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**HOW TO BUILD A RESILIENT
MONETARY UNION? LESSONS
FROM THE EURO CRISIS**

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Abstract

This paper describes the institutional flaws that led to the euro crisis, assesses the institutional reforms that were put in place during and in the aftermath of the crisis, and evaluates the remaining fragilities of the architecture of the European monetary union. In mid-2017, growth in the euro area appears to be finally picking up after 10 years of recessions and slow recoveries. European leaders should not be complacent and wait for the next crisis to complete the single currency architecture. On the contrary, these quieter times offer a good occasion to reflect on the future of euro-area institutions and to build a more permanent setup than that implemented in the heat of the crisis. In order to achieve a more resilient monetary union in Europe, we propose: to complete the banking union as soon as possible; to promote a really ambitious capital market union able to provide real risk sharing between member states of the monetary union; to reform the use of macroprudential tools and make their use more systematic in order to avoid divergence between countries in financial cycles; and most importantly to improve the defective macroeconomic policy framework to avoid a repeat of the policy mistakes of recent years.

Keywords: economic governance, European Union, macroeconomic policy, stabilization mechanisms

JEL Classification: E61, E62, E63, H77

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1. INTRODUCTION

Europe offers a unique example of the economic and political integration of sovereign nations. This integration movement, which started with the creation of the European Coal and Steel Community in 1951 and expanded substantially in scope with the Treaty of Rome and the creation of the European Economic Community in 1957, took a significant step forward at the beginning of the 1990s with the decision to share sovereignty over the issuance of a common currency and the conduct of monetary policy. The economic consequences of forming a monetary union are substantial¹, so the institutional architecture of the region had to adapt significantly to reflect this new reality, and its economic governance had to be radically overhauled.

Good economic governance is defined by a set of economic policies (fiscal, monetary, financial) that achieve the two following objectives: 1) prevent the build up of imbalances at macroeconomic, financial, fiscal level and economic divergence in the euro area, and 2) as it is impossible to predict and prevent all crises, manage and solve crises to minimise the cost and disruption to the greatest extent possible.

The original Maastricht economic governance framework was the result of diverse – and sometimes antagonistic – views and tough negotiations between the countries that founded the monetary union. In the end, the main objective was to ensure prosperity in the region through the promotion of price stability and balanced growth, while leaving some leeway at the national level in terms of fiscal choices (trying at the same time to avoid moral hazard and foster fiscal discipline as much as possible) and in terms of banking regulation and supervision. However, the global financial crisis that started in the United States in 2007 with the subprime crisis and worsened with the failure of Lehmann brothers in 2008 affected Europe very quickly and resulted in a first recession in 2009-2010. The crisis then morphed into a European crisis that was only stopped with the major institutional innovations announced in 2012. Since 2013, the euro area has entered a slow and fragile recovery, which only enabled it to come back to its GDP level of 2007 after 10 years. After a lost decade, growth appears to be picking up at the beginning of 2017. These quieter times offer a good moment to reflect on the future of the European institutions and to build a more permanent setup than that put in place in the heat of the crisis.

The goal of this paper is thus to understand the mechanisms at work and the institutional flaws that led to the euro crisis, to assess the institutional reforms that were put in place during and after the crisis and to evaluate the remaining fragilities of the Economic and Monetary Union (EMU) architecture in order to make proposals for coherent economic governance that will underpin a resilient monetary union in Europe.

This paper is structured as follows: section 2 describes the build up of imbalances inside the euro area from 1999 to 2008, the euro crisis and the main institutional changes that were implemented during and in the aftermath of the crisis. Readers already familiar with the original architecture of the euro area, the unfolding of the euro crisis and the recent reforms to euro-area economic governance can therefore directly go to section 3 to read about the missing pieces of the current architecture and our recommendations on how to complete it in the next few years. Section 4 concludes.

¹ Looking at the benefits and costs of forming a monetary union is beyond the scope of this paper but interested readers can look at the Optimal Currency Area (OCA) literature developed in the 1960s, notably by Mundell (1961), McKinnon (1963) and Kenen (1969), as well as the more recent literature assessing the impact of the euro on trade or FDI between countries of the Monetary Union (see for instance Santos Silva and Tenreyo, 2010).

2. THE EURO CRISIS AND ITS ORIGINS

2.1 The Maastricht Economic Governance Framework and the Rise of Imbalances

To understand fully what happened during the euro crisis, it is necessary to go back to the birth of the monetary union on 1 January 1999 and to the economic governance framework that was put in place with the ratification of the Maastricht Treaty in the early 1990s. Given the loss of country-specific monetary policy and the exchange rate tool to stabilise the economy implied by the participation in a monetary union, European Union member states decided that centralised monetary policy would be responsible for all the shocks affecting the whole monetary zone, while fiscal policy would be kept at the national level to take care of country-specific shocks.

In a monetary union, the member states could have the incentive to implement unsustainable fiscal policies because they would expect the monetisation of their debt by the common central bank or bailout from their partners. Two rules were thus included in the European Treaty to avoid this potential free-riding behaviour. First, the Treaty included a no-bailout clause between member states and the European Union (Article 125 of the current TFEU) and, second, monetary financing by the European Central Bank was prohibited (Art. 123). These rules were supposed to give the right incentives to countries no longer able to rely on the help of the central bank or other member states. Most importantly, because private investors could make a loss following a potential default, these rules should also have given the right incentives to market participants to monitor and price sovereign risks correctly and thus impose market discipline on euro-area governments. In addition, the drafters of the Maastricht Treaty did not trust the market mechanism to perform well that function (Mody, 2015), so they also decided to introduce fiscal rules contained in the Stability and Growth Pact (SGP) to constrain the levels of deficit and debt of member states.

Coming back to our simple governance definition, the Maastricht governance framework was therefore characterised by the following distribution of tasks:

- The prevention of crises was assigned to the European Commission to enforce the Stability and Growth Pact as far as fiscal imbalances were concerned, to the ECB to promote price stability (and thus macroeconomic stability as it was believed at the time), while banking supervision was left to national authorities.
- The resolution of crises was mainly covered by ECB monetary policy for aggregate macroeconomic shocks, while decentralised fiscal policy was supposed to tackle country-specific shocks. In terms of financial stability, the ECB was supposed to play the role of lender of last resort (LoLR) for banks in case of a liquidity crisis.

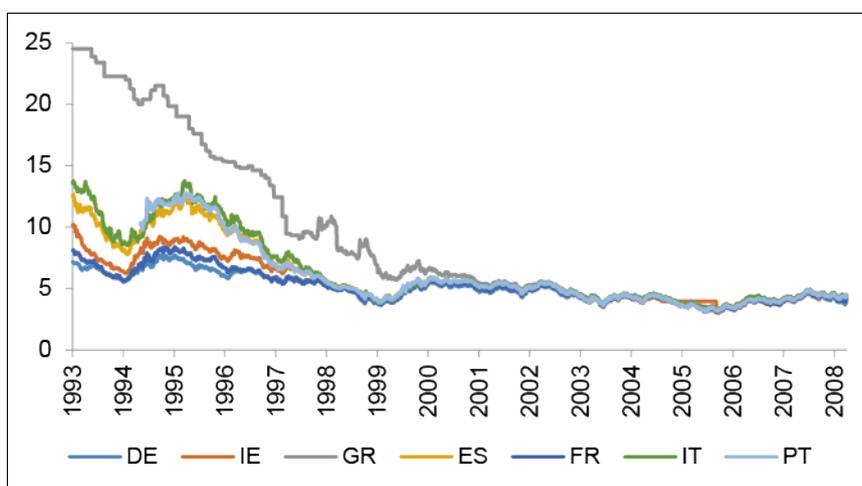
The original euro-area economic architecture tried to avoid obvious loopholes, but the Maastricht framework already included some inconsistencies.

First, though market discipline was supposed to play an important role in the framework, sovereign bonds were all considered riskless as far as banks' balance sheets were concerned. Indeed, the prevailing regulatory framework from Basel gave identical (zero) risk-weights for sovereigns and did not foresee any exposure limits that could have given an incentive to market participants and banks to diversify and differentiate between sovereigns. In addition, despite the differences between triple A and single A ratings, all sovereign debts were accepted as collateral with the same haircut in the ECB's open market operations (Wolff, 2014).

Second, market participants might not have considered the no-bailout clause as credible because of a typical time-inconsistency problem. Even though member states can announce *ex ante* their willingness not to bailout other member states of the monetary union to avoid moral hazard, they might *ex post* have an incentive to avoid their default because of the potential spill-overs that this could create in a zone tightly integrated in terms of trade and because of financial contagion, especially if their banks are heavily exposed to sovereign debt. While in the US the debt level of single states is marginal and a default could be negligible and absorbed easily by the financial sector (e.g. the debt of California represents 1 percent of US GDP), this is not the case in the euro area (e.g. Italian debt represents more than 20 percent of euro-area GDP).

