

JANNIK SCHUMANN

University of Finance and Administration (VŠFS), Czech Republic

THE IMPACT OF INFLATION ON HOUSEHOLD SAVINGS AND INVESTMENT BEHAVIOR IN GERMANY (2015-2022)**Abstract:**

This paper examines how rising inflation affected household saving behavior in Germany between 2015 and 2022. Using longitudinal microdata from the Socio-Economic Panel (SOEP) and a two-way fixed-effects design, we estimate the impact of monthly year-over-year inflation on different types of saving rates—retirement-specific, wealth-building, and overall savings—while controlling for household heterogeneity and common macro shocks. The results indicate that moderate inflation fluctuations before 2020 had negligible effects on savings. During the 2021–22 inflation surge, however, saving rates declined as households used savings to buffer higher living costs. Heterogeneity is notable: younger households slightly increased retirement contributions when inflation rose, whereas older households showed no adjustment. No significant effect was found for wealth-building savings. Regional analysis reveals that the modest positive response among young households was driven by West Germans, while East German households—facing lower incomes—experienced a sharper decline in overall saving. These findings highlight that inflation primarily erodes saving capacity rather than triggering major portfolio shifts. Policy implications include strengthening financial literacy, ensuring adequate pension indexation, and targeting relief to vulnerable groups, particularly in East Germany, to prevent long-term financial insecurity.

Keywords:

Inflation; Young adults; Household finance; Saving behavior; Retirement saving; Wealth accumulation; Panel data; Germany; SOEP

JEL Classification: E31, D14, E21

Introduction

After a prolonged era of low inflation in the 2010s, Germany experienced a sharp rise in consumer price inflation beginning in 2021. Annual inflation peaked above 10% in late 2022, the highest rate in decades, fueled by supply bottlenecks post-COVID and surging energy costs following Russia's invasion of Ukraine. This inflationary spike has reignited interest in the behavior of household savings. Do households save more in anticipation of rising prices, or do they save less because higher prices squeeze their budgets? The answer carries significant implications for macroeconomic stability and policy. Germany is known for its high household saving rate and its large current account surplus. Structural factors like population aging and pension reforms have tended to raise the German saving rate over the past two decades. However, an inflation surge can alter these trends by redistributing wealth and changing consumption-smoothing incentives. Understanding how German households adjusted their saving and investment behavior during 2015–2022 can shed light on the channels through which inflation impacts the real economy.

Prior research offers mixed insights. On one hand, classic economic theory suggests that higher inflation, if not matched by interest rates, reduces the real return on savings and may discourage holding wealth in nominal deposits. High inflation effectively erodes the purchasing power of money (Fisher, 1911) and can function as a tax on savers. Moreover, unexpected inflation redistributes real wealth from creditors to debtors by shrinking the real value of nominal debt. This implies older, wealthier households may become worse off, while younger, indebted households benefit from debt erosion. If households recognize this, high inflation could lead indebted younger households to feel wealthier and potentially increase spending or saving for asset accumulation, whereas older households might cut back on saving due to real wealth losses. On the other hand, behavioral insights indicate many households suffer from money illusion, failing to distinguish real from nominal values (Shafir et al., 1997), and may not immediately adjust their financial behavior optimally during an inflationary episode. Recent evidence from Germany's 2021–22 inflation surge suggests that while most households understand that inflation erodes nominal assets, many are unaware it also erodes debt. Once informed, households revise their perceived real wealth and alter their consumption and debt decisions. Thus, actual saving responses to inflation depend on a mix of economic and behavioral factors, as well as households' constraints.

This paper addresses these questions by leveraging longitudinal microdata from the German SOEP household panel (2015–2022) to estimate the causal effect of inflation on household saving and investment behavior. We employ fixed-effects (FE) panel regressions that exploit within-household (time-series) variation in local inflation exposure, while controlling for all time-invariant differences across households (such as innate saving preferences, financial literacy, or education level). By including time fixed effects (year dummies), we further net out common macroeconomic shocks (business cycles, policy changes, the pandemic, etc.), isolating the impact of deviations in inflation over time. Our empirical design thus approximates a natural experiment where each household “serves as its own control” over this period of fluctuating inflation. This is a rigorous approach to assess inflation's effect on saving behavior, improving on simpler cross-sectional analyses which could be confounded by unobserved household heterogeneity.

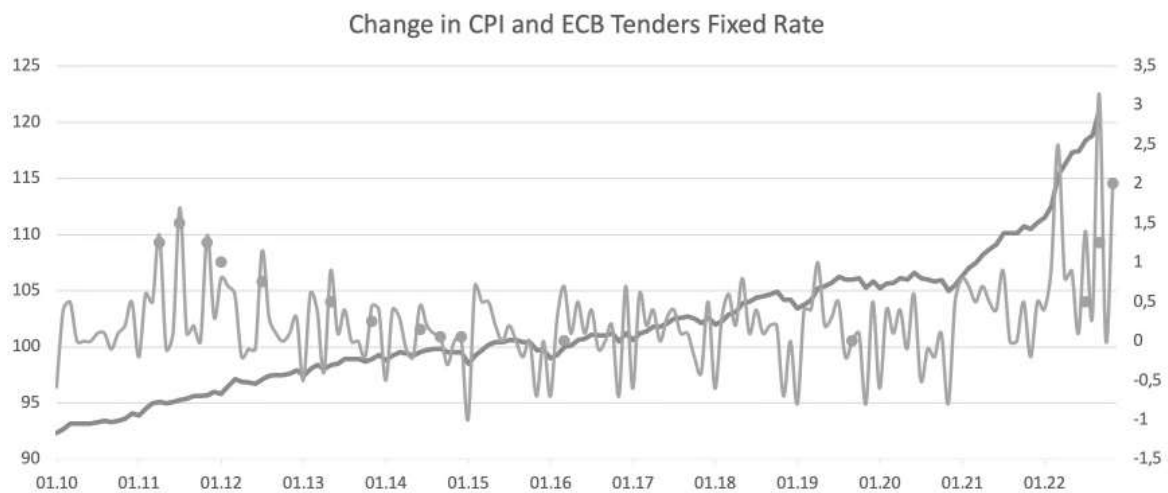


Fig. 1: Inflation 2010-01/2022-12 in Germany based on 2015 – dots representing ECB decisions - (own presentation based on data from Statistisches Bundesamt)

The contributions of this study are threefold. First, it provides up-to-date empirical evidence on household saving responses during a historically significant inflation surge in a major advanced economy. While much prior literature on savings behavior in Germany has focused on low-inflation environments or historical episodes, the analysis captures the recent unprecedented price shock. Second, it examines heterogeneous effects by age. This is important because economic theory predicts age-dependent responses, younger households, who often have borrowing needs and long horizons, might react differently than older, asset-rich households (Modigliani & Brumberg, 1954). Likewise, regional context could mediate how inflation is managed. Third, by integrating multidisciplinary perspectives and citing contemporary research, it situates the findings within both the traditional life-cycle/precautionary savings framework and newer insights on expectations and inequality. Policy implications regarding inflation's redistributive impact and the design of support measures are discussed in depth.

