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**Working Paper**

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Working Paper, No. 147/2020

**Provided in Cooperation with:**

Berlin Institute for International Political Economy (IPE), Berlin School of Economics and Law

*Suggested Citation:* Nettekoven, Zeynep Mualla (2020) : Macroprudential institutions in Europe - what are the blind spots?, Working Paper, No. 147/2020, Hochschule für Wirtschaft und Recht Berlin, Institute for International Political Economy (IPE), Berlin

This Version is available at:

<https://hdl.handle.net/10419/223063>

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# Macroprudential institutions in Europe – what are the blind spots?

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Editors:

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# Macroprudential institutions in Europe – what are the blind spots?

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## Abstract

After the Great Financial Crisis of 2007-2008, macroprudential policy has increasingly become the mainstream. New institutions and regulations were introduced for macroprudential supervision in the EU Member States as well as at the supranational level. This leads us to the research question: what are the blind spots of this new macroprudential institutional design in the EU? This question gained even more in substance due to the repercussions of Covid-19 pandemic. 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 system

**JEL codes:** E52, E58, G28

Based on the paper presented at the FMM Conference: The Euro at 20 - Macroeconomic Challenges, 24-26 October 2019, Berlin

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## 1. Introduction

After the Great Financial Crisis of 2007-2008, 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. The Covid-19 pandemic of 2020 caused extreme financial market volatility, a fall in financial asset valuations and systemic stress, shown by the jump in the volatility index (VIX) indicating the volatility in the United States (US) equity market, sharp fall of S&P 500 and the hike of Composite Indicator of Systemic Stress (CISS) for the euro area and the US in the first quarter of the year (ECB 2020). At the beginning of the pandemic, several European countries took macroprudential policy actions to avoid procyclicality. 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, which pose challenges to financial stability?

Based on desk research and talks with experts, we group the blind spots of macroprudential institutional architecture 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 ESRB<sup>1</sup>, 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 macroprudential policy to mitigate these risks. It observes all types of financial institutions, including traditional banking system and shadow banking

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<sup>1</sup> 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), 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.

system. Recommendations have been published by the ESRB since 2011 (ESRB 2015). The ESRB (2012) published a Recommendation for each Member State to establish 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 authority which is in charge of setting the countercyclical buffer rate<sup>2</sup> for that State. The structure of capital holding in the EU's macroprudential policy in the framework of Basel III can be seen in Table 1.

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 2016). In some European countries only one institution fulfils both roles (ESRB 2017a).<sup>3</sup>

With regard to its powers, the ESRB has semi-hard powers, meaning it can give recommendations to Member States for macroprudential policy, but cannot enforce macroprudential measures by law. 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. If the Member State does not implement the recommended measure by the ESRB, it should explain the reasons. This implies that the ESRB has only semi-hard powers regarding the Member States' macroprudential policy. 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". On the other hand, when a Member State's macroprudential authority detects a systemic risk, it is obliged to inform the ESRB about the required macroprudential policy measures.

