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IN-DEPTH ANALYSIS

The role of macro-prudential policies in prevention and correction of asset imbalances in the Euro Area

External author: Margarita Rubio
University of Nottingham

Provided at the request of the
Economic and Monetary Affairs Committee

May 2017
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Scrutiny paper provided in the context of Economic Dialogues with the President of the Eurogroup in the Economic and Monetary Affairs Committee

Abstract

In the aftermath of the financial crisis, there is consensus among academics and policy makers on the need for the so-called macroprudential policies. Additionally, the current low interest-rate environment creates further risks to financial stability. However, the implementation of such policies in a monetary union is a rather complex issue. Housing and credit markets heterogeneity across countries calls for action at national level. The role of the ECB in macroprudential policy is a matter of debate because monetary policy can conflict with the ultimate goal of macroprudential policy. This document reviews the key issues that are relevant for the implementation of macroprudential policies in the euro area and questions the current institutional framework. Finally, it gives some policy recommendations on how to improve the current situation.

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CONTENTS

LIST OF ABBREVIATIONS

CCB	Countercyclical capital buffer
CRD	Capital Requirement Directive
CRR	Capital Requirement Regulation
DSGE	Dynamic stochastic general equilibrium
DSTI	Debt service-to-income
DTI	Debt-to-income
EBA	European banking authority
ECB	European central bank
EMU	Economic and monetary union
ESRB	European systemic risk board
EU	European Union
GDP	Gross domestic product
G-SII	The global systemically important institutions buffer
IMF	International monetary fund
LTD	Loan-to-deposit
LTI	Loan-to-income
LTV	Loan-to-value ratio
O-SII	The other systemically important institutions buffer
SRB	The systemic risk buffer
SRB	Single supervisory mechanism
CCB	Countercyclical capital buffer

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EXECUTIVE SUMMARY

- **How to conduct macroprudential policies in a currency union is a rather complex issue**. In a **monetary union, monetary policy is constrained and cannot assist the demands of single countries**. This always calls for the needs of other policies to complement monetary policy because the interest-rate policy alone cannot be used to stabilize the economy of a particular member if the economy is hit by an asymmetric shock or when there are structural differences across members. One of the candidates could be macroprudential policy.

- **The euro area is experiencing an unprecedented episode of low interest rates and low inflation, which calls even more for the need of macroprudential policy**. The zero lower bound adds an extra constraint to the single currency setting and makes it more difficult for traditional monetary policy to stabilize the economy.

- **Asymmetries in a monetary union are relevant for the conduct of macroprudential policies, especially when heterogeneity results in differences in aggregate financial and macroeconomic volatility**. Thus, the appropriate choice of the instrument will depend on the specific characteristic of each Member State. Freedom in the choice of instruments at a national level is of great importance in the euro area.

- **In the euro area, the SSM Regulation assigns macroprudential responsibilities to both the national authorities and the ECB,** who are thus jointly responsible for macroprudential policy. **The ESRB is responsible for the macroprudential oversight of the EU's financial system** and contributes to the prevention or mitigation of systemic risks to financial stability arising from developments within financial markets.

- **An important issue that arises, given this framework, is whether the division of labour between the ECB/SSM, the ESRB and the national authorities is sufficiently clear and adequate.** The role of the ECB in macroprudential matters should be clarified. The main goal of the ECB is price stability while macroprudential policy focuses on financial stability. Concentrating multiple and sometimes conflicting objectives in the ECB is controversial. There may be cases in which the goals of monetary and macroprudential policies are not going in the same direction, for instance in the case of recessions coupled with overheated housing markets. Macroeconomic and credit cycles are not always necessarily aligned. However, it is important that the ECB be represented in the ESRB (as is the case today) to make sure that ESRB decisions take into account the well-functioning of EMU. However, role duplication should be avoided.

- **Countries in the euro area are diverse, and thus it seems adequate to delegate macroprudential policies to national authorities.** It is not clear, however, how individual members should designate this authority. **It can be discussed whether national macroprudential authorities should be delegated to national central banks or to separate institutions.** National central banks, albeit independent from the government for the conduct of monetary policy may be influenced by it on supervisory matters. Macroprudential policy may be perceived as unpopular by the government because it has short-term costs and the benefits may only appear in the long run. Totally independent macroprudential authorities, separated from the central bank, and protected from the national government influence, could be a better option although the conditions and criteria to ensure such an independence would have to be carefully thought through.

- **It is also sensible to have a supranational authority, such as the ESRB, in charge of supervising, enforcing and coordinating policies among members**. The ESRB has a unique and clear goal, which is financial stability, and does not have to serve other potentially conflicting goals. The ESRB should ensure coordination and reciprocity, as well as controlling that countries are choosing their policies in favour of global financial stability, avoiding free-riding behaviours. Countries should regularly report both actions and absence of action, justifying their decisions with respect to their credit phase. The ECB could complement the ESRB role by ensuring that the interests of the euro area are sufficiently taken into account.

- **The above theses can be reinforced with some lessons learnt from the Spanish experience**:

  - The Spanish experience teaches us that low interest rates, loose credit standards, strong financial accelerator effects, and high dependence on the real estate sector make a country more prone to financial stability risks.

  - From the Spanish experience we learn that countercyclical capital buffers, proxied by the dynamic provisioning that was implemented in Spain, help taming the financial cycle but that they may be not enough to prevent a crisis, especially when it comes from the housing sector. In this case, a more aggressive policy or the complementary help of other tools targeting more specifically the housing sector such as LTVs may be needed. We also learn that, when some sectors of the banking system are not regulated by the same rules, there can be leakages that can undo the beneficial effects of macroprudential policy. In the Spanish case, the "cajas" sector was in such situation. More generally, such conclusion can apply to the shadow banking sector or branches of foreign banks operating in the country.[1] This calls for reciprocity in the implementation of policies.

  - We also learn that there might be incentives for authorities not to implement macroprudential measures. On the one hand, countries may be tempted to free ride on other members' policies because they can benefit from a more stable financial system at a low cost. On the other hand, such policies are not popular and governments may have incentives to promote housing booms. The ESRB should monitor very closely those countries that are passive in the use of macroprudential policies and ensure that this lack of action is well grounded. Although the ESRB has currently no binding powers, in cases of unjustified inaction, the ESRB should be given some ability to enforce the necessary measures.

  - The Spanish case also teaches us that central banks may fail at being good macroprudential regulators or supervisors. Although they have the expertise to do so, they may be not immune from political interference on supervisory matters (while their independence is protected by the Treaty as regards the conduct of monetary policy). An independent macroprudential authority, brand new, and building up a new reputation may be a better option in the pursuit of financial stability. This institution should be the national counterpart of the ESRB that is separated from the ECB, with well-recognized experts and with a clear mandate: financial stability.

[1] In Spain, banks and "cajas" were not subject to the same regulation. The "cajas" were regulated by both national and regional governments. Thus, the Bank of Spain had limited supervisory competences over them (See Otero-Iglesias et al., 2016).

1. INTRODUCTION

This paper was requested by the European Parliament under the supervision of its Economic Governance Support Unit.

The severe crisis we have experienced in the last decade has taught us that we need to use policies to prevent such episodes from happening again. We need policies now that prevent systemic risk and excessive credit growth, namely macroprudential policies. Systemic risk and financial stability have thus become a main issue of concern in policy making. Scholars and policy makers now agree that **macroprudential measures need to be in the forefront** of the policy scene to ensure a more stable financial system. These macroprudential measures include countercyclical capital buffers linked to credit growth, countercyclical provisioning, loan-to-value (LTV) limits or direct controls on lending to specific sectors.

The crisis had its seed in the housing sector and was severely spread and had its final consequences in the real estate. Although the scope of macroprudential policy can potentially be broader, in this study, I give a special emphasis to macroprudential regulations that target the housing sector, which was crucial in recent credit market developments.

Although there is consensus on the need for such policies, **the best way to implement these policies, especially in a monetary union, is still a question open to debate**. The implementation of these macroprudential tools becomes more complex -but also even more necessary- if countries are not able to manage their own monetary policy and rely on a single central bank. In this context, the first issue that arises is whether these policies should be implemented centrally or at a national level. Given that monetary policy is conducted by a single central bank, it could be natural to think that this should be the case also for macroprudential policy. However, **cross-country differences in housing and financial markets may make the currency area not fit for a single macroprudential policy**. If they are set on a national basis, the next question that arises concerns coordination. If there is no coordination, i.e. if one country does not apply the same set of policies as the rest of the monetary union, this may have important implications for welfare, financial stability, and the functioning of the area.[2] Then, how should the implementation of such policies be coordinated among members? Should there be a supranational entity coordinating and supervising these policies?

