***
	(0.453)	(0.453)
Observations	3,380	3,377
R-squared	0.119	0.120
Mean of Y	1.656	

Notes: As Table 18, but with all four ability measures and their incentive interactions entered simultaneously, so each coefficient is conditional on the other three. Column (2) adds the number of professional forecasts received. The dependent variable is the absolute forecast error in percentage points. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 21: Acquisition of professional unemployment forecasts

	(1)	(2)	(3)	(4)	(5)
Incentives= 1	0.130**	0.115***	0.206***	0.052	0.192***
	(0.051)	(0.036)	(0.045)	(0.040)	(0.065)
Decision-making ability (DMA)	0.225***				0.138***
	(0.047)				(0.050)
Incentives= 1 × Decision-making ability (DMA)	−0.088				−0.035
	(0.063)				(0.067)
Raven Tasks Score		0.019***			0.000
		(0.004)			(0.005)
Incentives= 1 × Raven Tasks Score		−0.009			0.001
		(0.006)			(0.007)
Block C Numeracy Score: 0–4			0.075***		0.066***
			(0.010)		(0.011)
Incentives= 1 × Block C Numeracy Score: 0–4			−0.046***		−0.051***
			(0.013)		(0.015)
Highest Degree of Education Completed				0.010***	0.003
				(0.004)	(0.004)
Incentives= 1 × Highest Degree of Education				0.002	0.007
				(0.005)	(0.005)
Constant	0.614***	0.680***	0.554***	0.708***	0.454***
	(0.038)	(0.027)	(0.034)	(0.030)	(0.048)
Observations	3,379	3,384	3,383	3,383	3,377
R-squared	0.017	0.015	0.031	0.014	0.039
Mean of Y	0.815	0.816	0.816	0.816	0.815

Notes: The dependent variable is an indicator for choosing to see at least one professional unemployment forecast before stating an expectation. The table is the unemployment counterpart of Table 16 and is reported to show that the information-acquisition gradient is not specific to inflation. Each ability measure is interacted with the incentive indicator. Columns (1) to (4) enter one ability measure at a time; column (5) enters all four simultaneously, so that each coefficient is conditional on the other three. Decision-making ability is the unified GARP and FOSD score, which rises with ability. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 22: Recommending an earlier durable purchase

	(1)	(2)	(3)	(4)	(5)
Decision-making ability (DMA)	0.120***				0.050**
	(0.023)				(0.025)
Raven Tasks Score		0.015***			0.005*
		(0.002)			(0.003)
Block C Numeracy Score: 0–4			0.047***		0.039***
			(0.006)		(0.006)
Highest Degree of Education Completed				0.008***	0.003*
				(0.002)	(0.002)
Constant	0.809***	0.817***	0.753***	0.840***	0.694***
	(0.019)	(0.015)	(0.020)	(0.015)	(0.026)
Observations	3,382	3,387	3,386	3,386	3,380
R-squared	0.007	0.012	0.028	0.006	0.032
Mean of Y	0.898	0.898	0.898	0.898	0.898

Notes: The dependent variable is an indicator for recommending that the friend buy the durable good today, coded as a 4 or a 5 on the five-point response scale, in the version of the scenario in which a higher rate of inflation is stipulated. This is the unconditional level comparison underlying Figure 2; the slope on the respondent's own expectation, which is the object the text relies on, is in Table 3. Columns (1) to (4) enter one ability measure at a time; column (5) enters all four simultaneously, so that each coefficient is conditional on the other three. Decision-making ability is the unified GARP and FOSD score, which rises with ability. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 23: Recommending the longer fixed-rate mortgage

	(1)	(2)	(3)	(4)	(5)
Decision-making ability (DMA)	0.114***				0.049
	(0.042)				(0.045)
Raven Tasks Score		0.015***			0.007
		(0.004)			(0.005)
Block C Numeracy Score: 0–4			0.039***		0.026***
			(0.008)		(0.009)
Highest Degree of Education Completed				0.010***	0.006*
				(0.003)	(0.003)
Constant	0.334***	0.335***	0.301***	0.347***	0.217***
	(0.033)	(0.024)	(0.027)	(0.024)	(0.041)
Observations	2,952	2,957	2,956	2,957	2,951
R-squared	0.002	0.005	0.007	0.003	0.010
Mean of Y	0.420	0.420	0.420	0.420	0.420

Notes: The dependent variable is an indicator for recommending Mortgage B, the option whose rate is fixed for five years rather than two, coded as a 4 or a 5 on the five-point response scale. This is the unconditional level comparison. Because the correct recommendation depends on the expected path of inflation rather than on its level, the object the text relies on is the interaction with the respondent's own 12 to 24 month expectation, reported in Section 5.3 and Table 25. Columns (1) to (4) enter one ability measure at a time; column (5) enters all four simultaneously, so that each coefficient is conditional on the other three. Decision-making ability is the unified GARP and FOSD score, which rises with ability. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 24: Delaying a purchase under employment uncertainty

	(1)	(2)	(3)	(4)	(5)
Decision-making ability (DMA)	0.284***				0.097**
	(0.038)				(0.040)
Raven Tasks Score		0.042***			0.020***
		(0.004)			(0.004)
Block C Numeracy Score: 0–4			0.114***		0.092***
			(0.008)		(0.009)
Highest Degree of Education Completed				0.012***	0.000
				(0.003)	(0.003)
Constant	0.413***	0.398***	0.277***	0.531***	0.161***
	(0.030)	(0.022)	(0.025)	(0.023)	(0.037)
Observations	3,382	3,387	3,386	3,386	3,380
R-squared	0.016	0.037	0.064	0.006	0.075
Mean of Y	0.625	0.625	0.626	0.625	0.625

Notes: The dependent variable is an indicator for recommending that the acquaintance wait rather than buy today, which is the precautionary answer; its sample mean is 0.625. The scenario contains no inflation component and is reported as a benchmark. Columns (1) to (4) enter one ability measure at a time; column (5) enters all four simultaneously, so that each coefficient is conditional on the other three. Decision-making ability is the unified GARP and FOSD score, which rises with ability. Estimated on the survey cross section, one observation per respondent. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 25: The mortgage vignette under four scorings

How the answer is scored	Low DMA	High DMA	Diff.	S.E.	p	N
(4) Recommends B [Table 6.2]	0.406	0.436	0.030	0.018	0.102	3,358
(1) Correct, own path	0.547	0.552	0.005	0.023	0.832	2,171
(2) Correct, vs actual CPI 4.5(3) Matches above/below median	0.509	0.546	0.038	0.021	0.081	2,465

Notes: One row per respondent. The difference is high minus low ability. For the scored rows a positive difference means that high-ability respondents are more often correct; for the unscored row it means only that they choose the longer fix more often, which is not the same thing. "Own path" scores the recommendation against the respondent's own two forecasts; the CPI row scores it against the headline consumer price index observed at fielding, 4.5 percent, which is the index Icelandic mortgage indexation is written against; the median row scores it against the sample median 12 to 24 month expectation of 3.0 percent.

