

Macroprudential Institutions in the European Union – What are the Blind Spots?¹

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Abstract

After the financial crisis and recession of 2007-2009, macroprudential policy has increasingly become the mainstream. New institutions and regulations were introduced for macroprudential supervision in the Member States as well as at the European Union level. This leads us to the research question: what are the blind spots of this new macroprudential institutional design in the European Union? Based on desk research and talks with experts, we group the blind spots into three categories: shadow banking system, institutional power hierarchies, and monetary and macroprudential policy interactions. In this paper, we discuss these blind spots and some policy recommendations for a functional macroprudential institutional design.

Key words: Macroprudential policy, institutions, great financial crisis, shadow banking

JEL codes: E52, E58, G28

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1. Introduction

After the financial crisis and recession of 2007-2009, new macroprudential institutions were created in the European Union (EU). Increasingly, macroprudential policy has become the mainstream, which can be observed from the frequency of the usage of the term “macroprudential” in central bankers’ speeches as well as the usage of macroprudential measures by the EU Member States. Nonetheless, macroprudential institutions and policies are highly heterogenous across the Member States, whereby at the supranational level the European Central Bank (ECB) and the European Systemic Risk Board (ESRB) have a supranational power-sharing arrangement including their hard and semi-hard powers. This leads us to the research question: what are the blind spots of this new macroprudential institutional design in the EU?

Based on desk research and talks with experts, we group the blind spots into three categories: shadow banking system, institutional power hierarchies and monetary and macroprudential policy interactions. In this paper, we discuss these blind spots and some policy recommendations for a functional macroprudential institutional design.

2. Macroprudential institutions in the EU after the great financial crisis

The European Systemic Risk Board (ESRB)³, founded in December 2010, is the macroprudential supervisory institution in the EU (figure 1). The ESRB’s main role is to detect systemic risks, communicate these risks with the Member States and recommend them macroprudential policy to mitigate these risks. It observes all types of financial institutions, including the traditional banking system and shadow banking system. Recommendations have been published by the ESRB since 2011 (ESRB 2015). The ESRB (2012) published a Recommendation for each Member State’s establishment of a macroprudential authority - an institution or a committee composed of different institutions’ representatives - which would be in charge of macroprudential policy in that Member State. Additionally, each Member State was obliged to designate an au-

³ Members of the ESRB are the ECB, the European Commission, the European Banking Authority (EBA), the European Securities and Markets Authority (ESMA), the European Insurance and Occupational Pensions Authority (EIOPA) and Economic and Financial Committee (EFC), national macroprudential authorities of the EU Member States as well as observers which are representatives of Norway and Iceland. For example, Germany is represented by three authorities, namely the German Bundesbank, Federal Financial Supervisory Authority (BaFin) and German Financial Stability Committee (G-FSC). The Advisory Scientific Committee of ESRB is responsible for doing research and reporting relevant policy actions to the General Board which meets minimum four times a year. The chair of the ESRB is the president of ECB.

thority which is in charge of setting the countercyclical buffer rate for that State (table 1). These countercyclical buffers were created as part of the reformed financial market regulation after the financial crisis 2007/08. Member States decide independently of the ESRB on their macroprudential institutional design. The authorized macroprudential institution or committee then undertakes the responsibility of identifying systemic risks in the financial system and implementing the macroprudential policy (ESRB 2016a). In some European countries only one institution fulfils both roles (ESRB 2017a).⁴