These two factors, combined with the elimination of the exchange rate risk, led investors to essentially not differentiate between the various bonds of the monetary union. This led to an extreme convergence of nominal yields on government bonds in the euro area from the beginning of 2000 to the end of 2007, as shown in Figure 1. This convergence was not limited to sovereign yields, but also took place in money market and interbank rates. Sovereign and interbank rates represent the benchmark for interest rates charged by banks to the private sector. Thus, interest rates charged by banks on loans to non-financial corporations and households also converged clearly in the second half of the 1990s, towards the rates charged in the monetary union's northern countries.

Figure 1: European Sovereign Yields, 1993–2007
(%)



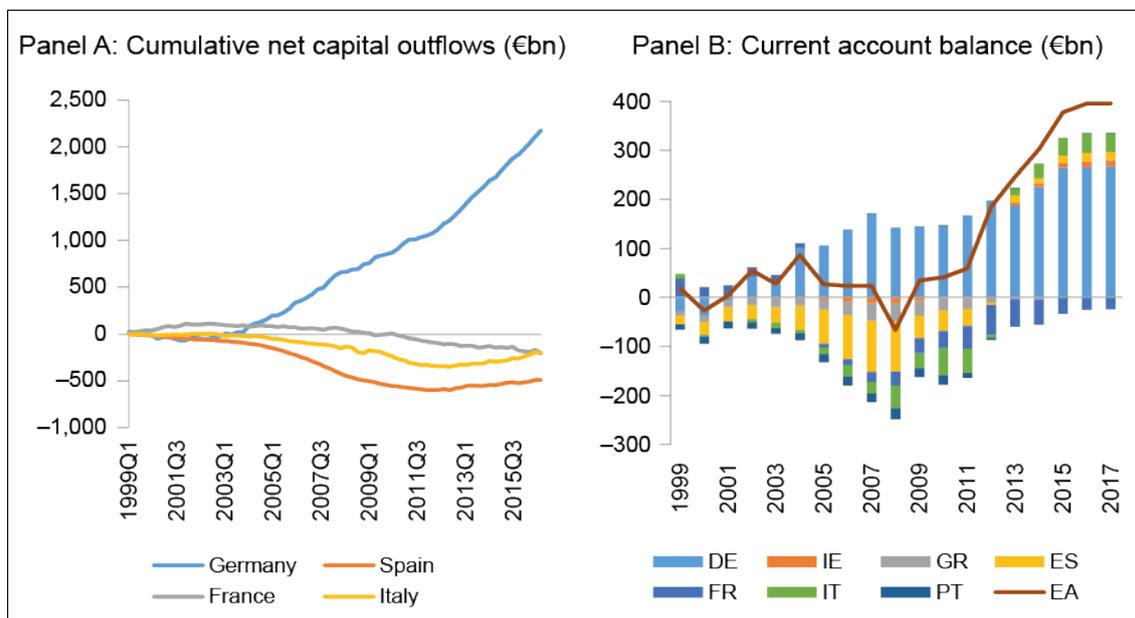
Source: Bruegel based on Bloomberg.

The main issue is that this convergence of nominal rates across euro-area countries led to a real interest rates divergence. The example of Germany, Spain and Greece is striking. On average, between 1999 and 2007, nominal benchmark rates were at 3.8 percent in Germany, 3.9 percent in Spain and 4.4 percent in Greece despite very different fundamentals. Meanwhile, at euro-area level, inflation was not far from the ECB's target of "*below but close to 2 percent*", but was very different in different countries: over the same period, inflation averaged 1.8 percent in Germany, 3.3 percent in Spain and 3.5 percent in Greece. For most observers of the time this was not considered as a bug but as a feature of the euro area because inflation differentials were mainly seen as the result of a catching-up process that should have led to a convergence of standards of living across the euro area. However, the

combination of similar nominal yields and very different inflation rates also resulted in a divergence in real rates. Coming back to our three countries, real rates were on average as high as 2 percent in Germany, while at 0.6 percent and 0.9 percent in Spain and in Greece respectively, during the period 1999–2007. Such a difference in real rates influenced the saving/borrowing behaviour of economic agents across the euro area and resulted in an increase in savings in Germany and in borrowing in Spain and Greece, resulting in significant capital flows from the former country to the latter two, which boosted Spanish and Greeks inflation and growth at a time when these economies were already overheating.

More generally, the pre-crisis period was characterised by very large capital flows from the so-called core to the periphery euro area (Figure 2, panel A). In turn, this fuelled credit demand in the periphery that banks were able to accommodate, because the monetary union expanded their funding pool significantly beyond national borders (Merler, 2015). Again, at the time, this was seen as a normal feature of the catching up process resulting from the creation of a monetary union with countries at different levels of economic development: theory had predicted that investment was supposed to flow downhill from a North affected by diminished returns to a South with abundant untapped investment opportunities. As a result, significant current account surpluses in the North, and in particular in Germany, and deficits in the South were hidden behind a more or less balanced aggregate current account at the euro-area level (Figure 2, panel B).

Figure 2



Source: Bruegel based on Eurostat.

However, in the particular case of the euro area, the significant capital flows were mainly directed towards low productive non-tradable sectors and in some countries like Spain and Ireland, towards the construction sector in particular.

The example of the housing bubble that developed in Spain during that period is particularly revealing. A credit boom financed by savings coming from the North through the interbank market was mainly directed to the housing sector. Indeed, the share of real estate loans in total bank loans to the non-financial private sector rose from just over 30 percent to almost 80 percent between 1990 and 2010 (Pagano *et al*, 2014). This movement led to a doubling of housing prices in less than a decade. As a consequence of this housing boom, the construction and real estate sectors took a growing share of GDP and employment. During that period, 700,000 dwellings were built per year in Spain (vs. for instance 400,000 in France, with a 50 percent larger population) and the sector ended up representing 13 percent of employment in 2007 (vs. 7 percent in France). The housing boom spilled quickly into the rest of the Spanish economy and pushed wages higher in other sectors. Given that this period was also characterised by subdued productivity growth in Spain (see Table 1), other sectors started losing price competitiveness compared to their counterpart in other euro-area countries, and as a result the Spanish manufacturing sector shrunk from 18 percent to 15 percent of GDP from 2000 to 2007.

A similar mechanism was also at work in Ireland during the same period. Indeed, this rapid divergence in price competitiveness between countries after the creation of the monetary union affected the whole euro area. As Table 1 shows three groups of countries emerged: northern countries like Germany in which wage growth was much less than productivity growth, intermediate countries like France and Belgium where wages and productivity developments were broadly in line, and periphery countries like Spain, Ireland and also Italy, in which wage growth was above sluggish productivity. No automatic adjustment took place and these imbalances persisted, hidden behind the overheating of the periphery, until the crisis struck.

Table 1: Wage and Productivity Growth (%) in Europe 2000–2008

	Hourly Real Compensation Growth	Hourly Labour Productivity Growth
Germany	0,7	1,7
Belgium	1,0	1,1
France	1,5	1,5
Italy	0,8	0,3
Ireland	3,3	1,5
Spain	0,8	0,4

Source: Bruegel based on EC, AMECO, Notes: Hourly real compensation = real compensation/total hour worked. Hourly labour productivity = GVA in constant prices / numbers of hours worked.

In the absence of an exchange rate stabiliser or autonomous monetary policy at the country level, other adjustment mechanisms could have helped correct the divergence between the countries of the currency area: labour and capital mobility, wage and price flexibility, and risk-sharing mechanisms against regional shocks. A good example of a currency area that seems to be working pretty well is the US. Asymmetry between US states is high but there are strong adjustment mechanisms to absorb asymmetric shocks: labour mobility, capital integration and a federal budget.

The pre-crisis euro area lacked these three elements. Even though it has increased since the 1990s, labour mobility between EU countries is relatively low compared to the mobility observed in the US. As reported in Bonin *et al* (2008), in the US, between 2 percent and 2.5 percent of the population moved from one state to another during the year 2006, while the mobility between European countries was only between

0.1 percent and 0.2 percent for the residents of the EU15. As far as financial integration is concerned, as we will see in more detail later, it mainly took place through short-term interbank markets and wholesale debt markets, while equity and bond markets remained underdeveloped (especially compared to the US) and heavily fragmented among European countries. In terms of fiscal integration, the EU has indeed a budget but its size (less than 1 percent of the EU GDP), its composition (almost 40 percent going to agriculture and 35 percent to structural funds), its distribution between countries and its lack of flexibility (expenditures are currently decided every seven years through the Multiannual Financial Framework) do not allow it to be a countercyclical or a risk-sharing instrument. In that respect, the euro area entered the global financial crisis as an incomplete monetary union that was far from being an optimal currency area.

2.2 Euro-area Architecture Flaws Revealed by the Crisis and Subsequent Reforms

The financial crisis that started in 2007 as a crisis of the US subprime mortgage market and that became the worst global financial crisis since the Great Depression after the failure of Lehmann Brothers on 15 September 2008, quickly hit Europe and revealed the main flaws of the Maastricht governance framework, which had been in place since the beginning of the monetary union.