Table 26: The durable share, adding controls one block at a time

	dc		dc		dc		dc		dc		dc		dc	
Female	-0.063		-0.137		-0.156		-0.157		-0.154		-0.119		-0.113	
	(0.238)		(0.238)		(0.240)		(0.240)		(0.241)		(0.247)		(0.246)	
Age	-0.023		-0.013		-0.002		0.001		0.001		0.006		0.006	
	(0.044)		(0.045)		(0.048)		(0.048)		(0.049)		(0.048)		(0.048)	
Decision Making Ability (DMA)														
Low DMA	-0.750	**	-0.786	**	-0.789	**	-0.786	**	-0.788	**	-0.757	**	-0.718	**
	(0.360)		(0.358)		(0.358)		(0.359)		(0.358)		(0.356)		(0.355)	
Stated inflation, next 12 months (%)	-0.072		-0.073		-0.072		-0.073		-0.073		-0.072		-0.073	
	(0.048)		(0.047)		(0.048)		(0.048)		(0.048)		(0.048)		(0.048)	
Decision Making Ability (DMA) # Stated inflation, next 12 months (%)														
Low DMA	0.171	**	0.161	**	0.161	**	0.161	**	0.161	**	0.159	**	0.159	**
	(0.074)		(0.073)		(0.073)		(0.074)		(0.073)		(0.073)		(0.073)	
Married			-0.497	**	-0.480	*	-0.488	*	-0.486	*	-0.478	*	-0.481	*
			(0.244)		(0.248)		(0.249)		(0.251)		(0.251)		(0.251)	
Log Avg. Income					-0.153		-0.187		-0.185		-0.265		-0.261	
					(0.251)		(0.271)		(0.272)		(0.268)		(0.268)	
Log Avg. Liquidity							0.037		0.038		0.036		0.031	
							(0.089)		(0.089)		(0.091)		(0.092)	
Highest Degree									-0.005		-0.007		-0.013	
									(0.050)		(0.050)		(0.051)	
Block C Numeracy score: 0-4											0.073		0.027	
											(0.117)		(0.126)	
Raven Tasks Score													0.062	
													(0.061)	
Number of observations	25990		25990		25990		25982		25982		25974		25974	

Notes: Columns add one block of controls at a time, from demographics alone in column (1) to the full set in column (7). Dependent variable in percentage points. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 27: The durable share with a continuous measure of ability

	dc	dc	dc		dc		dc		dc	
Female	-0.039	-0.040	-0.048		-0.101		-0.103		-0.108	
	(0.237)	(0.238)	(0.238)		(0.246)		(0.247)		(0.247)	
Age	-0.027	-0.026	-0.023		0.002		0.003		0.006	
	(0.043)	(0.044)	(0.044)		(0.048)		(0.048)		(0.048)	
Decision-Making Ability (DMA)	0.659	0.659	2.010	**	0.717		0.714		1.998	**
	(0.536)	(0.536)	(0.815)		(0.555)		(0.554)		(0.813)	
Stated inflation, next 12 months (%)		-0.003	0.263	**			-0.008		0.244	**
		(0.038)	(0.122)				(0.038)		(0.121)	
Decision-Making Ability (DMA) # Stated inflation, next 12 months (%)			-0.378	**					-0.357	**
			(0.170)						(0.169)	
Married					-0.496	**	-0.497	**	-0.480	*
					(0.251)		(0.251)		(0.251)	
Log Avg. Income					-0.251		-0.251		-0.249	
					(0.268)		(0.268)		(0.268)	
Log Avg. Liquidity					0.024		0.024		0.027	
					(0.092)		(0.092)		(0.092)	
Highest Degree					-0.012		-0.012		-0.014	
					(0.051)		(0.051)		(0.051)	
Block C Numeracy score: 0-4					0.013		0.014		0.012	
					(0.127)		(0.127)		(0.127)	
Raven Tasks Score					0.052		0.053		0.051	
					(0.062)		(0.062)		(0.062)	
Number of observations	25990	25990	25990		25974		25974		25974	

Notes: Ability enters as the continuous index on $[0, 1]$, which rises with ability. The interaction therefore carries the opposite sign to the one in Table 4, where the indicator marks the low-ability group; the two report the same finding. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 28: The durable share with the percentile rank of ability

	dc	dc	dc		dc		dc		dc	
Female	-0.032	-0.033	-0.041		-0.096		-0.098		-0.103	
	(0.238)	(0.239)	(0.239)		(0.246)		(0.247)		(0.247)	
Age	-0.027	-0.027	-0.024		0.002		0.003		0.005	
	(0.043)	(0.044)	(0.044)		(0.048)		(0.048)		(0.048)	
Decision-Making Ability, percentile	0.005	0.005	0.015	**	0.006		0.006		0.015	**
	(0.004)	(0.004)	(0.006)		(0.004)		(0.004)		(0.006)	
Stated inflation, next 12 months (%)		-0.004	0.113	*			-0.009		0.102	
		(0.038)	(0.065)				(0.038)		(0.064)	
Decision-Making Ability, percentile # Stated inflation, next 12 months (%)			-0.003	**					-0.003	*
			(0.001)						(0.001)	
Married					-0.495	**	-0.496	**	-0.481	*
					(0.251)		(0.251)		(0.251)	
Log Avg. Income					-0.251		-0.251		-0.249	
					(0.268)		(0.268)		(0.268)	
Log Avg. Liquidity					0.023		0.023		0.026	
					(0.092)		(0.092)		(0.092)	
Highest Degree					-0.013		-0.012		-0.015	
					(0.051)		(0.051)		(0.051)	
Block C Numeracy score: 0-4					0.011		0.012		0.011	
					(0.128)		(0.128)		(0.127)	
Raven Tasks Score					0.050		0.051		0.048	
					(0.062)		(0.062)		(0.062)	
Number of observations	25990	25990	25990		25974		25974		25974	

