Research Report

Households' Response to the Wealth Effects of Inflation

WE STUDY REDISTRIBUTIVE EFFECTS OF INFLATION USING A RANDOMIZED INFORMATION EXPERIMENT ON BANK CLIENTS. ON AVERAGE, INDIVIDUALS ARE WELL INFORMED ABOUT CURRENT INFLATION AND ARE CONCERNED ABOUT ITS IMPACT ON WEALTH. YET, MOST INDIVIDUALS ARE NOT AWARE OF HOW INFLATION ERODES NOMINAL POSITIONS. ONCE THEY RECEIVE INFORMATION ON THIS EROSION CHANNEL, THEY UPDATE PERCEPTIONS AND EXPECTATIONS ABOUT OWN NET NOMINAL POSITIONS. LEARNING ABOUT THE INFLATION-INDUCED EROSION OF NOMINAL POSITIONS CAUSALLY AFFECTS CHOICES IN HYPOTHETICAL REAL-ESTATE TRANSACTIONS AND ACTUAL CONSUMPTION. THE FINDINGS SUGGEST THAT HOUSEHOLD WEALTH MEDIATES THE SENSITIVITY OF CONSUMPTION TO INFLATION ONCE HOUSEHOLDS ARE AWARE OF THE BALANCE-SHEET EFFECTS OF INFLATION.

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Introduction

After having been dormant for decades, inflation reached levels in 2022 not seen by many households during their lifetimes. On average, households dislike high levels of inflation because nominal incomes usually do not keep up with sharp increases in inflation in the short run. However, unexpected increases in the price level do not only generate losers but can also benefit households, among other economic actors. Surprise inflation lowers the real value of nominal assets but also erodes the real value of debt positions with fixed nominal interest obligations (Doepke and Schneider, 2006), redistributing wealth from savers to borrowers. We label this mechanism as erosion channel of nominal positions. So far, little is known about whether households are aware of these distributional consequences of inflation and how they adjust their economic decisions to news about their real net worth.

We study the extent to which households are aware of the erosion channel of inflation, how they adjust perception and expectation of their own net nominal position, as well as how news about their real wealth affect housing and leverage choices in a hypothetical real-estate investment task and their planned and actual consumption.

Methodology

To study these questions, we run a large, randomized control trial (RCT). We implemented the RCT on several thousand bank clients in July 2022 when inflation in Germany was at 8.7%, a 70-year high. The survey respondents are on average better educated than the average German in the population, they have large nominal positions (e.g., 55% have outstanding debt), accurate perceptions of current inflation, and they are concerned about its impact on their wealth. In the survey experiment, we first ask respondents questions on their pre-existing knowledge, such as how various balance-sheet items fare following an unexpected increase in inflation. Respondents also estimate their recent change in real net worth and decompose their balance sheet so we can calculate their net nominal position.

The subsequent information-provision experiment builds the core of our survey. We randomly assign respondents to three groups: two treatment groups and one control group. The treatment groups receive (i) information on the current inflation rate, (ii) an explanation that higher inflation hurts savers / benefits debtors because it erodes nominal positions, and (iii) a calculation of the current change in the real value of representative savings products or loans. The single difference between the two treatments is that one discusses the erosion of savings, while the other is on loan erosion. The control group only receives information about (i), current inflation. Hence, we inform all survey participants about prevailing inflation rates but only subjects in the treatment conditions learn about the nominal erosion channel of inflation. By comparing outcomes across treatment and control groups, we can thus isolate the effect of information about the erosion channel of inflation. Post-treatment, we elicit beliefs about nominal positions, own real net wealth, and the economy. Moreover, we ask respondents about spending plans and hypothetical real-estate investments, and we can track actual consumption choices using administrative data provided by our bank partner.

Finding 1: Existing Knowledge

One-quarter of respondents believe the impact of surprise inflation on fixed-interest savings products is very negative, and one-half believe it is negative (see Figure 1). This indicates some prior awareness about inflation-induced savings erosion, though the beliefs are close to those about stocks, which individuals believe to provide some protection against inflation (Schnorpfeil et al., 2023). Knowledge about loan erosion is more limited. Only 9% of respondents believe the impact is very positive, and 25% believe it is positive. These findings indicate limited scope for aggregate consequences of the inflation-induced debt erosion, as households are unlikely to act on effects they are largely unaware of.

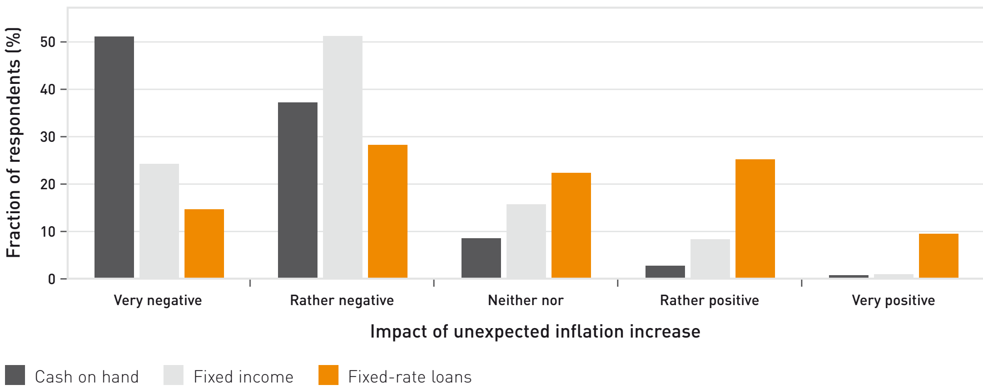

Figure 1: Prior Knowledge about the Wealth Effects of Inflation

Finding 2: Learning Affects Real-net-wealth Perception

Randomized provision of information on the erosion channel of nominal positions affects estimates of own real wealth and beliefs about these nominal positions. Conditioning on pre-treatment estimates of real-wealth changes, we find respondents who receive the savings-erosion treatment on average estimate their change in real wealth weakly lower than respondents in the control group. Respondents learning about inflation-induced loan erosion increase their estimate of the real-wealth change relative to the control group by three percentage points. Those respondents with larger exposure to the nominal position they learn about drive these effects: individuals with a negative nominal position ("net debtors") react more strongly to the loan treatment. For example, among net debtors, those who receive the loan treatment estimate their real-wealth change five percentage points more positively on average than net debtors in the control group.

Finding 3: Effects on Consumption

We show that learning about the wealth effect of inflation affects planned and actual consumption. Changes in real-wealth estimates, caused by the loan-erosion treatment, significantly impact planned and actual discretionary spending. We arrive at this result using an instrumental-variables approach, exploiting the treatment as a source of exogenous variation in perceived wealth. This finding implies that real-wealth changes affect households' consumption response to inflation, conditional on households being aware of balance-sheet effects of inflation.

Conclusion

We causally study the inflation-induced erosion of nominal wealth using a survey-based RCT. On average, individuals are highly concerned about the impact of inflation on their real net worth, and they are well informed about prevailing inflation levels. Yet, they know surprisingly little about the reduction in the real value of nominal positions due to surprise inflation. Once we inform individuals about the erosion channel of nominal positions, they update their current and expected real net worth and causally change their consumption and leverage choices in a hypothetical real-estate transaction. Our results indicate the redistributive nature of inflation across households and provide causal estimates for how individuals adjust behavior following inflation-induced redistribution.

References

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