

## **Heterogeneity in money holdings across euro area countries: the role of housing**

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The monetary policy framework of the European Central Bank attaches high importance to understanding the determinants of money growth in the euro area. Since the onset of the financial crisis this has been motivated not only by concerns that excessive money growth can heighten inflation risks, but also because excess liquidity can contribute to instability of the financial system and the economy at large. To deepen this understanding this paper looks at the differences in money growth across euro area countries and attempts to explain these differences, with the emphasis on the role played by housing.

The paper starts with the observation that since the introduction of the euro money stocks indeed behaved very differently across euro area countries. For example, in Spain and Ireland the money stock grew on average per year by over 11% and 16%, respectively, as compared to 6½ % in Germany. Meanwhile differences in house prices across euro area countries were even more pronounced. For example, in Spain and Ireland house prices grew at two-digit rates whereas in Germany house prices declined. Countries with high house price inflation thus show strong money growth. The paper examines if these phenomena may be related, both theoretically and empirically.

The possible theoretical relationships between housing and money stocks are multiple. First, there may be a *wealth effect*, by which is meant that after a house price increase households feel richer and want to hold some of that extra wealth in the form of liquid assets. Second, there may be a *substitution effect*, by which is meant that in the face of an expected increase in house prices households see housing as an investment opportunity and are induced to cut their money holdings to fund a bigger or a second home. A further relationship between housing and money demand stems from the *collateral effect*: higher house prices make it easier for households to take out loans and maintain larger money holdings. Finally, there is a *transaction effect*: in a housing boom transactions soar and the associated demand for money will increase as well.

The econometric estimates suggest that higher house prices do raise money demand. In about half of the euro area countries in the sample, this effect explains at least one-third of the deviation in money growth from the euro area average. There is also evidence that the impact of future (expected) house price increases reduce the demand for money. Moreover, institutional differences regarding housing and mortgage markets between countries appear to be important determinants of cross-country differences in money demand. For example, the typical 'loan-to-value' ratio differs widely across countries and the higher these are, the stronger will be the demand for money. There is also a positive impact of home ownership on the demand for money.

A potentially interesting question is whether the creation of the single currency itself has been a factor in shaping the relationship between house prices and the money stock. Prior to monetary union cross-border financial flows were hampered by exchange rate risks and other (institutional) barriers. Since monetary union has been established, however, most of these barriers have been lifted and domestic housing booms could attract cross-border capital flows to a larger extent than before. This would be reflected in higher money growth. The findings are largely consistent with this possibility: there is no significant effect of house prices on money demand prior to monetary union, but it is strongly significant afterwards. This suggests that it is important to expand the monitoring of money growth to include the differences in house price effects on money holdings across euro area countries. This is particularly important since aggregate developments may be masking diverging trends at the country level, which could eventually have systemic and financial stability risks for the euro area as a whole.