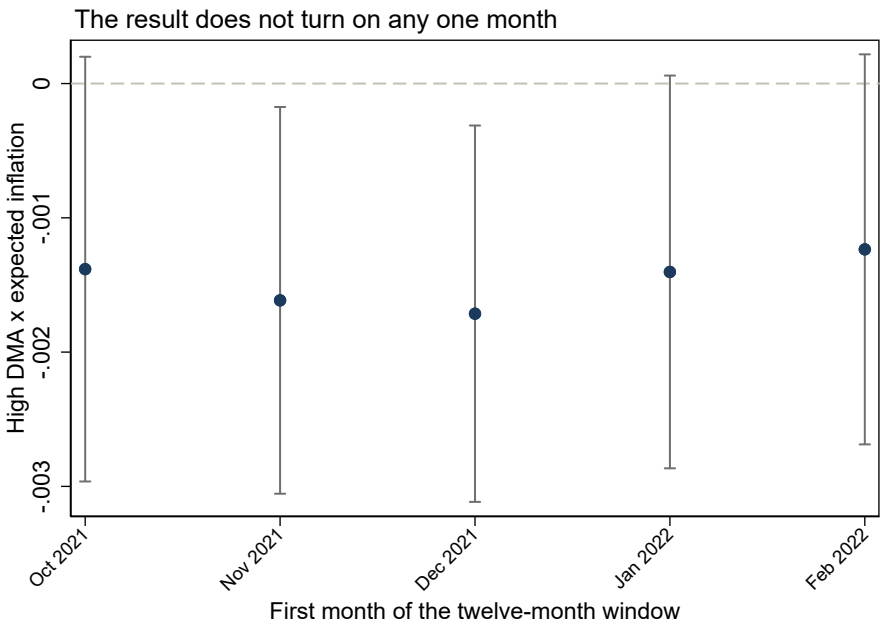
Notes: Ability enters as its percentile rank, which runs from 1 to 100, so the coefficients are one hundredth of those in Table 27. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 29: The durable share, with and without the pre-window level

	dc		dc	
Decision Making Ability (DMA)				
Low DMA	-0.718	**	-0.742	**
	(0.355)		(0.300)	
Stated inflation, next 12 months (%)	-0.073		-0.092	**
	(0.048)		(0.037)	
Decision Making Ability (DMA) # Stated inflation, next 12 months (%)				
Low DMA	0.159	**	0.130	**
	(0.073)		(0.060)	
Durable share, 12 months before the estimation window			-61.096	***
			(2.239)	
Number of observations	25974		25974	

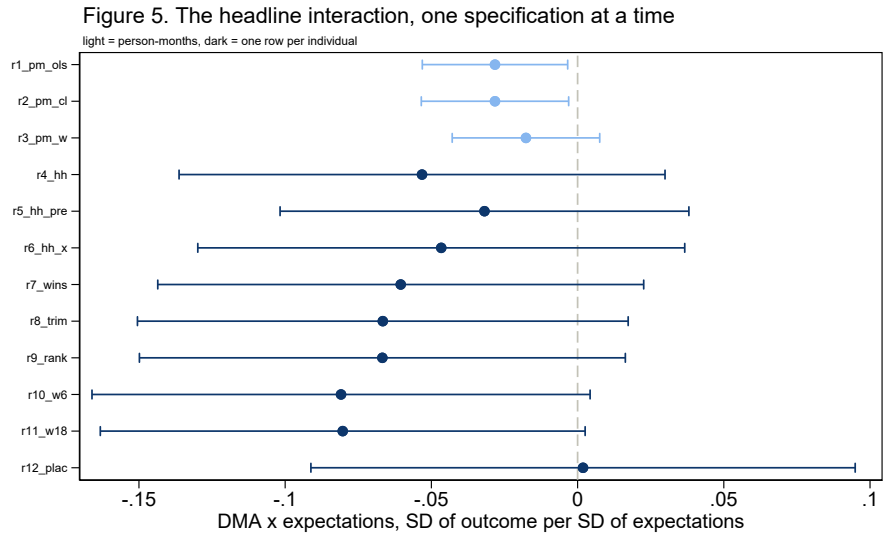
Notes: Both columns are the fully controlled specification of Table 4; the second adds the household's mean durable share over the twelve months ending the month before the estimation window begins. The control is defined for every household in the estimation sample, so the two columns are estimated on identical rows and any movement in the interaction is the control rather than the sample. Demographic, income, liquidity, education, numeracy, and Raven controls are included in both and suppressed here. Dependent variable in percentage points. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

Figure 10: The interaction across estimation windows



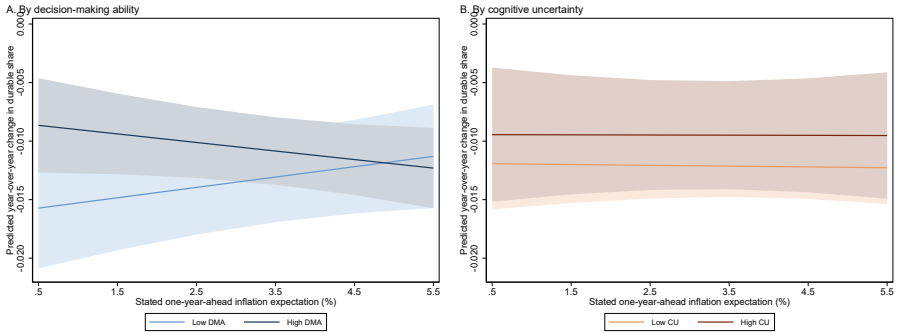
Notes: Each point is the low-ability interaction with expected inflation from the fully controlled specification of Table 4, re-estimated with the estimation window shifted one month at a time. Vertical bars are ninety-five percent confidence intervals from standard errors clustered at the household level. The figure is reported to show that the headline estimate is not an artifact of the particular twelve months chosen.

