ADEMU

A Dynamic Economic and Monetary Union

One Money, Many Markets

João Duarte
Nova School of Business and Economics
joao.duarte@novasbe.pt

Summary:

- Euro area aggregate business cycle explains a large proportion of the short-run fluctuations of its member countries.
- Monetary policy transmission in the euro area appears to be persistently heterogeneous across member countries.
- The degree of heterogeneity is inversely related to the degree of cross-border institutional convergence. While country-level financial variables react fairly similarly to the same monetary policy shock, variables naturally related to markets that have seen little convergence, such as housing and labour markets, react in significantly asymmetric ways.
- Indeed, the heterogeneity found in monetary transmission into housing markets and personal consumption is correlated with differences in home ownership rates - an indicator reflecting many dimensions in which national housing markets differ from each other.

Policy implications:

- Monetary policy shocks in the euro area have contributed to economic divergence between its member countries.
- Output divergence from monetary transmission is smaller than consumption due to current-account adjustments.
- Our findings reinforce the need for further capital and financial intermediaries integration as a way to decouple consumption from income shocks, thus helping in homogenizing consumption responses to monetary policy shocks among euro area countries.
- In addition, our analysis suggests that national policies aiming national housing markets outcomes have implications for the future transmission of monetary policy shocks. In particular, countries with national policies in place that increase the home ownership rate also make consumption more reactive to monetary policy shocks.

Introduction

Two longstanding questions are to which extent these differences in institutional backgrounds imply heterogeneous transmission of the European Central Bank's (ECB) common monetary policy and, in particular, which specific institutional characteristics drive the observed heterogeneity. These questions are of first-order importance from a policy perspective. Naturally, the ECB would benefit from knowing how its own policies affect differently each national economy while targeting euro area inflation, and how national policies and reforms of the institutional framework in a particular economy affect monetary transmission. The benefit of having this knowledge at hand is particularly relevant when conducting monetary policy in a context in which a number of member countries face different economic conditions. In fact, at certain instances, distributional effects of monetary policy could put potentially jeopardize the sustainability of achieving euro area targets in the long-run. At the same time, national policy makers would gain from understanding the implications of their policies and reforms for the future transmission of monetary policy shocks.

In this paper, we investigate heterogeneity in the transmission of monetary policy across the euro area (EA) using a dynamic factor model (DFM), and take a first step towards relating the observed heterogeneity to cross-border differences in institutions and markets. We assemble a large dataset including economic and financial time series for the EA as a block and for the 11 original member countries, spanning the years from 1999 to 2016. The high dimensionality of the data allows us to carry out a formal comparison of the degree of heterogeneity among responses to monetary policy shocks across different dimensions of the economy, such as output and asset prices, as well as housing and labour markets. To identify monetary policy shocks, we construct an external instrument using high-frequency changes in asset prices around ECB policy announcements, following the contributions by Gurkaynak 2005 and Gertler 2015. Comparing country-specific institutional characteristics in national housing markets as a case study, we show that these characteristics are strongly correlated to the strength of the housing channel in monetary policy transmission.

Horizon 2020
ADEMU (A Dynamic Economic and Monetary Union) has received funding from the European Union's Horizon 2020 research and innovation programme (call H2020-EURO-SOCIETY-2014) under grant agreement No. 649396.

In the construction of the external instrument series, which we base on changes in the 1-year Euro Overnight Index Average (EONIA) swap rate (i.e. the Overnight Index Swap (OIS) rate for the euro area) around policy announcements, we highlight the implications of using various means of policy communication - press releases, press statements and Q\&A sessions - for the transmission of current and expected future policy. This approach helps us to create a broad measure of monetary policy surprises that incorporates all of the communication channels above. Finally, we test for the relevance of the series in a small VAR, confirming its validity as an external instrument.

In order to measure heterogeneity in monetary transmission across countries, we calculate the coefficient of variation statistic, also known as relative standard deviation, for each set of impulse responses (e.g. GDP across member countries). The coefficient of variation for a variable is defined as the standard deviation of responses across countries with respect to the EA response, normalized by the size of the EA response. This yields a statistical measure of the dispersion of impulse responses which allows us to carry out comparisons across variables. We employ a bootstrapping procedure to obtain error bands for the coefficient of variation of each variable as well as pairwise differences across variables.

Main Findings

Our main results are as follows. First, at the aggregate EA level, we find that the factor model results are in line with theory and, notably, that the transmission of monetary shocks does not suffer from the price puzzle. Second, we show that the estimated country-level effects are significantly heterogeneous in prices and variables related to labour and housing markets---some of the least integrated markets in the euro area. The degree of heterogeneity among responses to policy is instead low in financial variables and output. Third, we use our comparative analysis of European housing markets to show that the strength of the housing channel is correlated with differences in home ownership rates, which, as we argue, reflect different institutional characteristics across euro area countries. Moreover, we investigate the role of rents in the housing channel and show that together with house prices, they have a strong link to responses in consumption.

Horizon 2020
ADEMU (A Dynamic Economic and Monetary Union) has received funding from the European Union's Horizon 2020 research and innovation programme (call H2020-EURO-SOCIETY-2014) under grant agreement No. 649396.

Policy Implications

Monetary policy shocks in the euro area have contributed to economic divergence between its member countries. In particular, periphery countries have stronger responses in output and consumption than core countries to the same monetary policy shock. The good news about this finding is that it means that the periphery benefited relatively more from the recent expansionary monetary policy shocks. The bad news is that the periphery will also suffer relatively more when interest rates start increasing again. This could be potentially harmful given the current small fiscal space of the periphery economies and the incompleteness of the EA financial integration.

Output divergence from monetary transmission is smaller than consumption due to current-account adjustments. Countries where consumption increases relatively more as a response to an expansionary monetary policy shock also have negative responses in their trade balance.

In addition, our analysis suggests that national policies aiming national housing markets outcomes have implications for the future transmission of monetary policy shocks. In particular, countries with national policies in place that increase the home ownership rate also make consumption more reactive to monetary policy shocks.

References

Angeloni, I., A. Kashyap, and B. Mojon (Eds.) (2003). Monetary Policy Transmission in the Euro Area: A Study by the Eurosystem Monetary Transmission Network. Cambridge University Press.

Berben, R.-P., A. Locarno, J. Morgan, and J. Valls (2004). Cross-country differences in monetary policy transmission. Working Paper Series 400, European Central Bank.

ECB (2017). Financial integration in Europe. Technical report.

Gertler, M. and P. Karadi (2015). Monetary policy surprises, credit costs, and economic activity. American Economic Journal: Macroeconomics 7(1), 44–76.

Gurkaynak, R. S., B. Sack, and E. T. Swanson (2005). Do actions speak louder than words? The response of asset prices to monetary policy actions and statements. International Journal of Central Banking 1(1), 55–93.

Horizon 2020
ADEMU (A Dynamic Economic and Monetary Union) has received funding from the European Union's Horizon 2020 research and innovation programme (call H2020-EURO-SOCIETY-2014) under grant agreement No. 649396.