For the euro area, macroprudential policy is of particular relevance. The euro area is indeed an area in which Member States' business and financial cycles are not fully synchronized, especially as regards credit and housing markets, which are the crucial indicators for macroprudential policy. Cross-country housing market asymmetries such as different loan-to-value ratios, variable versus fixed interest rates, different residential debt- to- GDP ratios, as well as asymmetric house price shocks, may make it difficult for both the central bank and the macroprudential regulator. This leads to wonder not only whether the euro area is an optimal currency area but also whether it is an optimal macroprudential area. In this context, monetary policy may not be useful to correct those imbalances. However, setting macroprudential policies at a national level may help with those issues. Moreover, the special situation in which the euro area is, where interest rates are hitting the zero lower bound, may reinforce this argument. Low interest rates create additional risks to financial stability and may create asset bubbles, which calls for a stronger need of well-designed macroprudential policies.

Albeit the crucial importance of macroprudential measures in the euro area, when the EMU started, these policies were not yet contemplated. The original design of EMU was concerned about risks that were happening at that time but did not include tools to prevent non-fiscal imbalances. Nevertheless,

[2] Lack of coordination or reciprocity can have unintended effects of macroprudential policy such as cross-country spillovers. Credit may flow to those countries or sectors with lower regulatory standards, a phenomenon known as leakage, and thus "undo" the potential positive effects of macroprudential policy (See ESRB, 2015)

in current times in which financial instability is perceived as a major risk, a satisfactory set-up of an effective macroprudential framework is a priority.

The EU has already set up an institutional framework for macro-prudential policy, which includes countries in the euro area. It comprises various authorities with a macro-prudential mandate at national level, the ECB with specific macroprudential competences at the Banking Union level and the European Systemic Risk Board (ESRB), with no binding powers but a broad mandate at EU level. The 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. Along these lines, the ESRB recommended in 2011 that Member States should designate a national authority entrusted with the conduct of macroprudential policy.

Therefore, **the solution that has been adopted so far is a hybrid one, inclined towards decentralization but with a strong component of centralization in the form of supervision, monitoring and coordination**. Given cross-country differences, the current institutional framework gives some freedom to national authorities in the choice of instruments and in the implementation. The remaining question is where to set the limits of this freedom and how to correctly coordinate across members.

This paper explores the **key issues that are relevant to design an appropriate strategy for the implementation of macroprudential policies at the euro level**. First of all, it reviews the problem from the general point of view of a monetary union, that is, the important points that are relevant in the design of a macroprudential setting in a currency area. Then, it explores these issues, in a more specific way, focusing on those that are more relevant for EMU. It touches upon the implications of cross-country asymmetries in the euro area as well as on coordination and supervision of those policies. Then, it goes even more specific, using Spain as a case study. In this way, we can answer some of the questions about the macroprudential governance in the EMU, taking as an example the Spanish experience. Finally, based on this exposition, it provides some policy lessons that can be used to improve the current proposal in terms of macroprudential policy implementation in the euro area.

2. MACROPRUDENTIAL POLICY IN THE EMU: KEY ISSUES

2.1 Macroprudential policy in a monetary union

How to conduct macroprudential policies in a currency union is a rather complex issue. In a **monetary union, monetary policy is constrained and cannot assist the demands of single countries**. This always calls for other policies to complement monetary policy because interest-rate policy alone cannot be used to stabilize the economy of a particular member if the economy is hit by an asymmetric shock or when there are structural differences across members (See Jeanne and Korinek, 2014). One of the candidates could be macroprudential policy. However, it has to be taken into account that the objectives and tools of these two policies are different and can even be in conflict with each other in certain occasions. It may happen that there is a situation in which inflation is low, which may call for an expansionary monetary policy but housing markets are overheated, which calls for a stricter macroprudential regulation. In this case, monetary policy actions may interfere with the ultimate goal of macroprudential policy.[3]

In light of this problem, **in a monetary union, the goals of macroprudential policies could be extended in order to palliate the restrictions of monetary policy**. In currency unions, where monetary policy is constrained, the demands on macroprudential policy will be greater. Financial distortions and cross-country asymmetries can deliver an inefficient composition of output. In such cases, macroprudential policies could address the adverse side-effects of monetary policy on financial stability, as well as the gaps that monetary policy cannot cover, of course, together with fiscal and structural policies.

On the other hand, in a monetary union, the use of macroprudential policies to safeguard financial stability is even more relevant because countries are extremely connected, especially in the banking union where there will be a common deposit guarantee scheme. We need to remember that the seed of the spread of the global financial crisis was the increasing interconnectedness in financial markets. In a monetary-banking union, the connexion is straightforward and the contagion may happen immediately. The need for a well-coordinated macroprudential framework is imperative.

2.2 Macroprudential policy in a low interest-rate environment

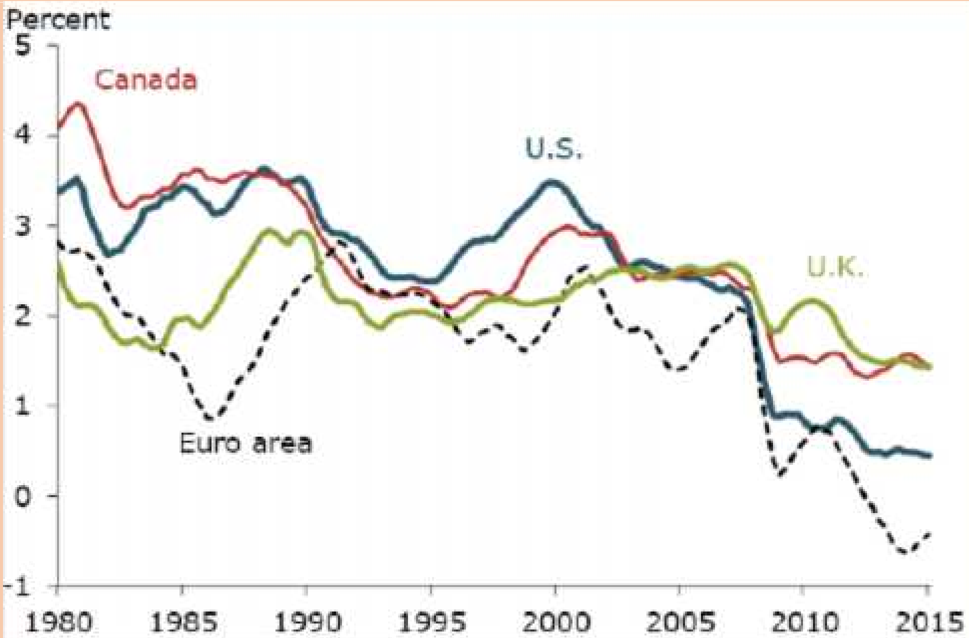
In current times, **the euro area is experiencing an unprecedented episode of low interest rates and low inflation which calls even more for the use of macroprudential policy**. When the interest rate hits frequently the zero lower bound, traditional monetary policy, which is by definition already constrained by the currency area, becomes virtually useless to stimulate the macroeconomy.[4] A critical implication of a low interest-rate environment is that, when central banks use conventional monetary policy to stabilize the economy, the nominal interest rate may indeed hit its lower bound and thus, margins of manoeuvre downwards are per definition limited.

[3] This situations are particularly common when shocks come from the supply side. Imagine, for instance, a positive technology shock, which expands the economy and fosters credit growth but lowers inflation (See Rubio and Carrasco-Gallego, 2015).
[4] An alternative to interest-rate policy could be unconventional policies such as quantitative easing.

Box 1: A low interest-rate environment

In the post-Global Financial Crisis (GFC) world, there are new challenges to the conduct of macro-financial stabilization policies. One of the major changes in this new environment is a significant decline in the neutral real interest rate. In many advanced economies, estimated long-term neutral rates have declined to much lower levels compared to the pre-crisis period and show no sign of recovery (Laubach and Williams, 2015).