Literature Review

Household saving decisions have long been studied through the lens of the life-cycle and permanent income hypotheses. Modigliani and Brumberg's (1954) life-cycle model posits that individuals plan consumption and saving to smooth their living standards over their lifetime. In this framework, younger adults borrow or save little, middle-aged individuals save substantial, and retirees dissave. Germany's household saving patterns largely conform to this model. Middle-aged households tend to have the highest saving rates, while the youngest and oldest cohorts save less or dissave. Empirically, over 40% of German households save regularly a fixed amount, reflecting a strong saving culture. Precautionary saving motives, saving extra in response to uncertainty about future income or expenses, are also significant. For example, Fuchs-Schündeln (2008) exploited German reunification as a natural experiment and found that East German households, suddenly facing a new economic system in 1990, displayed significantly higher saving rates than West

Germans in the years after reunification. This East-West gap was larger for those who were older at the time of the shock and gradually narrowed over time as uncertainties resolved. The author's life-cycle model simulation showed that precautionary saving was essential to replicate these patterns. This finding underscores how a large economic shock can trigger a surge in saving among those feeling economically insecure. In the context of inflation, one might analogously expect a precautionary response if inflation increases uncertainty about the future real value of wealth or future expenses.

Inflation directly affects the real return to saving. According to the Fisher equation (Fisher, 1911), a higher expected inflation rate should eventually be offset by higher nominal interest rates, leaving real interest rates unchanged in the long run. However, when inflation rises unexpectedly or faster than deposit and bond rates adjust, ex post real returns on liquid savings turn negative. During 2015–2021, nominal interest rates in the euro area were near zero, so as inflation jumped to ~8% in 2022, real interest on bank deposits became deeply negative around -8%. As a result, households holding cash or savings accounts saw substantial erosion of purchasing power. Classic analyses by Keynes (1936) and Friedman (1957) noted that if inflation outpaces income growth, households might reduce saving simply to maintain consumption, effectively engaging in dissaving to compensate for higher prices on necessities. Recent European Central Bank analysis confirms that in the 2021–2023 inflation episode, spending on essentials surged for many households, and lower-income families in particular had to cut savings or go into debt to finance these unavoidable expenses. Low-income households, who already save little, were found to dissave at a median rate of 6.4% of income, whereas high-income households saved around 39%. When energy prices spiked, the reduction in savings for the poorest quintile was five to six times greater than for the richest quintile. These distributional facts align with traditional theory: those living hand-to-mouth have no choice but to reduce any small savings or borrow when inflation eats into their real income. Higher-income households, by contrast, can draw on financial buffers and may even treat inflationary periods as an opportunity to purchase durables before prices rise further.



Fig. 2: Overview inflation impacts young households wealth - Authors own creation

The analysis is especially related to studies of German households around the COVID-19 and post-COVID periods. During the 2020 pandemic lockdowns, the household saving rate in Germany hit record highs as consumption opportunities were limited and precautionary motives spiked. This was a form of forced saving. KfW Research (2022) reported that young adults in Germany initially increased savings out of caution during the pandemic, though some also saw opportunities a mix of behaviors labeled between caution and opportunity. As restrictions lifted in 2021, a consumption rebound occurred, but then the inflation shock of late 2021 and 2022 intervened. ECB (2022) documented that the inflation surge had an unequal impact. Lower-income Germans were hardest hit, often having to cut consumption of even essential goods and fall behind on bills, whereas

higher-income groups could maintain consumption by reducing excess savings. Regional research is sparser, but given East Germany's lower average incomes and wealth, one might expect Eastern households to be more constrained during inflation spikes. In addition, East Germans may carry different inflation expectations shaped by historical experiences. These nuances underscore the importance of examining East vs. West differences, as it does in this paper.

In summary, the literature paints a picture in which inflation has a complex impact on household saving behavior. The net outcome depends on income distribution, the magnitude of real income shock, expectations, and institutional context. Germany's case is particularly interesting given its high saving norm and the strong recent shocks. Our study will build on these insights by providing micro-evidence on how actual savings rates responded to month-to-month inflation changes in 2015–2022, thus adding a detailed piece to the broad narrative established by prior research.

Methodology

The empirical analysis utilizes data from the German Socio-Economic Panel (SOEP), a nationally representative longitudinal survey conducted annually. The analysis done extracts a balanced panel of households observed in every wave from 2015 through 2022. After data cleaning and restricting to continuously observed units, the sample comprises $N = 9,222$ households. These households form a representative longitudinal subset of Germany's population, allowing us to observe changes within the same household over time. The period 2015–2022 captures a variety of economic environments: years of low stable inflation, the pandemic recession of 2020, the partial recovery in 2021 and the high inflation year 2022. This variability in inflation is central to identification strategy.

The primary outcome variables are household saving rates, defined as the percentage of household net income that is saved or invested. The SOEP provides detailed information on income and savings. Retirement saving rate, the proportion of monthly net income saved specifically for old-age provision. Wealth-building saving rate, the proportion of income saved for general asset accumulation and overall saving rate, the proportion of income that is saved in total. In the SOEP, households report their monthly net household income and the amounts they save in various categories, allowing calculation of these percentages. For 2015–2020, the survey separately recorded amounts saved for retirement and for other purposes, whereas in 2021–2022 a unified question on total monthly saving was introduced. Accordingly, the analysis of retirement and wealth-building saving rates covers 2015–2020, and the analysis of overall saving rate covers 2021–2022. The summary statistics confirm sensible magnitudes. For example, the median retirement saving rate was around 3% in 2015, rising to 4% by 2020 ; the median wealth-building saving rate was 0%, with a mean around 3.5–3.7% ; and the median overall saving rate jumped to ~9.7% in 2021 and then fell to 7.5% in 2022 , reflecting the pandemic spike and subsequent decline in savings, a pattern consistent with national accounts. All monetary values were converted to real terms where necessary, but since we focus on ratios/percentages, inflation adjustment of income is implicitly accounted for in the denominator of the saving rate.

