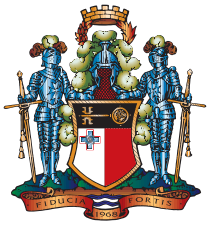

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CONVENTIONAL MONETARY POLICY AND WEALTH FLUCTUATIONS IN MALTA

Article published in the Research Bulletin 2025, pp. 25-32

CONVENTIONAL MONETARY POLICY AND WEALTH FLUCTUATIONS IN MALTA[1]

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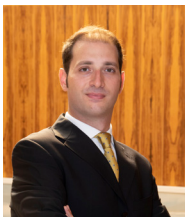


How does conventional monetary policy affect different components of household wealth in Malta? How do these effects vary along the wealth distribution? This study aims at identifying euro area monetary policy shocks within a structural econometric model for Malta, integrated with household-level balance sheet data from the 2023 Wave of the Maltese HFCS, which are used to estimate portfolio weights by wealth decile across various asset classes and debt. Results from a vector autoregression analysis show that the poorest households are less affected due to limited asset ownership, the middle deciles are hit hardest because of their heavy reliance on housing and mortgage debt, while the wealthiest experience more moderate and diversified losses. These findings underscore the importance of considering wealth heterogeneity in the assessment of monetary policy.

Introduction

While central banks do not directly target asset prices, understanding how monetary policy transmits to household wealth provides insight into the distributional effects of monetary policy and potential implications for financial stability. Malta presents a particularly compelling case study given its concentrated wealth structure, limited financial market depth, and a strong prevalence of homeownership (79.0% vs EA average of 61.6% in 2021).

This article explores the impact of conventional monetary policy shocks on household wealth in Malta, focusing on the heterogeneous responses across wealth deciles and across the main components of household balance sheets: real assets – including housing, financial assets, and liabilities. The analysis relies on a combination of macroeconomic and micro-level data, notably from the Household Finance and Consumption Survey (HFCS) for Malta. We employ a structural vector autoregression (SVAR) framework that models Malta as a small open economy within the euro area, using high-frequency monetary policy surprises to identify shocks at the euro area level. This allows us to trace the dynamic response of various asset prices, while accounting for their distributional characteristics. The analysis however is unable to model any changes in portfolio allocation following any shock. Thus, all results are subject to the assumption of a fixed portfolio composition.

The results highlight the central role of housing and value of self-employed businesses in driving the heterogeneous impact of policy shocks for the household sector.

The transmission of monetary policy through the wealth channel has recently attracted renewed attention, particularly in the context of the 2022-2024 interest rate hike in the euro area. Seminal studies (e.g. Mishkin, 2007; Kaplan, Moll, and Violante, 2018) have emphasised how the composition of household portfolios – especially the distinction between liquid and illiquid wealth – can shape the magnitude and timing of household wealth responses to monetary policy shocks. More recent work has underscored the heterogeneity in household responses. Using microdata, Auclert (2019) and Ampudia et al. (2018) have shown that monetary policy shocks can have highly asymmetric effects across income and wealth distributions. This strand of the literature suggests that policies that appear neutral in aggregate may in fact amplify inequality or shift resources across households.

The contribution of this article to the literature is twofold. First, it develops a structural empirical framework tailored to analyse the effects of monetary policy in Malta, employing high-frequency identification of monetary policy shocks, in the spirit of Altavilla et al. (2019) and Jarociński and Karadi (2020). Second, it integrates micro-level household wealth data from the HFCS with macro-level impulse response functions (IRFs), allowing for a distributional analysis of wealth effects by asset type and decile.