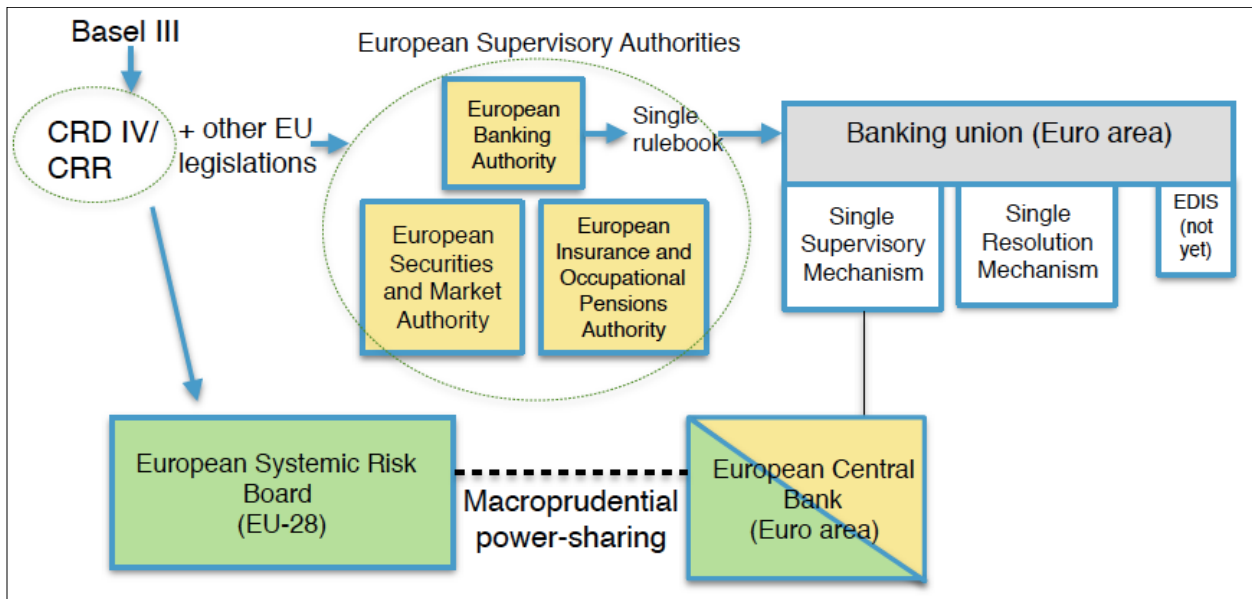
In regards to its powers, the ESRB is not a supranational authority which can enforce macroprudential measures on the Member States by law. It rather works in collaboration with national macroprudential authorities, whereby a two-way interaction exists between them. When the ESRB detects certain systemic risks at the EU level or Member State level, it gives recommendations to Member States and monitors whether these recommendations are fulfilled. The stages of macroprudential policy are identified by the ESRB (2015: 14) as follows: “risk identification and assessment”, “instruments selection and calibration”, “policy implementation” and finally, “policy evaluation”. The ESRB has semi-hard powers on Member States macroprudential policy. It shares its warnings and recommendations with the Member State confidentially or publicly. If the Member State does not take action in accordance with the ESRB warnings and recommendations, it should explain the reasons. In other words, the ESRB powers are based on “comply or explain” principle. If the Member State fails to justify its inaction in response to the ESRB warnings and recommendations, then the ESRB is supposed to inform the Council and the relevant European Supervisory Authority (European Parliament and the Council 2010). On the other hand, when a Member State’s macroprudential authority detects a systemic risk, it informs the ESRB about the its macroprudential policy measures to be implemented.

Macroprudential institutions and supervision is only part of the whole EU financial market supervision. After the great financial crisis, it became clear that different national supervisory authorities in the EU would destabilise the system and lead to regulatory arbitrage, especially in the

⁴ For example, the High Council for Financial Stability in France and the Central Bank of Ireland in Ireland fulfils both functions. In other EU countries two separate institutions exist, for instance in the United Kingdom the Bank of England and Financial Policy Committee, in Germany the Germany Financial Stability Committee (G-FSC) and the BaFin (ESRB 2012; ESRB 2017a).

case of cross-border operating institutions. A network of several institutions and committees play a role in the financial supervision in the EU which is called the European System of Financial Supervision (ESFS), composed of European Supervisory Authorities, the ESRB and national supervisory institutions (figure 1). In the next section, we focus only on the macroprudential dimension of the financial supervision in the EU and discuss the blind spots of its institutional design.

Figure 1: Macroprudential institutions in the European Union



Note: boxes in green represent the institutions with macroprudential mandates, while in yellow represent the ones with microprudential mandates

Source: author's illustration

Table 1: Requested capital requirements⁵ in the EU in percent of risk-weighted assets (from January 2019 on⁶)

For all banks in all Member States	
a) Minimum total capital	8.0%
b) Tier 1 capital as part of minimum total capital of 8%	6.0%
c) Common Equity as part of minimum total capital of 8%	4.5%
d) Capital Conservation Buffer, must be kept in Common Equity	2.5%
e) Minimum holding of Common Equity (c + d)	7.0%
f) Minimum capital holding (a +d)	10.5%
Depending on discretionary decisions of Member States²	
Countercyclical Capital Buffer, must be kept in Common Equity	0 - 2.5%
Systemic Risk Buffer, must be kept in Common Equity	1% or higher
Capital holding for global systemically important institutions	
Surcharge on global systemically important financial institutions, must be kept in Common Equity	1 – 3.5%
Surcharge on other systemically important financial institutions, must be kept in Common Equity	0 – 2%
Source: Basel Committee on Banking Supervision (BCBS) (2011)	

⁵ Some of these capital requirements apply to some investment firms in the EU. Investment firms are included in the broad shadow banking system definition of the ESRB (2018). European Banking Authority (EBA) (2015) puts investment firms under 11 different categories according to their authorized activities defined in the Markets in Financial Instruments Directive (MiFID) II (Parliament and Council Directive 2014). Accordingly, large investment firms with a full range of investment services and investment banking activities (category 11) are subject to minimum capital requirements of 8.0% just like banks. A significant number of these investment firms in the EU are located in the United Kingdom. Investment firms in the other categories of activity are subject to weaker capital requirements relative to the large firms. The large investment firms are also subject to capital buffers including capital conservation buffer and countercyclical capital buffer as well as systemic risk buffer and surcharges on systemically important institutions depending on their systemic importance. Investment firms which are not authorized to deal on own account and/or to underwrite and place financial instruments are exempted from these buffers (EBA 2015). European Commission (2017) proposed to revise the capital requirements for investment firms in a way that the largest investment firms would remain to be treated like banks, but medium and small size investment firms would be subject to more relaxed capital requirements.