Figure 11: The same coefficient, estimated twelve ways



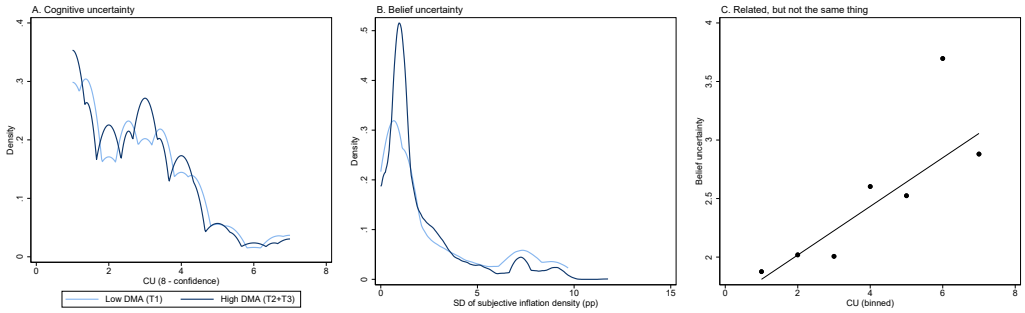
Notes: Includes the specification estimated one row per household, weighted by the number of months observed, which addresses the concern that pooling household-months overstates precision.

Figure 12: The level of the durable share rather than the change



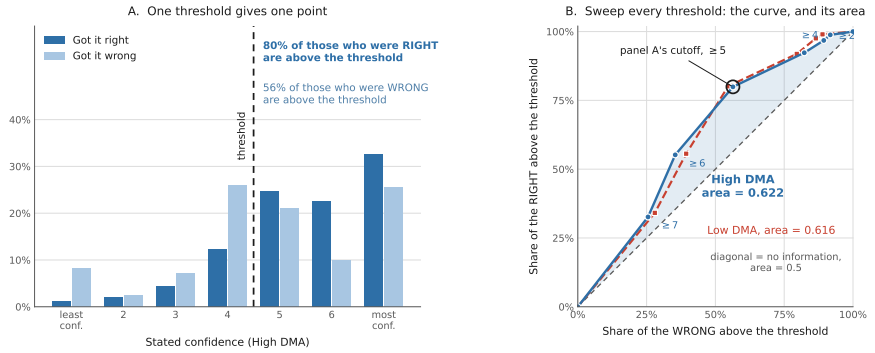
Notes: The specification of Table 4 re-estimated with the level of the durable share as the dependent variable in place of its year-on-year change. Vertical bars are ninety-five percent confidence intervals from standard errors clustered at the household level. Plotted on a common vertical scale with Figure 11 so that the two can be read against each other.

Figure 13: Decision-making ability, belief uncertainty, and decision confidence are distinct



Notes: The decision-confidence distributions for the low and high ability groups lie almost on top of each other; the σ^e distributions do not.

Figure 14: What the ROC area measures



Notes: The ROC area measures resolution, the extent to which stated confidence discriminates correct from incorrect recommendations, and is distinct from the level of calibration.

Table 30: Majority-indexed mortgage and decision-making ability

	(1)	(2)	(3)	(4)	(5)	(6)
Panel: Non-indexed mortgage						
Female	-0.072	-0.052	-0.052	0.162	0.169	0.168
	(0.107)	(0.111)	(0.111)	(0.117)	(0.121)	(0.121)
Age	0.149***	0.146***	0.146***	0.072***	0.068**	0.068**
	(0.022)	(0.023)	(0.023)	(0.026)	(0.027)	(0.027)
Low DMA	-0.264**	-0.230*	-0.226	-0.188	-0.163	-0.192
	(0.118)	(0.122)	(0.182)	(0.126)	(0.130)	(0.204)
Stated inflation, next 12 months (pp)		0.009	0.009		0.003	0.000
		(0.018)	(0.022)		(0.020)	(0.024)
Low DMA × stated inflation			-0.001			0.008
			(0.037)			(0.043)
Married				0.312***	0.310**	0.311**
				(0.119)	(0.122)	(0.122)
Log average income				0.850***	0.852***	0.852***
				(0.112)	(0.118)	(0.118)
Log average liquidity				0.144***	0.134***	0.135***
				(0.045)	(0.046)	(0.046)
Highest degree				0.013	0.018	0.018
				(0.026)	(0.026)	(0.026)
Numeracy score				0.130**	0.097	0.097
				(0.066)	(0.068)	(0.068)
Raven score				0.018	0.017	0.017
				(0.030)	(0.031)	(0.031)
Panel: Indexed mortgage						
Female	0.270*	0.256*	0.254*	0.370**	0.369**	0.369**
	(0.145)	(0.152)	(0.152)	(0.147)	(0.152)	(0.153)
Age	0.152***	0.142***	0.143***	0.112***	0.094***	0.095***
	(0.032)	(0.033)	(0.033)	(0.034)	(0.035)	(0.035)
Low DMA	0.142	0.262*	0.131	0.076	0.208	0.063
	(0.148)	(0.152)	(0.222)	(0.158)	(0.162)	(0.226)
Stated inflation, next 12 months (pp)		-0.025	-0.044		-0.022	-0.042
		(0.024)	(0.034)		(0.024)	(0.034)
Low DMA × stated inflation			0.037			0.041
			(0.046)			(0.046)
Married				-0.115	-0.050	-0.043
				(0.145)	(0.151)	(0.152)
Log average income				0.757***	0.827***	0.831***
				(0.125)	(0.131)	(0.131)
Log average liquidity				-0.006	-0.054	-0.055
				(0.056)	(0.058)	(0.058)
Highest degree				-0.054	-0.045	-0.046
				(0.033)	(0.035)	(0.035)
Numeracy score				-0.035	-0.034	-0.035
				(0.079)	(0.084)	(0.084)
Raven score				0.001	0.000	0.000
				(0.038)	(0.040)	(0.040)
Observations	30,311	28,171	28,171	30,279	28,151	28,151
Households	2,678	2,485	2,485	2,675	2,483	2,483