The Banking Crisis

The first flaw of the monetary union that became clearly visible with the crisis was the lack of surveillance of the European financial sector which, despite its high level of cross-border openness, was left entirely under the responsibility of national supervisors. Indeed, even though fiscal surveillance was centralised and considered as an essential element of the euro-area architecture in order to minimize spill-overs of domestic fiscal policies in the monetary union (notwithstanding the problems that we will discuss later), nothing similar was put in place to monitor potential imbalances in the private sector, and in particular in the financial sector, from a European perspective. Nevertheless, as discussed before, the pre-crisis period was characterised by massive cross-border capital flows and credit expansion episodes in several countries of the monetary union, which led to an increase in financial stability risk, which was badly monitored and totally untamed.

Concerning the banking sector in particular, the business model of European banks had evolved in line with global trends: on the asset side, in the years preceding the crisis, European banks increased significantly their exposure to the housing sector (as the extreme Spanish example illustrates), and in some cases even purchased some subprime assets from the US, while on the liability side, banks increased their financing through very short-term wholesale markets at the expense of insured stable deposits. In particular, the heavy use of the euro-area cross-border interbank market, money markets and repo market resulted in a significant increase in the rollover liquidity risk of European banks. In addition, they also significantly increased their leverage which would later leave them unprepared and undercapitalised in case of a significant shock.

Combined with this change in the banks' business model, the choice to leave banking supervision at the national level resulted in non-uniform and ineffective supervision before the crisis. As described in great detail by Véron (2013), national authorities tended during that period to allow national champions to develop in the banking sector at the expense of financial stability, with the aim of conquering the European single

market and/or avoiding takeovers by foreign banks. The unification of the European financial system through the abolition of capital controls in the late 1980s and the creation of the euro might have further reinforced this trend. Some national banking supervisors adopted a lax policy and allowed some banks to become oversized. The perception that these banks were implicitly guaranteed by governments because they were too big to fail gave them an additional comparative advantage vis-à-vis other players in the financial system, which further strengthened their excessive growth.

At the beginning of the European banking crisis, this problem of supervisory forbearance continued when supervisors, faced with the first problems of some banks, preferred not to disclose them and hoped that the economic and financial situation would quickly improve and that this would improve the situation of the banks. This complacency between banks and national authorities was further exacerbated by the links existing in some European countries between the banks and the governmental elites. For instance, Hau and Thum (2009) have shown that German regional public banks (the *Landesbanken*), whose supervisory boards gave a role to politicians, performed much worse than other banks and were more affected by the crisis. Similarly, Cuñat and Garicano (2009) showed that in Spain, bank managers with no financial qualifications but with political ties tended to grant more mortgage loans than others before the crisis. In addition to inadequate supervision, there were very few macro-prudential policies in place in Europe before the crisis, or, as shown by Martin and Philippon (2017), they were not strong enough to prevent the private leverage boom in Ireland and Spain and to stabilise private debt-to-GDP ratios.

With the global financial crisis unfolding quickly, a rapid unwinding of previous imbalances took place in Europe. Given the low transparency of holdings of securitised assets backed by subprime mortgages, the subprime crisis in the US led very quickly to a rise of global uncertainty about banks' solvency. This, in turn, resulted in a freeze in the interbank markets on a global scale and an extinction of most short-term wholesale financing sources. For European banks this was a massive issue because these were the main channels that supported capital flows between core and periphery countries. Indeed, funds had not been flowing much through cross-border bank loans to companies, equity participations or through the creation of cross-border banks, but mainly through short-term debt between banks of different countries. In addition, when the crisis started, this repatriation of funds was amplified by a flight to safety/quality towards the core of the euro area which led to a generalisation of short-term refinancing problems in the banking sector of periphery countries, equivalent to a sudden stop. These liquidity issues quickly morphed for some banks into solvency issues as the participation of banks in the fire sales of their most liquid assets to meet their commitments amplified the initial shock and precipitated the bursting of bubbles across Europe.

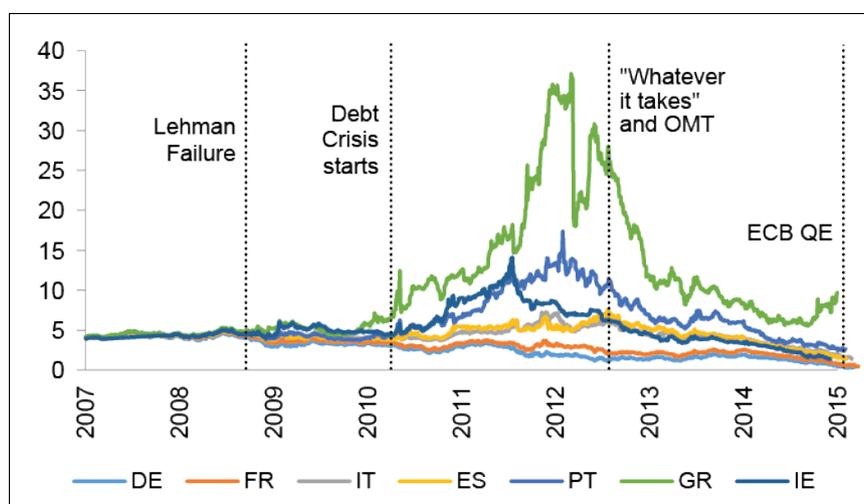
In terms of policy, to limit the extent of the banking crisis and avoid a full-blown liquidity crisis that could have resulted in the meltdown of the European banking sector (in periphery countries in particular), the ECB took seriously its financial stability mandate and quickly played its role as a lender of last resort (LoLR) for illiquid but solvent banks. The ECB increased massively its liquidity provision to the banking sector in the period 2008-2012 and introduced a number of measures to provide 'enhanced credit support' to the economy. Liquidity started to be allocated, through its main refinancing operations (MRO) and long-term refinancing operations (LTRO), at a fixed rate and full-allotment basis, meaning that banks had unlimited access to central bank liquidity, as long as they could provide adequate collateral. Collateral requirements were also eased a number of times, and on top of that, the maturity of LTROs – originally of 3 months only – was lengthened, introducing operations with

maturity of, first, 6 months, then 1 year and eventually, by conducting two massive long-term refinancing operations, with a maturity of 3 years (in December 2011 and February 2012). The cumulative take-up of these two operations exceeded €1 trillion (although part of it substituted the borrowing through other maturities). Not surprisingly, the use of the LTRO facility was skewed towards certain countries, with banks in Spain, Italy, Greece, Ireland and Portugal accounting for 70 to 80 percent of the total borrowing after 2010. Symmetrically, banks from the North – which had benefited from inflows of capital in search of safety – reduced their reliance on the ECB operations to minimum levels. The 3-year LTROs were constructed as a euro area-wide policy (i.e. open and directed to all banks in the euro area), but banks from the periphery ended up using it more than the others because they were the most affected by the liquidity crisis taking place at the time in the European banking sector. Later, from 2014 to 2017, an additional series of 4-year Targeted Long Term Refinancing Operations (TLTROs) were launched to refinance European banks at very low interest rates and to encourage them to extend credit to the real economy.

The Sovereign Crisis

The banking crisis quickly spread to the rest of the economy and became one of the drivers of the sovereign debt crisis that took place in the euro area from 2010 to 2012. The crisis was characterised in a spike in sovereign yields visible in Figure 3. Of course, fiscal indiscipline played a role as well, at least in the case of Greece, which, despite the fiscal surveillance put in place since Maastricht, misreported considerably its deficit and debt figures for the period 2005 to 2008 until a newly elected government revealed the cheating in October 2009. The revelation about the bad state of the Greek public finances was clearly one of the main trigger of the European sovereign crisis as this led some investors to dump all their bonds from the countries then designated by the infamous acronym 'PIIGS' (for Portugal, Ireland, Italy, Greece and Spain) to avoid taking any risk in the European periphery, even though the fiscal positions of these countries differed substantially.