⁶ The minimum capital requirements and the surcharge on G-SIIs have a phase-in period of which a full-fledged application started in January 2019. The discretionary buffers - countercyclical capital buffer and systemic risk buffer - and O-SIIs surcharge have different phase-in periods defined by the Member States (ECB 2018a; 2018b).

3. Macroprudential institutions in the EU - blind spots

We group the blind spots of the macroprudential institutional design in the EU in three categories. For each category, we present the debate regarding the blind spots before the empirical dimension of the relevant arguments.

3.1 Shadow banking system

Shadow banking system stands for “those areas of the banking system that fall wholly or partly outside the scope of traditional banking regulation, such as money-market funds or off-balance-sheet investment vehicles.” (Dictionary of Finance and Banking 2018). Similarly, the Financial Stability Board (FSB) (2011: 1) defines shadow banking system as “credit intermediation involving entities and activities outside the regular banking system”. Alternatively, Collier (2017: 2) defines the term as “anything from drug barons sending money by telegram across the globe to mortgage derivatives that contributed to the 2008 American Great Financial Crisis”, in other words, “a catch-all label for non-bank lending”.

The shadow banking system consists of banks acting in the shadow segment of financial markets, institutional investors⁷, brokers, dealers, hedge funds, non-bank mortgage lenders, structured investment vehicles and conduits, etc. The shadow banking system avoids certain regulations whereby a low level of regulation, low transparency and low capital-adequacy requirements prevail. It is also a sector where money laundering and tax evasion take place. Yet, there are frequently discussed benefits of shadow banking system, albeit the shadow banking system is subject to harsh critique.

Benefits of the shadow banking system

In the context of efficient markets the neoclassical approach assumes perfectly informed economic agents which can take into account all the available information for predicting *all* future events and *all* their probabilities in a way that the sum of probabilities ends up to one. This neo-

⁷ Institutional investors in the context of this paper refer to three types of financial intermediaries: investment funds, insurance companies and pension funds (Organisation for Economic Co-operation and Development (OECD) 2017). Institutional investors are not only financial intermediaries but also trade significantly on their own accounts.

classical approach of expectations led to the so called *efficient markets hypothesis*⁸ (Singh 2000: 134). It suggests that market prices of financial products are reflecting all the available information (Lo 2007). Markets lead to Pareto efficient equilibria which do not allow the improvement of the situation of one agent without harming another agent. Therefore, regulations are argued to be distorting Pareto efficiency. Since the financial system is assumed to be creating Pareto efficient results financial crises are the result of random shocks external to the financial system rather than generated by financial market endogeneity (Kregel 2014). Accordingly, first of all, the theory of efficient financial markets argues that such market-based and low regulated institutions as shadow banking system would increase the efficiency of the financial system and the economy as a whole.

Second, shadow banking system is considered to be an additional source of funding, alternative to the traditional banking system, for the financial and non-financial corporations as well as investors (FSB 2019; Greene and Broomfield 2012).

Third, by providing funding to the non-financial corporations via loans and debt securities, it creates diversification of the real economy's sources of finance and thus, it is believed to create a risk-smoothing effect in the euro area (de Guindos 2019).

Fourth, by being an alternative to the traditional banking sector, it contributes to competition in the financial system (FSB 2019), which would facilitate cheaper access to credit for the borrowers, particularly beneficial for small-and medium size enterprises and households. Competition would also contribute to financial system innovations and thereby its development.

Fifth, shadow banking system generates new financial products via securitization, contributing to the risk diversification of financial institutions and enabling them easy financing (European Commission 2015). Covered bonds are, for example, in Germany a simple and safe type of securitising real estate credits.

Finally, shadow banking institutions have short-term liabilities and investing them in relatively risky, high-profit activities by their experience in this type of credit channelling at a large scale.

⁸ Independently developed by Paul Samuelson and Eugene Fama in the 1960s (Lo 2007).

Their investors benefit from these large scale investments, such as the ones of money market funds (Greene and Broomfield 2012).

Despite these benefits, shadow banking system is frequently criticised.

Criticisms to shadow banking system

First of all, shadow banking system has a sheer size relative to the rest of the financial system. Even after the reforms of financial market regulations after the subprime crisis, the risks associated with the shadow banking system remain to be significant. In the aftermath of the great financial crisis, the shadow banking system asset size continues to grow. Globally, in the period of 2011-2016, the average annual growth rate of the asset size of Financial Stability Board's narrow shadow banking measure⁹ was 8.8% and in 2017 the growth rate was 8.5% (FSB 2019). The financial asset size of these institutions reached 13.7% of total financial system assets in the world as of 2017 (FSB 2019).

According to ESRB's (2019a) shadow banking measure composed of bank-like credit intermediation activities of investment funds and other financial institutions, the asset size of the shadow banking system reached €41.9 trillion in the European Union and €33.6 trillion in the euro area in 2018, yet with a slowdown in the annual growth rate in 2018. The asset size of these institutions constituted 40% of the total financial sector assets in the EU in 2018 (ESRB 2019a: 6).

