

## Monetary policy surprises trigger different responses in the housing market across European regions



By Winfried Koeniger, Benedikt Lennartz and Marc-Antoine Ramelet\*

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*Monetary policy transmits to the economy by affecting current and future interest rates. Interest rates not only determine the price of future relative to current consumption and thus the timing of consumption expenditure. Interest rates also affect rents and the user cost of owning in the housing market. We show that the transmission of monetary policy to the housing market differs across European regions, suggesting that local institutions and market conditions shape the transmission. Expansionary monetary policy surprises reduce rates of newly originated fixed-rate mortgage contracts twice as much in Switzerland relative to Germany and Italy. This is associated with larger immediate, and persistent, changes in housing tenure from renting to owning, a stronger decrease in rents and an increase of the price-rent ratio. Such differences in monetary policy transmission are also present within Italy, with a stronger pass-through in the Northern regions that have been characterized as relatively more financially developed. The results highlight some of the challenges for the conduct of common monetary policy within currency areas.*

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\* **Winfried Koeniger**, University of St. Gallen, CESifo, CFS, IZA.

**Benedikt Lennartz**, University of St. Gallen.

**Marc-Antoine Ramelet**, Swiss National Bank.

## Why should we care about the transmission of monetary policy to the housing market?

Research on the transmission of monetary policy has a long tradition. Most of the research has focused on the responses of consumption and output at the aggregate level. Recent research by Calza et al. (2013) and Corsetti et al. (2021) documents for the euro area that the transmission differs across countries and that differences in the structure of the housing market seem to play an important role. At the same time, detailed household-level data analysis by Cloyne et al. (2020) shows that consumption propensities, which shape monetary policy transmission, vary considerably across households with different housing tenure and leverage.

The structure of housing markets not only shapes the transmission of monetary policy to non-housing consumption but also the transmission to housing tenure decisions themselves, together with the price dynamics in the housing market. Housing rents are a component of the consumer price index and thus of particular interest to central banks in their pursuit of price stability or inflation targeting, as argued by Dias and Duarte (2019). They show for the U.S. that rents for housing *decrease* after expansionary monetary policy surprises, so that the response of consumer prices to monetary policy is much stronger if the price of shelter is excluded from the price index.

There is an ongoing discussion on whether monetary policy should respond to housing market conditions to maintain economic and financial stability (Woodford, 2012 and Schularick et al., 2020). In turn, independent of the view taken on this issue, it is worthwhile to investigate to which extent monetary policy matters for housing tenure choices and price dynamics in the housing market.

## How does monetary policy transmit to the housing market?

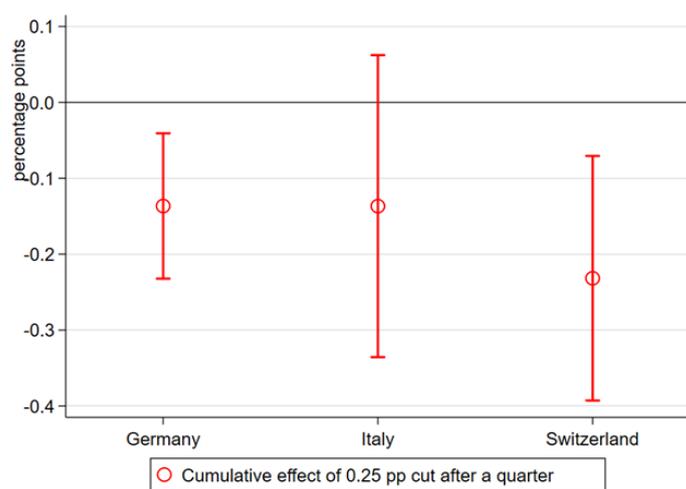
Monetary policy affects the housing tenure choice by altering housing rents and the user cost of owning a home (see for example Diaz and Luengo-Prado, 2008). By arbitrage, housing rents, i.e., the dividend payments for owned real estate, are tightly related to the level of interest rates after adjusting for risk and accounting for adjustment and maintenance costs. Indeed, in Switzerland it is common practice to index the rent for housing to a reference mortgage interest rate. To which extent changes in interest rates pass through to housing rents also depends on the ownership structure of real estate, as captured for example by the incidence of homeownership or public ownership of the real estate units. The user cost of owning a home further depends on the expected interest rate over the life of the mortgage loan as well as on the loan size and the corresponding leverage.