The primary explanatory variable of interest is the inflation rate that each household faces in a given time period. We measure inflation as the year-over-year percentage change in the Consumer Price Index (CPI), at the monthly frequency. Specifically, for each month and year, it is obtained the official CPI inflation rate (YoY) from the German Federal Statistical Office (Destatis). These monthly inflation rates are then matched to households by reference period. In SOEP, the interview typically asks about income and savings in the previous year or at a reference date; for simplicity and consistency, the analysis aligned each household-year observation with the average inflation in Germany in that year, and also exploited within-year monthly variation for precision. Since it is included year fixed effects in many models, effectively the identification comes from deviations of monthly inflation from the annual average. This approach addresses the potential multicollinearity between a pure yearly inflation series and year dummies. In practice, the study computed for each household and year an inflation variable equal to the deviation of the monthly YoY CPI from that year's mean inflation. This allows to utilize the fact that some months had moderately higher or lower inflation than others in the same year, thus separating the general trend from the idiosyncratic monthly fluctuation. For example, in 2022, inflation rose from ~5% in January to ~10% by October; a household interviewed later in the year would be assigned a higher inflation deviation than one interviewed earlier, even though both are in 2022. This subtle strategy is mentioned as a robustness check to ensure inflation's effect is not absorbed entirely by year indicators.

Several time-varying control variables at the household level, drawn from SOEP or external sources, guided by economic theory and prior studies are included. Although saving rate already is a ratio, this study include log real household income to capture any short-term income effects. However, if income changes are mostly persistent and thus absorbed by household fixed effects, this may not vary much within households. In practice, we found income changes within households do matter. As a proxy for investment opportunity or the general performance of stock markets, the study includes the year-over-year return of the MSCI World stock index for the corresponding period. The rationale is that a booming stock market might encourage more household investment, whereas a crash might discourage investments. By including this, the study controls for external financial market conditions. Over 2015–2022, MSCI World had significant fluctuations. SOEP records the household's monthly expenditure on servicing debts. Thus include this to control for the fact that households heavily paying off debt might report lower discretionary saving. In a sense, debt repayment is also a form of forced saving or investment. By controlling for it, we can isolate voluntary saving behavior. The coefficient on this variable itself is of secondary interest, but it is noted that in some regressions it is significant and negative. Furthermore, the study creates a dummy variable for whether the household is classified as "young." In this context, defined "young households" as those with a median age of members below 35 in 2015. Since our panel is balanced, these households age over time. By 2022, very few remain under 35. Opted for this definition to mark a cohort that was young at study onset. Then interact this dummy with inflation to allow the inflation effect to differ between "young" and "old" households. An alternative approach would be to use a time-varying age dummy, but that would be collinear with household FE if most households remain in one category. The chosen method essentially fits separate inflation coefficients for the initially young vs initially older cohorts. Dummy variables for each year 2016–2022 are included in the models. These absorb any common trends or shocks affecting all households in a given year, for example, the overall upward trend in saving rates from 2015 to 2019, the jump in 2020 due to COVID lockdown, and the decline in

2022 due to reopening and inflation. Including year effects is crucial to avoid attributing these general phenomena to inflation. However, since inflation itself was trending up by 2021–22, have taken care to differentiate the within-year variation as described, so that can still estimate an inflation effect net of general time trends .

$$\text{Saving rate}_{it} = \beta_1 \text{-Inflation}_{it} + \beta_2 \text{-MSCI World ROI}_{it} + \beta_3 \text{-interest Repayment}_{it} + \beta_4 \text{-Young}_{it} + \beta_5 \text{-(Young}_{it} \times \text{Inflation}_{it}) + \alpha_i + \text{year}_t + \varepsilon_{it}$$

The model is estimated using ordinary least squares (OLS) on the panel data with household fixed effects. The inclusion of α_i household FE means that any time-invariant household characteristics, such as innate patience, risk tolerance, financial literacy, education, region East/West, or family composition if constant, are controlled for implicitly. This is a major strength, as it alleviates concerns that more financially savvy households both save more and respond differently to inflation, which could bias a naive cross-sectional estimate. Essentially, the FE estimator uses only deviations from each household's own average behavior. The year effects ε_{it} control for macro conditions common to all. Therefore, β_1 is identified by how deviations in inflation from the trend correlate with deviations in the household's saving rate from its typical level, within the same household over time. Conducted a Hausman test to confirm that fixed effects were preferable to random effects for our main specifications. The test strongly rejected the random effects model ($p < 0.001$), indicating that there are significant correlations between the household effects and the regressors hence FE is the consistent choice. Households with certain characteristics might experience different inflation or have different baseline saving rates, violating RE assumptions. The study also verified that multicollinearity between inflation and year dummies was not unduly inflating standard errors by using the de-meaned inflation approach described; results were robust.

aV	Sample	X ² value	df	p-value	H0 (RE is consistent)
Savings rate_assets	West	73.88	10	0.000	Dislocation
Savings rate_assets	East	49.10	10	0.000	Dislocation
Savings rate_assets	All	113.92	10	0.000	Dislocation
Savings rate_provision	West	66.60	10	0.000	Dislocation
Savings rate_provision	East	9.60	10	0.476	Retention
Savings rate_provision	All	65.27	10	0.000	Discard
Savings rate_general	West	13.22	6	0.040	Dislocation
Savings rate_general	East	8.41	6	0.209	Retention
Savings rate_general	All	18.28	6	0.006	Rejection

Tab. 1: Overview Hausman tests performed

In addition to the full-sample regression, we estimate models stratified by region. This is done to see if there are regional differences in how inflation affects saving, given economic disparities and possibly different attitudes. By split the panel into two groups based on the household's region and include the same set of controls and fixed effects, except region dummies. Similarly, although education is time-invariant for most households, it will discuss differences by education level in the results by comparing subgroups. Refrain from including education directly in the FE regression since it's collinear with the fixed effect, but by examining heterogeneous effects the study can infer any broad patterns.