Notes: As Table 5, but a holder is classified as indexed only when more than 50 percent of the mortgage amount is indexed. Multinomial logit with *no mortgage* as the base outcome. Standard errors clustered at the household level. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 31: Majority-indexed mortgage, survey measure

	majority_index_s	majority_index_s	majority_index_s	majority_index_s	majority_index_s	majority_index_s
Female	0.055	0.033	0.031	-0.003	-0.012	-0.012
	(0.115)	(0.119)	(0.119)	(0.124)	(0.129)	(0.129)
Age	0.106 ***	0.100 ***	0.100 ***	0.126 ***	0.117 ***	0.117 ***
	(0.029)	(0.030)	(0.029)	(0.030)	(0.031)	(0.031)
Decision Making Ability (DMA)						
Low DMA	-0.037	-0.053	-0.149	-0.059	-0.068	-0.146
	(0.125)	(0.129)	(0.252)	(0.129)	(0.133)	(0.260)
Stated inflation, next 12 months (%)		-0.003	-0.013		-0.002	-0.011
		(0.029)	(0.037)		(0.029)	(0.037)
Decision Making Ability (DMA) # Stated inflation, next 12 months (%)						
Low DMA			0.026			0.021
			(0.059)			(0.060)
Married				-0.158	-0.117	-0.116
				(0.121)	(0.125)	(0.125)
Log Avg. Income				-0.112	-0.095	-0.093
				(0.119)	(0.122)	(0.122)
Log Avg. Liquidity				-0.074	-0.088	-0.088
				(0.062)	(0.063)	(0.063)
Highest Degree				-0.031	-0.028	-0.028
				(0.028)	(0.029)	(0.029)
Block C Numeracy score: 0-4				-0.075	-0.036	-0.035
				(0.070)	(0.072)	(0.072)
Raven Tasks Score				0.025	0.018	0.017
				(0.032)	(0.033)	(0.033)
Number of observations	1337	1243	1243	1336	1242	1242

Notes: Indexation share self-reported in the survey rather than taken from the administrative data. Estimated by logit on the survey cross section. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 32: Indexed mortgage, survey measure

	dummy_index_s	dummy_index_s	dummy_index_s	dummy_index_s	dummy_index_s	dummy_index_s
Female	0.058	0.026	0.024	-0.036	-0.058	-0.059
	(0.114)	(0.117)	(0.117)	(0.122)	(0.126)	(0.126)
Age	0.052 *	0.045	0.045	0.083 ***	0.074 **	0.074 **
	(0.029)	(0.030)	(0.029)	(0.030)	(0.031)	(0.031)
Decision Making Ability (DMA)						
Low DMA	0.088	0.072	-0.124	0.045	0.030	-0.127
	(0.123)	(0.127)	(0.251)	(0.127)	(0.131)	(0.264)
Stated inflation, next 12 months (%)		-0.003	-0.024		-0.001	-0.017
		(0.028)	(0.037)		(0.029)	(0.037)
Decision Making Ability (DMA) # Stated inflation, next 12 months (%)						
Low DMA			0.053			0.042
			(0.059)			(0.061)
Married				-0.217 *	-0.168	-0.166
				(0.119)	(0.124)	(0.124)
Log Avg. Income				-0.153	-0.135	-0.131
				(0.121)	(0.123)	(0.124)
Log Avg. Liquidity				-0.135 **	-0.165 ***	-0.164 **
				(0.062)	(0.064)	(0.064)
Highest Degree				-0.036	-0.036	-0.036
				(0.027)	(0.029)	(0.029)
Block C Numeracy score: 0-4				-0.139 **	-0.103	-0.102
				(0.069)	(0.071)	(0.071)
Raven Tasks Score				0.037	0.030	0.029
				(0.032)	(0.033)	(0.033)
Number of observations	1337	1243	1243	1336	1242	1242

Notes: Indexation self-reported in the survey rather than taken from the administrative data. Estimated by logit on the survey cross section. Robust standard errors in parentheses. *** $p < .01$, ** $p < .05$, * $p < .1$.

Table 33: Confidence, ability, and the theory-consistent recommendation

	(1) No controls	(2) + Demographics	(3) + σ^e
β_1 Confidence (high DMA)	0.0849***	0.0823***	0.0778***
	(0.0102)	(0.0102)	(0.0106)
β_2 Low DMA	−0.0808***	−0.0781***	−0.0656***
	(0.0168)	(0.0170)	(0.0235)
β_3 Confidence × Low DMA	0.0165	0.0173	0.0160
	(0.0175)	(0.0174)	(0.0187)
$\beta_1 + \beta_3$ low-ability slope	0.1014***	0.0996***	0.0938***
	(0.0142)	(0.0143)	(0.0155)
Respondents	2,985	2,985	2,776

Notes: Linear probability model for giving the theory-consistent recommendation in the higher-inflation durable scenario, on stated decision confidence, the low-ability indicator, and their interaction. Column (3) adds σ^e and its interaction with the expectation. *** $p < .01$.

Survey evidence on the understanding of inflation

The scripted scenarios

The durable share: alternative specifications

Mortgage indexation: alternative outcomes

The competing explanations

B Survey

We would like to thank you for your interest in taking part in this survey. You will receive 1,500–2,750 kr. for your participation, with the exact amount depending both on chance and the answers you give. Ãslandsbanki will deposit the amount directly into your bank account.

Short videos will explain how everything works. It is important that you can hear the audio of these videos loud and clear so before moving on to the next screen make sure that your audio is working. **Please switch on the speakers and turn up the volume.**

Remember that you can take a break from the survey and continue where you left off later by clicking on the link in the email you received.

Audio and Image Check

First we would like to ask you to play the video below and tell us what you see and hear. Click on the video when you are ready to begin.

What did you see?

- ○ I saw nothing
- ○ Children playing
- ○ A competition
- ○ A waterfall
- ○ A basketball game

What did you hear?

- ○ I heard nothing
- ○ A nursery rhyme
- ○ Bird song
- ○ Classical music
- ○ A dog barking

Education and Employment Status

Please mark all degrees that you have completed.