Figure 1: Estimated inflation-adjusted natural rate of interest



Source: Holston, Laubach and Williams (2016)

This is challenging for policy makers for two reasons. First, low neutral rates limit the scope of conventional monetary policy in stabilizing the economy. Second, low interest rates raise concerns about financial imbalances and risks to financial stability (Borio, 2016).

The zero lower bound adds an extra constraint to the single currency setting and makes it more difficult for traditional monetary policy to stabilize the economy. The immediate consequence of the limited effectiveness of monetary policy is that business cycles may be more unstable. Moreover, persistently low interest rates may also have important implications for financial stability. In fact, low interest rates affect incentives of financial market participants, leading to excessive risk-taking behaviour. For instance, the yield-chasing motive encourages agents to engage in speculative investment in assets, such as real estate. Low interest rates may increase the likelihood of asset bubbles and excessive leverage. Thus, in a low interest-rate environment, the case for using macroprudential policies becomes even stronger. On the one hand, greater financial instability due to low interest rates calls for macroprudential policies to contain financial risks. On the other hand, macroprudential policy may also be useful to complement monetary policy, when it is subject to the lower bound.

Then, a monetary union in a low interest-rate setting strongly calls for the use of macroprudential policies. **The issue now is how to implement these policies** recognizing that there may be differences in financial and macroeconomic conditions across countries.

2.3 Cross-country housing and credit market heterogeneity

There is an extensive literature that shows that **institutional, consumption, financial or housing market heterogeneity can endanger the optimality of EMU as a currency area** (See Maclennan et al., 1998, ECB, 2009, Rubio, 2014). However, if an extra set of policies, namely macroprudential policies, are to be introduced in the European context, researchers and policy-makers also have to ask what the optimal design for such policies is and whether the EMU is an "optimal macroprudential area", i.e. is it homogeneous enough in its credit markets so that a single macroprudential policy could be applied to all countries ?

If credit and housing markets were homogeneous across countries, macroprudential regulation could be implemented at a union level, like monetary policy, and respond to the average performance of the whole area. Otherwise, the alternative would be to have a decentralized system of national regulators which would take into account the economic conditions of their specific region. This question is irrelevant in a homogeneous union. However, given the single monetary policy restriction, if we find important cross-country differences or asymmetric shocks, **we need to assess if the best option is having centralized or decentralized macroprudential policies.**

Countries in Europe clearly differ in their housing markets. There is evidence of different loan-to-value ratios (LTVs), different proportions of residential debt relative to GDP across countries, and heterogeneous mortgage contracts. Table 1 shows these differences. LTVs are as low as 50% in Italy and as high as 90% in the Netherlands, where the debt-to-GDP ratio exceeds 100%. In countries such as Germany or France, the majority of mortgages are fixed rate. Conversely, the predominant type of mortgages in such countries as the United Kingdom, Spain, and Greece is variable rate:

Table 1: Characteristics of mortgage markets in Europe.

COUNTRY	LTV	Residential Debt/GDP	Mortgage Rate
Belgium	83	43.3	F
Finland	75	58	V
France	75	38	F
Germany	70	47.6	F
Italy	50	21.7	V
Ireland	70	90.3	F
Netherlands	90	105.6	F
Portugal	75	67.5	V
Spain	70	66.4	V

Source: IMF (2008)

This evidence may have implications for the implementation of macroprudential tools. If this heterogeneity translates into different risks to financial stability across countries, it should be taken into account when designing macroprudential policies. For instance, if a countercyclical tool around the LTV were set, the initial LTV that each country had, would make a difference in the effects of this policy, even though all countries were applying the same tool. The LTV is an indicator of the strength of the financial accelerator in each country and therefore, a countercyclical LTV tool around a higher average LTV may have implications on the transmission of shocks and should be designed accordingly (See Box 2).

The EU has adopted a mixed system between centralization and decentralization. Given cross-country asymmetries, the best option is to have a decentralized system albeit strongly supervised by the ESRB, to make sure that there is coordination and reciprocity across countries and that policies do not produce unitended effects due to spillovers or free-riding behaviours. The outcome in the EU should be a **coordinated and well-supervised decentralization of macroprudential policies. The ESRB**

should have enough power to not just make recommendations but also to enforce some coordination in cases in which the financial stability of the whole euro area is in danger. How to do that will depend on the nature of cross-country asymmetries in the euro area, on how these differences affect financial stability and on the transmission of policies across members.

Asymmetries in a monetary union are relevant for the conduct of macroprudential policies, especially when heterogeneity results in differences in aggregate financial and macroeconomic volatility. There is some theoretical work on the topic which sheds light on the issue. Rubio (2014) gives some recommendations for macroprudential policy given cross-country asymmetries. In particular, it disentangles the optimal macroprudential implementation for each type of asymmetry, which is relevant in the euro area. Using a two-country monetary union DSGE model with housing and collateral constraints for borrowers, it analyzes the optimal way to conduct macroprudential policies when countries are in a monetary union with heterogeneous housing markets across members. In particular, it considers different LTV across countries, heterogeneous mortgage interest-rate contracts, different residential debt- to- GDP ratios, as well as asymmetric shocks. It studies the implications for macroeconomic and financial stability of each type of asymmetry, considering the cases of centralized and decentralized macroprudential policies, in the form of a countercyclical LTV rule. Results shed some light on the importance of each type of heterogeneity for the conduct of macroprudential policies in a monetary union (See Box 1).

Box 2: Main results from Rubio (2014)

-**When the heterogeneity comes from asymmetric shocks, well coordinated policies are advisable**. If business cycles are not syncronized, having decentralized macroprudential policies which are not well coordinated worsens the situation. Macroprudential policies can help re-synchronize business cycles. Shocks are strongly transmitted across countries very rapidly in a monetary union and therefore, this asymmetry does not imply differences in aggregate volatilities, so that a fully coordinated macroprudential policy can be well implemented.

-**When the asymmetry comes from different proportions of borrowers or differences in residential debt- to- GDP ratios, a common shock affects countries similarly but its distribution across economic agents within the country differs.** Therefore, on aggregate, this asymmetry does not imply different cross-country volatilities in credit markets when common shocks hit. **In this case, centralized policies would be acceptable because this asymmetry does not imply aggregate differences in credit market volatilites.**

-When considering countercyclical rules on instruments such as the LTV, the average or initial value of this tool should be considered. Average LTVs differ across countries, national authorities should take into account this feature in the design of macroprudential policy. **In countries with high initial LTVs, financial accelerator effects are stronger. When implementing a countercyclical LTV rule, it would be optimal to respond more strongly to developments in the macroeonomy and not only to credit markets in order** to equalize the effects of the financial accelerator across countries.

-A very interesting case is the asymmetry coming from different mortgage contracts. In this case, the same shock delivers different volatilities in each country. When policies are implemented at a national level, **fixed-rate countries should implement more aggressive policies, as compared with the variable-rate countries, to compensate for the lack of effectiveness of monetary policy in the former case**. This asymmetry imposes an extra constraint to monetary policy. Under fixed rates, monetary policy is less effective in stabilizing the macroeconomy. This, together with the monetary union constraint and the zero lower bound constraint makes that macroprudential policies are especially important for countries in the euro area in which interest rates are fixed.

2.4 The set of tools to be used

When determining an appropriate macroprudential instrument, authorities face serious implementation challenges, including defining their intermediate objectives and the source of the systemic risk they wanted to confront, determining the legal requirements for accomplishment, and ensuring ease of communication for policy implementation. Because there is no single tool that influences all financial behaviour consistently, **a variety of macroprudential tools is needed**, from countercyclical capital adequacy requirements to loan-to-value caps (LTV's), more focused on housing markets. And, especially **in a currency union, macroprudential policies would ideally be coordinated**, albeit not necessarily harmonized, so as to recognize differences in financial conditions, across countries, as recognized by Member States in the European Union in establishing the European Systemic Risk Board (see IMF, 2012).