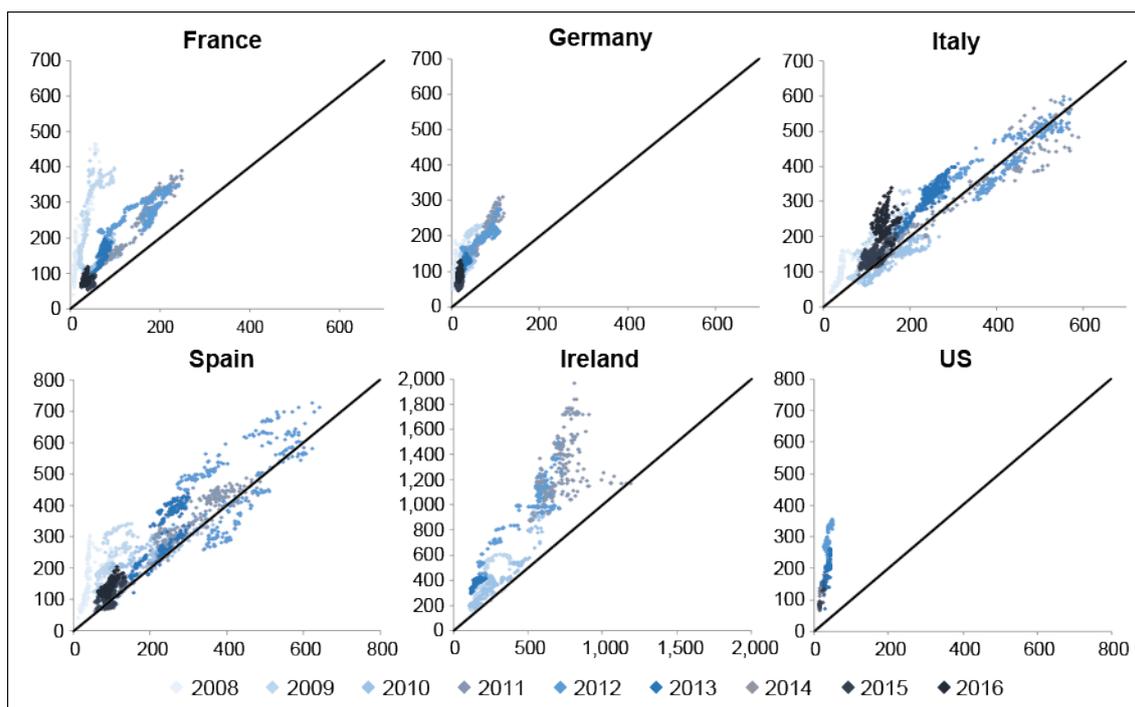
Figure 3: European Sovereign Yields, 2007–2015
(%)



Source: Bruegel based on Bloomberg.

However, the role of fiscal indiscipline in the outbreak of the crisis should not be exaggerated because other factors simultaneously at play also explain the significant rise in sovereign yields. Among them, the fear concerning the situation of the European banking sector and the potential implications for the sovereigns played an important role. As Figure 4 shows, the cost of insurance against defaults of governments and banks (represented by the 5-year CDS spreads) were highly correlated in some European countries (Spain, Ireland, Italy) during the crisis, suggesting some interaction between the two. Indeed, on the one hand, weak banks can weigh on sovereign interest rates if markets believe that the government will have to rescue ailing banks, which in turn will increase the default probability of the sovereign. On the other hand, a weak sovereign can threaten the solvency of its domestic banks too if the banks hold large amounts of their domestic sovereign debt, or if they benefit from an implicit state guarantee that the government might not be able to honour it if the state of its public finances does not allow it. The combination of the two leads to a negative feedback loop that was dubbed the ‘sovereign-bank doom loop’ during the euro crisis. The Irish example is revealing in that regard²: at the height of the Global Financial Crisis, the Irish government decided to guarantee the entire debt of its six major banks, which ended having a direct budgetary cost of around 40 percent of GDP given the large size and the bad state of its banking sector (Pisani-Ferry, 2014). As a consequence of the banking and economic crisis that followed, the debt of Ireland went up from 24 percent at the end of 2007 to 120 percent at the end of 2012, taking up all margin of manoeuvre of the country and casting doubt on its solvency, thus leading to the aforementioned ‘sovereign-bank doom loop’, visible in Figure 4.

**Figure 4: The Sovereign-bank ‘Doom Loop’
(Represented by Sovereign and Bank CDS)**



US = United States.

Source: Bruegel based on Bloomberg. Note: data for Ireland is only available from 2009 to 2013.

² The episode is described at length in Pisani-Ferry (2014).

Another essential potential driver of the increase in government yields is related to the existence of multiple equilibria in sovereign debt markets. As shown by Calvo (1988), or more recently by De Grauwe (2012) and Corsetti and Dedola (2016), when sovereign debt is sufficiently high, the equilibrium price of a country's debt may not be unique: markets may coordinate expectations either on a good or on a bad equilibrium in which a default is more likely than in the good one. When markets coordinate expectations on the equilibrium with a more probable default, they logically ask for a high interest rate on government bonds. The increase in the cost of servicing debt, in turn, creates the conditions for the government to default, validating *ex post* the markets' expectations. However, the self-fulfilling bad equilibrium can disappear if the country has a central bank ready to play fully the role of a lender of last resort (LoLR) on the sovereign bond market to avoid such self-fulfilling crises.

In the case of the euro area, there are good reasons to think that the panic in the sovereign bond market that took place between 2010 and 2012 was, at least partly, driven by the existence of multiple equilibria (rendered possible first by the debt increase caused by the rescue of the banking sector). Although the ECB accepted immediately to play its role of LoLR for illiquid banks as soon as 2008, it refused at first to do the same for euro-area governments on the sovereign debt market. The ECB interpreted its financial stability mandate in a narrow way because there was no political consensus on what it was allowed to do during a type of crisis that was not envisaged by those who had written the Maastricht Treaty. And when the ECB first attempted to intervene with the launch of the Securities Market Programme (SMP), its *ex ante* limited size and the impression that the ECB was doing it reluctantly did not convince the market that the central bank was ready to do whatever it takes to destroy the bad equilibrium. On the contrary, its hesitation made possible the development of a liquidity crisis in the sovereign debt market until the summer of 2012. This point was perfectly summarised by ECB President Draghi in his Jackson Hole speech of 2014: *“since 2010 the euro area has suffered from fiscal policy being less available and effective, especially compared with other large advanced economies. This is not so much a consequence of high initial debt ratios – public debt is in aggregate not higher in the euro area than in the US or Japan. It reflects the fact that the central bank in those countries could act and has acted as a backstop for government funding. This is an important reason why markets spared their fiscal authorities the loss of confidence that constrained many euro area governments' market access.”*

Finally, in a somehow similar way, some euro-area sovereigns might also have incurred a redenomination risk premium as some market participants started to think at some point that the euro was reversible and that countries would go back to national currencies and repay their debt in a depreciating currency. Again, the euro area's institutional and political architecture was not considered strong enough to appear irreversible, which led to discussions about a potential euro exit for various countries. This redenomination risk was mainly prevalent during the euro crisis, but it also reappeared during the chaotic negotiations in Greece in the summer of 2015 and in a milder version before the French presidential election of 2017. The fact that this redenomination fear reappears from time to time during economic or political crises suggests that the euro governance framework is imperfect and countries could have an incentive to exit the monetary union. The recent occurrences of increasing redenomination risk show that is still the case. That is why it is essential to strengthen the euro architecture and increase the resilience of the monetary union and of its constituent countries in such a way that staying in the euro becomes clearly desirable in all situations, including after large asymmetric shocks.

Inadequate Macroeconomic Policies from 2010 to 2014

As a consequence of the combined banking crisis and self-fulfilling panic in the sovereign debt market, and contrary to what was envisaged in the Maastricht governance framework, national fiscal policies quickly reached their limit and could not be used as a countercyclical stabilisation tool in the most affected countries. On the contrary, these countries lost market access fully or suffered from high rates and started to consolidate their public finances immediately (as soon as 2010 and until 2014) instead of waiting for the best time to do it. That is why the euro area experienced a double-dip recession caused by inappropriate macroeconomic policies. This left monetary policy as the only stabilisation tool available, but the ECB's performance during the crisis was not free of mistakes either.

Between October 2008 and May 2009 the ECB quickly cut its MRO rate from 4.25 percent to 1 percent. But after that the ECB always appeared to be behind the curve – or going in the wrong direction, with the rate increases of 2008 and 2011 – and, contrarily to other central banks, the ECB kept for a long time its main policy rate well above the zero lower bound (ZLB) at 1 percent, possibly because it wanted to keep ammunition for later as there was no agreement on the possibility to use unconventional monetary policy tools once at the ZLB. Ultimately, the ECB waited until 2015 – i.e. 6 years after the US Federal Reserve (Fed) and the Bank of England (BoE) – before starting its own Quantitative Easing (QE) programme. As a consequence, it had to rely heavily on the willingness of European banks to participate to its LTROs, which resulted after 2013 in a decrease in the size of its balance sheet at a time when inflation and inflation expectations were slowly drifting downward, away from the ECB's target.

Institutional Innovations during and after the Crisis

Given the multiplicity of causes behind the European twin crisis, multiple solutions were sought: the economic governance of the euro area was reformed in depth and new tools were introduced to put an end to the crisis and to strengthen the long-term resilience of the system.

The first solution envisaged and completed by European policymakers was to reinforce fiscal surveillance to reassure investors about the solvency of European governments. The idea was to prevent future episodes of fiscal indiscipline such as that which took place in Greece. This was done through a series of EU directives and regulations and a new intergovernmental Treaty, known as the 2-pack, 6-pack and Fiscal Compact. The fiscal rules based on structural deficit targets and medium-term budgetary objectives were reinforced, sanctions were made more automatic, independent national fiscal councils were put in place to monitor the rules in order to increase both peer pressure and ownership at the domestic level, while policy coordination was enhanced through the introduction of the European Semester³.