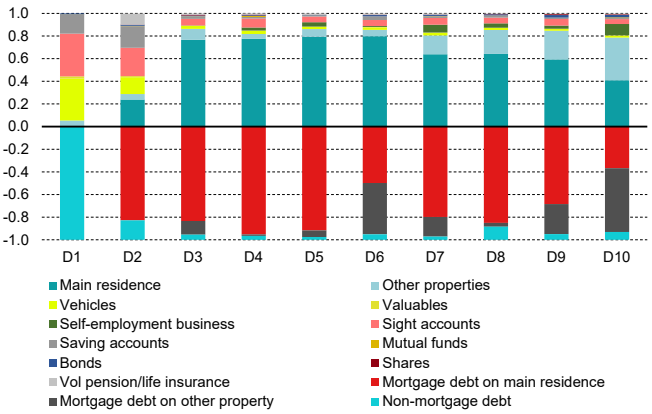
[1] The authors would like to thank Governor Edward Scicluna, Deputy Governor Alexander Demarco, Aaron G. Grech, Noel Rapa, Massimo Giovannini and attendees to an internal seminar for feedback and comments provided. The views expressed are the authors' own and do not necessarily represent those of the Bank. Any remaining errors are authors' own. Any queries or requests should be sent here.

The main findings suggest that households in the middle-top of the wealth distribution in Malta are the most affected, primarily due to their significant exposure to assets like housing and self-employment businesses. These asset types are particularly sensitive to changes in monetary policy, leading to a stronger decline in their value for this group in the aftermath of a monetary policy contraction.

Data and methodology

This study aims at identifying euro area monetary policy shocks within a structural econometric model for Malta, integrated with household-level balance sheet data from the 2023 Wave of the Maltese HFCS. The Survey provides detailed micro-level information on household assets, liabilities, and demographic characteristics, which we use to compute portfolio weights by wealth decile across various asset classes and debt. The methodology is designed to quantify both aggregate and distributional effects of conventional monetary policy on household wealth.

Chart 1
PORTFOLIO COMPOSITION BY NET WEALTH DECILE
(percentage of total assets/debt)



Source: Authors' calculations based on MT-HFCS 2023 data.
Note: Each bar represents the composition of total household assets (positive region) and debt (negative region) for a given wealth decile.

Chart 1 presents the composition of net wealth across deciles in Malta, specifically we show how different types of assets (positive bars) and debt (negative bars) are distributed across households from the lowest (D1) to the highest (D10) wealth groups.

Household wealth portfolios in Malta are dominated by housing, with the main residence accounting for 60–75% of assets in most deciles. In the lowest decile (D1), portfolios are small and concentrated in vehicles (about one-third) and deposits (one-quarter). From the middle deciles (D2–D8), housing remains the core asset alongside sizeable mortgage debt, with limited diversification into other real estate and financial instruments. In the top decile (D10), portfolios are more diversified: the main residence falls below 40% of assets, other real estate exceeds one-third, and financial assets account for nearly 20%, while debt is less than 10% of total assets. Liabilities of the lowest net wealth decile households are dominated by non-mortgage debt, whereas those of higher deciles are characterised mainly by mortgage debt on main residence or other properties.

"Malta is an interesting environment, given that the wealth of Maltese households is characterised by a strong prevalence of housing"

We analyse the euro area and Maltese economies using a two-country structural vector autoregressive (SVAR) model, which imposes a small country assumption for Malta. This framework allows us to identify monetary policy shocks originating in the euro area, and to analyse their effects on Maltese macroeconomic variables through impulse response functions (IRFs). The model has the following representation:

$$\underbrace{\begin{bmatrix} Y_t^{EA} \\ Y_t^{MT} \end{bmatrix}}_{Y_t} = \underbrace{\begin{bmatrix} A^{EA} \\ A^{MT} \end{bmatrix}}_{A} + \sum_{l=1}^{L} \underbrace{\begin{bmatrix} B_l^{EA} & 0 \\ B_l^{EA \to MT} & B_l^{MT} \end{bmatrix}}_{B_l} \underbrace{\begin{bmatrix} Y_{t-l}^{EA} \\ Y_{t-l}^{MT} \end{bmatrix}}_{Y_{t-l}} + \underbrace{\begin{bmatrix} U_t^{EA} \\ U_t^{MT} \end{bmatrix}}_{U_t} \tag{1}$$