In the euro area, the non-bank financial sector's¹⁰ asset size reached 55% of the total financial sector assets (excluding central banks) and the size of loans obtained by the non-bank financial corporations from the non-bank sector increased to 28% of non-financial corporations' total loans as of 2019, relative to 14% in around 2008-2009 (de Guindos 2019). Additionally, non-bank financial sector¹¹ began to play a significant role in the real economy financing including households, non-financial corporations and government, in the euro area. For instance, this sector's real economy financing via debt securities significantly increased from around 260 billion

⁹ It includes the non-bank financial institutions doing credit intermediation activities and thus, engaging in bank-like maturity and liquidity transformation and pose potential risks to financial stability (FSB 2019).

¹⁰ Institutions such as investment funds, insurance companies and pension funds (de Guindos, 2019).

¹¹ Investment funds, money market funds, financial vehicle corporations, insurance corporations, pension funds and other financial institutions (ECB 2019).

euros on average in the period of 1999-2007 and 2008-2013 to around 460 billion euros in the period of 2014-2017 (ECB 2019: 98).

In the EU, the asset size of the shadow banking sector¹² relative to the rest of the total financial sector assets is estimated to be the largest in Luxembourg, Netherlands and Ireland, whereby their international activities play a more significant role than domestic activities in these countries, which is argued to be a threat for functional macroprudential policies (Fahr and Zachowski 2015).

Second, shadow banking system is strongly interconnected to the traditional banking system, which poses a system risk threat. Banks which are well-capitalized relative to their risk-weighted assets in the “official” banking sector may carry excessive risks in the shadow banking system for example via special purpose vehicles. Good examples of this are JP Morgan Chase, Bank of America and Citigroup before the subprime crisis (Admati and Hellwig 2014).

The shadow banking system has two main relationships with the traditional banking system. One of them is ownership relation, whereby commercial banks own investment funds, hedge funds, special purpose vehicles or other institutions in the shadow banking system. For example, in the euro area, banks hold the majority of shares in investment funds and asset management companies (ECB 2019).¹³

The other relationship is via credit, that is a two-way credit line. On the one hand, for instance, commercial banks may give credits to private equity funds which try to take over a stock company. On the other hand, investment funds and other financial institutions (OFIs) provide funding for traditional banks. In the EU, shadow banking institutions’ funding of traditional banks has become 8% of the total funding obtained by the traditional banks, while traditional banks’ funding of shadow banks was 8% of traditional banks’ total assets in 2018 (ESRB 2019a). Shadow

¹² Here the data includes the assets of euro area financial vehicle corporations, money market funds, non-money market investment funds as well as insurance corporations and pension funds in the first quarter of 2014 (Fahr and Zachowski 2015: 132).

¹³ In the EU, propriety trading of commercial banks existed prior to the subprime crisis and still exists in many EU countries. Despite the European Commission’s (2014) proposal of an EU-wide law restricting systemically important banks’ propriety trading and ownership in hedge funds and private equity funds (European Commission 2014) a directive as such hasn’t yet been enacted in the EU law. Nonetheless, some individual EU countries have enacted laws. For example, the German Bank Separation Act (Trennbankengesetz) from 2013 in Germany requires the separation of banks’ risky activities from their deposit-taking activities with the aim of controlling bank leverage (Budnik and Kleibl 2018).

banking system contributes to leveraging in the financial system in a pro-cyclical way, thus contributing to possible asset price bubbles. In case of a bust phase, its interconnectedness to the traditional banking system will result in the asset price falls of the traditional banking system as well, like in the subprime crisis in the United States (Greene and Broomfield 2012).

According to the macroprudential stress tests for the euro area in 2019, the interlinkages between shadow banking system and the traditional banking system as well as the contagion effects pose a threat for the euro area financial stability (Budnik et al. 2019). Similarly, van der Veer et al. (2017) estimated that leveraged investment funds and illiquid investment funds tend to be subject to a larger size of investment outflows than unleveraged and liquid investment funds, thereby the former investment funds pose a systemic risk to financial stability from a macroprudential perspective.

Third, shadow financial institutions tend to have higher leverage ratios and are more involved in speculative and risky activities than traditional banks. They are part of the overall financial system, but the usual banking system backups such as deposit insurance or lender of last-resort facilities usually do not apply to them. In other words, the shadow banking system carries substantial risks to financial stability, which was evident by the sub-prime crisis in 2007 and its aftermath.

According to ESRB (2019a), due to low interest rates, the exposure of shadow banking institutions to riskier assets has increased, especially in the bond market. Some of the shadow banking institutions shifted their portfolios from higher to lower-rated debt securities, thereby increasing their liquidity risks until 2017. For example, 50% of the euro area investment funds' debt securities' rating is low, remaining at BBB+ and below (ECB 2019: 99). While some of the institutions increased their financial leverage, such as hedge funds, some decreased it in 2018. The low-rated assets of the shadow banking institutions make them vulnerable to the change of investor sentiment as they can stop financing these institutions or sell their existing assets. Shadow banking system, just like the traditional banking system, is subject to bank runs (Admati and Hellwig 2014). Furthermore, shadow banking institutions tend to have excessive maturity and liquidity transformation, relative to the traditional banking system (Leal 2019).

