Macroeconomic and financial stability in a monetary union: The case of Lithuania

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ABSTRACT

In this paper, we study the implications of macroprudential policies in a monetary union for macroeconomic and financial stability. For this purpose, we develop a two-country monetary union new Keynesian general equilibrium model with housing and collateral constraints, to be calibrated for Lithuania and the rest of the euro area. We consider two different scenarios for macroprudential policies: one in which the ECB extends its goals to also include financial stability and a second one in which a national macroprudential authority uses the loan-to-value ratio (LTV) as an instrument. The results show that both rules are effective in making the financial system more stable in both countries, and especially in Lithuania. This is because the financial sector in this country is more sensitive to shocks. We find that an extended Taylor rule is indeed effective in reducing the volatility of credit, but comes with a cost in terms of higher inflation volatility. The simple LTV rule, on the other hand, does not compromise the objective of monetary policy. This reinforces the "Tinbergen principle", which argues that there should be two different instruments when there are two different policy goals.

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1. Introduction

Lithuania, as a new member of the euro area, has to implement its macroprudential policies in the context of this new economic setting by interacting with the other monetary union members that indeed share the same monetary policy. The Bank of Lithuania pursues macroprudential policy at the national level and monitors, assesses, and acts to limit the macroprudential risk for the stability of the domestic financial system; in doing so, it has the possibility to cooperate with the ECB and other national and international institutions.

Macroprudential implementation is particularly relevant in the context of monetary unions, especially if they are non-optimal monetary areas like the euro area. There is good evidence that both business and financial cycles are not perfectly synchronized among members and that there are important cross-country structural differences.[1] For instance, there are some particularities in the Lithuanian housing market that make it different from its euro area partners. One of these differences regards mortgage contracts. Housing loans (and loans to non-financial corporations, NFCs) in Lithuania are almost exclusively made at variable interest rates

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[1] See, for instance, Comunale and Hessel (2014) for an analysis of financial and business cycles in the euro area, Comunale (2017) for a study on the synchronicity of cycles within countries and structural aspects of mortgage markets and housing in the EU, and Mink et al. (2012) and Samarina et al. (2015) for an analysis of cross-country synchronization.

(which are set for fixed periods, e.g. of up to 1 year), which are quick to respond to changes in borrowing costs in the financial markets.[2] In the beginning of 2013, about 70% of new loans to households were issued at flexible interest rates. In 2014 and 2015, the proportion increased to more than 80% (in 2015 the share of flexible rate loans, for both households and NFCs, reached 90%).[3] In the big countries of the euro area, however, the majority of households take mortgages at a fixed rate.[4] For France and Germany, the ratio of flexible rate loans is pretty low at around 12 and 15% respectively, while in Spain it reaches 82%. This high heterogeneity is reflected in an average percentage of variable rate mortgages in the old members of the euro area of 45% (the corresponding percentage of fixed rate loans is therefore 55%). The percentage of flexible rate loans is even lower if we take into account the euro area with all 19 members. Also, the amount of consolidated debt (over GDP) of both households and NFCs is quite heterogeneous across the euro area. Lithuanians experienced low values in both cases, even if debt levels increased rapidly in the period 2006–2009, especially for NFCs (83% of GDP at the peak on an average of 64% in the last decade and 55% in 2015). In Table A1 in the Appendix A, we show these differences in housing and mortgage markets across the euro area member states.

In this context, the single monetary policy cannot be used to stabilize the economy of a particular member when it is shocked by an asymmetric disturbance or when the reaction to a common disturbance is different due to the structural characteristics of that member state. Therefore, different countries may have limited scope to influence their domestic macroeconomic conditions. The behavior of financial cycles and related build-ups of systemic risk often remain local in nature, even if spillovers and global factors may occur. Thus, macroprudential policy is especially important in a currency union such as the euro area, given the absence of country-specific monetary policy. In this setting, there would be a role for the macroprudential policy to complement the monetary policy, especially if it is conducted at a national level. Most macroprudential tools can have an impact on inflation and activity. Thus, it could happen that macroprudential policies reinforce monetary policy decisions, but also that they counteract each other. Therefore, it is crucial to assess the effects of policies across member states.