In parallel, other surveillance tools were set up to prevent the build-up of future imbalances. To tackle economic imbalances, a Macro Imbalance Procedure was introduced in 2011, putting the European Commission in charge of monitoring 29 indicators and issuing warnings and recommendations (possibly backed up by sanctions in case of non-compliance) to member states if significant imbalances are detected. For financial imbalances, a more general and systematic use of macro-prudential tools was encouraged and a system of oversight of systemic risk in the

³ Readers interested in the details of the successive changes in the European fiscal framework since the creation of the euro can find them in Claeys *et al* (2016).

financial sector was put in place with the creation of the European Systemic Risk Board (ESRB) in 2010.

More importantly, several crisis-management tools were introduced which helped put an end to the crisis in the government debt markets of the euro area. In 2012, three major institutional developments marked a turning point in the unfolding of the crisis: the establishment of the European Stability Mechanism (ESM), the ECB's announcement of its Outright Monetary Transactions (OMT) programme, and the decision to create a European 'banking union'. The combination of these three institutional innovations finally brought to a halt the crisis that had been wrecking Europe for the previous couple of years and had almost ended the euro experiment.

The first decisive element was the decision to replace bilateral loans and the European Financial Stability Fund (EFSF) – both set up in 2010 to provide financing assistance to Greece, Ireland, Portugal and later to Spain, but mainly considered as temporary patches – by the European Stability Mechanism. The idea was to establish a sizeable permanent facility able to borrow from the markets at a low rate and to lend to solvent European countries that had lost access to markets, provided that the countries accepted to undergo macroeconomic adjustment programmes.

The second and even more essential policy innovation of 2012 was the decision by the ECB to act decisively in a sovereign bond market that it considered dysfunctional and that altered the transmission of its monetary policies in some countries. Ahead of the summer of 2012, the yields of a number of euro-area governments were rising well above levels in line with their fundamentals. As we have discussed, sovereign debt markets can be subject to multiple equilibria, and it seems clear that in 2012 markets were converging towards a bad equilibrium in which higher interest rates would make public debt unsustainable. In that case, the only institution that can bring back markets from the bad to the good equilibrium is the central bank, thanks to its potentially unlimited resources. After President Draghi proclaimed in a speech on 26 July 2012 that the ECB was ready to do "*whatever it takes*" to maintain the integrity of the monetary union (thus also reducing the perceived redenomination risk at the same time), the ECB formalised its policy at the next meeting of the Governing Council in September and announced the creation of a new monetary policy instrument, the so-called Outright Monetary Transactions (OMT) programme. The announcement of a possible ECB intervention (potentially unlimited) in the sovereign debt market was sufficient to guide markets towards the good equilibrium. The fact that the ECB did not have to buy a single bond to achieve this suggests that the problem was, at least partly, one of multiple equilibria.

Finally, in order to definitively short-circuit the 'doom loop' between banks and governments that also fuelled the sovereign debt crisis in some countries of the union, European leaders decided to create a banking union in Europe at the end of June 2012⁴. As noted by Véron (2014), the term 'banking union' refers both to the process of transfer of authority over banking policy from the national towards the European level and to the European banking policy framework resulting from that transfer process. The idea of the banking union rests upon two main pillars. The first is the centralisation of bank supervision at the ECB level through the Single Supervision Mechanism (SSM)⁵.

⁴ The establishment of the banking union and the reasoning behind it are explained comprehensively in Darvas *et al* (2016).

⁵ Since 4 November 2014, the ECB is the single licensing authority for all banks in the euro area, directly supervises 129 significant banks (broadly speaking the largest and most-relevant ones, based on criteria set by the SSM regulation) and oversees the supervision by national supervisors of more than 3000 less significant institutions.

The main idea is to provide uniform and strengthened banking oversight in Europe in order to reduce the probability of bank failures, on the basis that national authorities tend to be more complacent with domestic banks than with supranational ones because of 'banking nationalism' (Véron, 2015). The objective was thus not only to apply the common regulation (the 'single rulebook') in a uniform manner, but also to apply it in a tougher way in order to address more quickly the capital shortfalls of banks, to force the banks to deal with non-performing loans (NPLs) or even to close zombie banks that could hamper the economic recovery. Transferring bank oversight from national authorities to the ECB was in itself a first step to break the link between banks and sovereigns, but some countries also considered it as a prerequisite for any further steps that might involve financial risk-sharing. Indeed, by reducing drastically the possibility for governments to exert financial repression on their banking sector at the national level, the setup of a central supervisor might change the incentives of banks and push them to diversify their holdings of government bonds, thereby reducing the channels through which a sovereign debt crisis can spread to a banking crisis.

The second pillar of banking union is mainly concerned with the resolution of banks. The first objective behind the creation of the Single Resolution Mechanism (SRM) is to have consistent resolutions across European countries that would reduce cross-country coordination failures, make bank resolutions more effective and better enforce the common rules⁶ than in a purely national framework. Behind this, the main goal is to make creditor participation in bank resolution ('bail-in') the rule, leaving public sector support ('bail-out') to extraordinary occasions, thereby reducing the sovereign-bank link and the cost of potential banking crises for taxpayers. Furthermore, such a policy, if it is consistent and rigorously implemented, might also change the banks' behaviour by limiting unwarranted risk-taking and bail-out expectations, thereby reducing the risk of failures in the first place. In that sense, the banking union's objective was to help put an end to the euro crisis, but also to offer a long-lasting solution to prevent future banking crises in Europe. In addition, given that public support can not always be totally excluded either for a bank recapitalisation or to top-up national deposit guarantee funds, it is essential to set up common funds – a Single Resolution Fund (SRF) and a European Deposit Insurance Scheme (EDIS) – to spread the costs across the banking union area in order to avoid a revival of the bank-sovereign vicious circle at the national level.

3. THE MISSING PIECES OF THE EURO ARCHITECTURE

The euro-area architecture was patched up but its foundations, constructed in the haste of the crisis, remain wobbly. Most of the basic building blocks of the economic governance that were missing before the crisis are now in place and the resilience of the system has increased thanks to policy and institutional innovations (with the creation of the ESM, the banking union and the OMT and QE programmes of the ECB). But, at this stage, there are still key pieces missing to absorb shocks and prevent crises in the euro area.

⁶ The process is now governed by the EU Bank Recovery and Resolution Directive (BRRD).

There are several remaining fragilities in the current architecture of the monetary union:

- The link between sovereigns and banks is not yet totally severed;
- The macroprudential tools put in place after the crisis to deal with potentially divergent financial cycles at the country level need to be used more systematically and forcefully and without delays;
- Risk-sharing is still minimal: there is not much private risk sharing through capital markets, through the banking union or through fiscal policies;
- Macroeconomic stabilisation remains too limited, especially at the zero lower bound. The current euro-area economic governance framework is too reliant on unconventional monetary policies from the ECB and not enough on fiscal policy;
- There is no symmetric adjustment mechanism to correct *ex post* the divergence in price competitiveness that is not possible through the exchange rate in a monetary union.

3.1 Breaking the Sovereign-bank Loop and Dealing with Financial Cycles

Completing the Banking Union

Given the importance of banks in the financing of the European economy, to be stable and resilient its monetary union needs a well-functioning and safe banking sector. In addition, as already discussed, it is absolutely necessary to mitigate the potential doom loop between banks and sovereigns. The establishment of a banking union has already made progress towards these two objectives. As of mid-2017, a 'single rulebook' for the financial sector has been created. The bail-in rule is in place and has already shown on several occasions that it is a workable option to solve non-trivial banking problems. As far as common supervision is concerned, even if (as of today) all problems in the European banking sector have not yet been solved and the reduction in NPLs is still slow in some countries, early assessments – such as Schoenmaker and Véron (2016) – suggest that the Single Supervisory Mechanism has generally improved the quality of bank oversight in Europe. Supervision appears to be independent from governments, uniform across the banking-union area, tougher and more intrusive than it was before, while being relatively fair (at least for significant banks directly supervised by the SSM).