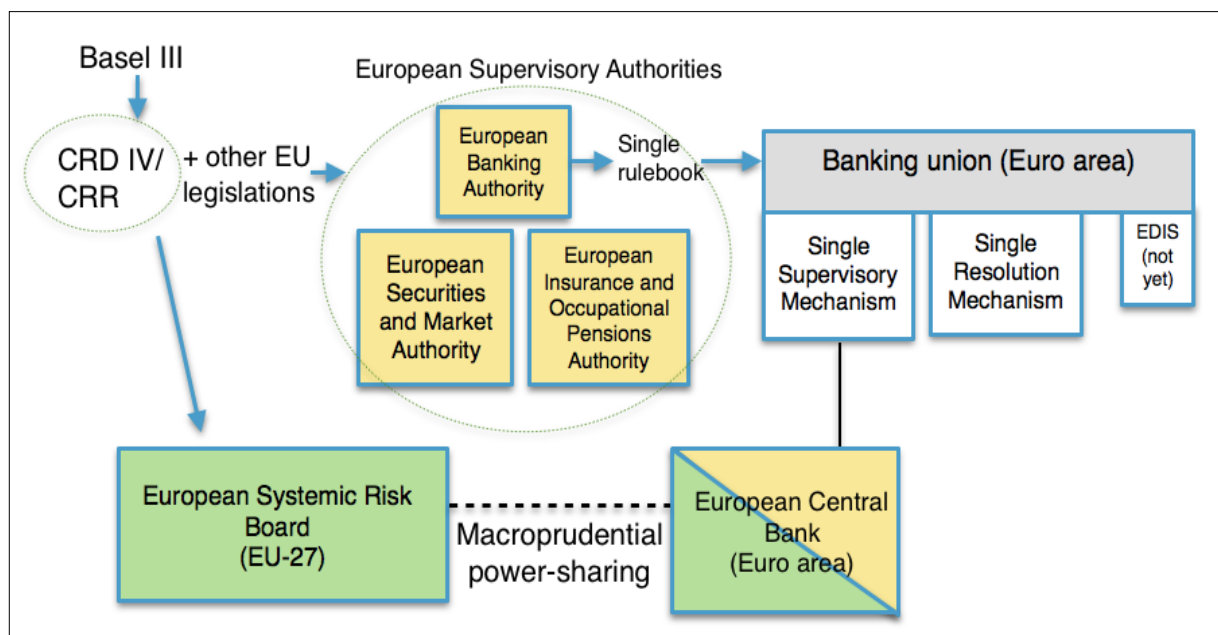
On the other, the ECB has hard macroprudential powers, meaning that it can impose tighter macroprudential measures on the euro area Member States by law. Yet, this supranational hard power of the ECB only applies to banks and not on the shadow banking system (see Council Regulation (EU) No 1024/2013).

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<sup>2</sup> This is a buffer capital requirement aimed at smoothing the financial cycle. Each EU Member State sets the buffer according to national conditions. The buffer has to be held in Common Equity. It can have a value between 0 – 2.5% percent of risk-weighted assets (table 1).

<sup>3</sup> For example, the High Council for Financial Stability in France and the Central Bank of Ireland in Ireland fulfills 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).

Macroprudential institutions and supervision is only part of the overall EU financial market supervision. After the Great Financial Crisis, it became clear that different national supervisory authorities in the EU would destabilize the system and lead to regulatory arbitrage, especially in the 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, composed of European Supervisory Authorities, the ESRB and national supervisory institutions (figure 1).



**Figure 1: Financial supervision in the European Union**

Note: CRD IV is the Capital Requirement Directive IV of the EU law (European Parliament and the Council Directive 2013/36/EU) and CRR is the Capital Requirements Regulation of the EU (European Parliament and the Council Regulation (EU) No 575/2013). The ECB is the European banking supervisor, thus it collaborates with the European Supervisory Authorities. The European Banking Authority (EBA) has the task of writing down the Single Rulebook (banking regulation) with contributions from the European Securities and Market Authority (ESMA). The ESMA is in charge of assessment of risks to financial market investors and direct supervision of credit rating agencies and trade repositories. The European Insurance and Occupational Pensions Authority (EIOPA)'s tasks are maintaining the stability of the EU insurance and pensions market by ensuring transparency, consumer protection, risk assessments and monitoring the developments in this area. The Single Rulebook applies to the Banking Union in the euro area, which is composed of two main pillars and a pillar yet to be established. The first pillar is the Single Supervisory Mechanism (SSM) which is composed of the ECB and national supervisory authorities. ECB directly supervises the banks across EU by monitoring the implementation of the Single Rulebook. The second pillar is the Single Resolution Mechanism (SRM) which deals with failing banks' resolution process. The final pillar which is yet to be established is European deposit insurance scheme (EDIS) which aims at providing deposit insurances to the euro area banks' customers. In the diagram, green color represents macroprudential mandates, while the yellow color represents microprudential mandates.