Fourth, it is obvious that more regulation in the “official” financial system stimulates more activities in the shadow financial system (Roubini 2008). The existence of the shadow banking system encourages a regulatory arbitrage of traditional banks by moving their activities away from the regulatory scope of authorities to the weakly regulated shadow banking system, thus increasing the risks to financial stability. A possible shift of banks’ portfolios to less affected assets from the capital requirements, such as government bonds and increasing effect on shadow banking are often debated, for instance in the case of setting the counter cyclical capital buffer (Tente et al. 2015). Another example is the so-called “synthetic leverage”¹⁴ which has no mandatory reporting regulation, whereby it causes “credit growth and maturity and liquidity transformation outside the banking system” (ESRB 2017b: 3).

In fact, some contra arguments to stricter financial system regulations claim that more activities are assumed to shift away from the traditional banking system to shadow financial system if stricter regulations are introduced (Kashyap et al. 2010). Yet, this argument is criticized to be a big fallacy of saying that in order to avoid instability created by weak regulation, even less regulation is needed, since more regulation will shift the activities to less regulated sectors (Admati and Hellwig 2014). Although the shadow banking system is under the macroprudential oversight of the ESRB, the ECB’s hard powers only apply to credit institutions and possibly will apply to large investment firms in the future. Due to the so-called “regulatory arbitrage”, largely excluding the shadow banking system from hard supranational macroprudential powers is a blind spot of macroprudential institutional design in the EU. This causes the shift of risks to less regulated sectors of the financial system or creation of new financial products as a reaction to macroprudential measures.

Last but not least, poor data availability about the shadow banking system due to lack of transparency and cross-border activities of the shadow financial institutions is subject to criticism. Limited access to data of these institutions’ activities weakens their supervision, posing a risk to financial stability at large. ESRB (2019a) writes that there are some untransparent linkages between the traditional banking system and shadow banking system, not detected by the data clear-

¹⁴ This refers to ceating leverage via securities, such as derivatives, rather than direct borrowing.

ly. In fact, statistics is not available for a large share of the shadow banking system in the EU. The so-called “OFI residual” - other financial institutions residual - (mainly captive financial institutions¹⁵), defined as the difference between the statistics shown by the financial accounts of the Member States and the statistics obtained under the ECB supervision is a black box. Although the institutions in the OFI residual may not do credit intermediation, they are closely engaged into credit intermediation network in the financial system (ESRB 2019a). As of 2018, the OFI residual constituted around one fourth of the shadow banking system in the EU, whereby the largest share of these institutions relative to the domestic shadow banking system is in the United Kingdom (UK) (ESRB 2019a: 54). The upcoming Brexit is assumed to cause moving of these shadow banking institutions from the UK to other EU countries (de Guindos 2019). This means that the share of the shadow banking system in the EU financial system is expected to increase due to Brexit.

These multi-dimensional criticisms posed to shadow banking system justify that it can carry a significant systemic risk threat to the overall financial system and the real economy. Thereby, largely excluding the shadow banking system from macroprudential oversight is a blind spot of the macroprudential institutional design in the EU. While the ESRB, a supranational macroprudential institution with semi-hard powers observes all types of financial institutions, including traditional banking system and shadow banking system, it does not have a power to impose measures on the financial institutions by law. On the other hand, ECB’s hard macroprudential powers only apply to credit institutions, namely traditional banking system, but not on the shadow banking system (Kern 2017).

Nonetheless, the European Commission (2017) proposed the treatment of the large investment firms as credit institutions in terms of being subject to regulation. While the European Commission intends to include the large investment firms in the definition of credit institutions in order to expand the regulatory scope of the ECB, it proposed the exemption of smaller investment firms from some capital requirements in the European Directives.

¹⁵ Captive financial institutions and money lenders subsector in the European System of Accounts (ESA) (2010) refers to “all financial corporations and quasi-corporations which are neither engaged in financial intermediation nor in providing financial auxiliary services, and where most of either their assets or their liabilities are not transacted on open markets” (ESRB 2019a: 71).

3.2. Institutional power hierarchies in macroprudential policy

Whether macroprudential policy should be more centralized or national states should be given discretion is a debate. This debate is not only related to the discretion in the use of macroprudential measures and intended objectives, but also about the heterogeneity of macroprudential institutional design across the EU. Furthermore, the strategies of macroprudential institutions in EU Member States vary. For instance, they sometimes use the same macroprudential measure for different macroprudential objectives¹⁶, while in some cases, they use different macroprudential measures for the same macroprudential objective¹⁷. Whether the instrument-objective strategies of the Member States should be more harmonized is open to debate. There are advantages and disadvantages of national discretion in macroprudential policy in the EU.