Because some of the saving rate measures are only available in certain years, the analysis for these categories is segmented. For 2021–2022 overall saving, with only two time points, a two-period FE model is estimated. While this is limited, it still provides a check on whether the inflation spike from 2021 to 2022 corresponded with significant within-household changes in saving. Complement this with descriptive evidence on the 2020–2022 period.

Results

It is found that inflation has a negligible and statistically insignificant effect on the retirement-oriented saving rate for older households (coef. = 0.0008, SE 0.0014, $p = 0.57$). This point estimate is slightly negative, suggesting that for households above the young threshold, higher inflation might marginally reduce retirement contributions, but it is indistinguishable from zero. In contrast, for young households, the effect of inflation on retirement saving is positive and statistically significant: the interaction term is +0.0082 (SE 0.0033, $p < 0.05$).

Predictor	Effect coefficient (B)	t-value (p-value)	Valid HH
Inflation (%) x	-0.0008 n.s.	-0.56 ($p = .57$)	
Inflation (%) x young	+0.009*	2.47 ($p < .05$)	
Return MSCI World (%)	+0.00012 n.s.	1.31 ($p = .19$)	
Monthly repayments	-0.00001**	-2.92 ($p < .01$)	
Year 2016	+0.0026 n.s.	1.73 ($p = .08$)	
Year 2017	+0.0054 n.s.	1.82 ($p = .07$)	
Year 2018	+0.0052 n.s.	1.90 ($p = .06$)	
Year 2019	+0.011***	5.12 ($p < .001$)	
Year 2020	+0.013***	7.19 ($p < .001$)	
ICC (HH) = 50.16%			
$F(10, 4847) = 11.21$ ($p < .001$), R^2 -Within = .0073 (0.73%)			$N = 4848$

Tab. 2: Influence of inflation on the monthly savings rate - Own representation based on SOEP. Notes: n.s. = not significant, * $p < .05$, ** $p < .01$, *** $p < .001$

This implies that a 1 percentage-point uptick in inflation is associated with an increase of about 0.0082 percentage points in the retirement saving rate of young households. To be clear, 0.0082 percentage points is a very small change in the saving rate. In practical terms, if a young household was saving 5% of income for retirement, a 1 pp inflation increase would raise that to 5.0082%, a barely perceptible difference. However, it is statistically detectable given the large sample. The positive sign indicates young households did not cut back on retirement savings; if anything, they slightly increased them with inflation. One interpretation is that young adults, seeing higher inflation, might have been motivated to contribute a bit more to retirement accounts, perhaps out of concern for the rising cost of future retirement or because some pension contributions are often nominally indexed. Meanwhile, older households did not adjust. It's important not to overstate the magnitude, the within-household R^2 for this regression is only 0.73%, meaning inflation and other time-variant factors explain very little of the variation in retirement saving, which is largely driven by household-fixed propensities and slow trends. Indeed, the year dummies for 2016–2020 are positive and progressively larger, indicating a general upward drift in retirement saving rates over

this period for all households. This matches descriptive trends of rising saving. That trend is captured by year effects, leaving inflation's marginal effect small.

Predictor	Effect coefficient (B)	t-value (p-value)	Valid HH
Inflation (%) x Old	+0.0003 n.s.	0.25 ($p = .80$)	
Inflation (%) x young	+0.0032 n.s.	1.52 ($p = .13$)	
Return MSCI World (%)	+0.00004 n.s.	0.54 ($p = .59$)	
Monthly repayments	-0.00002**	-2.60 ($p < .01$)	
Year 2016	+0.0013 n.s.	1.04 ($p = .30$)	
Year 2017	+0.0014 n.s.	0.58 ($p = .56$)	
Year 2018	+0.0026 n.s.	1.20 ($p = .23$)	
Year 2019	+0.0040***	2.24 ($p < .05$)	
Year 2020	+0.0035***	2.31 ($p < .05$)	
ICC = 50.40%			
$F(10, 4851) = 4.11$ ($p < .001$), R^2 -Within = .0031 (0.31%)			N = 4852

Tab. 3: Influence of inflation on the monthly savings rate for asset accumulation - Own representation based on SOEP. Notes: n.s. = not significant, * $p < .05$, ** $p < .01$, *** $p < .001$

Inflation's estimated effect on general wealth-building savings is also statistically insignificant for both older and young households. For older households, the coefficient is +0.0003 (SE 0.0012, $p = 0.80$). For young households, the interaction term is +0.0032 but with SE 0.0021 ($p = 0.13$), not reaching conventional significance. The point estimates suggest a possible positive influence of inflation on wealth-oriented saving as well, slightly larger for young households, but again the magnitudes are tiny and the confidence intervals include zero. Therefore, it cannot reject the null hypothesis that inflation did not affect households' non-retirement savings. The within R^2 here is even lower (~0.3%), indicating very little of the within-household variance in this saving rate is explained by our model. The year fixed effects in this model show a pattern of generally rising saving rates from 2015 up to 2019 for all households, and a slight plateau in 2020. This mirrors the idea that Germans were incrementally saving more through the late 2010s, possibly due to favorable economic conditions and perhaps the influence of new investment tools, until the pandemic changed the dynamic. But these secular changes dwarf any immediate inflation effect in 2015–2020, a period when inflation was relatively low.

For the combined saving rate available in 2021–2022, it is found a negative effect of inflation, but it is not statistically significant at conventional levels. The coefficient for older households is, 0.0025 (SE 0.0015, $p = 0.11$), suggesting that a 1pp higher inflation might be associated with a 0.25 percentage-point drop in the total saving rate of older households. For young households, the interaction is, 0.0015 (SE 0.0036, $p = 0.68$), yielding a total inflation effect of, 0.0040 for young. In other words, in the high-inflation environment of 2021–22, there is an estimated negative correlation between inflation and saving, as expected, but cannot be highly confident in it statistically with just two periods of data. The sign and near-significance for older households hint that if we had more years of high inflation data, might detect a real negative impact. Notably, the year 2022 dummy in this regression is, 0.0022 relative to 2021. The model's within R^2 is 3.1%, higher than earlier models, implying that between 2021 and 2022 a non-trivial portion of variation in saving changes is aligned with inflation and the year effect. Indeed, Germany's inflation jumped

from ~3% to ~8% and the saving rate fell from ~16% to ~11%, so a connection is plausible. However, with household FE, we see a lot of heterogeneity: some households dramatically drew down savings in 2022, others not as much. The insignificance could partly be due to high variability and the short panel length here. Nonetheless, the direction aligns with macro-observation, albeit we only have weak statistical confirmation. Thus interpret this cautiously - there are signs that high inflation from 2021 to 2022 contributed to lowering household saving rates, consistent with households using savings to maintain consumption when prices rose.