Source: author's illustration based on various EU documents

**Table 1: Requested capital requirements for banks and big investment firms<sup>4</sup> in the EU in percent of risk-weighted assets (from January 2019 on<sup>5</sup>)**

<b>For all banks in all Member States</b>	
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%
<b>Depending on discretionary decisions of Member States<sup>2</sup></b>	
Countercyclical Capital Buffer, must be kept in Common Equity	0 - 2.5%
Systemic Risk Buffer, must be kept in Common Equity	1% or higher
<b>Capital holding for global systemically important institutions</b>	
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)	

<sup>4</sup> 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). The EBA (2015) puts investment firms under 11 different categories according to their authorized activities defined in the Markets in Financial Instruments Directive (MiFID) II. 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. 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). The 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.

<sup>5</sup> 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).



At the beginning of the Covid-19 pandemic, several European countries took rapid steps in the field of macroprudential policy to alleviate the impact of the pandemic on the financial system, firms and households (see for these ESRB 2020). For example, Belgium, Germany, Denmark, France and Sweden reduced their countercyclical capital buffer to 0%. Netherlands reduced its systemic risk buffer, while Finland abolished this measure and Ireland postponed its introduction. Netherlands and Finland also decreased their other systemically important institutions buffer. Italy and Spain, two of the most severely hit countries in Europe by the pandemic, took several macroprudential and microprudential policy actions. Italy, for instance, aimed at easing the liquidity shortage by allowing banks to operate below the Pillar 2 Guidance, capital conservation buffer as well as liquidity coverage ratio.<sup>6</sup> Spain mainly took microprudential policy actions.

Nonetheless, several blind spots in the macroprudential institutional design in Europe pose risks to financial stability. 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.

### **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: para. 1). Similarly, the Financial Stability Board (FSB) (2011: 1) defines shadow banking system as “credit interme-

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<sup>6</sup> Pillar 2 Guidance of the EU is a capital buffer recommendation and expectation of the ECB for banks based on EU-wide stress test results, yet banks have the discretion to implement it (ESRB 2017b). Basel III defines the capital conservation buffer ratio as common equity Tier 1 capital in percent of risk-weighted assets and sets it at 2.5% on top of the minimum common equity Tier 1 capital of 4.5% (see table 1). The aim is to control credit growth and leverage of the financial institutions. Liquidity coverage ratio is a liquidity-based measure introduced by Basel III and adopted by the EU banking regulation. It is defined as the ratio of the value of a stock of high quality liquid assets to total net cash outflows over the next 30 calendar days, which is required to be at least 100% and intended to prevent a short-term liquidity stress in the financial system by ensuring that banks keep high-quality liquid assets against their due payments (BCBS 2013).

diation 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 investors<sup>7</sup>, 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 it is subject to harsh critique.

### ***Benefits of the shadow banking system***

First of all, the “efficient market hypothesis” of the economist Eugene Fama in the 1970s suggest that efficiency is where the stock market prices would reflect all the available information to market participants. The followers of this approach consider market participants who interpret the available information in the same way as rational. For this reason speculation against the market is in the end not successful. Accordingly, a deregulated financial system with transparent data about risks and sound accounting standards would generate equilibrium prices reflecting all these available information. Shadow banking system, being a rather deregulated segment of the financial system is then supported due to this “efficiency”.

Second, shadow banking system is considered to be an additional source of funding, alternative to the traditional banking system, for financial and non-financial corporations as well as investors (FSB 2020; Greene and Broomfield 2012).

Third, by providing funding to the non-financial corporations via direct 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).

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<sup>7</sup> Institutional investors in the context of this paper refer to three types of financial intermediaries: investment funds, insurance companies and pension funds (see OECD 2017). Institutional investors are not only financial intermediaries but also trade significantly on their own accounts.

Fourth, by being an alternative to the traditional banking system, it contributes to competition in the financial system (FSB 2020), which would facilitate cheaper access to credit for 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 facilitating financing for these institutions (European Commission 2015). Covered bonds are, for example, in Germany a simple and safe type of securitizing real estate loans.