for $t = 1, \ldots, T$, where Y_t is an $N \times 1$ vector of endogenous Maltese (Y_t^{MT}) and euro area (Y_t^{EA}) variables and Y_{t-l} represents lagged values of the latter with $l = 1, \ldots, L$. A is an $N \times 1$ vector of intercepts relative to the Maltese (A^{MT}) and euro area (A^{EA}) variables, while B_l represents $N \times N$ matrices containing the slopes relative to the lagged values of the series entering the autoregression. Specifically, B_l^{MT} and $B_l^{EA \to MT}$ respectively contain the slopes relative to the Maltese and the euro area variables into the Maltese equations, while B_l^{EA} contains those relative to the euro area

variables into the euro area equations. Finally, U_t is an $N \times 1$ vector of reduced form residuals for both Maltese (U_t^{MT}) and euro area (U_t^{EA}) variables with $U_t \sim N(0, \Sigma)$ where Σ is the $N \times N$ variance-covariance matrix. The model is estimated over a sample ranging from September 2001 till March 2025 with four lags.

The euro area block of the VAR includes real gross domestic product, HICP inflation, the one-year Bund yield, the Euro Stoxx index, and the Composite Indicator of Systemic Stress (CISS) (Holló et al., 2012; Chavleishvili and Kremer, 2021). These variables are selected to capture the broad macro-financial conditions following Jarociński and Karadi (2020).

The identification of monetary policy shocks in the euro area starts from the high-frequency surprises around ECB press conferences proposed by Altavilla et al. (2019). Specifically, changes in the three-month Overnight Indexed Swap (OIS) rate and the Euro Stoxx index within a 30-minute window are used to isolate policy-driven market reactions. Subsequently, shock identification is reached in a similar way to Jarociński and Karadi (2020), which imposes that the two surprises move in opposite directions during the announcement window.

The Maltese block includes the Business Conditions Indicator (Ellul, 2016 and Ellul, 2020), core inflation, and the sovereign spread over the ten-year German bund. Additionally, it incorporates factors extracted through principal component analysis from a panel of macroeconomic variables capturing several aspects of the Maltese economy, such as interest rates, prices, labour market indicators, asset prices, etc.[2] These variables are of interest from a monetary policy perspective but are also crucial in mapping the dynamics of assets and liabilities values at a micro level.

To estimate wealth effects at decile level, we map the IRFs of asset and liability prices onto household portfolio compositions from the HFCS. First, we compute portfolio shares by wealth decile using HFCS 2023 data by dividing the net wealth distribution into ten equal parts. Within each decile, the share of each asset class is calculated as a proportion of total net wealth. This approach yields a representative portfolio for each decile, which is then matched to macroeconomic IRFs to estimate decile-specific responses. The mapping assumes static portfolio composition over time, consistent with the cross-sectional nature of the HFCS.

Table 1
MATCHING OF RESPONSES OF WEALTH COMPONENTS AT HOUSEHOLD LEVEL

Wealth Component	Macro responses
Real assets	
Main residence	CBM House Prices
Other properties	CBM House Prices
Vehicles	Motor Cars HICP
Self-employment business value	Gross Operating Surplus(1)
Valuables	Jewellery & Clocks HICP
Financial assets	
Deposits: Saving	Interest rate on savings deposits
Deposits: Sight	Interest rate on current deposits
Bonds	YTM on Maltese ten-year government bonds
Shares	MSE Equity price index
Debt	
Mortgage debt on main residence	Interest rate on loans to households
Mortgage debt on other properties	Interest rate on loans to households
Non-mortgage debt	Interest rate on consumer credit

(1) We also tried using Mixed Gross Income for the household sector, and the IRF we obtain using this series is very similar to the one we get from using Gross Operating Surplus.

[2] Factors and factor loadings are extracted through principal component analysis. The number of factors is chosen in such a way to explain 90% of the variability of the panel of data.

We then take the macro responses of the panel of macroeconomic variables (including financial variables of interest tracked through the principal component) and scale them by each wealth decile's representative portfolio weight across asset classes and debt. This yields decile-specific IRFs, capturing the heterogeneity in exposure to monetary policy through balance sheet composition. This approach provides a micro-founded view of monetary transmission, allowing us to assess not only average wealth effects but also distributional consequences across households. Table 1 provides an overview of the mapping between the macroeconomic series and their HFCS counterparts.