Box 3: Macroprudential Instruments in the EU

We can classify the different tools that are available depending on their legal basis (e.g. inside or outside the EU law). Instruments under the Directive (CRD) are to be transposed into national law, while those provided for in the Regulation (CRR) become EU law with immediate effect. Additionally, there are other instruments based on national law:

Instruments under the CRD:
-The countercyclical capital buffer (CCB)
-The global systemically important institutions (G-SII) buffer
-The other systemically important institutions (O-SII) buffer
-The systemic risk buffer (SRB)
-Macroprudential use of pillar 2[5]

Instruments under the CRR:
-"National flexibility measures": the level of own funds, large exposure limits, public disclosure requirements, the level of the capital conservation buffer, liquidity requirements, risk weights for the residential and commercial property sectors, and measures for intra-financial sector exposures.
-Real estate-related instruments, including sectoral risk weights.

Other instruments under national legal frameworks:
-Borrower-based lending limits: loan-to-value (LTV), loan-to-income (LTI) and debt service-to-income (DSTI), and loan-to-deposit (LTD) limits.

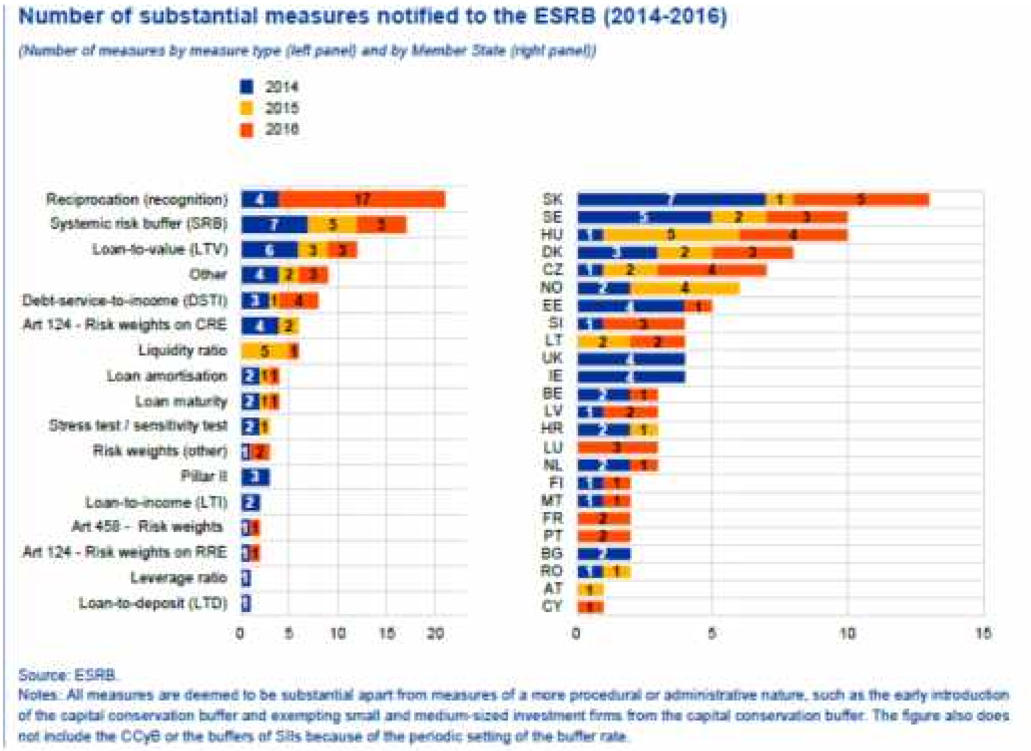
Source: ESRB (2014)

Thus, the appropriate choice of the instrument will depend on the specific characteristic of each Member State. **Freedom in the choice of instruments at a national level is of great importance in the euro area.**

The spectrum of macroprudential tools to be used is ample. In the banking sector, tools include countercyclical capital buffers, which are proposed internationally by the Basel III regulation and CRD IV/CRR in the EU. Dynamic provisioning was used in Spain before the crisis and it is still used in some Latin American countries. Reserve requirements are also used in some non-euro countries. In the household sector, LTV caps for mortgage loans and debt-to-income (DTI) limits can be used. If borrowing is external, tools may include capital flow management measures. Figure 2 describes the frequency of use of tools in the EU:

[5] One of the proposals from the Commission in its 'banking package' tabled in November 2016 is to suppress the macro-prudential use of pillar 2 requirements.

Figure 2: Relative frequency of use of various types of measures in the EU



Source: ESRB

We have seen in the previous subsection that countries across Europe differ in terms of their housing and credit markets and the source of financial instability. Therefore, **each country should design its sets of instruments according to its specific features but always bearing in mind that this should not endanger the final purpose of macroprudential policy in the euro area, which is global financial stability**. Therefore, the ESRB should make sure that some basic measures are coordinated and reciprocated, but leaving some room for some national measures to address country-specific issues.

For instance, for countries in which housing markets tend to be overheated because of frequent house price shocks or strong financial accelerator effects, the intermediate objective should be to mitigate and prevent excessive sectorial credit growth and leverage in the real estate market. In this case, the LTV ratio would be a good option compared with other instruments that could mitigate and prevent excessive credit growth and leverage in general, such as the countercyclical capital buffer, proposed by the Basel III regulation. **In the case of an unsustainable demand-driven real estate boom, selecting instruments that primarily target bank borrowers (such as LTV ratio limits), is likely to be more effective and less costly than bank-oriented measures.**

However, the legal requirements also play a role in the choice of instruments. Whereas some instruments are implemented under national laws, others depend on European laws, with legal requirements for some measures being more demanding than for others. The LTV ratio limit, for instance, depends on national laws. Other instruments, such as the global systemically important institutions buffer, depend on European legislation and requires notification to the European Commission, the ESRB, and the EBA. **It is important to leave tools that address country-specific risks under national laws.**

Finally, in selecting instruments, macroprudential authorities should favour instruments for which the purpose and design can be easily communicated and explained, given that macroprudential policies are to be strongly supervised by the ESRB. In this sense, the LTV ratio limit is an instrument which is easier to communicate than other policies. Therefore, **the LTV seems to be a good candidate to**

complement compulsory capital requirement policy, especially in those countries with significant issues in their real estate sector (For a deeper analysis, see ESRB, 2015).

European countries have already been using different tools. Until now, no SSM country has implemented a positive countercyclical capital buffer yet but they are implementable in all SSM countries starting in 2016 to mitigate the upturn of a credit-driven financial cycle. Macroprudential authorities are relying on borrower-based instruments, such as loan-to-value (LTV), loan-to-income (LTI) or debt service-to-income (DSTI). Eight SSM countries have already adopted these instruments, especially to counter potential risks of low interest rates for the real estate market. The authorities in Estonia and Lithuania have implemented explicit limits on three instruments: loan-to-value ratios, income-based ratios and loan maturity. The last two years have shown that macroprudential policy in Europe is already active. The implemented national macroprudential policies since the start of the CRR/CRD IV are especially focused on structurally strengthening the banking system. A number of macroprudential authorities in the euro area have activated three types of capital buffers: the buffer for global systemically important institutions (G-SII), the one for other systemically important institutions (O-SII) and the systemic risk buffer (SRB). Such buffers are intended to address the problems stemming from too-big-to-fail institutions, large, concentrated and interconnected banking sectors, as well as specific structural risks deriving for instance from exposures to areas affected by geopolitical tensions. As for the G-SII buffers, seven globally systemic banks from four euro area countries have been identified. Until now, no SSM country has adopted positive countercyclical capital buffers given the prevailing subdued position in the credit cycle. In addition, the adoption of borrower-based instruments, such as loan-to-value (LTV), loan-to-income (LTI) or debt service-to-income (DSTI) by national authorities indicates that they are useful instruments in the European environment to curtail excessive credit and house price growth by acting directly on borrower's conditions (See Constâncio, 2015)

2.5 Coordination and reciprocity

When one country implements macroprudential policies, some effects on financial stability may spill over to other countries that are not implementing them. This issue is even more important within a monetary union, in which countries are particularly interconnected. This could lead to some accidental and unwanted consequences, including leakages and regulatory arbitrage, as well as external effects on other Member States and an uneven playing field. **To alleviate these unintended consequences, coordination and reciprocity should be required between national macroprudential authorities**. In this context, reciprocity means that, within the monetary union, a Member State applies to its own institutions the same or an equivalent macroprudential measure to that set by another member state (ESRB Annual Report, 2014). The ESRB adopted a recommendation on reciprocity in December 2015, recommending countries to reciprocate all macro-prudential measures targeting specific risks.