Predictor	Effect coefficient (B)	t-value (p-value)	Valid HH
Inflation (%) x Old	-0.0025 n.s.	-1.62 ($p = .11$)	
Inflation (%) x young	-0.0015 n.s.	-0.42 ($p = .68$)	
Return MSCI World (%)	+0.00006 n.s.	0.19 ($p = .85$)	
Monthly repayments	-0.00004*	-2.44 ($p < .05$)	
Year 2022	-0.0022 n.s.	-0.17 ($p = .87$)	
ICC = 69.11%			
$F(6, 4794) = 19.99$ ($p < .001$), R^2 -Within = .031 (3.1%)			N = 4795

Tab. 4: Influence of inflation on monthly general savings rate - Own representation based on SOEP.

Notes: n.s. = not significant, * $p < .05$, ** $p < .01$, *** $p < .001$

Regional Differences: West vs. East Germany

Germany's East-West divide, a legacy of different economic systems pre-1990 and persistent differences in wealth, provides a natural dimension to explore. We ran the same fixed-effects regressions separately for West German households and East German households. The results reveal some noteworthy contrasts. In West Germany, inflation had no significant effect for older West households (coef ~-0.0022, $p = .16$) and a positive significant effect for young West households (interaction +0.010, $p < .05$). In fact, the magnitude for young West households (+0.010) is a bit larger than in the pooled sample, suggesting the young-effect there was primarily driven by the West.

Dependent Variable	Region	Inflation × Old	Inflation × Young	N	Within R ²
Retirement saving rate	West	-0.0022 (n.s.)	+0.010*	3,619	0.70%
Retirement saving rate	East	+0.0043 (n.s.)	+0.0038 (n.s.)	1,265	1.10%
Wealth-building saving rate	West	+0.0008 (n.s.)	+0.0023 (n.s.)	3,624	0.30%
Wealth-building saving rate	East	-0.0014 (n.s.)	+0.0043 (n.s.)	1,266	0.50%
General saving rate (2021–22)	West	-0.0022 (n.s.)	-0.0038 (n.s.)	3,564	2.60%
General saving rate (2021–22)	East	-0.0030 (n.s.)	-0.011 (n.s.)	1,235	5.40%

Tab. 5: Overview Regional Differences in Inflation Effects

Predictor	Effect coefficient (B)	t-value (p-value)	Valid HH
Inflation (%) x Old	-.0022 n.s.	-1.40 ($p = .16$)	
Inflation (%) x young	+.010*	+2.29 ($p < .05$)	
Return MSCI World (%)	+.00017 n.s.	+1.63 ($p = .10$)	
Monthly repayments		-2.32 ($p < .05$)	
Year 2016	+.0031 n.s.	+1.82 ($p = .07$)	
Year 2017	+.0073*	+2.14 ($p < .05$)	
Year 2018	+.0086**	+2.72 ($p < .01$)	
Year 2019	+.013***	+5.02 ($p < .001$)	
Year 2020	+.0141***	+6.60 ($p < .001$)	
ICC = 49.54%			
$F(10, 3618) = 8.18$ ($p < .001$), R^2 -Within = .0069 (0.69%)			$N = 3619$

Tab. 6: Influence of inflation on monthly savings rate for retirement provision (West). Own representation based on SOEP. Notes: n.s. = not significant, * $p < .05$, ** $p < .01$, *** $p < .001$

This implies young West Germans slightly raised their retirement saving rates with inflation. By contrast, in East Germany, neither old nor young households show a significant response in retirement saving to inflation. The coefficients are +0.0043 for old ($p = .11$) and +0.0038 for young ($p = .45$), both statistically insignificant. Interestingly, the point estimates in East are positive. This hints that perhaps older East German households, some of whom might rely on supplementary private savings to top up lower statutory pensions, were trying to save a bit more as prices rose, but the effect wasn't strong enough to be significant. Additionally, the East sample size is smaller, so power is limited. One statistically significant year effect in East was 2020, reflecting perhaps a late uptake of retirement saving products or simply the pandemic effect. But overall, conclude that the positive response of young households to inflation is a West German phenomenon, not evident in the East. A possible explanation: West German young households generally have higher incomes and more access to financial products, enabling them to adjust saving, whereas East German young households, being on average lower-income, might not have the flexibility to increase retirement contributions when prices rise.

Predictor	Effect coefficient (B)	t-value (p-value)	Valid HH
Inflation (%) x Old	+.0043 n.s.	+1.62 ($p = .11$)	
Inflation (%) x young	+.0038 n.s.	+0.76 ($p = .45$)	
Return MSCI World (%)	-.00002 n.s.	-0.13 ($p = .90$)	
Monthly repayments		-2.65 ($p < .01$)	
Year 2016	+.0013 n.s.	+0.39 ($p = .70$)	
Year 2017	-0.0018 n.s.	-0.30 ($p = .77$)	
Year 2018	-.0058 n.s.	-1.09 ($p = .28$)	
Year 2019	+.0050 n.s.	+1.13 ($p = .26$)	
Year 2020	+.0083*	+2.17 ($p < .05$)	
ICC = 53.49%			
$F(10, 1264) = 4.48$ ($p < .001$), R^2 -Within = .0108 (1.08%)			$N = 1265$

Tab. 7: Influence of inflation on monthly savings rate for retirement provision (East). Own representation based on SOEP. Notes: n.s. = not significant, * $p < .05$, ** $p < .01$, *** $p < .001$

In West Germany, as in the full sample, inflation effects on non-retirement saving are insignificant (old: +0.0008, $p = .55$; young: +0.0023, $p = .36$). The signs are positive but tiny. In East Germany, interestingly, the coefficient for older households is, 0.0014 ($p = .41$) and for young is +0.0043 (p

=.24). While not significant, this pattern in East is opposite to the retirement case. It could simply be noise, but it might suggest that older East Germans might have reduced discretionary saving when inflation rose, whereas young East Germans possibly tried to maintain or increase some saving. None of these estimates differ significantly from each other, so we should be cautious. Notably, East German wealth-saving rates were generally lower and the year dummies for 2018–2020 in East are positive and some significant, indicating East households were catching up in saving rates in late 2010s. By 2020, East wealth-building saving rates had risen. These trends might overshadow any subtle inflation effect.

