Journal of Macroeconomics 54 (2017) 306–331

Contents lists available at ScienceDirect

Journal of Macroeconomics

journal homepage: www.elsevier.com/locate/jmacro

Global banking and the conduct of macroprudential policy in a monetary union

Jean-Christophe Poutineau[a], Gauthier Vermandel[b,c,*]

[a] CREM, UMR CNRS 6211 Université de Rennes I, 7 Place Hoche, Rennes Cedex 35065, France
[b] Paris-Dauphine University & PSL Research University, Place du Maréchal de Lattre de Tassigny, Paris 75016, France
[c] France Stratégie, 18 Rue de Martignac, Paris 75007, France

ARTICLE INFO

Article history:
Received 1 November 2016
Revised 14 April 2017
Accepted 26 April 2017
Available online 27 April 2017

JEL classification:
F42
F45
E58
F34

Keywords:
Macroprudential policy
Global banking
International business cycles
Euro area

ABSTRACT

This paper questions the role of cross-border lending in the definition of national macroprudential policies in the European Monetary Union. We build and estimate a two-country DSGE model with corporate and interbank cross-border loans, Core-Periphery diverging financial cycles and a national implementation of coordinated macroprudential measures based on Countercyclical Capital Buffers. We get three main results. First, targeting a national credit-to-GDP ratio should be favored to federal averages as this rule induces better stabilizing performances in front of important divergences in credit cycles between core and peripheral countries. Second, policies reacting to the evolution of national credit supply should be favored as the transmission channel of macroprudential policy directly impacts the marginal cost of loan production and, by so, financial intermediaries. Third, the interest of lifting up macroprudential policymaking to the supra-national level remains questionable for admissible value of international lending between Eurozone countries. Indeed, national capital buffers reacting to the union-wide loan-to-GDP ratio only lead to the same stabilization results than the one obtained under the national reaction if cross-border lending reaches 45%. However, even if cross-border linkages are high enough to justify the implementation of a federal adjusted solution, the reaction to national lending conditions remains remarkably optimal.

1. Introduction

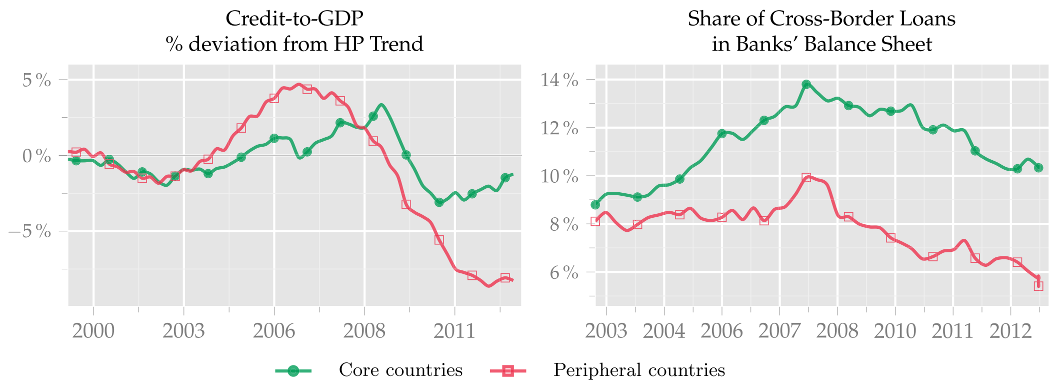
The disruption of financial relations that followed the 2007 subprime crisis set the basis for the adoption of macroprudential policies in most countries.[1] In the Euro Area, the implementation of such measures remains fragmented along national lines while the coordination and internalization of cross-border spillovers are achieved through the actions of the European Systemic Risk Board (ESRB, henceforth). This federal organization accounts for two conflicting features of the Eurozone that can be approached by contrasting core and peripheral countries.[2] Panel (a) of Fig. 1 shows that financial cycles

* Corresponding author.
E-mail addresses: jean-christophe.poutineau@univ-rennes1.fr (J.-C. Poutineau), gauthier@vermandel.fr, gauthier.vermandel@dauphine.fr (G. Vermandel).

[1] In a nutshell, macroprudential policy aims at completing monetary policy to enhance the resilience of the financial system and contain the procyclicality of financial factors on activity.