There is already some evidence of macroprudential policy actions within EU countries, which show lack of coordination across members. Many Member States actively pursued macro-prudential policies in 2014. However, while some Member States were very active (e.g. Denmark, Slovakia, Sweden, United Kingdom), for others no measures were recorded (e.g. France, Germany, Poland, Spain). These contrasts may be related to the different phases of the financial cycle the Member States were in, their distinct views on the role of macroprudential policy, whether or not a national macro-prudential authority was already in place in the Member State concerned, or to the different characteristics of the specific country (ESRB, 2015). However, **it could be the case that some members are not playing an even game and are free-riding from the beneficial effects to financial stability of the macroprudential measures taken by other members.**

2.6 The institutional framework

In Europe, the macroprudential policy framework is in place since the adoption of the CRR/CRDIV legislative package.[6] With the start of the SSM in November 2014, the ECB received macroprudential powers, which it shares with national authorities in the euro area. The toolkit is centered on the banking system and includes capital- and liquidity-based measures, such as the liquidity coverage ratio and the net stable funding ratio (See ECB, 2016). Some of the instruments, notably the countercyclical capital buffer, can be used to contain the pro-cyclicality inherent in financial developments at the root of the damaging boom and bust episodes we have experienced in the past (See Constâncio, 2015). Table 2 captures the main regulation around macroprudential policies in the euro area:

Table 2: Regulatory framework in the euro area

SSM/ECB Regulation	-The ECB is responsible for specific tasks related to policies on the prudential supervision of credit institutions, including macroprudential policy. -The ECB and the national authorities cooperate within the Single Supervisory Mechanism (SSM)
Capital Requirement Directive (CRD IV) and Capital Requirement Regulation (CRR)	-The CRD IV package (CRR/CRD IV) transposes the global standards on bank capital (the Basel III agreement) into EU laws (See Box 3 for the available instruments)
ESRB	-The ESRB is responsible for the macroprudential oversight of the EU's financial system and contributes to the prevention or mitigation of systemic risks to financial stability arising from developments within financial markets. -It should contribute to the smooth functioning of the internal market and, thereby, ensure that the financial sector plays a role in fostering sustainable economic growth
National Authorities	-Macroprudential policy implementation and decision-making

Source: ECB, Macroprudential Bulletin Issue 1 / 2016

The SSM Regulation assigns macroprudential responsibilities to both the national authorities and the ECB, who are thus jointly responsible for macroprudential policy. In particular, the Regulation gives national authorities the power to implement macroprudential measures and gives the ECB the power to tighten the measures set out in EU legislation. National authorities and the ECB are obliged to notify one another if they intend to activate a macroprudential policy instrument.

The European Systemic Risk Board (ESRB), in which all EU central banks, national supervisory authorities and relevant EU institutions are represented, extends the discussion on systemic risk and the possible ways of mitigating it to the EU level (See European Commission, 2014). However, the ECB is a macroprudential authority in the euro area, which includes many EU countries. This poses the question of whether the division of powers between the ECB and the ESRB

[6] The ESRB and some national macro-prudential authorities pre-existed the CRD IV/CRR package. CRD IV/CRR introduced specific macro-prudential tools in EU law.

is sufficiently clear or on whether there is some redundancy in the co-existence of these two institutions for macroprudential purposes.

The ESRB recommended the EU Member States to designate a national macroprudential authority to be in charge of financial stability policies. To date, most EU members have followed this recommendation and have already appointed macroprudential authorities. ESRB (2017) remarks that Italy, Romania and Spain still lack an official macroprudential authority for the whole financial system but the legislative process is ongoing. In the meantime, the national central bank should be the designated authority, in the sense of CRD IV, to activate macro-prudential tools. All Member States have followed one of the three following models when designating the authoriy in charge of the implementation of macroprudential policies at the national level: i) entrusting an authority separated from the central; ii) delegating the implementation of macroprudential policies to their central banks; or iii) sharing the responsibility for macroprudential policy implementation between the central bank and another institution.

Given this framework, an important issue that arises is whether the division of labour between the ECB/SSM, the ESRB and the national authorities is sufficiently clear and adequate. To date there are three main bodies able to make decisions at a macroprudential level. It is clear that national authorities are in charge of implementing policies. The SSM Regulation assigns macroprudential responsibilities to both the national authorities and the ECB, who are thus jointly responsible for macroprudential policy. In particular, the regulation gives national authorities the power to implement macroprudential measures and gives the ECB the power to tighten the measures set out in EU legislation. The ECB can also lead the analysis of cross-border effects, and can support action to promote reciprocation of national macroprudential policies. The European Systemic Risk Board (ESRB), in which all EU central banks, national supervisory authorities and relevant EU institutions are represented, extends the discussion on systemic risk and the possible ways of mitigating it at EU level. The division of labour between the national authorities and the ECB seems clear. However, it is important to clarify the specific assignments of the ESRB and the ECB. Given that EMU countries are part of the EU, keeping both authorities could seem redundant and may lead to some conflicts. However, if it is clarified that the function of the ECB is to safeguard specific aspects of the well-functioning of the monetary union (such as cross-border spillovers, or correction of euro-area imbalances) that the ESRB may overlook, then their functions could be perfectly complementary and lead to a superior outcome.

In light of previous results in which we have seen that countries in the euro area are diverse, it seems adequate to delegate macroprudential policies to national authorities. In this way, they have the freedom to choose the tools and the intensity of the policy depending on country characteristics and on the phase of the credit cycle in which they are. It is not clear, however, how individual members should designate this authority. We have seen that some countries have created brand new macroprudential authorities while some others have relied on their existing national central banks. What the best model is, is a question open to debate.

It is also sensible to have a supranational authority, such as the ESRB in charge or supervising, enforcing and coordinating policies among Member States. As above mentioned, lack of coordination and reciprocity could bring about unwanted spillovers of policies. The ESRB should make sure that these are minimized. The ESRB should also ensure that countries are choosing their policies in favour of global financial stability, avoiding free-riding behaviours. **Countries should regularly report both actions and inactions, justifying their decisions with respect to their credit phase**. For instance, countries that have shown macroprudential policy passivity, such as Germany, France or Spain should report the ESRB the reasons for this case.

However, **the role of the ECB in macroprudential matters casts some doubts**. It is true that monetary and macroprudential policies should coordinate and interact in the best possible way.

Nevertheless, the objectives of the central bank and macroprudential authorities are different and sometimes could even conflict with each other. **Concentrating multiple and conflicting objectives in the ECB may not be the best option because it may damage its main objective and its credibility.** Financial and business cycles are not necessarily synchronised. In this case, if monetary policy tries to stabilise the financial cycle it may risk losing control of inflation. To achieve price stability and financial stability simultaneously, two independent policy frameworks with specific instruments and objectives are therefore needed (See ECB, 2016). However, given that the ESRB is in charge of supervising macroprudential policies at the EU level, it is necessary to ensure that the ECB is well represented there in order to safeguard the interests of the euro area. **The ECB should continue to be represented in the ESRB to make sure that the ESRB decisions take into account the well-functioning of EMU.** The division of powers between the two institutions could be clarified: the ESRB should be in charge of supervising macroprudential policies at the EU level, with the only objective of ensuring global financial stability. The main goal of the ECB should still be price stability in the euro area. However, in terms of macroprudential policy, it has to make sure that the ESRB does not overlook specific aspects of macroprudential policy in the euro area. As stated in previous sections, macroprudential policy implementation in a monetary union poses extra problems. The specific task of the ECB should be to make sure that these issues are appropriately addressed by the ESRB.

By the same token, it is also controversial whether national macroprudential authorities should be delegated to national central banks. National central banks, albeit independent from the government in the conduct of monetary policy, could be not immune from political interference in the conduct of macro-prudential policy. Macroprudential policies can be perceived as unpopular by the government which could push for inaction or delay action. Macroprudential policies have short-term costs and some of the benefits may only appear in the long run.

Box 4: The Tinbergen separation principle

-The **Tinbergen separation principle** states that there should be two different instruments when there are two different policy goals. The debate has recently shifted to the role of central banks on financial-stability policy.

-For instance, this issue has been recently covered by Carrillo et al. (2016), by looking at whether the monetary policy rule of the central bank should be expanded to introduce financial stability considerations, or whether there should be instead a separate financial policy rule. The authors' findings favour separate but well-coordinated monetary and financial policies. Moreover, the dual regime is significantly superior in terms of welfare gains.