On the one hand, national discretion in macroprudential policy is positive for financial stability, because national authorities have better insight about the domestic financial system than the supranational authorities. Therefore, they can decide on a more appropriate macroprudential measure for the intended macroprudential objective relative to the decisions of the ESRB or ECB. The first blind spot in this regard is that in terms of institutional power hierarchy of imposing macroprudential measures, the ECB has the right to object to Member States' macroprudential measures and it has the right to tighten them. On the other hand, Member States have the right to object to ECB's tighter measures (Council Regulation 2013: Article 5; Kern 2017). In case of conflict, which party should have the final word remains open (table 2).

¹⁶ For instance, Denmark use debt-service-to-income (DSTI) ratio for controlling the development of asset prices, Croatia uses it for controlling sectoral credit growth, while Poland uses it for controlling currency risk.

¹⁷ For instance, for mitigating currency risk, Czech Republic uses limits on foreign exchange mismatches, while Croatia uses capital adequacy ratio for the same objective (see Budnik and Kleibl 2018)

Table 2 Macroprudential power hierarchies in the EU

Macroprudential power hierarchies in the EU		
	ESRB	ECB
Power type	Semi-hard: Warnings and recommendations subject to “comply or explain” principle	Hard: Direct control over macro-prudential measures
Political level	European Union	Euro area
Macroprudential oversight	All financial institutions	Credit institutions (and possibly large investment firms in the future)
Recommendations / policy addressed to	EU as a whole, Member State, EU Commission, EU supervisory authorities or national supervisory authorities	National competent authority or designated authority
Type of measures	All kinds of macroprudential measures, e.g. measures on real estate sector, systemic buffer rate, etc.	Capital buffers, e.g. countercyclical capital buffer
Member States’ obligation when taking measures	Informing in advance	Informing in advance
Member States’ power to implement measures	National discretion in accordance with EU law	National discretion in accordance with EU law
Supranational authority’s right to object national measures	No	Yes, - Right to object to national capital buffer measures; has to be reasoned - Right to impose tighter capital measures
National authority’s obligation / right about supranational measures	Comply or explain	Reconsider the national decision on capital buffer level
Member States’ failure to explain inaction or refusal to obey ECB measures	ESRB should inform the Council and the European Supervisory Authority concerned	Right to object to ECB’s decision ==> Blind spot: authority of final decision is ambiguous
Source: Council Regulation (2013); European Parliament and the Council (2010)		

A second blind spot of national discretion is that capital-based measures are under the EU law (CRD IV/CRR¹⁸) regarding all EU Member States, whereas the borrower-based measures, such as loan-to value (LTV), loan-to-income (LTI) or debt-to-income (DTI) ratios are under the na-

¹⁸ Capital Requirements Directive / Capital Requirements Regulation

tional authorities' legislative discretion (Angeloni 2014: 76; Ubide 2016). This power division can create conflicts between the supranational and national authorities as national authorities usually tend to lower the standards of borrower based measures with populist tendencies, which would be reacted by tighter capital measures by the ECB. This type of conflict would damage financial stability. Furthermore, some Member States do not have legislations about these borrower-based measures, which is an important obstacle to effectively restrict a credit boom (de Guindos 2019).

The capital requirements directive of the EU from 2006 set the principle of "minimum harmonization". The Commission set the minimum banking regulation standards and the member states had the option to impose stricter regulations. In 2011, the European Commission proposed a new regulation of capital requirements directive based on Basel III and based on "maximum harmonization" principle meaning that key prudential measures, particularly the macroprudential ones, would directly be imposed to Member States at the supranational level without flexibility. In some measures such as countercyclical capital buffer, the Member States would have the option to choose their national capital buffer rates (table 1). This proposal raised many objections from the ECB (calling for "constrained discretion") and from the national central banks. As a result, the new directive CRD IV/CRR from 2013 provided the discretion to Member States to set the macroprudential measures at the national level, but under the supervision of the ESRB. The argument calling for national discretion was the national specificity of the financial markets or domestic risks involved in Member States (McPhilemy 2016).

Despite the benefit of national discretion in terms of better knowing the domestic financial system, heterogenous structure of macroprudential institutions across the EU can weaken the effectiveness of macroprudential policies.

First of all, heterogeneity in macroprudential institutional design - an ad hoc committee, a single body of an institution or a few related institutions (ESRB 2014) - can lead to inaction bias in some Member States (ESRB 2014; Ubide 2016). This institutional heterogeneity is argued to be one of the reasons of regulatory leakages in the EU (Ubide 2016). In some Member States, borrower-based measures which are believed to be the most effective in restricting a credit boom,

are not under the control of central bank or supervisory authority, but under the control of a different institution, which is argued to be a challenge to macroprudential policy (de Guindos, 2019).

Second, the macroprudential institutional heterogeneity in the EU is argued to cause regulatory cross-border spillovers occurring in two ways: outward and inward spillovers (Fahr and Zachowski 2015). Outward spillovers occur when a macroprudential policy measure in one Member State negatively affects the financial stability in another Member State, necessitating a macroprudential measure in that country as well. Inward spillovers occur when macroprudential measures in one Member State do not apply to foreign banks' branches in that Member State. In the EU, branches of foreign banks are subject to the macroprudential measures of their home countries and exempted from the macroprudential measures of the host countries they are located. If the macroprudential policy in the home country is tightened, for instance, for lending, this may cause their lending to increase in the host country. This would then have a circumventing effect on the host country's macroprudential measures for lending. For both outward and inward spillovers, reciprocity measures are argued to be necessary in the EU, particularly in the euro area, due to its financial integration (Constancio et al. 2019; Fahr and Zachowski 2015). Furthermore, it is debated whether cross border loans be subject to macroprudential measures (ESRB 2018).