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

### ***Criticisms to shadow banking system***

First of all, shadow banking system has a significant size relative to the rest of the financial system. Even after the reforms of financial market regulations after the Great Financial Crisis, the risks associated with the shadow banking system remain significant. In the aftermath of the crisis, the shadow banking system's asset size continues to grow. Globally, in the period of 2012-2017, the average annual growth rate of the asset size of the FSB's narrow shadow banking measure<sup>8</sup> was 8.5%, yet the growth rate was only 1.7% in 2018, making the financial asset size of 50.9 trillion US dollars and 13.6% of total financial system assets in the world (FSB 2020: 35).

According to ESRB's (2019) 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 EU 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 2019: 6).

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<sup>8</sup> 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 2020).

In the euro area, the non-bank financial sector's<sup>9</sup> asset size reached 55% of the total financial sector assets (excluding central banks). Non-bank financial sector<sup>10</sup> began to play a significant role in the real economy financing including households, non-financial corporations and government, in the euro area. The size of loans extended by the non-bank financial sector to non-financial corporations doubled in ten years, increasing to 28% of non-financial corporations' total loans (de Guindos 2019: para. 19). Non-bank financial sector's real economy financing via debt securities significantly increased from around 260 billion 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 sector<sup>11</sup> 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). All in all, relatively low regulation of the shadow banking system despite its big and increasing economic importance is controversial.

Second, shadow banking system is strongly interconnected to the traditional banking system, which poses a systemic risk threat. Banks which are well-capitalized relative to their risk-weighted assets in the traditional 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 interconnectedness, which underlies contagion risk, arises via three main channels: Ownership relation between the banks and shadow banks, credit relation between banks and shadow banks, and similarity of portfolios. These channels are explained briefly below.

The shadow banking system is first of all linked to the banks via ownership relation. In the euro area, for instance, biggest asset management companies and financial conglomerates are mainly owned by banks or insurance companies (ECB 2020).<sup>12</sup>

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<sup>9</sup> Institutions such as investment funds, insurance companies and pension funds (de Guindos, 2019).

<sup>10</sup> Investment funds, money market funds, financial vehicle corporations, insurance corporations, pension funds and other financial institutions (ECB 2019: 98).

<sup>11</sup> 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).

<sup>12</sup> 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' proprietary trading and ownership in hedge funds and private equity funds (European Commission 2014) a directive as such hasn't yet

The other channel is the credit channel, that is a two-way credit relationship. On the one hand, banks may give loans to, for instance, private equity funds which try to take over stock companies. In the EU, banks' funding of shadow banks was 8% of banks' total assets in 2018 (ESRB 2019: 11). On the other hand, shadow banks provide funding for banks. In the EU, shadow banking institutions' funding of banks has become 8% of the total funding obtained by banks. In the euro area, 24% of debt issued by euro area banks were held by investment funds, money market funds and other financial institutions as of the fourth quarter of 2019 (ECB 2020: 79).

Last but not least, banks and shadow banks hold similar portfolios, meaning that they have exposures to similar types of assets. In the euro area, for instance, banks and bond funds<sup>13</sup> are shown to have a considerable similarity in their portfolios (ECB 2020). This raises the risk that if large shadow banking institutions have fire sales, such as in the case of Lehman Brothers, this would immediately affect the asset valuations in the portfolios of the banking sector. The shadow 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).

The Covid-19 pandemic led to a sharp loss in asset values of some shadow banking institutions in the euro area. The pandemic's full effect on the financial system is yet to be seen, but on the outset, it particularly affected the investment funds sector in the first quarter of the year as these funds hold risky assets of the non-financial sector, leading to their liquidity needs, sale of assets and thus sharp fall in the asset values by 11% (ECB 2020: 76).

Before the pandemic, macroprudential stress tests for the euro area in 2019 had already stated that the interlinkages between the shadow banking system and the traditional banking system pose a threat for the euro area financial stability (Budnik et al. 2019).

Third, shadow banking institutions tend to have excessive maturity and liquidity transformation, relative to the traditional banking system (Leal 2019). They 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

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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).