- ☐ Compulsory education not completed
- ☐ Child, adolescent or elementary school exams
- ☐ Counseling or national exams
- ☐ Jogging exam in the industry
- ☐ Master's Degree in Industrial Engineering
- ☐ Graduated
- ☐ Second exam at the upper secondary level
- ☐ Technical college (other than BS)

☐ Basic degree from a university (e.g. BA, BS or B.Ed.)

☐ Masters Degree from a University (e.g. MA, MS, Candidate or M.Ed.)

☐ Ph.D.

☐ Other: _____

Do you regard yourself mainly as...

◦ Working

◦ Student

◦ Retired

◦ Disabled

◦ Homeworking

◦ On maternity/paternity leave

◦ Unemployed

◦ Ill or temporarily unable to work

◦ Other: _____

Income and Expenditure

What was your household's average monthly after-tax income **over the last 12 months**? Please give your best guess.

_____ kr. on average per month

What do you think your household's average monthly total after-tax income will be **over the next 12 months**? Please give your best guess.

_____ kr. on average per month

How much did your household spend in total on purchases of **durable goods** in the **last six months**? Please give your best guess.

Durable goods are goods that last in time, including for instance cars, electronics, kitchen appliances, furniture, house maintenance, jewelries, etc. (please exclude purchases of houses, apartments, etc.).

_____ kr. over the last six months

How much do you think your household will spend in total on purchases of **durable goods** in **the next six months**? Please give your best guess. Enter 0 if you do not plan to buy any durables in the next six months.

_____ kr. over the next six months

How much did your household spend on average every month on **nondurable goods and services** in the **last 12 months**?

Nondurable goods and services include for instance food, tobacco, alcohol, gasoline, clothing, haircuts, transportation, and other small services and nondurable goods that do not last in time.

_____ kr. (on average per month)

How much do you think your household will spend on average every month on **nondurable goods and services** in the **next six months**?

_____ kr. (on average per month)

Homeownership and Mortgages

Next, we will ask you about properties and any other assets you may have.

Is you or your spouse the registered owner of the property you live in?

- ◦ Yes, my spouse and I are the registered owners
- ◦ Yes, I am the registered owner
- ◦ Yes, my spouse is the registered owner
- ◦ No, neither my spouse nor I is the registered owner

< *IF YES* > What is the market value of the property in millions of ISK?

_____ million kr.

Do you have a mortgage loan?

- ◦ Yes
- ◦ No

< *IF YES* > How much money in total do you owe on your home?

_____ kr.

Is the loan CPI indexed, non-indexed or mixed?

- ◦ Indexed
- ◦ Non-indexed
- ◦ Mixed

< *IF Mixed* > We want to know the share of your loan that was indexed when you took it. Say it was 12.25%. Enter 12 in the first box and 25 in the second box as shown below.
What is the share of the loan that was indexed when you took it?
Indexed: _____ . _____ %

< *IF Indexed or Non-Indexed* > We want to know your mortgage rate. Say it is 4.25%. Enter 4 in the first box and 25 in the second box as shown below.
What is the current annual rate of interest being charged on your mortgage?
_____ . _____ %

< *IF Mixed* > What is the current annual rate of interest being charged on the non-indexed part of your mortgage?
_____ . _____ %
What is the current annual rate of interest being charged on the indexed part of your mortgage?
_____ . _____ %

When was the loan taken?
Month: _____ Year: _____

What is the monthly payment on your mortgage?
_____ kr.

Assets and Debt

What is the estimated value of your following assets? Enter 0 if you do not own a property of that type.

Asset	Value (kr.)
Shares	_____
Bonds	_____
Additional pension savings	_____
Deposits in money market funds	_____
Other savings	_____

What is your monthly payment on the following loans? Enter 0 if you do not have a loan of that type.

Loan type	Monthly payment (kr.)
Loans for car purchases	_____
Loans to buy shares	_____
Student loans	_____
Other loans	_____

Task 1: Individual Portfolio Choice (DMA Task)

[The video below explains the first part of the survey. Click on the video to begin.]

[Practice decisions 1–2: respondent allocates a budget between two assets shown as bar charts in Icelandic kronas. Payment is determined by a coin flip. The total budget sums to 1,000 kr. in each practice round.]

[The video below explains how your choice determines how much you are paid.]

[Decisions 1–15: incentivized portfolio-choice decisions. In each decision the respondent allocates a budget between two assets (shown as bar charts with kr. amounts). One asset pays off if the coin comes up heads (black bar), the other if it comes up tails (grey bar). Budgets and price ratios vary across decisions.]

Inflation and Deflation – Past 12 Months

We would like to ask you about the rate of inflation/deflation over the **last 12 months**. Inflation is the percentage increase in overall prices in the economy, most commonly measured by the Consumer Price Index. Deflation is the opposite of inflation (and is the percentage decrease in prices).

Over the **last 12 months**, did you think that there was inflation or deflation? *Please choose one.*

- ◦ Inflation
- ◦ Deflation

What do you think the rate of [inflation/deflation] was over the **last 12 months**? Please give your best guess.

Please enter a number greater than or equal to 0.

Say it was 4.25%. Enter 4 in the first box and 25 in the second box as shown below.

Over the **last 12 months**, I think the rate of [inflation/deflation] was:

_____ . _____ %

Inflation and Deflation – Next 12 Months

Now we would like to ask you about the rate of inflation/deflation over the **next 12 months**.

Over the **next 12 months**, do you think that there will be inflation or deflation? *Please choose one.*

- ◦ Inflation
- ◦ Deflation (opposite of inflation)

What do you think the rate of [inflation/deflation] will be over the **next 12 months**? Please give your best guess.

Please enter a number greater than or equal to 0.

Over the **next 12 months**, I think the rate of [inflation/deflation] will be:

_____ . _____ %

Inflation – Longer-Run

Now we would like you to think about inflation further into the future.

Over the 12-month period between [Month, Year +24 months from survey date] and [Month, Year +36 months from survey date], do you think that there will be inflation or deflation? *Please choose one.*

- ○ Inflation
- ○ Deflation

What do you think the rate of [inflation/deflation] will be over that period? Please give your best guess.

Please enter a number greater than or equal to 0.