There are examples of such outward and inward spillovers of macroprudential measures in the EU. For example, Ongena et al. (2012) find that higher minimum capital requirements in the home country of Western European banks lead to lower lending standards of these banks in their host countries which are Central and Eastern European countries. Similarly, Aiyar et al. (2014) find that foreign bank branches in the UK react to higher capital requirements of the UK by increasing their lending relative to the banks subject to UK regulations in the UK.

In terms of inward spillovers of macroprudential policies, the asset size of foreign bank branches relative to the host country GDP is recorded to be the highest in northern European countries including Ireland, United Kingdom, Belgium, Estonia as well as Cyprus, by reaching above 30% in each of these countries. In Sweden and Finland, the ratio is between 20-30% of GDP, while in

many other EU countries, such as Spain, Italy, Latvia, Lithuania, Czech Republic and Slovakia, it is between 10-20% of GDP (Fahr and Zachowski 2015: 130).

Due to such inward spillovers, reciprocity measures, for instance, particularly imposing counter-cyclical capital buffer by home countries on financial institutions operating in host countries - unless they are subject to the host country regulations - is argued to be required (Caruana and Cohen 2014).

3.3. Monetary and macroprudential policy interactions

Theoretical debate

Monetary policy and macroprudential policy can be complementary or they can accommodate each other, but in some cases, their objectives may require conflicting policy actions. There is a large literature about the interactions between monetary and macroprudential policy (see for a literature review, Antipa and Matheron, 2014; International Monetary Fund (IMF) 2012; Smets 2014).

Macroprudential policy can facilitate monetary policy goals via various channels (see for these, Antipa and Matheron 2014). For instance, since macroprudential measures, such as debt-to-income or loan-to-value ratios restrict the indebtedness of economic agents, the default rates would also be limited in case of an interest rate rise by monetary policy. When monetary policy should be expansionary for its own goals, tightening certain macroprudential measures would curtail asset price booms. Furthermore, tight limits on debt-to-income ratios or loan-to-value ratios would prevent large indebtedness of households, avoiding adverse aggregate demand effects for the future.

Yet, the impact of monetary policy on macroprudential policy is rather controversial in the literature. Monetary policy has an impact on financial stability via various channels (see for a literature review, Antipa and Matheron 2014; IMF 2012; Smets 2014). For instance, a restrictive monetary policy stance can increase the frequency of defaults, leading to financial stability concerns. A tighter stance of monetary policy via higher interest rates would also attract foreign

capital inflows, generating foreign exchange indebtedness of the economic agents, endangering financial stability.

On the other hand, an expansionary stance of monetary policy would lead to more borrowing and higher risk-taking of financial institutions in order to make higher profits, calling for tighter macroprudential policy measures. For instance, since business cycles can be shorter than the financial cycles¹⁹, monetary policy acting on smoothing the aggregate demand fluctuations can facilitate risk-taking of financial agents, thus generating excessive leverage in the financial system and building up systemic risk, which would require macroprudential policy to act on the opposite direction of monetary policy (Caruana and Cohen 2014; Antipa and Matheron 2014; Smets 2014). Moreover, low interest rates would lead to asset price increases, further easing the borrowing of economic agents and thereby contributing to more leverage and asset price booms. Accordingly, monetary policy actions with low inflation and aggregate demand goals can contradict financial stability, requiring macroprudential policy actions to act in the opposite direction. The consequence is that the central bank needs additional instruments.

The advantage of a central bank domination in macroprudential policy making is argued to be that when price stability and financial stability require the use of policy instruments in the same direction, meaning complementarity, then one institution, the central bank's policy actions can better achieve this. A conflicting case for monetary policy and macroprudential policy could be more puzzling for policy decisions when the central bank is the dominant institution in macroprudential policy. When the use of policy instruments for price stability and financial stability are conflicting, then a central bank is argued to prioritize monetary policy objectives over macroprudential policy objectives (McPhilemy 2016; ESRB 2014; Rhu 2011; Nier and Kang 2017).

Some of these debates are supported by several empirical studies in the literature (see for empirical literature review, IMF 2012).

¹⁹ A financial cycle is indicated, for example by a composite index of various asset prices and household credits, whereby this index shows a certain trend of rise and fall. The financial cycle for a group of euro area countries is estimated to be on average 13 years, while the business cycle for the same group is estimated to be on average five years (ESRB 2019b)

Empirical examples

Hofmann and Bogdanova (2012) argue that one of the reasons that monetary policy interest rates in advanced economies have remained too low (relative to the interest rates according to Taylor Rule estimation) after the great financial crisis was that monetary policies were accommodative in support of credit expansion unless an inflationary threat occurs. However, this accommodative monetary policy in response to financial cycle, tagged as “financial dominance”, is argued to be dangerous due to that it may allow for a build-up of systemic risk (Hannoun, 2012: 9; Smets 2014). In fact, asymmetric behaviours of the central banks in advanced economies, whereby the bust phases are responded by a quick reduction of interest rates but the boom phases are rather accommodated for a long time, were often observed over the past decades during financial booms and busts (Hofmann and Bogdanova 2012; Hannoun 2012).