<sup>13</sup> Bond funds are a category of investment funds, which mainly invest in debt securities, rather than in shares.

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 Great Financial Crisis and its aftermath.

According to ESRB (2019), 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 and credit 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 non-performing loans and change of investor sentiment.

Fourth, it is obvious that more regulation in the traditional banking system stimulates more activities in the shadow banking 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. 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" which has no mandatory reporting regulation. Synthetic leverage and securities financing transactions (SFTs) together cause "credit growth and maturity and liquidity transformation outside the banking system" (ESRB 2017c: 3).<sup>14</sup>

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 banking 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 large investment firms are subject to capital requirement just like banks, other investment firms are subject to weaker regulations and the ECB's hard macroprudential powers do not apply to shadow banking institutions. Partly excluding the

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<sup>14</sup> Synthetic leverage means a company's leveraging by utilizing off-balance sheet assets, such as derivatives. Securities financing transactions is a term used for borrowing and lending activities by exchanging securities, whereby a security is transferred to the lender for a period of time to borrow money by the security owner, such as repo transactions.

shadow banking system from macroprudential oversight is a blind spot of macroprudential institutional design in the EU, due to the so-called “regulatory arbitrage”. 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 about these institutions’ activities weakens their supervision, posing a risk to financial stability at large. ESRB (2019) writes that there are some in-transparent linkages between the traditional banking system and shadow banking system, not detected by the data clearly. The institutions in the so-called “other financial institutions (OFI) residual” (mainly captive financial institutions)<sup>15</sup>, whereby the primary data about them is not available at the EU level may not do credit intermediation, yet they are closely engaged into credit intermediation network in the financial system (ESRB 2019). 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 was in the United Kingdom (UK) (ESRB 2019: 54). The Brexit is assumed to cause migration of these shadow banking institutions from the UK to 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. Its size, type of operations as well as interconnectedness to the traditional banking system makes its relatively weaker regulation a controversial matter. 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).

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<sup>15</sup> European System of Accounts 2010 defines OFI residual as “the difference between total financial sector assets and the assets held by all known subsectors” (ESRB 2019: 70). Captive financial institutions is a category of financial corporations in the European System of Accounts 2010. It includes entities which are established for the purpose of raising funds for a specific parent enterprise or an enterprise group (Eurostat 2013).

### 3.2. Institutional power hierarchies in macroprudential policy

National discretion is one of the issues of institutional design of macroprudential policy. This debate has mainly two dimensions: Discretion in macroprudential measures and intended objectives in the Member States on the one hand and heterogeneity of macroprudential institutional design across the EU, on the other.

The strategies of macroprudential institutions in the Member States vary. For instance, they sometimes use the same macroprudential measure for different macroprudential objectives, while in some cases, they use different macroprudential measures for the same macroprudential objective.<sup>16</sup> 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. Yet, 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 (EU) No 1024/2013; Kern 2017). In case of conflict, which party should have the final word remains open.

A second blind spot of national discretion is that capital-based measures are under the EU's legal scope (CRD IV/CRR), whereas the borrower-based measures, such as loan-to value (LTV), loan-to-income (LTI) or debt-to-income (DTI) ratios are under the national authorities' discretion (Constâncio et al. 2019). 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 requesting tighter capital measures by the ECB.<sup>17</sup> This type of conflict would damage financial stability. Furthermore, some Member States do not have legislations about these borrower-based

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<sup>16</sup> 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. For mitigating currency risk, Czech Republic uses limits on foreign exchange mismatches, while Croatia uses capital adequacy ratio for the same objective (Budnik and Kleibl 2018).

<sup>17</sup> ECB, for instance, can legally request euro area Member States their tightening of certain capital requirements, such as countercyclical capital buffer, systemic risk buffer or capital conservation buffer (Constâncio et al. 2019).



measures, which are an important obstacle in effectively restricting a credit boom (de Guindos 2019).