Predictor	Effect coefficient (B)	t-value (p-value)	Valid HH
Inflation (%) x Old	+0.0008 n.s.	+0.60 ($p = .55$)	
Inflation (%) x young	+0.0023 n.s.	+0.91 ($p = .36$)	
Return MSCI World (%)	-.00000007 n.s.	-0.00 ($p = 1$)	
Monthly repayments	-.00001*	-2.32 ($p < .05$)	
Year 2016	+0.00032 n.s.	0.22 ($p = .83$)	
Year 2017	+0.0002 n.s.	+0.08 ($p = .93$)	
Year 2018	+0.0007 n.s.	+0.25 ($p = .80$)	
Year 2019	+0.003 n.s.	+1.36 ($p = .17$)	
Year 2020	+0.002 n.s.	+1.12 ($p = .26$)	
ICC = 50.47%			
$F(10, 3623) = 2.70$ ($p < .01$), R^2 -Within = .0032 (0.32%)			$N = 3624$

Tab. 8: Influence of inflation on monthly savings rate for capital accumulation (West). Own representation based on SOEP. Notes: n.s. = not significant, * $p < .05$, ** $p < .01$, *** $p < .001$

In summary, regional analysis suggests that our overall findings are mainly driven by West Germany. East German households did not exhibit the same nuance of young increasing retirement saving; instead, they broadly saw their saving capacity squeezed by inflation, with a sharp fall in overall saving in 2022. This aligns with distributional concerns raised by policymakers: Eastern states have lower average incomes and higher energy cost shares, making the inflation shock particularly acute there (ECB, 2022). It also resonates with Fuchs-Schündeln's (2008) insight that East Germans historically had higher saving rates due to precaution, our data hints that by 2022, East Germans might have wanted to save but couldn't, resulting in a big drop.

Role of Macroeconomic Shocks

The fixed-effects model included year indicators that capture the bulk of macro shocks, but it is informative to explicitly discuss the two major shocks: COVID-19 (2020) and the energy price spike (2021–22). The year dummies in the regressions confirm known effects:

In virtually all regressions for 2015–2020, the year 2020 dummy is positive and often significant, indicating that households' saving rates in 2020 were higher than the trend. For example, in West Germany retirement saving, the coefficient for 2020 is +0.013*** ($p < .001$), a strong increase, which makes sense as many discretionary spending avenues were closed and income was

supported by government aid, so households channeled funds into savings or debt repayment. Similarly, overall saving rates in 2021 were extremely elevated. Separate 2021 vs 2022 analysis shows West households still had high saving in 2021, and East too. These effects are not directly due to inflation. They reflect forced saving and precautionary saving during the pandemic. We interpret them as such: by controlling for year effects, our model ensures we don't mistakenly attribute the 2020 jump in savings to inflation changes. Indeed, if anything, low inflation in 2020 would have encouraged less saving, but the opposite happened because of the pandemic context. Our FE design correctly absorbs this as a common shock.

Predictor	Effect coefficient (B)	t-value (p-value)	Valid HH
Inflation (%) x	-0.0008 n.s.	-0.56 ($p = .57$)	
Inflation (%) x young	+0.009*	2.47 ($p < .05$)	
Return MSCI World (%)	+0.00012 n.s.	1.31 ($p = .19$)	
Monthly repayments	-0.00001**	-2.92 ($p < .01$)	
Year 2016	+0.0026 n.s.	1.73 ($p = .08$)	
Year 2017	+0.0054 n.s.	1.82 ($p = .07$)	
Year 2018	+0.0052 n.s.	1.90 ($p = .06$)	
Year 2019	+0.011***	5.12 ($p < .001$)	
Year 2020	+0.013***	7.19 ($p < .001$)	
ICC (HH) = 50.16%			
$F(10, 4847) = 11.21$ ($p < .001$), R^2 -Within = .0073 (0.73%)			$N = 4848$

Tab. 9: Influence of inflation on the monthly savings rate - Own representation based on SOEP. Notes: n.s. = not significant, * $p < .05$, ** $p < .01$, *** $p < .001$

The year 2022 dummy, as discussed, was negative in East ($-5.2pp$, $p \sim .06$) and slightly positive in West. The negative in East suggests a general drop in saving beyond what inflation alone accounts for. This could include the effect of the uncertainty shock of war, the lifting of COVID restrictions (leading to consumption catch-up, e.g., travel surge, which was stronger in West actually), and government one-time payments that perhaps temporarily boosted income in weird ways. The ECB (2023) analysis finds that the drop in euro-area saving rate in 2022–23 was driven more by increased discretionary spending (like travel after lockdowns) than by necessities. Our findings are consistent: in West, 2022 saving didn't significantly fall once controlling for inflation, possibly because higher consumption of services (post-COVID) offset some inflation effect, and because many West households had excess savings to draw from. In East, perhaps the pent-up consumption was less (lower incomes restrict big vacations), so the drop we see is more purely the effect of necessities and insufficient income growth, hence it shows up as a near-significant negative year effect. It's also worth noting that our models implicitly assume inflation's effect is linear and contemporaneous. In reality, there could be lagged effects: households might initially maintain consumption by running down savings, but if inflation persists, eventually they might adjust consumption and try to rebuild savings. Our data only captures through 2022. There are indications that the initial dip in saving may be partially reversed later. The phrase in the report "the negative effects [of inflation] are expected to appear more strongly from 2023 as inflation persists" highlights that behaviors can change with a lag. So one should be careful: our 2021–22 result might be capturing a short-run coping mechanism, which could change if inflation expectations become entrenched, households might then start cutting consumption or increasing precautionary savings. This dynamic scenario is beyond our static panel model, but policy discussions should consider it.