In regards to this debate, Svensson (2017) estimates for Sweden that the costs of monetary policy’s “lean against the wind” strategy in the sense of output and unemployment by raising the interest rate as a response to the upward trend of the financial cycle outweigh its benefits in the sense of preventing a big financial crisis. In other words, a biased monetary policy in favour of credit expansion as long as an inflationary threat does not occur is supported. In a similar vein, Kockerols and Kok (2019) show the net benefits of an accommodative monetary policy for the euro area. The conclusion from these analyses is that rather than the use of monetary policy interest rate to act against the financial cycle, macroprudential policy should play an active role to keep the systemic risk under control. The outcome of these estimates is that the monetary policy should rather be asymmetric in the sense of being expansionary, unless inflation expectations get higher or systemic risk is build-up in the financial system.

4. Remedies for the blind spots

First of all, although macroprudential oversight in the EU involves shadow banking system and traditional banking system, largely excluding the shadow banking system from the ECB’s hard powers is a threat for financial stability. In the post-crisis era, steps to regulate securitization, whereby the shadow banking institutions are mostly involved, have been taken. In 2015, the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securit-

ies Commissions (IOSCO) published a *criteria for identifying simple, transparent and comparable securitisations* (BCBS 2015). In regards to this, EU took a regulatory step for improving transparency, while reducing complexity and moral hazard in the financial system. An EU regulation aiming at *simple, transparent and standardised (STS)* securitisation was enacted in December 2017, which is to enter into force in January 2019 (European Parliament and the Council 2017). In fact, this regulation was primarily introduced to boost the weakened European securities market in the aftermath of the global crisis, since securitization is considered as an important channel of credit for banks enabling them to extend new loans to the economic sectors as well as an important method of risk diversification (European Commission 2015).

There are basically two options to control the shadow banking system. The first option is to build a wall between the traditional banking system and the shadow banking system implying no ownership relations and no or almost no credit relations between the sectors. This was the substance of the US Glass-Steagall Act of the early 1930s and is included in a diluted form in the United States' Dodd–Frank Wall Street Reform and Consumer Protection Act. The second option is to control the shadow banking system by prudential measures in almost the same way as the traditional banking system. In the EU none of these options was taken. It is believed that a stronger control of banks and a weak control of banks' interaction with the shadow financial system are sufficient to make the overall financial system stable. We believe this is an illusion.

Second, although Member State authorities may better know the risks of their domestic financial system, too much national discretion or too much institutional heterogeneity across the EU would easily create inaction bias and cross-border leakages of financial activities. To avoid these, more supranational macroprudential powers can be delivered to ECB or ESRB and harmonization of macroprudential institutional design across the EU can be improved.

Third, an accommodative monetary policy in the sense of supporting aggregate demand as long as inflation expectations do not rise or systemic risk is not accumulated is a good strategy. Yet, counter-cyclical elements in financial market regulation are insufficient macroprudential measures. Who believes that a booming economy with a strong credit expansion can be stopped by the introduction of a countercyclical buffer of 2.5% of risk-weighted capital holding – when all

the risk models anyway signal low default rates and an endless boom? Stronger instruments would have been needed to stop credit expansion. Complementarity between monetary policy and macroprudential policy should be carefully managed. This could be achieved perhaps in the best way if the central bank is the dominant institution in macroprudential policy decisions, due to its expertise.

5. Conclusion

After the great financial crisis, macroprudential policy has increasingly become a major part of the policy, especially in advanced economies. In the EU, new macroprudential institutions were created at the national and supranational level, while some of the existing institutions were given macroprudential mandates. Although this increasing attention to systemic risk threat is a positive development, some important blind spots remain in the macroprudential institutional framework in the EU.

First of all, the ECB's hard powers do not apply to shadow banking institutions nor credit institutions' shadow banking activities. The exclusion of shadow banking system from the ECB's supervision may pose a systemic risk threat. Second, European Commission's proposal to exempt smaller investment firms from the European Directives may endanger financial stability. Third, the ECB's right to object to Member States' measures and Member States's right to object to ECB's tighter measures is potentially conflicting. Fourth, capital-based measures are under the EU's legal scope, while borrower-based measures are under the national authorities' discretion. This type of power distribution may cause policy actions with opposing effects on the financial system. Fifth, institutional heterogeneity in the EU may create inaction bias in some Member States. Sixth, potential conflicts between monetary policy and macroprudential policy for the ECB may cause some inaction or instability in the financial system. For a fully functional macroprudential policy in the EU against a build-up of systemic risk, shadow banking system has to be under control, macroprudential policy across the EU should be harmonized more and complementarity between monetary policy and macroprudential policy should be carefully managed.

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