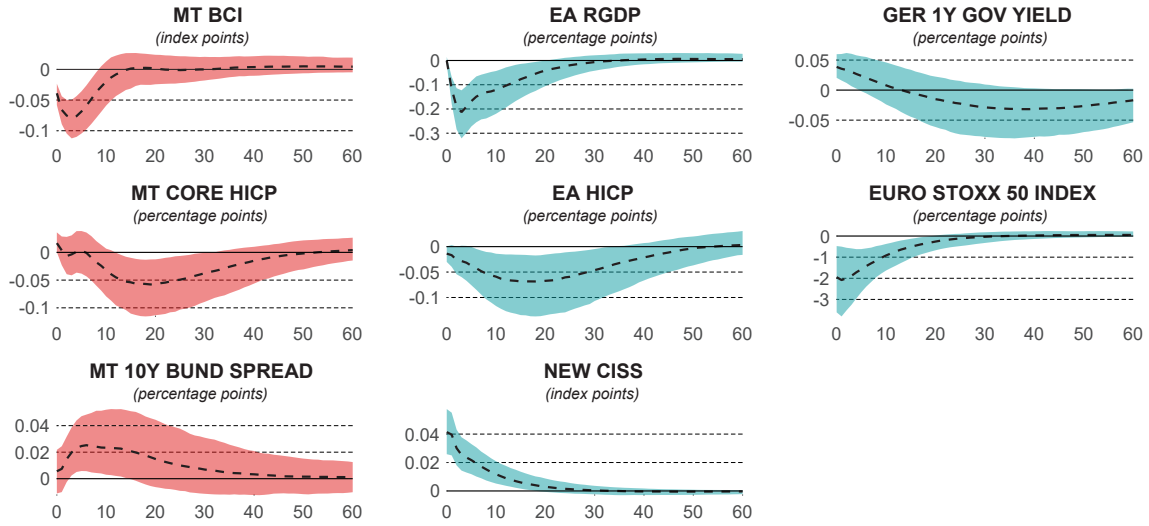
Impulse response functions

The impulse response analysis traces the transmission of a monetary policy shock normalised to a 25 basis points increase in the three-month OIS within a 30-minute window around policy announcements.

Responses of the main macroeconomic variables in the two country blocks are shown in Chart 2. A monetary policy shock generates a decline in economic activity and prices in both the euro area and Malta, raises systemic stress in the monetary union, and widens the spread between Maltese and German ten-year sovereign bond yields. Finally, it increases the short-term German bond yield while reducing the Euro Stoxx index.

"A monetary policy shock generates a decline in economic activity and prices in both the euro area and Malta"

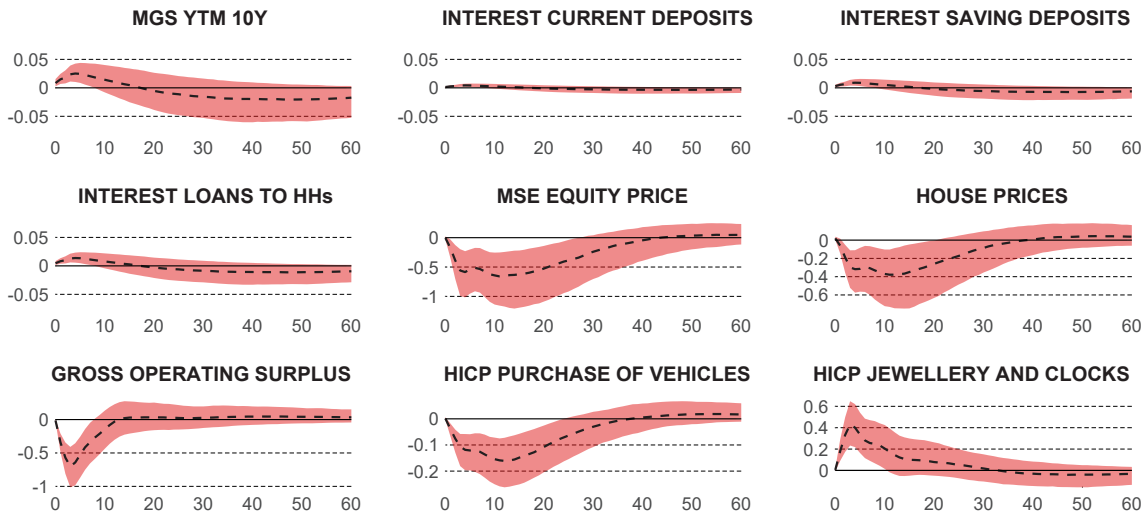
Chart 2
VAR RESPONSES: EURO AREA AND MALTA