Over the 12-month period between [Month, Year +24 months] and [Month, Year +36 months], I think the rate of [inflation/deflation] will be:

_____ . _____ %

Exchange Rate and Timing of Durable Purchases

We would like to ask you about the exchange rate of the krona in 12 months' time. According to the exchange rate register of the Central Bank of Iceland, you can currently get approximately 146 krona for each euro. How many krona do you think you will be able to get for each euro in 12 months' time?

_____ kr.

Do you think now is a good time, a bad time, or neither a good nor a bad time to buy durable goods? Durable goods are goods that last in time, including for instance cars, electronics, kitchen appliances, furniture, house maintenance, jewelries, etc. (please exclude purchases of houses, apartments, etc.).

- ○ Yes, it's a good time
- ○ It's neither a good nor a bad time
- ○ No, it's a bad time

Advice Scenarios – Durable Goods

A friend of yours is planning to buy a large durable good within the next 12 months. Your friend has the financial resources to buy it but has no urgency to buy it, and so is indifferent between buying the good today or waiting 12 months to buy it. What would you recommend?

- ○ Strongly recommend buying today
- ○ Recommend buying today
- ○ No opinion
- ○ Recommend buying 12 months from now
- ○ Strongly recommend buying 12 months from now

On a scale of 1–7, how confident are you in your recommendation?

○ 1 Not confident at all ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 Extremely confident

Now imagine a hypothetical situation where the rate of inflation over the next 12 months is expected to be much higher than you were initially expecting. What would you recommend your friend to do?

- ○ Strongly recommend buying today
- ○ Recommend buying today
- ○ No opinion
- ○ Recommend buying 12 months from now
- ○ Strongly recommend buying 12 months from now

On a scale of 1–7, how confident are you in your recommendation?

○ 1 Not confident at all ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 Extremely confident

Advice Scenario – Employment Uncertainty

Now imagine a different hypothetical situation: an acquaintance of yours is thinking of buying a large durable good in the near future. There is no urgency, so she could buy today or wait for up

to 6 months. The price of the good is unlikely to change. She, however, faces a lot of uncertainty about her employment situation; there is some chance of her losing her job in the next 2–4 months.

What would you recommend regarding buying the durable good?

- ○ Strongly recommend buying today
- ○ Recommend buying today
- ○ No opinion
- ○ Recommend buying 6 months from now
- ○ Strongly recommend buying 6 months from now

On a scale of 1–7, how confident are you in your recommendation?

○ 1 Not confident at all ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 Extremely confident

Advice Scenario – Mortgage Choice

A friend of yours is planning to take out a mortgage today. There are two options:

Mortgage A, which is non-indexed, has a rate fixed at the current inflation rate for the **next 2 years**, and then adjusts to the inflation rate at that point in time (that is, the rate 2 years from now). After 5 years, the rate adjusts to the inflation rate at that point in time (that is, the rate 5 years from now). If, e.g., current inflation is 5% but will be 2% in 2 years from now and 3% in 5 years, then the rate will be fixed at 5% for the next 2 years, at 2% for the following 3 years, and then it will be fixed at 3% in 5 years from now.

Mortgage B, which is non-indexed, has a rate fixed at the current inflation rate for the **next 5 years**, and then adjusts to the inflation rate at that point in time (that is, the rate 5 years from now).

So the mortgages only differ in their rates during years 2–5.

What would you recommend your friend to do?

- ○ Strongly recommend Mortgage A

- ◦ Recommend Mortgage A
- ◦ No opinion
- ◦ Recommend Mortgage B
- ◦ Strongly recommend Mortgage B

On a scale of 1–7, how confident are you in your recommendation?

◦ 1 Not confident at all ◦ 2 ◦ 3 ◦ 4 ◦ 5 ◦ 6 ◦ 7 Extremely confident

On a scale of 1–7, how confident are you in your recommendation?

◦ 1 Not confident at all ◦ 2 ◦ 3 ◦ 4 ◦ 5 ◦ 6 ◦ 7 Extremely confident

Central Bank of Iceland – Target and Knowledge

A goal of the Central Bank of Iceland is to keep prices stable. Did you know that there is a specific inflation rate that the Central Bank tries to achieve?

- ◦ Yes
- ◦ No

What do you think is the annual inflation rate that the Central Bank of Iceland tries to achieve? Please enter a number in the box below.

_____ . _____ % (over a 12-month period)

Raven's Progressive Matrices

[Task: respondent sees a pattern with one piece missing. They select from 6–8 options the one that correctly fills the gap. A total of 8 problems of increasing difficulty are presented.]

Savings Account and Emergency Expenditures

Do you have an *Ãslandsbanki* savings account?

- ○ Yes
- ○ No

< *IF YES* > What is the current balance of all your *Ãslandsbanki* savings accounts?

_____ kr.

Suppose that you have an emergency expense that costs 50,000 kr. Based on your current financial situation, how would you pay for this expense? If you would use more than one method to cover this expense, please select all that apply.

- ☐ Put it on my credit card and pay it off in full at the next statement
- ☐ Put it on my credit card and pay it off over time
- ☐ With the money currently in my checking/savings account or with cash
- ☐ Take an overdraft
- ☐ By borrowing from a friend or family member
- ☐ Using a payday loan, deposit advance
- ☐ By selling something
- ☐ I wouldn't be able to pay for the expense right now
- ☐ Other (please specify): _____

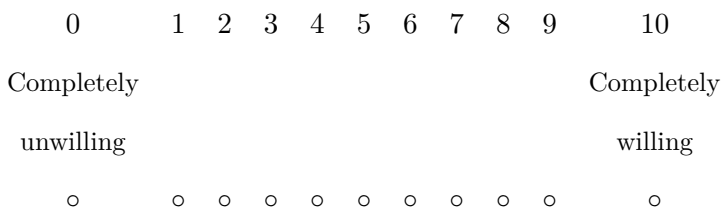
Self-Assessed Financial Decision-Making Ability

On a scale of 1–10 how good are you at making financial decisions, where 1 means you almost always make financial mistakes, and 10 means you never make financial mistakes?

1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

Time Preferences

How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future? *Please provide an answer in the range from 0 ("Completely unwilling to do so") to 10 ("Completely willing to do so").*



Unemployment Forecast

The unemployment rate in April 2021 was 10.4%. We will next ask you what you think the average unemployment rate in 2021 will be. Specifically, you will be asked a question like this:

What do you think is the percent chance (or chances out of 100) that the **average unemployment rate** in 2021 will be:
Please note that the numbers need to add up to 100.