## The pass-through of monetary policy to the housing market differs across regions

In recent research (Koeniger, Lennartz and Ramelet, 2021) we provide empirical evidence on the transmission of monetary policy to the housing market in Germany, Italy and Switzerland in the period 2000-2018. As documented in our paper, housing markets across these countries differ in the size and ownership structure of the rental housing market as well as the leverage of households. As examples for the size of the differences, note that the owner occupation rate is 80% in Italy, compared to less than 50% in Germany and Switzerland; and household debt per GDP is larger than 100% in Switzerland but only about half that size in Germany and Italy.

So, one may expect that the transmission of monetary policy to the housing market depends on these different economic environments, and this is what we find. How large are the differences in monetary policy transmission? As an illustration, in the following we focus on the pass-through to mortgage rates and housing tenure choices.

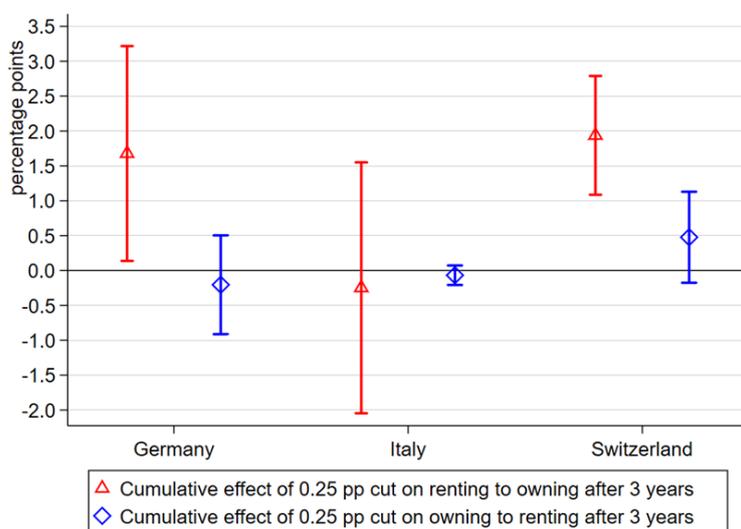
**Figure 1: The pass-through to mortgage rates after an expansionary policy-rate cut**



Notes: The figure shows the cumulative effect of a 0.25 percentage point cut on mortgage rates after a quarter, together with the 95% confidence interval. The mortgage rate is the rate of new five-year fixed-rate mortgage contracts. The monetary policy shocks are constructed based on high-frequency futures data containing changes in financial market expectations around monetary policy announcements. See Koeniger, Lennartz and Ramelet (2021), Table 3 for further details.

We measure monetary policy surprises using high-frequency data on changes in financial market expectations around the monetary policy announcements of the European Central Bank (ECB) and Swiss National Bank (SNB), respectively. Figure 1 shows that the pass-through of an unexpected 0.25 percentage point cut of the policy rate to mortgage rates of newly signed fixed-rate contracts is 90% within a quarter in Switzerland, reducing the mortgage rate by 0.23 percentage points, and thus about twice as large as in Germany and Italy. There is no sizable further pass-through beyond a quarter in all considered countries.

**Figure 2: The pass-through to housing tenure transitions after an expansionary policy-rate cut**



Notes: The figure shows the cumulative effect after three years of a 0.25 percentage point cut on the probability to change housing tenure status, together with the 95% confidence interval. The estimates show the effect of an unexpected change of long-term yields on announcement days. Considering such changes accounts for the non-standard pass-through of policy-rate cuts to long-term yields that have occurred in the sovereign debt crisis in Europe, particularly in Italy, during the sample period. Annualized housing tenure transitions are computed based on micro data provided by the SOEP for Germany, the SHIW for Italy and the SHP for Switzerland. The monetary policy shocks are constructed based on high-frequency futures data containing changes in financial market expectations around monetary policy announcements. For a comparison of estimation results using the policy-rate change and the change of long-term yields at announcement dates see Tables 7 and 19 in Koeniger, Lennartz and Ramelet (2021).

Figure 2 shows that the pass-through to mortgage rates is associated with transitions from renting to owning a home. These transitions increased by close to 2 percentage points in Germany and Switzerland after an unexpected reduction in the policy rate by 0.25 percentage points, but not in Italy. We also find that transitions from owning to renting increased by 0.5 percentage points in Switzerland, but there is no economically sizable effect in the other two countries.