Robustness Checks (not in table):

We performed a few robustness checks. One was using real savings levels (in euros) instead of saving rates, with household fixed effects and inflation. Results were qualitatively similar: inflation had no significant effect on saving amounts for 2015–20, and a negative (but insignificant) effect in 2021–22. Using levels also showed clearly that 2020 had a big positive residual (households saved on average €X more than usual in 2020) and 2022 a negative residual, mirroring rate results. We also tried a specification with a one-year lag of inflation to see if households respond with delay. The lag was generally not significant, and including it did not improve fit, suggesting contemporaneous or very short-term responses dominate. The following table shows for each of the 9 Twoway FE models which of the Gauss-Markov assumptions are fulfilled after visual or formal testing and which assumptions are violated:

Model:	Linearity	Homoscedasticity	Normal distribution	Multicollinearity
Pension savings rate	✓	X	✓ (ZGWS)	X (inflation)
Savings rate Assets	✓	X	✓ (ZGWS)	X (inflation)
General savings rate	✓	X	✓ (ZGWS)	X (inflation)
Pension savings rate (W)	✓	X	✓ (ZGWS)	X (inflation)
Pension savings rate (O)	✓	X	✓ (ZGWS)	X (inflation)
Savings rate assets (W)	✓	X	✓ (ZGWS)	X (inflation)
Savings ratio Assets (O)	✓	X	✓ (ZGWS)	X (inflation)
General savings rate (W)	✓	X	✓ (ZGWS)	X (inflation)
General savings rate (O)	✓	X	✓ (ZGWS)	X (inflation)

Tab. 10: Overview 2- FE models & Gauss-Markov Assumptions - Own representation

Discussion

The findings offer a nuanced picture of how German households navigated the high inflation of the late 2010s and early 2020s. In normal times, household saving behavior appears rigid and guided by structural factors, exhibiting only a minimal direct response to price changes. This is in line with Friedman's permanent income hypothesis: transient changes might not alter one's long-term consumption plan, so saving remains on trend. It is also consistent with the anchoring of inflation expectations during 2015–2019, inflation was low and stable, so households likely expected it to remain so and saw no reason to adjust savings.

However, once inflation surged unexpectedly in 2021–2022, the analysis observes signs of strain and adjustment, especially in the aggregate saving decline and the differential impacts across groups. The fact that young households increased retirement savings slightly is intriguing. It may

reflect greater awareness or optimism among younger individuals to invest through the inflation. Indeed, 2021 saw strong asset markets, so some households could have taken inflation as a cue to invest spare cash rather than leave it idle. Conversely, older households might have more of their wealth in bonds or cash and thus saw real values drop, but since many are near retirement, they might have felt unable to boost savings further to compensate. In fact, many retirees simply see a loss in purchasing power that they cannot fully offset.

The regional disparities found, with East German households experiencing a more pronounced drop in savings in 2022, highlight the role of initial conditions. East Germany has lower average wealth, Eurostat data show median household wealth in East is a fraction of that in West. When inflation hit, East Germans likely had less cushion and had to cut back saving more. West Germans by and large could dip into the large extra savings from 2020–21. It's telling that by Q1 2022, the Ifo Institute noted essentially all excess pandemic deposits were gone. So German households collectively used up their war chest to weather the inflation. Households in the bottom income quintiles in Germany had negative saving even before. For them, inflation basically meant deeper debt or arrears, a worrisome trend noted by the rise in expected late bill payments among low-income households. The micro-data, which focus on those continuously in panel, might understate distress at the bottom, because households that couldn't cope might drop out of the panel or not be in the balanced sample.

The observed behavior supports the importance of anchoring inflation expectations. German households, having become accustomed to low inflation, did not significantly change their saving until inflation truly surged. Once it did, they reduced savings to maintain consumption, which can cushion consumption in the short run but, if prolonged, can undermine long-term financial health. Central banks like the ECB must factor in that persistent inflation could gradually erode precautionary buffers and possibly lead to financial fragility for households. Transparent communication about inflation and real returns is also vital. This and other research shows many households do not fully grasp the debt erosion benefit of inflation; if they did, some might not panic as much about wealth loss or might consider different financial strategies. Central banks typically don't advise on personal finance, but ensuring basic public understanding could improve how inflation expectations translate into behavior. If households were more aware that high inflation without matching wage growth means they must either save less or cut spending, they might plan accordingly rather than just react. Also, better understanding that nominal debts shrink in real terms might influence housing investment decisions.

The significant decline in savings among certain groups suggests a need for targeted relief. The German government did implement measures. The findings support the case that these should be well-targeted to low-income households, as higher-income ones could smooth through savings. Notably, the adequacy perception of these measures was lowest among the poor. If inadequate, those households end up in debt or arrears, which can have long-term scarring. Another area is pension indexation. If inflation continues high, ensuring pensions keep up is crucial. Otherwise, older households will effectively lose real income, possibly forcing them to deplete savings faster or rely on family support. This may already be happening subtly.

One lining is that some households channeled money into investments as a response to low returns on savings accounts. This can be positive for long-term wealth building and also provides capital

to the economy. Policies that facilitate such shifts, like promoting financial literacy (Lusardi & Mitchell, 2017) and reducing barriers to investment, could help households better hedge against inflation. For example, inflation-indexed government bonds (Bundesanleihen linked to inflation) could be more aggressively marketed to households as a safe way to save without losing real value. The existence of such instruments means those who truly want to preserve real value have an option, but many retail investors are unaware or find them hard to access. Expanding access could give especially older savers a tool to protect their savings from inflation without forcing them into riskier stocks.

The evidence that East German households were hit harder suggests region-specific interventions might be warranted. While broad policies applied nationally, perhaps additional outreach or support programs in East would be beneficial. This touches on social policy: improving energy efficiency of homes in Eastern states, raising minimum wages or pension supplements, all could reduce how much inflation hurts those households. Over the long run, convergence in wealth between East and West would make the economy more uniformly resilient.

Interestingly, the pre-2020 trend of rising saving rates in Germany was often criticized internationally as contributing to global imbalances. But domestically, that trend was a rational response to aging and low returns, Germans were saving more to reach the same goals. The results confirm that trend's existence. Now with inflation and higher nominal rates, the environment has changed. If inflation persists around, say, 4%, and the ECB raises rates such that deposit rates become 3–4%, households might resume saving more, as real returns normalize. Indeed, by late 2023, German deposit rates rose and might expect saving rates to tick up again as people are paid to save. This dynamic interplay is crucial for policy. If central banks overshoot and make real rates very high to crush inflation, households could increase saving a lot, which might dampen consumption and growth. Thus, the calibration of monetary tightening must account for these possible non-linear reactions.

The findings provide micro-level evidence consistent with the redistributive effects of inflation models (Auclert, 2019). Inflation redistributed resources from likely savers to likely spenders/borrowers. In theory, this redistribution can actually stabilize aggregate demand. Borrowers have higher marginal propensity to consume than savers, so transferring real wealth to them can boost spending. It's plausible that part of why consumption in Germany held up in late 2022 is because many households used savings to keep spending, essentially smoothing the impact. For lower-income households with high MPCs, government transfers and dissaving prevented an even sharper drop in consumption. This aligns with the idea that inflation, up to a point, was absorbed by reducing Germany's previously high savings rather than causing an immediate consumption crisis. However, as those buffers deplete, the risk is if inflation stays high, consumption could then contract.