[2] In the first group we aggregate data for countries with a current account surplus and low government bond yields over the sample period (Austria, Belgium, Germany, Finland, France, Luxembourg and Netherlands), while in the second group, we aggregate data for countries with a current account deficit and high government bond yields over the sample period (Spain, Greece, Ireland, Italy and Portugal).

http://dx.doi.org/10.1016/j.jmacro.2017.04.010
0164-0704/



NOTE: Cross-border lending refers to any financing arrangement that crosses national borders between a domestic bank and a foreign borrower. The share of cross-border loans is computed here as the ratio between loans to euro area excluding the domestic area and the loans to euro area (i.e. cross-border loans between core countries are included in the calculation of the share of international loans). Sources: ESRB and ECB statistics.

Fig. 1. Stylized facts characterizing the Eurosystem banking system: credit cycles remain clearly national while cross-border lending experienced an important growth.

(as measured by the credit to GDP ratio in percentage deviation from HP trend) remain clearly national, which militates for a decentralized definition and implementation of macroprudential measures. However, as reported in panel (b) of Fig. 1, these two regions are closely linked by cross-border banking activities (as measured by the share of loans lent to a foreign agent residing in another Euro Area country) and the international spillovers of national macroprudential policies may be harmful for the monetary union. The remaining uncertainties on undesirable side-effects of self oriented macroprudential policies have thus put global banks at a central stage in the on-going debate related to the conduct of macroprudential policies.[3]

This paper questions how sizable cross-border lending flows should be treated in the definition of national macroprudential policies in the Euro Area. We more particularly assess whether cross-border bank lending should explicitly be considered in the setting of coordinated national macroprudential measures or whether national regulators should only focus on the sole national financial stance to contribute to the financial stability of the Eurozone.

We build and estimate a two-country DSGE model that accounts for two major aspects to address the question at hands. First, we extend the setup of Poutineau and Vermandel (2015) - featuring cross-border banking on the corporate and interbank loan markets[4] - to account for bank capital regulation and thus to contrast the effectiveness of macroprudential policy from banking autarky to perfect integration. Second, in line with the actual organization of macroprudential policy,[5] we focus on the joint-optimization of macroprudential policy rules in each country using the countercyclical capital buffer (CCB, henceforth) rate as an instrument. This solution has become one of the leading facets of prudential regulation since the adoption of Basel III accords (2010) by building up a bank capital buffer during periods of excessive credit growth that can be released when systemic risks abate. The international dimension of banks offered by our setting allows us to contrast different CCB rules based on: (*i*) the federal or the national credit-to-gdp targeting, (*ii*) the loan demand (from firms) or supply (from banks) to GDP targeting, and (*iii*) the loan inflows-to-GDP ratio targeting as envisaged by Rey (2015).

The methodology employed in this paper comprises three steps. First, we build and estimate a two-country DSGE model for the Euro Area with only monetary policy (as there are no observations for an estimation of a macroprudential rule). Second, we compute the optimal policy rules (both monetary and macroprudential policy) given the estimated parameters assuming a two-stage game where monetary policy is the leader.[6] Third, we examine implications of cross-border lending on the optimal design of macroprudential rules across country members of the Eurosystem using the optimal monetary policy rule as a benchmark.

[3] For example, regarding issues related to macroprudential policy with global banking, we refer to the IMF (2013), the ESRB handbook (2014), ECB (2015), Bank of England (2015) .

[4] In this paper, we omit the mortgage market and concentrate on corporate and interbank loans. Given the insignificant size of cross-border housing loans in the portfolio of banks (the share of cross-border loans is below 1% in the Euro Area according to ECB internal data), this omission does not seem to be important for the analysis conducted here.

[5] We refer to Carboni et al. (2013) for a discussion regarding the macroprudential policy mandate in the Euro Area shared between European Central Bank and the Single Supervisory Mechanism, national competent authorities and coordinated by the European Systemic Risk Board.

[6] A important branch of the literature analyzed the interaction between monetary policy and financial stability, a topic not covered in the paper as we concentrate here on interactions between national prudential authorities. We refer to Woodford (2012) for a summary of policy challenges and results offered by the existing literature concerning the role of monetary policy in providing financial stability.