Note: Responses to a 25 basis-point monetary policy shock for Malta (red) and the euro area (teal). Credible regions (shaded areas) and median responses (dashed lines). The Y-axis shows the percentage point difference (or index point difference where indicated) from the trend, and the X-axis the horizon, expressed in months.

In Chart 3, we plot the IRFs of a selection of Maltese financial and real economy indicators. The ten-year government bond yield (MGS YTM 10Y) increases immediately following the shock, reflecting a tightening in long-term financing conditions and a credible monetary stance. Interest rates on current and savings deposits show minimal and delayed responses, consistent with the typically sticky nature of retail deposit rates. Lending rates to households exhibit only a very modest upward adjustment, indicating a gradual pass-through of monetary policy to consumer credit markets. Equity prices (MSE EQUITY PRICE) decline in the short term, consistent with higher discount rates

Chart 3
VAR RESPONSES: PANEL OF MALTESE VARIABLES
(percentage points)



Note: Responses to a 25 basis-point monetary policy shock for Malta. Credible regions (shaded areas) and median responses (dashed lines). The Y-axis shows the percentage point difference from the trend, and the X-axis the horizon, expressed in months.

reducing asset valuations. House prices (CBM) show a delayed and mild negative response, suggesting limited short-term sensitivity of the real estate market to monetary tightening. Gross operating surplus contracts, indicating pressure on corporate profitability due to higher financing costs and potentially weaker demand.[1] Consumer price index for vehicle purchases exhibits a negative response suggesting reduced discretionary spending in response to tighter monetary conditions. Lastly, jewellery prices increase, likely reflecting their role as a safe-haven asset in the context of a contractionary monetary policy shock carrying a negative outlook of the economy.

These patterns suggest that while financial markets react promptly to monetary shocks, real economy indicators – especially those tied to consumption and housing – adjust more gradually and with varying intensity.

Assets fluctuations

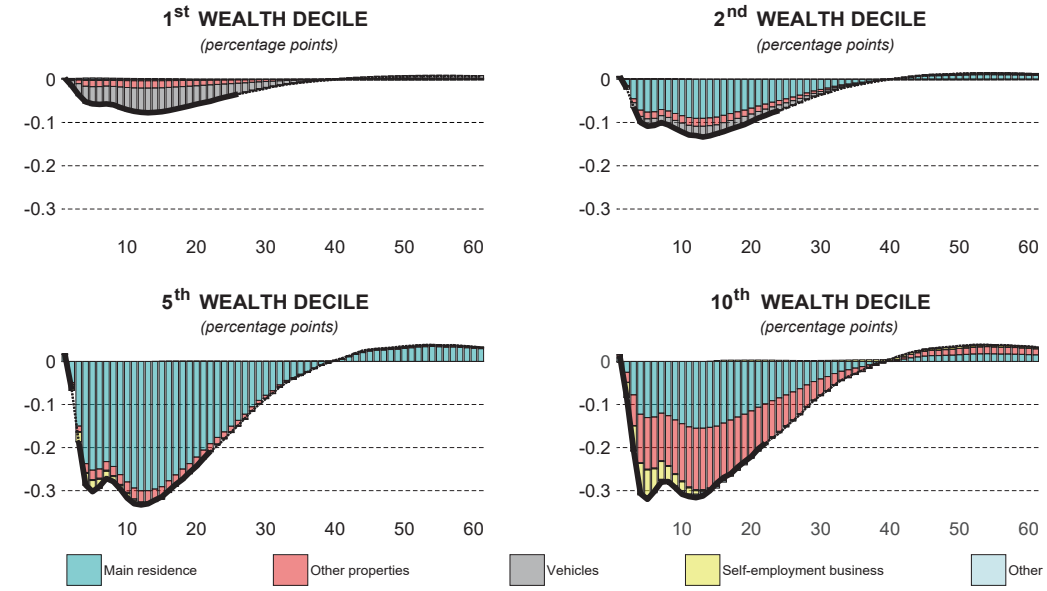
The IRFs in Chart 4 show how different portfolio items respond over time to a 25-basis point monetary policy shock, segmented by wealth deciles. For space considerations, we look at the first, second, fifth, and tenth deciles, named D1, D22, D5, and D10. These responses can be interpreted in light of the macroeconomic indicators from previous IRFs (see Chart 3), using the matching in Table 1 to link household-level assets to macro-level proxies and taking into consideration the composition of household wealth seen in Chart 1.