- Less than 7%
- Between 7 and 8%
- Between 8 and 9%
- Between 9 and 9.5%
- Between 9.5 and 10%
- Between 10 and 10.5%
- Between 10.5 and 11%
- Between 11 and 12%
- Between 12 and 13%
- More than 13%

[Incentive paragraph – shown to a random half of respondents:] Note that there is a chance that you will be rewarded for the accuracy of your forecast. Two people with a forecast closest to the actual unemployment rate will receive 25,000 kr. at the end of the year (in the case of ties, we will randomly pick two winners).

Before you answer, you have the opportunity to see some information that may help you. Several organizations forecast the unemployment rate and we can provide you with these forecasts. Would

you like to receive the unemployment forecasts from any of the following? Please select ALL that apply.

- ☐ Forecast from the Central Bank of Iceland
- ☐ Forecast from Statistics Iceland
- ☐ Forecast from Landsbankinn
- ☐ Forecast from Ãslandsbanki
- ☐ Forecast from Arion banka
- ☐ None of the above – I am not interested in any forecasts

[Forecasts are displayed based on the respondent's selection:
The Central Bank of Iceland forecasts that the average unemployment rate in 2021 will be 6.7%
Statistics Iceland forecasts that the average unemployment rate in 2021 will be 7.8%
Landsbankinn forecasts that the average unemployment rate in 2021 will be 8.8%
Islandsbanki forecasts that the average unemployment rate in 2021 will be 9.4%
Arion banka forecasts that the average unemployment rate in 2021 will be 8.0%]

What do you think is the percent chance (or chances out of 100) that the **average** unemployment rate in 2021 will be: *Please note that the numbers need to add up to 100.*

Outcome	Percent chance (%)
Less than 7%	_____
Between 7% and 8%	_____
Between 8% and 9%	_____
Between 9% and 9.5%	_____
Between 9.5% and 10%	_____
Between 10% and 10.5%	_____
Between 10.5% and 11%	_____
Between 11% and 12%	_____
Between 12% and 13%	_____
More than 13%	_____
TOTAL	**100%**

Inflation Forecast – Probability Distribution

We will be asking you again about what you think the average rate of inflation will be during 2021. However, the question will be asked slightly differently. You will be asked to think about the different things that may happen to the average inflation **this year**. Specifically, you will be asked for the percent chance that, this year:

Please note that the numbers need to add up to 100.

Outcome	Percent chance (%)
The average rate of inflation will be 16% or higher	_____
The average rate of inflation will be between 12% and 16%	_____
The average rate of inflation will be between 8% and 12%	_____
The average rate of inflation will be between 6% and 8%	_____
The average rate of inflation will be between 4% and 6%	_____
The average rate of inflation will be between 2% and 4%	_____
The average rate of inflation will be between 0% and 2%	_____
The average rate of deflation will be between 0% and 2%	_____
The average rate of deflation will be between 2% and 4%	_____
The average rate of deflation will be 4% or higher	_____
TOTAL	**100%**

[Incentive paragraph – shown to same half of respondents as before:] Note that there is a chance that you will be rewarded for the accuracy of your forecast. Two people with a forecast closest to the actual rate of inflation will receive 25,000 kr. by the end of the year.

Before you answer, you will have the opportunity to see some information that may help you. Several organizations forecast the rate of inflation and we will provide you with forecasts from: (1) the Central Bank of Iceland; (2) Statistics Iceland; (3) Landsbankinn, (4) Islandsbanki, and (5) Arion banka.

Would you like to receive **each** of these forecasts, or would you like to receive the **average** of the forecasts?

- ◦ Each of the 5 forecasts
- ◦ The average of the 5 forecasts

[IF selected "Each of the 5 forecasts":
The Central Bank of Iceland forecasts that the average rate of inflation this year will be 4.1%
Statistics Iceland forecasts that the average rate of inflation this year will be 3.2%

Landsbankinn forecasts that the average rate of inflation this year will be 4.0%

Ãslandsbanki forecasts that the average rate of inflation this year will be 3.0%

Arion banka forecasts that the average rate of inflation this year will be 3.3%]

[IF selected "The average of the 5 forecasts":

The **average** forecast for the rate of average inflation this year is 3.52%.]

What do you think is the percent chance that, this year: *Please note that the numbers need to add up to 100.*

Outcome	Percent chance (%)
The average rate of inflation will be 16% or higher	_____
The average rate of inflation will be between 12% and 16%	_____
The average rate of inflation will be between 8% and 12%	_____
The average rate of inflation will be between 6% and 8%	_____
The average rate of inflation will be between 4% and 6%	_____
The average rate of inflation will be between 2% and 4%	_____
The average rate of inflation will be between 0% and 2%	_____
The average rate of deflation will be between 0% and 2%	_____
The average rate of deflation will be between 2% and 4%	_____
The average rate of deflation will be 4% or higher	_____
TOTAL	**100%**

Numeracy

Next we will ask you questions about how people use numbers in everyday life. Please answer the following questions by filling in the blanks.

Let's say you have 200,000 kr. in a savings account. The account earns ten per cent interest per year. Interest accrues at each anniversary of the account. If you never withdraw money or interest payments, how much will you have in the account at the end of two years?

_____ kr.

In the lottery, the chances of winning 10,000 kr. are 1%. What is your best guess about how many people would win 10,000 kr. if 1,000 people each buy a single ticket?

_____ people

Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After one year, how much would you be able to buy with the money in this account?

- More than today
- Exactly the same
- Less than today

Please tell me whether this statement is true or false:

Buying a single company's stock usually provides a safer return than a stock mutual fund.

- True
- False

Final Question

You could have consulted outside sources when taking the survey. Did you do so?

- Yes
- No

Payment

[The computer randomly selects one of the respondent's decisions for payment. The selected decision number and the chosen allocation are displayed. A coin flip then determines the payoff, which is deposited directly into the respondent's bank account in addition to the 1,500 kr. participation fee.]

[Closing message: "Thank you very much for participating! Your participation is of enormous importance for our research and we appreciate you taking the time to complete the survey. We hope you enjoyed it. Thank you again!"]