-Several other papers address the issue of whether central banks should react to financial stability conditions, or whether a separate financial authority at the national level is preferred. And the conclusions in the literature are rather different. Some studies conclude that monetary policy authorities should react to financial stability issues when macroprudential policies fail as an instrument of last resort, while still keeping the authorities separated.

-Smets (2014) suggests to allow the central bank to "lean against the wind" in case of financial stability troubles only if necessary, while maintaining its primary focus on price stability in the medium term. Smets (2014) also stresses the possible risks of having macroprudential actions delivered by a central bank. First, there is a risk that the reputation of the central bank is damaged, which may affect its overall independence and credibility. Second, it may give rise to time inconsistency problems and may lead to so-called "financial dominance".

-Svensson (2015) and Yellen (2014) instead, are in favour of having fully separated different authorities for the two objectives: one authority addressing financial and macroprudential issues, and a central bank focusing on price stability. Especially Svensson (2015) points out that macroprudential policy cannot achieve price stability and that monetary policy, on its side, is not able to guarantee financial stability nor to ensure that there are sufficient capital and liquidity buffers in the financial system. The author also stresses that the two policies indeed interact and only indirectly, for instance, monetary policy may influence financial stability via effects on lending and credit; or macroprudential policy can have an impact on inflation.

-Rubio and Carrasco-Gallego (2015) conclude that welfare gains are maximized when the central bank aims at stabilizing inflation, responding only to prices and output, and the macroprudential regulator cares about financial stability.

-Quint and Rabanal (2014), also study the optimal mix of monetary and macroprudential policies in an estimated two-country model of the euro area, representing core and periphery. They conclude that extending a monetary policy rule to react to credit aggregates improves welfare with respect to a standard one, in which it only responds to output and inflation with borrowers being worse off under some conditions. Introducing a macroprudential instrument, further increases welfare but still with a trade-off between borrowers and savers.

3. A CASE STUDY: SPAIN

For the purpose of this analysis, **Spain can serve as a case study from which to extract policy lessons**. On the one hand, Spain is a pilot case for the implementation of macroprudential policy in advanced economies, since it implemented dynamic provisioning well before the crisis.[7] On the other hand, Spain was an economy based on the construction sector, which suffered a strong boom and bust of its housing market. Furthermore, Spain is a country with features that make it vulnerable to financial stability risks, such as a large proportion of variable-rate mortgages and high LTVs. Finally, Spain is an example of the passivity and lack of coordination that may appear if macroprudential policies are not sufficiently enforced.

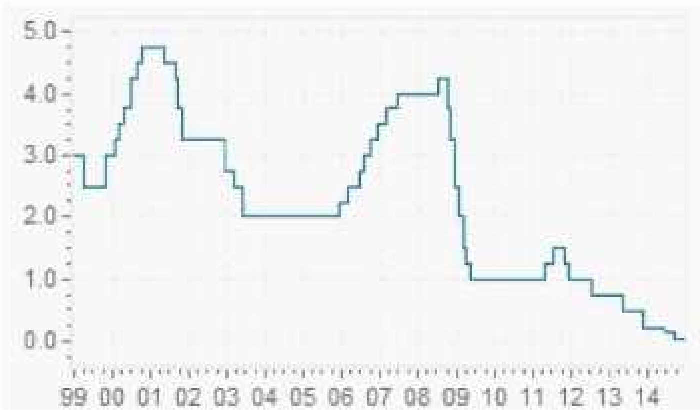
3.1 The housing bubble in Spain

The recent crisis in Spain had its centre in the housing sector. Easier borrowing conditions together with speculative housing demand gave rise to a housing bubble that burst, bringing a strong recession. Spain accession to the euro area delivered unprecedented low interest rates, in part due to the good performance of its euro partners. This, together with a strong housing demand, brought a house price and credit boom in Spain that was the seed of the crisis (See Akin et al., 2014).

The economies of different countries have been affected with different degrees of intensity according to their exposure to some of the main drivers of the financial crisis. **The excessive dependence on the real estate industry, jointly with a softening of the credit standards and variable-rate mortgages caused that the economic and financial crisis hit Spain more severely than other developed economies.**

The introduction of the euro eliminated intra-Euro Area currency risk and also led to a **convergence of Spanish interest rates to the lower interest rates in the Euro zone**. Before the launch of the Euro, Spanish nominal interest rates were markedly higher than the rest of Europe. The common currency led to a convergence of Spanish nominal rates to euro area rates:

Figure 3: Interest rates in Spain



Source: Bank of Spain

Furthermore, improvements in productivity in the big countries of the Euro area contributed to a lower interest rate. However, even though Spain's productivity was not improving, it benefitted from the lower interest rates stemming from a single monetary policy.

[7] The Bank of Spain put dynamic—or statistical—provisions into place in July 2000, to cope with a sharp increase in credit risk on Spanish banks' balance sheets following a period of significant credit growth. Nevertheless, this policy has been discontinued.

Akin et al (2011) estimate that these factors all fuelled a sharp rise in Spanish investment and house prices, and increased the fragility of the balance sheets of Spanish households and non-financial firms. Fernandez-Villaverde et al. (2013) also find that interest rate convergence mattered for Spain, but asset bubbles and the loosening of credit constraints for households and firms had a more pronounced role.

As a consequence, real house prices (relative to the GDP deflator) rose by 80% between 2001 and 2008. Thus, clearly a housing bubble developed in Spain, before the crisis. Nevertheless, once the bust commenced, the crisis hit Spain more severely than it did hit other developed economies because of Spain's excessive dependence on the real estate industry.

In conclusion, **the Spanish experience teaches us that low interest rates, loose credit standards, strong financial accelerator effects, and high dependence on the real estate sector make a country more prone to financial stability risks**.

3.2 Dynamic provisioning

Some macroprudential measures were taken by the Bank of Spain before the crisis in order to palliate this credit boom, **namely the so-called dynamic provisioning**. The Bank of Spain, a pioneer in macroprudential regulation, imposed a regulatory framework requiring higher provisions to offer a buffer to Spanish banks (Royo, 2013).

During the initial stages of the crisis, the Spanish financial system performed positively because of this provisioning (Fernández de Lis and García-Herrero, 2012). The provisions that the Bank of Spain had forced banks to make, starting in 2000, created a buffer in the form of a reserve, deducted from capital in good times and released in times of downturn, an anticipation of the Basel III countercyclical capital buffer. Furthermore, the Bank of Spain forced Spanish banks to stay away from toxic assets. Initially, Spanish financial institutions were resilient to the crisis and this led to the misbelief that that was the case because they had sufficient capital, due to dynamic provisioning. However, this apparent success was short-lived. **As the crisis intensified, Spain's banking sector could not escape its dramatic effects**. It is important to disentangle the reasons behind this fact, in order to reach some conclusions for future design of macroprudential policies.

Albeit its positive effects on strengthening the solvency of banks, **dynamic provision has proven to have had only a small impact on credit growth**. While in general, macroprudential measures seem to be effective as preventive tools, in this case, it did not seem to be enough to avoid the crisis. The dynamic provisioning is a prudential tool to address the credit risk that builds up during credit boom periods, helping smooth loan-loss provisioning over the economic cycle and enhancing financial stability. Dynamic provisioning requirements in Spain were formula-based (Saurina, 2009).[8] Saurina (2009) argues that there was no guarantee, given the depth of the Spanish crisis at that time, that the amounts provisioned would be enough to cover the loan losses that banks were facing. Nevertheless, Saurina (2011) considers that dynamic provisions contributed to the stability of the Spanish financial system and allowed Spanish banks to deal with the crisis from a much better starting point. Similarly, Jiménez et al. (2012) find that countercyclical dynamic provisioning smoothed the cycle in the supply of credit and, in bad times, upheld firm financing and performance.