It is clear now that preventing and mitigating systemic risk to financial stability has become an explicit policy objective. However, the stance of macroprudential policy must reflect financial cycles and structures, which, as already stated, can differ markedly across member states. The objectives of monetary and macroprudential policy are distinct, but may complement each other. The objective of monetary policy is typically price stability, although it may be extended to include financial stability, given that price stability cannot be maintained in an unstable financial system. Equally, financial stability, the objective of macroprudential policy, cannot be maintained when inflation is out of control. Therefore, monetary policy can reinforce financial stability, but can also have undesirable side effects on financial stability. For example, low policy rates, consistent with the pursuit of price stability, may lead to asset price bubbles that could pose risks to financial stability. Macroprudential policy can address such risks with instruments that are more targeted than monetary policy instruments. Ultimately, it is necessary to find a policy mix that addresses financial stability without compromising monetary policy objectives.

In the European Union (EU), the European Systemic Risk Board (ESRB) is the main body responsible for monitoring macroprudential policies, although each country can implement its own policy. That is, macroprudential policies are implemented at a national level, but within a system of central supervision. However, the ECB could also include safeguarding financial stability among its objectives. In this policy framework, it is important to find the right toolkit of national macroeconomic policies in a monetary union that necessarily applies the same monetary policy among all its members. Thus, it is necessary to stabilize the financial cycle and avoid financial divergences to arise in the euro area without compromising real business cycle convergence. Therefore, country-specific macroprudential policies will have an important role to play in the euro area in cooperation with ECB policy.

In this paper, we study these issues taking the case of Lithuania as an example. Now that Lithuania is part of the euro area, the question is how to correctly implement policies to promote financial stability in accordance with the other members. The economy of Lithuania has suffered from the same financial stability problems stemming from the crisis as some other countries of the euro area, and has in fact fully recovered in terms of economic activity. One of the intermediate objectives that the Bank of Lithuania has set is to mitigate excessive credit growth and too high leverage.

We aim at illustrating how macroprudential policies could be implemented in Lithuania and the rest of the euro area. We propose the implementation of a macroprudential tool based on the loan-to-value ratio (LTV),[5] which acts countercyclically.[6] We compare the effects of this rule with an extended Taylor rule in which the ECB extends its objectives to take care of financial stability as well. The basic modelling setup constitutes a two-country new Keynesian DSGE model with financial frictions. In each country, there is a group of individuals that are credit constrained and need housing collateral to obtain loans. Countries trade goods and savers in each country have access to foreign assets. Within this setting, we study the macroeconomic and financial stability effects of macroprudential policies in Lithuania in the context of the euro area. As a macroprudential tool, we propose a decentralized rule for the LTV, which responds to national deviations in credit from its steady state. We also include the common monetary policy with a Taylor rule, consistent with the ECB target of price stability, with interest rate smoothing for interest rate setting by a single central bank. We

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[2] See Karmaziene and Varanauskiene (2014).

[3] Data from the website of the Bank of Lithuania (Statistics).

[4] See Ehrmann and Ziegelmeyer (2014) on data from the ECB. They report the share of flexible rate mortgages among the oldest active mortgages related to the household's main residence.

[5] In our model, the LTV ratio will be calibrated to match the average (market) LTV in a steady state. However, the market LTV can vary depending on economic conditions and may be different with respect to the imposed LTV cap set by the authority. When the LTV cap is high, the collateral constraint is less tight and, since the constraint in this model is binding, borrowers will borrow as much as they are allowed to. Lowering the LTV tightens the constraint and therefore restricts the loans that borrowers can obtain.

[6] Here we follow Angelini et al. (2014), who assume that the loss function in the economy also contains financial variables. Therefore, we use it as a proxy for financial stability, which is seen as the actual aim of macroprudential policy (Galati and Moessner, 2011).