However, the banking union is still far from being complete. The links between the banks and the sovereigns have not been fully severed and two critical pieces are still missing to reach that goal. The first is the European deposit insurance scheme (EDIS) that has not at time of writing been set up. The European Commission put forward a full proposal in November 2015, but since then the negotiations between member states have stalled. A common deposit insurance scheme is nevertheless crucial to break the sovereign-bank doom loop. In general, a deposit guarantee provides trust in bank deposits if it is considered credible by depositors, thereby reducing bank funding costs and the probability of bank runs, and thus enhancing financial stability (Diamond and Dybvig, 1983). As summarised by Wolff (2016), there are three main reasons why the deposit insurance system should be pooled at the European level. The first is size: the greater the number of banks covered, the better an insurance scheme works. Second, centralised supervision is inconsistent with a decentralised deposit guarantee system. Without an EDIS, national deposit insurance schemes, and ultimately national taxpayers, could have to foot the bill for problems that could potentially result from

inappropriate European supervision, therefore providing misaligned incentives for adequate supervision. Third, decoupling banks from sovereigns, the main objective of banking union, requires a single European deposit insurance scheme, as otherwise confidence in the banks (and their financing costs) would depend on the solvency of the government of their country of origin, and vice-versa given that national budgets would remain the only backstop for national deposit insurance schemes. The continuation of national deposit insurance would therefore perpetuate the highly destabilising bank-sovereign vicious circle in the euro area, whereas, on the contrary, a European deposit insurance scheme would increase financial stability and improve crisis management in the union.

The second missing piece to complete the banking union relates to the Single Resolution Mechanism (SRM), a system that could be less robust than the other parts of the banking union and in particular than the SSM. First, compared to the centralised SSM, its particularly complex decision-making process could become a major shortcoming of the new regime because it could lead to a protracted and politicised process, which would be detrimental to the quality of the decisions taken (Véron, 2015). A simpler and more centralised resolution process – more similar to that at the US Federal Deposit Insurance Corporation (FDIC) – might therefore be more effective. Second, even though their probability can be reduced by strict regulation and supervision, systemic banking crises cannot be completely ruled out. In these cases, the need for public sector support cannot be fully excluded, even under strong bail-in rules. If the domestic government finances the support, banking woes could spread to the sovereign, thus reviving the feedback loop between the two. In contrast, if a common fund steps in, then the costs are shared and the spectre of banking troubles spreading to domestic public finances is reduced. That is why a Single Resolution Fund (SRF), pre-funded gradually by bank levies to reach €55 billion by 2024, was created alongside the SRM in order to achieve adequate risk sharing in the banking union area.

However, in a systemic crisis involving several significant banking institutions, the financing needs could exceed the pre-financed limited resources of the fund. It is thus crucial for the credibility of the scheme that the common fund can benefit from a fiscal backstop based on centralised resources and not on national resources. That is why in other jurisdictions (like the US) deposit insurance funds typically have access to a credit line from the government (Gros and Schoenmaker, 2014). Therefore, although the SRM already entails a significant but not unlimited degree of risk sharing through the SRF, European finance ministers also committed at the end of 2013 to provide a common fiscal backstop to the SRF in future extreme situations⁷. However, the practical features of this backstop remain ambiguous and have not been formalised since then. This should be a priority. One possibility to do that would be to use the ESM as a common fiscal backstop for the SRF, and also for EDIS once it is set up, by offering them a credit line (as the US Treasury does for the FDIC), as advocated by, among others, Schoenmaker and Wolff (2015). In addition, the conditions for the ESM to be allowed to participate directly in the recapitalisation of a bank – which could provide in theory another very powerful avenue to deal with problematic banks without impacting the sovereign – are so restrictive (limited amount, participation in an ESM adjustment programme, higher bail-in level, etc) that this option can hardly be used in

⁷ See the 'Statement of Eurogroup and ECOFIN Ministers on the SRM Backstop' of 18 December 2013, available at: <http://www.consilium.europa.eu/press/press-releases/2013/12/pdf/Statement-of-Eurogroup-and-ECOFIN-Ministers-on-the-SRM-backstop/>. This commitment was reaffirmed at the ECOFIN meeting of 17 June 2016, see: http://www.consilium.europa.eu/en/meetings/ecofin/2016/06/st10324_en16_pdf/.

practice. The option to use the ESM in that way should be simplified and also extended to precautionary recapitalisations, as recommended by Véron (2017).

The issue of legitimacy and democratic accountability of the common fiscal backstop should also be addressed. The institution in charge of the backstop should have the legal and political authority to authorise the use of the funds. The lack of a truly accountable executive power at the European level is a problem of the single currency that will be discussed later in the fiscal section of this paper. As we will see, it could be sensible to create an institution that could represent both the interests of the member states and of the Union (similarly to what is done in the ECB Governing Council). In that case, the decision to use the fiscal backstop could be the responsibility of this institution (see Figure 6).

Finally, other elements should also be pursued to improve the functioning of the banking union. The harmonisation of bank insolvency legislation in different countries (through an EU directive) and tighter state-aid rules at the European level would help in reducing bailout expectations (as the most recent Italian examples demonstrate). The domestic home bias in sovereign bond holdings (as well as other assets for that matter) is still very much a reality and centralised supervision by itself might not be sufficient to put an end to it, so regulatory incentives such as sovereign exposure limits might be necessary for the diversification of portfolios to happen.

Avoiding the Divergence in Financial Cycles through Macro-prudential Policies

As described in section 2, the divergence of financial cycles that took place in the euro area before the crisis (due in part to the divergence of real rates) makes it necessary to have some other tools than the common monetary policy rate to tame credit booms at the country level. As explained in more detail in Claeys and Darvas (2015), having healthy financial institutions – well capitalised and disposing of enough liquid assets to face withdrawals and roll-over risks – thanks to good prudential regulation and effective supervision is a necessary but not sufficient condition to ensure financial stability. The underestimation of system-wide risk arising from the interconnections between institutions not internalised by them also needs to be corrected. These interconnections arise because financial institutions have similar portfolios, because they are part of networks creating the potential for quick contagion, and because of potential fire sales taking place during stress episodes. That is why it is essential to use macroprudential tools.

Macro-prudential policies have two main objectives: to increase the resilience of the financial system and to tame the financial cycle with more targeted tools than monetary policy. More specifically, as suggested by Smets (2014), macro-prudential policy should have four intermediate targets: mitigate and prevent excessive credit growth and leverage, mitigate and prevent excessive maturity and liquidity mismatch, limit excessive exposure concentrations and finally limit bail-out expectations.

In order to perform these tasks, macro prudential tools can be roughly divided into three categories, as suggested by Blanchard *et al* (2013): tools seeking to influence lenders' behaviour, such as time-varying capital requirements, leverage ratios or dynamic provisioning; tools focusing on borrowers' behaviour, such as ceilings on loan-to-value ratios (LTVs) or on debt-to-income ratios (DTIs); and capital controls targeting 'hot money' flows, now renamed, in a more politically correct way, as 'capital flow management tools'. Some of these tools have the advantage of allowing the authority to target a particular sector affected by financial imbalances, for instance the real-estate sector. Moreover, these measures have the additional advantage that they

can be tailored to country-specific circumstances, which is especially important in a heterogeneous monetary union such as the euro area. It is too early to judge the effectiveness of these macro-prudential instruments in increasing the resilience of the financial system and dampening the financial cycle. Even though the Bank for International Settlements advocated their use as early as the beginning of the 2000s, they have only gained relevance since the financial crisis. Macro-prudential policies are quite new and still under construction, especially in advanced economies, so evidence of their effectiveness is still limited. However, the recent literature assessing these measures has produced some encouraging results⁸.

A potential limitation of macro-prudential tools is that they can be subject to regulatory arbitrage, either cross-border or via the migration of activities from banks to the shadow-banking sector. Given that the shadow-banking sector has become one of the main sources of systemic risk, one of the main challenges in the next few years will be to find instruments that have an impact on the banking activities of non-banks. In the US, the 2010 Dodd-Frank Act widened the remit of the Federal Reserve, allowing supervisors from the newly created Financial Stability Oversight Council to oversee non-bank financial institutions that they deem to be systemically important. A similar policy could be adopted in Europe.

In Europe, the establishment of the European Systemic Risk Board (ESRB) in 2010 and the delegation of some macro-prudential authority to the ECB by the Single Supervisory Mechanism (SSM) regulation were highly beneficial, in our view. However, macro-prudential policies in Europe are limited by the Treaties and the decisions over their use are shared between the ECB and national authorities. First, concerning 'capital flow management tools' (which have for instance been used repeatedly, and sometimes successfully, by emerging countries⁹), despite the fact that capital flows played a significant role in the financial cycle divergence between euro-area countries before the crisis, members of the monetary union in principle cannot impose direct capital controls¹⁰. Second, the ESRB was not given any direct authority over any policy instruments and only has the power to issue recommendations and warnings about systemic risks to national authorities. Third, the ECB can only use the tools that influence the lenders' behaviour (time varying capital requirements, dynamic provisioning), but cannot apply tools aimed at controlling the borrowers' behaviour (which are potentially the most effective), such as LTV and DTI ratios, which are left to national authorities. Given the difficulty, for political reasons, that using these tools might represent for national authorities and the different decision-making setups in countries (spread across institutions with different mandates and time horizons), the ECB's limited remit in that area could be a clear weakness of the institutional arrangement because it might lead to inaction, delays, coordination failures and poor implementation of the measures. The practice of macro-prudential policies over the next few years will show if this limitation is severe or if cooperation between the ECB and national authorities, under the watch of the ESRB, ensures the proper implementation of the various macro-prudential tools. However, the ECB or the ESRB would have more incentives and be in a better position than national institutions to

⁸ See for instance the literature review in Claeys and Darvas (2015).