A second aspect that has to be noticed is that the Spanish financial system was formed by both large bank and smaller saving banks ("cajas"). While the former performed relatively well in the first stages

[8] Total loan loss provisions for each quarter are the sum of: (1) Specific provisions based on the amount of non-performing loans at each point in time; (2) a general provision which is proportionate to the increase in the loan portfolio; and finally (3) a general countercyclical provision element based on the comparison of the average amount of specific provisions along the last lending cycle (for the whole banking sector) with the current amount of specific provisions (for each individual bank)

of the crisis, the latter suffered from a traditional financial crisis. This fact exposed the **weaknesses in the policy and regulatory frameworks**. While large banks were heavily supervised, the same did not apply to the smaller "cajas". In a way, banks and "cajas" were not subject to the same level of scrutiny because of political interference. These saving banks were private institutions but effectively controlled by regional and municipal governments though supervised by the Bank of Spain. Thus, as Otero-Iglesias et al. (2016) argue, the "cajas" were in the orbit of local and regional governments, and therefore de facto the Bank of Spain had limited supervisory powers over them. Most of the "cajas" engaged in malpractice and failed to provision adequately for losses.[9]

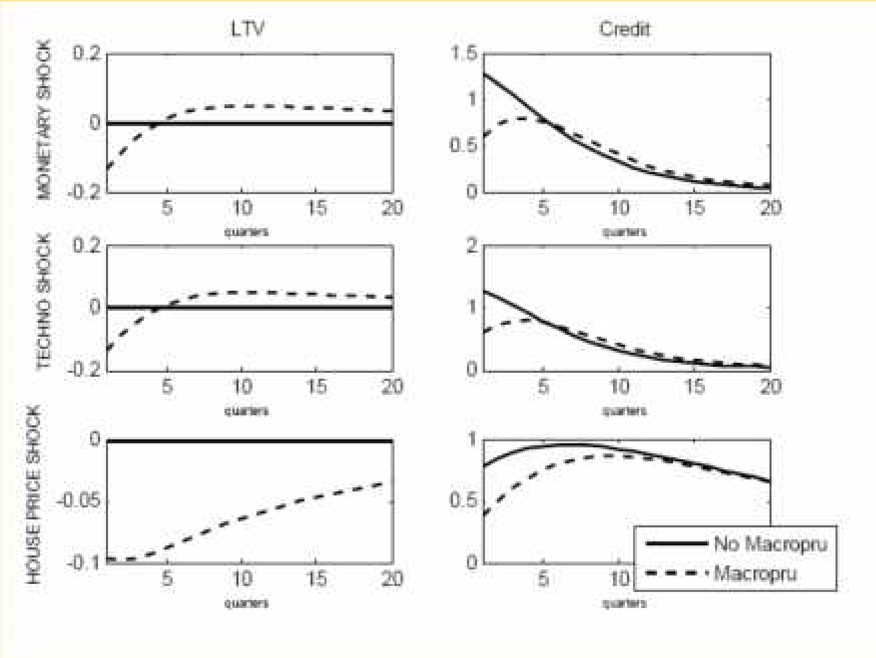
The crisis in the financial sector was intensified by the collapse of the real-estate sector, which constituted 60% of banking loans: by the end of 2011, land prices, adjusted for inflation, had fallen around 30% from their 2007 peak, and home prices were down by up to 22% (See Otero-Iglesias et al., 2016).

Therefore, even though they contributed to mitigate the credit boom, dynamic provisions, on their own, did not suffice to cope with all the credit losses of the downturn. **This macroprudential tool should have been accompanied probably by other countercyclical tools, especially for the Spanish housing sector**. For instance, despite the provisioning, LTVs were still very high, contributing to increasing bank risk. **Using the LTV as a countercyclical tool to avoid excessive growth could have been an alternative or a complement to dynamic provisioning** (See Rubio and Carrasco-Gallego (2017).

Box 5: Main results in Rubio and Carrasco-Gallego (2017)

Rubio and Carrasco-Gallego (2017) study the optimality of the LTV policy to soften credit cycles by proposing a countercyclical rule for the LTV that responds to house prices. They calibrate a DSGE model for Spain and find that this kind of macroprudential rule that specifically targets housing markets would have had a positive effect on the Spanish economy, by mitigating the effects of different shocks on credit and housing markets.

Figure 4: Impulse responses to a monetary, technology and house price shock



Source: Rubio and Carrasco-Gallego (2017)

[9] The nature of the savings banks has been radically altered. A main reform took place in November 2010 introducing new organisational models and affecting the governance of the institutions. The reform also changed the composition of the board of directors, reducing the weight of public authorities (See Martin-Aceña, 2013)

As Jimenez et al. (2013) argue, dynamic provisions are a special kind of general loan loss provisions, which are very similar from a prudential point of view to bank capital. Therefore, the buffer that dynamic provisions accumulate in the expansion phase can be assimilated to a capital buffer. Thus, from the Spanish experience we learn that **countercyclical capital buffers, as proxied by the dynamic provisioning, help taming the financial cycle but that they may be not enough to prevent a crisis**, especially when it comes from the housing sector. In this case, a more aggressive policy or the complementary help of other tools targeting specifically the housing sector such as LTVs may be needed. We also learn that, **when some sectors in the banking system are not regulated under the same framework, there can be leakages that can undo the beneficial effects from macroprudential policy**. In the Spanish case, the "cajas" sector was in such a situation. More generally, such conclucion can apply to the shadow banking sector or branches of foreign banks operating in the country. The latter one calls for the need of reciprocity in the implementation of policies.

3.3 The current state of play

The ESRB recommended in 2011 the creation of national macroprudential authorities to implement macroprudential policies in each EU country. To date, most EU members have already established their national macroprudential competent supervisory authorities. **Spain, however has still not formally appointed its macroprudential supervisory authority and it has not implemented any macroprudential policy targeting the real estate sector yet**.[10] However, in case of need, the Bank of Spain is the designated authority in charge of activating CRD IV/CRR macroprudential instruments.

Given the national nature of macroprudential policies, lack of action in macroprudential measures by one Member State could be taken as a sign that there is no need to activate them at the moment. However, there could be other reasons behind this decision.

This lack of action could be interpreted as the so-called "inaction bias". That is, authorities may be too slow to activate macroprudential instruments because the costs of activating a policy are short-term and visible, while the benefits are long-term and invisible.
Furthermore, if other European countries are already implementing macroprudential measures, there are going to be benefits for the global financial stability even though one single country is not contributing to it. **The Spanish economy could be free-riding a more stable financial system at a negligible cost** (See Rubio and Carrasco-Gallego, 2016).

Box 6: Results from Rubio and Carrasco-Gallego (2016)

Rubio and Carrasco-Gallego (2016), explore the implementation of macroprudential policies in the euro area. Considering that those policies are decided at a national level, they are interested in knowing the consequences of the lack of coordination among different countries.

They analyze the effects on welfare and financial stability of the fact that one of the countries is not implementing the macroprudential policy (no coordination). Then, they see what happens to the economy when all countries are implementing the policy (coordination).

For this purpose, they build a two-country DSGE model, with housing, and collateral constraints in order to explore the optimal implementation of macroprudential policies in the euro area. Monetary policy is operated by the ECB at a centralized level, while macroprudential policies, using the LTV as an instrument, are implemented at a national level, as the ESRB recommends.

[10] According to ESRB (2017), Italy, Romania and Spain still lack an official macroprudential authority in force for the whole financial system but the legislative process is ongoing. In the case of Italy, the law is in force since September 2016 but the implementing decrees still need to be approved.

In particular, they analyse the lack of coordination in macroprudential policies in the Euro area, taking the case of Spain as a natural experiment. Spain has not started to implement macroprudential policies. Therefore, in their model, they calibrate one of the countries to represent the Spanish economy while the other one is the rest of the Euro area.

They find that when Spain does not apply such policies, it still marginally benefits from a more stable financial system without incurring in an output cost. Nevertheless, gains increase when activating the policy.

The policy implication of these results are clear: **in order to maximize welfare in the whole monetary union and increase financial stability in all areas, macroprudential policy coordination should be promoted.**

On the other hand, **in countries with a history of great dependence on the construction sector, macroprudential policies are not popular**. Housing markets have fuelled Spanish demand and labour markets in the past and could be an easy way out from the crisis in the present. Short-sighted governments could see a new housing boom as an opportunity to expand the economy. In fact, housing markets seem to be recovering and house prices are picking up again. In 2015, the Spanish economy consolidated and the recovery begun in mid-2013. The volume of new loans to households for home acquisition has continued to grow in 2016. Housing building and employment in the construction sector are evolving positively and this is reflected in a recovery in demand and rising house prices.