The panel results likely capture the early phase of this buffer-absorption. It would be valuable for future research to follow up with 2023 and 2024 data. Is it seen that households starting to curtail spending as they adjust to inflation as a new normal, or do they continue to save less than before? Preliminary aggregate data suggests a partial reversion to normal saving rates by mid-2023, implying that households might have stabilized their saving behavior as energy prices came off peaks and nominal incomes rose.

Historically, Germany's saving rate has been higher than many other developed countries'. One reason cited is a stronger precautionary motive, partly cultural and partly due to a social safety net that, while robust, still encourages private provision. The results for 2015–2019 of rising saving trend fit that narrative: media and policy in Germany have emphasized the need for private retirement savings as population ages, and households responded by gradually saving more. The literature even speaks of a “German savings glut” contributing to low interest rates globally (Ruppert & Stähler, 2022). Now, with inflation, there's an interesting tension. Inflation typically would discourage savings and encourage spending or investing in real assets. It is seen some evidence of that. But Germans didn't rush to spend on luxury or waste, they primarily spent on necessary consumption or channeled into different forms. So, while the household saving rate fell, household investment in real terms may not have fallen as much. The ECB report shows increased spending on recreation and durables as pandemic effects waned. This mix of forced and chosen spending underscores that inflation's effect on welfare is complicated: many households enjoyed delayed pleasures even as they had to pay higher prices, effectively consuming the savings accumulated earlier. In welfare terms, one might argue that the excess savings of 2020–21 did what they were supposed to: act as a buffer in 2022. From a long-term perspective, however, if inflation were to remain high, households would need to adapt by either earning more or cutting consumption. As wages catch up, saving could normalize; if not, some may attempt to save more as a precaution against unstable prices. Behavioral economics suggests a certain inflation anxiety in Germany, rooted in historical memory, but interestingly surveys show German consumers in 2022–23 largely blamed external factors for inflation, not domestic policy, which might influence how permanent they expect it to be. If they view it as temporary, they'll use savings to smooth it. If they start to view high inflation as the new normal, they might reduce consumption to rebuild savings. Given the relatively moderate response measured, it seems as of 2022 they largely treated it as a temporary shock, hoping inflation would subside. This aligns with medium-term inflation expectations that rose but remained anchored around 3% in surveys (Coleman & Nautz, 2022).

Acknowledging limitations including the short span for the high-inflation regime, possible measurement error in self-reported savings, and the balanced panel requirement possibly excluding some very vulnerable households. Also, our fixed-effects approach cannot control for time-varying unobservables that might correlate with inflation and saving, for instance, if households more affected by the pandemic economically also experienced different inflation exposure. Partially mitigate that by the fact inflation rate used is common, not household-specific inflation which could vary by consumption basket. Studying effective inflation rates by income group is another extension, e.g., if a household's consumption is skewed to energy, their personal inflation could be higher, possibly correlating with them being lower-income and having to cut saving. The analysis implicitly treats inflation as uniform for all, which is a simplification. Future research could incorporate household-specific inflation experiences to refine the estimates.

Conclusion

This study examined the impact of inflation on household saving and investment behavior in Germany from 2015 to 2022, a period encompassing both low-inflation stability and the sharp inflation spike of the early 2020s. Using SOEP panel data and fixed-effects regressions, it is found

that moderate inflation fluctuations had little discernible effect on how much households saved, but the extraordinary rise in prices in 2021–22 corresponded with a significant reduction in savings rates for many households, as they tapped into savings to sustain consumption. The response to inflation is not uniform: younger households showed resilience in maintaining or even slightly increasing their retirement-oriented savings amidst inflation, whereas older households did not adjust their savings upward and in some cases saw their saving rates decline. Regionally, East German households, who generally have tighter budgets, experienced a more pronounced drop in savings during the inflation surge, highlighting a vulnerability in that region.

These findings contribute to the literature by providing micro-evidence that complements aggregate data: they confirm that inflation's primary short-run effect was to induce dissaving as a coping mechanism, a result consistent with surveys where 35–40% of households reported saving less due to higher prices. At the same time, there are hints of some households taking active measures, like reallocating their savings or accelerating investment contributions, possibly as a hedge against inflation or to take advantage of perceived opportunities. However, such proactive investment behavior appears limited to certain demographic groups. For the majority, especially those with constrained incomes, inflation simply forced a difficult choice: cut consumption or cut saving. In 2022, many cut saving to preserve basic consumption. From a policy standpoint, the results underscore the importance of protecting household saving capacity during inflationary episodes. Eroding savings can have long-run consequences for financial security, particularly retirement adequacy. Policymakers should consider targeted support to prevent excessive drawdown of savings among vulnerable groups. Moreover, fostering financial literacy is crucial so that households can better navigate such periods, for instance, understanding the trade-offs of locking in fixed-rate investments, the benefits of diversification, and the reality of real vs nominal values. The relatively muted change in behavior among many households also suggests that entrenched saving habits and precautionary motives are strong in Germany; this can be a stabilizing factor macroeconomically, but it can also slow down the intended effects of policies.

In conclusion, inflation in Germany has indeed eaten into households' savings, but mostly in the sense of reducing the real value of those savings and forcing a modest decline in saving rates to buffer consumption. As of 2022, German households largely absorbed the shock by running down some of the buffers accumulated earlier. Whether this is sustainable will depend on the path of inflation and income in coming years. If real incomes recover via higher wages and lower inflation, households can resume their prior saving trajectory. If instead inflation remains high without commensurate income growth, a more painful adjustment may eventually be necessary, or some households could fall into financial distress. The study provides a baseline for understanding these dynamics through 2022, but ongoing monitoring is warranted. Future research could extend this analysis with the 2023–24 panel data to observe if the tentative patterns identified strengthen or reverse. It would also be valuable to explore specific channels, such as how inflation affected portfolio choices. Additionally, examining heterogeneity by more granular categories could provide deeper insight. Another fruitful avenue is comparing Germany with other countries using similar microdata, given that some countries had even higher inflation and/or different policy responses, cross-country household studies could reveal how policy moderated or exacerbated the impact on savings.

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