In line with estimates shown in Chart 1, the wealth IRF for households in the first decile is driven mainly by deposits and vehicles. The value of these assets contracts quickly and remains negative for a number of periods on the back of drops in vehicle prices. The wealth composition for households in D2 is similar to that found in D1, with the exception of a larger role played by the main residence. In this respect, these households experience a drop in wealth driven mainly by a reduction in house prices that drive down the value of housing wealth.

In line with wealth distribution results shown in Chart 1, the wealth IRFs for households in D5 exhibit a drop in gross wealth driven mainly by a reduction in house prices that reduce the value of main residencies.

[1] In another approach, we used annual Gross Mixed Income for the household sector, interpolated at monthly frequency, instead of Gross Operating Surplus. The two approaches yield very similar IRFs and results.

Chart 4
ASSET-WEIGHTED RESPONSES – SELECTED WEALTH DECILES
(percentage points)



Note: Asset responses to a 25 basis-point monetary policy shock for Malta by wealth decile (1st, 2nd, 5th and 10th decile). Significant portions (solid lines) and decompositions (bars). The 'other' category includes bonds, shares, deposits and valuables.

The wealth distribution of the top decile (D10) is more diversified, with households holding equities, bonds, and deposits in addition to housing. Nonetheless, the wealth composition of these households is still heavily skewed in favour of housing wealth, with nearly 80% of total gross wealth made up of either the main residence or other properties. In this light, gross wealth of households in the top decile is expected to fall sharply in the short term, mainly driven by drops in property valuations, but also through declines in equity prices and value of self-employed business.

"Households in the middle deciles are the most exposed, both in absolute and relative terms, due to their heavy reliance on housing for asset accumulation"