Figure 5: Housing Prices in Spain (% change YoY)

Source: Ministerio de Fomento and Instituto Nacional de Estadistica (Spain)

In light of the data, it is dubious that the Spanish economy is not in need of the implementation of macroprudential policies. The construction sector has still a strong weight in the Spanish economy. Improved price expectations will give a new boost to demand and this improvement should gradually be transmitted to pricing in the sector. **If macroprudential policies are not implemented, this could be the beginning of a new housing boom in Spain**.

From the Spanish experience we learn that **there might be incentives by authorities not to implement macroprudential measures.** On the one hand, countries may be tempted to free ride other members' policies because they can benefit from a more stable financial system at a low cost. On the other hand, such policies are not popular and governments may have incentives to promote housing booms. This situation may be worse if some banking regulations are influenced by national or regional governments. **The ESRB should monitor very closely those countries that are passive in the use of macroprudential policies and ensure that this lack of action is well founded by credit conditions.** In these well-justified cases, in which financial stability is in danger, as well as in cases in which lack of reciprocity or coordination can also endanger global financial stability, it would be a good idea that the powers of the ESRB would be strengthened to enforce the necessary measures.

3.4 The Bank of Spain

The Bank of Spain has been a crucial player before, during and after the crisis. Before the crisis, the Bank of Spain put in place some macroprudential measures, the so-called dynamic provisioning. Although this was a positive point on its side, **the crisis exposed the role of the Bank of Spain, which was initially perceived very positively**. The Bank failed at properly supervising and regulating the "cajas", the smaller saving banks. Supervision would have been as important as regulation. Because the "cajas" were controlled by powerful local political elites, a particularly strong supervisory role was required, however the Bank of Spain failed on that.[11]
During the crisis, the Bank of Spain proved to be too passive. It delayed action and made the crisis costlier. It would have been crucial for the recovery of the Spanish economy that the Bank took action. In its failure to do so, its credibility and reputation were severely harmed.

In the current phase, the action of the Bank of Spain is not exempt from criticism. It has not taken action to implement any macroprudential policy. According to ESRB (2017), as of end December 2016, there is not any development of the legislative process for the establishment of an institutional macroprudential framework in Spain. Although Spain has tightened the O-SII buffer in 2016, it has not activated any other buffer or measures related to real estate lending, even though data show a significant increase in house prices recently.

From the Spanish experience, we learn that central banks may fail at being good macroprudential regulators or supervisors. Although they have the expertise to do so and their independence is protected by the Treaty for monetary policy, they may be influenced by the government on supervisory matters.[12] **An independent macroprudential authority, brand new and building up a new reputation may be a better option in the pursuit of financial stability. However the conditions and criteria to safeguard such an independence would have to be carefully thought through.**

[11] Linde, the current governor of the Bank of Spain, admitted before Congress in July 2012, a month after he took office, that the Bank of Spain "acted with little decisiveness and insufficiently and inadequately; our supervision was not successful." (El Pais, 10 February, 2017)
[12] According to Garicano (2012), in Spain, the supervisor was not able and willing to stand up to politicians. Tackling corporate governance issues in semi-public entities is delicate, as it involves challenging regional power centres, political parties and unions. However, the supervisor must have the courage to be as intrusive as necessary to ensure the necessary professionalism and knowledge in these institutions.

4. MAIN POLICY MESSAGES

- **In a monetary union, the call for macroprudential policies to correct both macroeconomic and financial imbalances is very strong because monetary policy is constrained**.
    - Macroprudential policy could act as a complement to monetary policy, together with other stabilization policies.
- **In a low interest-rate environment, the call for macroprudential policies is even stronger**
    - The zero lower bound poses an extra constraint to monetary policy, which reinforces the argument for the use of macroprudential policies as a complementary policy.
    - Low interest rates increase the risks of financial instability, as seen by the Spanish experience.
- **Cross-country housing and credit market heterogeneity in the euro area brings additional challenges to the implementation of macroprudential policies**
    - National macroprudential policies and freedom in the selection of macroprudential tools are advisable.
    - Countries in which financial frictions are important or have fixed-rate mortgages should make more emphasis on the use of macroprudential policies.
    - Countries in which the construction sector is important, like Spain, need more intensity in their policies and additional tools that are more focused on housing markets.
- **Actions should be closely monitored by an entity whose goal is exclusively to safeguard financial stability.**
    - Coordination and reciprocity should be enforced.
        - If coordination is not enforced, countries may free-ride on other members' macroprudential policies.
    - Countries should regularly report both actions and absence of action, justifying their decisions with respect to their credit phase.
    - The ESRB should monitor very closely those countries that are passive in the use of macroprudential policies and ensure that this lack of action is well justified by credit conditions. In such special cases, if financial stability is in danger, the ESRB should be given the power to enforce measures.
- **The optimal division of labour between the ECB/SSM, the ESRB and the national authorities is a matter of debate.**
    - In light of cross-country heterogeneity, it seems adequate to delegate macroprudential policies to national authorities.
    - It is also sensible to have a supranational authority, such as the ESRB in charge or supervising, enforcing and coordinating policies among members.

- The role of the ECB in macroprudential matters should be clarified.

  - The co-existence of two institutions at European level in charge of macroprudential policy may be seen as redundant. The ECB should be represented in the ESRB (as is the case today). This is to make sure that ESRB decisions take into account the well-functioning of EMU.

  - The ECB's main goal is price stability. In situations in which macroeconomic and credit cycles are not aligned, this may enter in conflict with a financial stability objective.

- **Macroprudential policies *per se* do not guarantee financial stability if they are not strong enough or if they do not target specific problems in the country.**

  - The Spanish experience shows us that dynamic provisioning was not strong enough to avoid the crisis.

  - Dynamic provisioning in Spain should have been accompanied by measures specifically targeting housing markets such as restrictions on LTVs

- **The job of the macroprudential regulator can be "undone" if there is not enough supervision or if there are institutions in the financial sector that are not regulated under the same framework**.

  - In Spain, the smaller saving banks ("cajas") did not fall under the same regulatory framework as large banks

  - The Bank of Spain failed as banking supervisor with respect to "cajas", which engaged in malpractice and failed to provision for losses adequately.

- **When central banks are in charge of macroprudential regulation, there can be internal and external conflicts in the pursuit of financial stability.**

  - The Bank of Spain lost control of "cajas" over regional and local governments.

  - Central banks -while independent from governments for the conduct of monetary policy- may face difficulties to stay immune from political interference on other policies.

    - Macroprudential measures are not popular, especially in countries highly dependent on the construction sector, and governments may persuade central banks not to implement them (inaction bias)

- **It is important to have a macroprudential authority whose reputation and credibility is not dependent on existing institutions**.

  - The crisis exposed the role of the Bank of Spain, which was initially perceived very positively.

    - An independent macroprudential authority, brand new and building up a new reputation may be a better option in the pursuit of financial stability. The conditions and criteria to safeguard such independence would nonetheless have to be carefully thought through.

5. CONCLUSIONS

In the aftermath of the financial crisis, there is consensus among academics and policy makers on the need of the so-called macroprudential policies to ensure financial stability and to avoid systemic risks. However, the implementation of such policies in a monetary union is a rather complex issue. In a currency area, countries are constrained by a single monetary policy, which may call for additional policies such as macroprudential to correct imbalances. Furthermore, given the centralization of monetary policy, cross-country asymmetries open the question of whether macropruential policies should also be centralized or whether national authorities should be in charge of those.

Cross-country housing and credit markets heterogeneity in the euro area call for national macroprudential authorities, which should be free to choose their own instruments. Ideally, national authorities should be independent institutions immune from the influence of national governments. Macroprudential actions should be coordinated and supervised by a supranational authority such as the ESRB, in order to avoid spillovers and free-riding behaviours. The role of the ECB in macroprudential implementation should be a mere complement to the task of the ESRB to make sure that the needs of the euro area in macroprudential matters are not overlooked.

The Spanish experience can serve as an example from which we can extract some lessons, which reinforce the above arguments. The financial crisis was fuelled by Spain high dependence on the construction sector and, although some macroprudential measures were taken, they could not avoid the crisis. The dynamic provisioning, which was implemented in Spain prior to the crisis, should have been complemented by other measures specific to the housing market, a stronger supervision by the Bank of Spain and a more comprehensive regulatory framework for the financial system. After the crisis, Spain has not activated any macroprudential instrument targeting the real estate sector yet whereas such inaction does not seem necessarily justified.

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