The capital requirements directive of the EU from 2006 set the principle of a certain level of harmonization of capital requirements for credit institutions and investment firms at the EU level (European Parliament and the Council Directive (EU) 2006/49/EC). In this regard, 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 on 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 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, heterogeneous 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 for 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

country negatively affects the financial stability in another country, necessitating a macroprudential measure in the latter 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 in. 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 (Constâncio et al. 2019; Fahr and Zachowski 2015). Furthermore, it is debated whether cross border loans should be subject to macroprudential measures (ESRB 2018). Currency mismatch due to indebtedness in foreign currency can pose a significant risk to financial stability. Therefore macroprudential oversight to cross-border loans must take into account currency mismatch accumulated in different economic sectors.

There are examples of such outward and inward spillovers of macroprudential measures in the EU. For instance, Ongena et al. (2012) find that higher minimum capital requirements in the home countries of some European banks lead to lower lending standards of these banks in their host countries (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.

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). The significant asset size of the foreign bank branches in some host countries potentially magnifies the effects of inward spillovers. Due to such inward spillovers, reciprocity measures, for instance, particularly imposing countercyclical 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*

Macroprudential policy can often accommodate monetary policy. On the other hand, monetary policy may sometimes endanger financial stability. There is a large literature about the interactions between monetary and macroprudential policy (see for a literature review Antipa and Matheron 2014; 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. Similarly, capital buffers on financial institutions would enable the monetary policy to keep the interest rate low in support of aggregate demand.

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 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 financial cycles, 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 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).

### *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 behaviors of the central banks in advanced economies were often observed over the past decades during financial booms and busts, whereby the bust phases are responded by a quick reduction of interest rates but the boom phases are rather accommodated for a long time (Hofmann and Bogdanova 2012; Hannoun 2012).

In regards to this debate, Svensson (2017) estimates for Sweden that a biased monetary policy in favor of credit expansion as long as an inflationary threat does not occur is preferable due to its output and employment benefits. In a similar vein, Kockerols and Kok (2019) show the net benefits of an accommodative monetary policy for the euro area. 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 builds-up in the financial

system. Macroprudential policy should aim to at prevent a build-up of systemic risk and in this way would be complementary to monetary policy.

#### **4. Remedies for the blind spots**

First of all, macroprudential supervision should involve the shadow banking system and its securitization activities. In the post-crisis era, steps to regulate securitization, whereby the shadow banking institutions are mostly involved, have been taken. In 2015, the BCBS and the International Organization of Securities Commissions (IOSCO) published a *criteria for identifying simple, transparent and comparable securitisations* (BCBS 2015). In regard to this, the 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)* securitization was enacted in December 2017, which is to enter into force in January 2019 (European Parliament and the Council Regulation (EU) No 2017/2402). 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 US 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 were taken. It is believed that a stronger control of banks and a weak control of banks' interaction with the shadow banking system are sufficient to make the overall financial system stable. 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 an 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. When systemic risks rise strict macroprudential regulations could be used to prevent high interest rates. 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 a countercyclical capital buffer of 2.5% increase 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 considerations have increasingly become a major part of economic 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 is a positive step, some important blind spots remain in the macroprudential institutional architecture in the EU. With regard to economic and financial system repercussions of Covid-19 pandemic, these blind spots have gained even more substance.

First of all, the ECB's hard powers do not apply to shadow banking institutions or credit institutions' shadow banking activities. The exclusion of shadow banking system from the ECB's supervision poses a systemic risk threat. Second, although a certain degree of national discretion in macroprudential policy is required, the degree of heterogeneity in instrument-objective strategies as well as the heterogeneity of macroprudential institutional design across the Member States raise concerns for financial stability. Last but not least, 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 to counter a build-up of systemic risk in the context of the Covid-19 pandemic, the shadow banking system has to be addressed, 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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## Imprint

### Editors:

Sigrid Betzelt, Eckhard Hein (lead editor), Martina Metzger, Martina Sproll, Christina Teipen, Markus Wissen, Jennifer Pédussel Wu, Reingard Zimmer

ISSN 1869-6406

Printed by  
HWR Berlin

Berlin August 2020