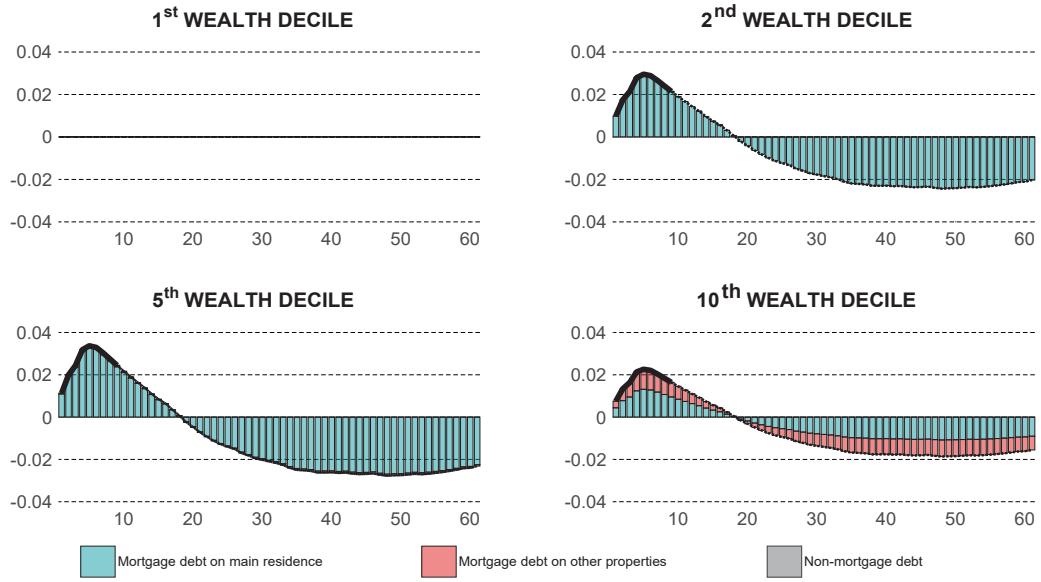
Debt fluctuations

Chart 5 presents four IRFs comparing the response of debt across different wealth deciles (1, 2, 5, and 10). In line with the rest of this study, the analysis surrounding debt valuation is static in nature, thus assuming no portfolio real-locations. Nonetheless, an increase in interest rates charged by banks on household liabilities is likely to increase the overall debt repayments either by increasing monthly debt repayments or by extending the debt servicing period, thus increasing the overall nominal amounts owed by households. Due to the fact that the HFCS lacks household-level information on consumer credit, our analysis does not account for changes in the outstanding value of consumer credit resulting from fluctuations in interest rates.[2]

As shown in Chart 1, debt composition of the majority of households (that is those found between the second and ninth decile), is characterised mainly by mortgage debt on the main residence, mirroring the composition of gross wealth. In this light, following a shock in monetary policy, the value of liabilities held by these households is expected to increase marginally in the short run. Given their exposure to non-mortgage credit, households in the highest

[2] The reason behind this assumption is that in the HFCS we do not have information regarding the nature of the interest rate on consumer credit, that is whether the rates faced by each household is fixed or floating.

Chart 5
DEBT-WEIGHTED RESPONSES – SELECTED WEALTH DECILES
(percentage points)



Note: Debt responses to a 25 basis-point monetary policy shock for Malta by wealth decile (1st, 2nd, 5th and 10th decile). Significant portions (solid lines) and decompositions (bars).

wealth decile are expected to be affected to a lower extent. Households in the first wealth decile, whose liabilities are exclusively made up of non-mortgage debt, are not affected by the shock.

Conclusions

This study provides new empirical evidence on the transmission of conventional monetary policy to household wealth in Malta. By combining high-frequency monetary policy shock identification, structural macroeconomic modelling, and household-level balance sheet data, we study how monetary tightening generates heterogeneous wealth effects across households.

Housing is the dominant channel of the transmission of conventional monetary policy shocks to household wealth in Malta. The decline in real house prices produces the most significant and persistent decline in net wealth, with middle-decile households, that is those households with the highest relative exposure to real estate assets, being the most affected.

Results show that wealth effects following monetary policy shocks are uneven. Lower-wealth households experience the smallest net wealth losses, while both middle and high-wealth households are affected to a similar extent, though the composition of their losses differs – housing and mortgage debt for the middle, versus a mix of housing and financial assets for the top decile.

The findings offer several implications for policy-makers in Malta. Monetary policy assessments should account for distributional effects, as aggregate variables may mask vulnerabilities among specific household groups. Incorporating wealth heterogeneity into policy analysis can improve the targeting and timing of macro-financial measures. Given the central role of housing in the transmission of monetary policy innovations to wealth, close monitoring of housing prices, credit conditions, and mortgage exposures is essential for both monetary and financial stability policy.

While this analysis assumes static portfolio weights based on HFCS 2023 data, future research could address this limitation by incorporating longitudinal data or panel surveys that track household portfolio adjustments over time. This would allow for a dynamic assessment of monetary policy transmission. Separately, further disaggregation by demographic characteristics, such as age, employment status, or housing tenure, could help identify which household profiles are most vulnerable to monetary tightening, enriching the distributional analysis.

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