⁹ See for instance Blanchard (2017).

¹⁰ Article 63 of the Treaty on the Functioning of the European Union (TFEU) prohibits in principle all restrictions on the movement of capital and on payments between Member States and between Member States and third countries. However, article 65(1)(b) of the TFEU, provides the right of EU member states to "*take measures which are justified on grounds of public policy or public security*", which was used by Cyprus and Greece to introduce capital controls respectively in 2013 and 2015, with the acquiescence of the European Commission.

internalise potentially significant cross-country spillovers due to capital flows that drive the financial cycle, even if by essence measures are country specific. A major improvement would thus be to strengthen the legal basis of the macroprudential framework for borrower-based instruments, allowing the ECB to access this part of the toolkit. But, as pointed out by Merler (2015), this would require an initiative from the European Commission to open a review of the European framework under CRR/CRD IV.

3.2 Sharing Risks through an Ambitious Capital Markets Union

Fragmented Financial Markets and the Absence of Risk Sharing in the Euro Area

One of the major features of the European financial system is its limited integration¹¹. The financial crisis underlined that financial integration between European countries was mainly through short-term interbank markets and wholesale debt markets. This is detrimental in terms of financial stability as these flows are likely to turn around very quickly. When this risk materialised during the crisis, it caused a rapid fragmentation of the European financial space. The availability and financing conditions of firms in different countries diverged, until they no longer reflected the fundamentals of the companies themselves, but mainly their country location. As far as the banking sector is concerned, the development of the single market and the creation of the monetary union did not lead to the emergence of cross-border retail banks (notably because of the 'banking nationalism' already described) that could have been able to cushion asymmetric shocks and avoid financial fragmentation.

Capital markets in European countries are also heavily fragmented. Equity and bond markets are still mainly national, relatively unrelated and very heterogeneous in terms of size and functioning. This fragmentation contributes to the weak development of these markets because they are less deep and liquid than if they had reached a critical scale. Furthermore, they do not fully benefit from economies of scale and network effects that would be generated at the European level. Transaction costs related to this fragmentation are exorbitant when compared to costs in US markets: cross-border securities transactions within the EU are ten times more expensive than within the US (Mersch, 2014).

On the savers and investors side, the European financial system is characterised by a very strong domestic bias. The only market that was fairly integrated before the crisis, the European interbank market, virtually vanished during the crisis. Holdings of foreign bonds are low (Schoenmaker and Soeter, 2014). The same holds for cross-border holdings of shares, as more than 60 percent of the shares held come from the domestic market (Véron and Wolff, 2016). Yet, a geographical diversification of portfolios would be advantageous for savers because it would allow them to smooth their consumption over time by limiting the volatility of their portfolios. Diversification is also essential for firms because high-risk investments cannot find financing if they are not offset by very low-risk investments in investor portfolios (Obstfeld, 1994).

Nevertheless, as far as economic governance is concerned, the major consequence of this fragmentation of financial markets and domestic bias among investors is low risk sharing between European countries. Indeed, capital markets are one of the essential channels for households and firms to smooth the impact of macroeconomic shocks on their consumption or investment. As explained by Asdrubali *et al* (1996), at the

¹¹ More details can be found in Claeys (2016a).

aggregate level, countries have three main channels to smooth consumption when they are affected by a recession: the capital markets channel, the credit channel and the fiscal channel for countries that are part of a federation. The capital markets channel makes it possible to smooth shocks thanks to income (interest and dividends) on cross-border (*ex-ante*) investments that are less correlated with domestic production than domestic investments. The credit channel makes it possible to smooth consumption by borrowing *ex-post* (or saving in case of a positive shock) funds when the shock materialises. Finally, the fiscal channel makes it possible to cushion the impact of asymmetric shocks through taxation and transfers between countries in a federation.

The absorption of asymmetric shocks in the euro area is made difficult by the very low level of federal fiscal transfers, the absence of autonomous monetary policy and the impossibility of adjusting exchange rates. Risk sharing through the capital market channel is therefore even more important for the euro-area countries than for the United States. Estimates made by Furceri and Zdzienicka (2013), Van Beers *et al* (2014) or more recently by the European Commission (2016), using the method of Asdrubali *et al* (1996), show that a large proportion of asymmetric shocks are not smoothed in Europe (between 50 percent and 75 percent), compared with less than 20 percent in the United States. This greater risk sharing in the United States is linked to the existence of federal budgetary transfers, but above all to a capital market channel that operates much better than in Europe.

The Capital Markets Union Project

Cross-border integration of European capital markets therefore appears necessary, not only to ensure that these markets reach a critical size that would improve their efficiency, but also to share risk between European countries, which would allow them to better absorb asymmetric shocks. This can be achieved through the development of non-bank financing and a cross-border integration of these markets, while taking care not to increase financial instability risk: this should be the role of the Capital Markets Union announced by Jean-Claude Juncker (2014) in his first speech as European Commission president to the European Parliament, and on which the European Commission has been working since. This task will not be easy. Some features of the European financial system have regulatory origins or are linked to tax incentives that can be changed, but the current structure of the European financial system is also the result of historical, political, institutional and legal factors, as well as the preferences of European citizens, which will be complex to alter. The US model, which some would like to copy because it seems more balanced between banks and markets, is also the fruit of US institutional and economic history, and it would be ill-advised to try to reproduce it exactly. The Capital Markets Union will therefore obviously be a long-term project because it will surely take several decades to generate a new coherent economic and financial ecosystem. Nevertheless, there are levers to be pulled in order to point the European financial system as quickly as possible in the desired direction.

The best way to make room for capital markets in Europe is to apply forcefully the measures decided in recent years concerning banks. In order to avoid further episodes of runaway credit and to minimise adverse externalities associated with the rapid growth of the banking sector, it will be necessary to actively use the full range of complementary instruments already discussed: strict and uniform banking supervision across the EU by the SSM, sophisticated macroprudential policies, and other tools to avoid the development of banks that are too big to fail. In order to reduce the incentive for governments to save banks during crises, a draconian antitrust policy in the banking sector or a very restrictive rule on bank takeovers (comparable to those in the US since 1994) should be considered in Europe. Finally, in order to avoid mortgage

credit booms, governments should review housing policies and taxation in favour of home ownership.

Specific reforms should also be envisaged in order to develop certain markets and give economic agents access to the best possible sources of financing. A rebalancing of the European financial system depends first and foremost on the development of equity financing. This has the advantage of being much less procyclical and much more stable than debt financing. To achieve this, it is necessary to develop equity markets, notably by reducing the cost, now prohibitive, of IPOs of mid-sized companies. It is also essential to integrate the various European equity markets. Consolidation need not be necessary if a network can be formed between markets so that purchase orders are always at the best price, regardless of the platform (Langfield and Pagano, 2016). Second, in order to finance innovative start-ups, the emergence of venture capital companies should be promoted. These are much less developed in Europe than in the United States, where they have played a major role in financing innovation in recent years. More generally, it must be ensured that regulation does not interfere with the long-term investments of institutional investors. Lastly, it is essential to review the preferential tax treatment of debt in relation to equity, in particular through the possibility of deducting the tax interest that still exists in certain European countries, as this leads to a financing bias towards debt (Spengel *et al*, 2012).

It is also preferable to avoid that financial integration relies only on very short-term interbank and wholesale debt markets. These cross-border capital flows are likely to turn very rapidly during crisis episodes and thus do not allow true risk sharing. Nevertheless, while corporate bond financing is also a form of debt financing, it is much more stable, especially during crises. However, the corporate bond market is currently not very developed in Europe. To develop it and allow smaller and innovative companies to finance themselves through this market, several measures can be envisaged. First, the cost of issuing bonds must be reduced. The standardisation of maturities and coupons would reduce the number of series in circulation. This would avoid re-issue costs and increase the liquidity of outstanding bonds, which would reduce the liquidity premium. The creation of a public credit register with standardised information on borrowers could also increase market transparency and thus lower the costs investors face in acquiring information. Finally, concerning innovative start-ups that generally have no physical assets to be used as collateral to finance themselves, it would be desirable to encourage the issuance of more specialised debt instruments such as high-yield bonds or mezzanine debt, as suggested by Philippon and Véron (2008).