Considering a policy rate shock of one standard deviation illustrates that these effects on the gross flows are quantitatively important for Germany and Switzerland. The previously mentioned effects after a 0.25 percentage point cut must be scaled down by approximately one third as to correspond to a policy rate shock of one standard deviation.<sup>1</sup> Comparing the scaled effects with the average housing tenure transitions rates, shows that the pass-through to housing tenure transitions is sizable. Indeed, the average rate at which households change housing tenure from renting to owning for the considered countries is 4 percent and the average rate per year, at which households change from owning to renting, is 1-2 percent.

Because we do not find significant differences in the pass-through to housing tenure choices across language groups within Swiss regions, we conclude that the different pass-through across countries seems to be caused by institutional differences rather than by cultural traits.

### Local market conditions affect the pass-through

We find that the pass-through to mortgage rates is stronger in Northern regions within Italy compared to Southern regions, and this is associated with more transitions from renting to owning after an unexpected reduction in the policy rate (Koeniger et al., 2021). Given that Northern regions have been characterized as more financially developed (Guiso et al., 2004), these results suggest that the local market conditions and institutional environment shape monetary policy transmission to the housing market.

The stronger transmission of monetary policy to the housing market in Switzerland also manifests itself in prices. The pass-through to housing rents is much stronger in Switzerland (where it is common to index rents to a reference mortgage rate) and associated with a stronger increase in the price-rent ratio after an expansionary monetary surprise. The same pattern is confirmed across Italian regions with a stronger pass-through in Northern than Southern regions.

### One size does not fit all: scope for policymaking

Our findings highlight the different transmission of monetary policy to the housing market across regions. The regional differences in the transmission are quantitatively sizable, which illustrates some of the challenges of monetary policy – which is common within a currency area.

What are the implications? After all, the objective of monetary policy is price stability. On the one hand, measuring the distributional effects of monetary policy allows to better understand the transmission mechanism to fulfill this objective. On the other hand, policymakers may want to assess whether it would be useful to account for the differences in the transmission across regions within the euro area in monetary policy decisions. ■

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<sup>1</sup> The standard deviation of the monetary policy shocks is 0.07 percentage points for the ECB and 0.1 percentage points for the SNB in the sample period.

## References

- Calza, A., Monacelli, T., and Stracca, L. (2013). Housing Finance and Monetary Policy. *Journal of the European Economic Association*, 11:101–122.
- Cloyne, J., Ferreira, C., and Surico, P. (2020). Monetary Policy when Households have Debt: New Evidence on the Transmission Mechanism. *Review of Economic Studies*, 87(1):102–129.
- Corsetti, G., Duarte, J. B., and Mann, S. (2021). One Money, Many Markets: Monetary Transmission and Housing Financing in the Euro Area, *Journal of European Economic Association*, forthcoming.
- Dias, D. A. and Duarte, J. B. (2019). Monetary Policy, Housing Rents, and Inflation Dynamics. *Journal of Applied Econometrics*, 34:673–687.
- Diaz, A. and Luengo-Prado, M. J. (2008). On the User Cost and Homeownership. *Review of Economic Dynamics*, 11(3):584–613.
- Guiso, L., Sapienza, P., and Zingales, L. (2004). Does Local Financial Development Matter? *Quarterly Journal of Economics*, 119(3):929–969.
- Koeniger, W., Lennartz, B., and Ramelet, M.-A. (2021): [On the Transmission of Monetary Policy to the Housing Market](#), SNB Working Paper 06/2021.
- Schularick, M., Ter Steege, L., and Ward, F. (2020). Leaning against the Wind and Crisis Risk. CESifo Working Paper No. 8484.
- Woodford, M. (2012). Inflation Targeting and Financial Stability. *Sveriges Riksbank Economic Review*, (1):7–32.

## About the authors

**Winfried Koeniger** is Professor of Economics at the University of St. Gallen. He is research fellow at CESifo, Center for Financial Studies and IZA. His research interests include macroeconomics, financial economics and labor markets.

**Benedikt Lennartz** is PhD candidate and research assistant at the University of St. Gallen. He holds a master degree (MA Economics) from the University of St. Gallen. In his research, he works on the heterogenous transmission of monetary policy, consumption and the housing market.

**Marc-Antoine Ramelet** is an economist in the Monetary Policy Analysis unit at the Swiss National Bank. He is also an external lecturer at the University of St. Gallen. He is an alumni of the University of St. Gallen (PhD), University of Cambridge (MPhil) and Ecole hôtelière de Lausanne (BSc).

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