However, some SMEs will never be able to finance themselves directly on the markets because of their small size and their heterogeneity. It is therefore useful to revive the securitisation of loans to SMEs in order to free up banking capacity so that the banks grant more loans to these firms. This would also allow banks to diversify their loan portfolios geographically, as they would be able to sell domestic loans and buy loans from other countries. The subprime crisis gave securitisation a bad reputation, but it is important to note that before the crisis, securitisation was used mainly to sell mortgages (of poor quality in the case of US subprime mortgages). In addition, while default rates on US asset-backed securities (ABS) have ranged from 9 percent to 13 percent (depending on the underlying assets) since the beginning of the crisis, default rates on European ABS backed by SME loans have remained very low, at around 0.1 percent (Mersch, 2014). Nevertheless, in order to avoid moral hazard problems, good regulatory incentives are absolutely essential: issuing banks must retain the riskiest tranches. In that regards, the experience of ABS issuance in Italy over the recent years is encouraging because it shows that with good incentives,

securitization does not involve changes in banking practices or relaxation of credit conditions (Albertazzi *et al*, 2011). Furthermore, the creation of standards and public exchange platforms could also be useful in facilitating market surveillance and avoiding high liquidity risk created by excessive short-term financing of ABS, as was often the case before the crisis.

Cross-border integration of capital markets will not be achieved without a minimum of harmonisation at the European level. First, it would be good to harmonise accounting and financial standards and align savings and investment taxes as much as possible. However, it is mainly the harmonisation of bankruptcy and restructuring laws that will be essential to put an end to the domestic bias of investors. It is not only necessary for the legislation to converge. The way legislation is interpreted and applied in each country should also converge. Currently, the delays and therefore the potential costs for investors depend on the functioning of the legal system of each country, which is very heterogeneous in Europe. Establishing a bankruptcy law that is predictable and inexpensive at European level is an essential element in building a unified financial market. The United States understood this well since bankruptcy law is a federal jurisdiction and is explicitly designated as one of the powers of the US Congress in Article 1 (section 8) of the United States Constitution of 1788.

Institutional Reforms to Foster Capital Markets Union

If risk sharing through capital market integration is to benefit the European economy, it is important that this should not be done to the detriment of financial stability. This is why Capital Markets Union must be accompanied by a reform of the institutional architecture. It is of course essential to have a single rulebook to avoid regulatory arbitrage, but it is equally important that the transposition and application of these rules be uniform across the EU. This is not the fully the case today, which, with 51 financial authorities sharing responsibilities within the EU, is logical. This heterogeneous application of the rules slows down the emergence of a financial single market by making cross-border activities more difficult. It can also be dangerous because it can lead to prudential arbitrage by financial institutions. Therefore, the regulation, supervision and monitoring of systemic risk related to non-bank entities must be done at the appropriate level to ensure that financial risks do not migrate to a part of the system that is not monitored, which could be the case with a more complex and cross-border financial system. One of the challenges is therefore to avoid the migration of banking activities towards the shadow-banking sector, or, at least, to find instruments that have an impact on non-bank financial entities. For example, in the United States, the 2010 Dodd-Frank Act expanded the Federal Reserve's mandate and authorised the Financial Stability Oversight Council (FSOC) to oversee all non-bank financial institutions of systemic importance. A similar policy could be adopted in Europe.

Capital Markets Union should not be used as an excuse for weakening supervision in order to rapidly develop some markets. On the contrary, it must lead to regulation and supervision of the financial markets at the appropriate level, i.e. at the European level. Institutional integration must take place with the help of pan-European agencies in order to be at the same level as the integrated market itself. It is therefore desirable to considerably strengthen the powers of the European Securities and Markets Authority (ESMA), which must no longer be limited to coordinating national supervisory authorities, but must be responsible for granting licenses and authorisations for the placing on the market of financial instruments at the European level. An increase in the resources of the European Systemic Risk Board (ESRB) might also be desirable in order to effectively monitor systemic risk within the Capital Markets Union.

3.3 Improving the Macroeconomic Policy Framework

Despite significant institutional innovations during the crisis, the fiscal/monetary component of the economic governance of the euro area is still highly imperfect for two main reasons: 1) the OMT/ESM setup is an essential piece of the euro architecture but important questions remain about both the coherence of the setup and its governance, which could impair its functioning if it ever needs to be used; 2) the current macroeconomic policy setup is not able to provide enough stabilisation in case of big shocks, neither at the country nor at the euro-area aggregate level.

The ESM/OMT Perfectible Framework

Let's start with OMT. The OMT programme is an essential tool of the euro-area architecture to avoid self-fulfilling liquidity crises in the sovereign debt market. As explained earlier, the absence of such a lender of last resort policy might have been for several countries one of the main drivers of the sovereign debt crisis that took place from 2010 to 2012 in the euro area. The ECB agreed in mid-2012 to play the role of lender of last resort for euro-area sovereigns in order to restore the monetary policy transmission channel which was disrupted in some countries of the Union by the quick rise in interest rates and which resulted in very tight monetary conditions despite the ECB's easing policies.

The potential problem of playing the role of lender of last resort in general and for the OMT programme in particular, is that it is always difficult to distinguish liquidity from solvency issues, especially for governments. If the ECB were playing this LoLR role in all cases in which yields increase significantly without being sure that it is related to a self-fulfilling issue and not linked to fundamentals, this would put an end to market discipline and could lead to a moral hazard problem. A strong presumption *ex-ante* that debt is sustainable is therefore necessary, but also sufficient, to justify ECB purchases through the OMT programme. To solve that problem, the ECB decided that the implementation of an OMT programme would be conditional on the participation of the country in question in an ESM programme. This implies that the European Commission, in liaison with the ECB, would have to assess first whether the public debt of the county requesting help is sustainable, before the ESM programme can be approved. More importantly, given that the ESM board – composed of the finance ministers of the member states – need to finally approve the programme, this means that help is only granted if there is an agreement by all other countries to do so. As noted by Wolff (2014), this means that there is not only a technical debt sustainability assessment but also a political agreement that debt is considered sustainable. The ESM thus plays a fundamental role in the current setup. Its importance is not primarily because of its capacity to lend to countries (whatever its firepower – its current lending capacity is €500 billion – it might never be enough to counter a self-fulfilling crisis on the sovereign debt market, that is why the *ex-ante* unlimited nature of the OMT is essential) but because it provides the political validation of the sustainability of the debt. At first sight, it might look contradictory for an independent central bank that one of its most important tools can only be activated after a vote by finance ministers, but if the ECB does not want to go beyond the role that has been assigned to it by the European Treaties and become too involved in political decisions (which should not be the case given that the members of the governing council are not elected), 'delegating' the sustainability decision to the ESM might be the lesser evil, given the blurry distinction between monetary policy and fiscal policy in that case.

However, this does not mean that the status quo is desirable. The role of the ESM must be clarified (its functions should be differentiated depending whether countries face liquidity or solvency crises) and its governance model should be reformed.

First, concerning liquidity crises in which the ESM is essentially used as a political validation device for the ECB's OMT programme, there is no need to couple this decision with an adjustment programme. Linking a monetary policy measure to the implementation of economic reforms is highly problematic because a country might have to accept a loss of sovereignty and be forced to implement policies to access an OMT programme solely because of a problem of multiple equilibria for which it might bear little responsibility. This would put the ECB in the business of prescribing (micro-)economic policies for which it has actually no remit. In principle, today, to be eligible for the OMT, countries could apply to one of the 'lighter' precautionary credit lines of the ESM (either to a Precautionary Conditioned Credit Line or to an Enhanced Conditions Credit Line) instead of a full adjustment programme, but both instruments are still conditional on the signature of a Memorandum of Understanding (MoU) and on the strict implementation of some policies. Moreover, the criteria for accessing these credit lines are overly restrictive given that both types of programmes require "*market access on reasonable terms*", which might already not be the case in a liquidity crisis. Of course, in practice, the criteria could be interpreted loosely and conditionality could be very light, but for the sake of clarity it would be better to create a new track reserved for liquidity crises to 'authorise' OMT programmes. This clarification would increase further the credibility of this important instrument and thus reduce the probability of it ever being used.

In contrast to today's situation, full ESM adjustment programmes should be reserved for cases in which the sustainability analyses conclude that a country is insolvent under constant policies. In that case, to help such a country that is losing market access, the ESM should provide a conditional loan while the country undertakes the necessary economic adjustment and reaches an agreement with its private creditors on how to restore a path towards fiscal sustainability (which might involve debt restructuring). In addition, precautionary credit lines of the ESM¹² should be used for countries deemed 'at risk of insolvency' in the future. This type of programme could be activated at an earlier stage and with lighter conditionality to avoid full-blown crises and last minute decisions.

Second, on its governance model, the current unanimity rule for taking decisions at the ESM, combined with the fact that some of the members of the board (i.e. finance ministers) cannot support a programme without the prior approval of their national parliaments, slows down and sometimes endangers the whole process and often makes it appear like a last resort measure. For the good functioning of the ESM, and by extension of the OMT, it is necessary to abolish the unanimity rule that hampers decision-making and to replace it with a form of majority rule. In essence, the ESM is not that different from the European Investment Bank (EIB) from an institutional perspective: member states have provided capital and guarantees (in the form of callable capital) to two 'funds' that can leverage themselves on the market in order to provide loans respectively to the public and private sectors. So, why should their decision-making models be dramatically different? At the EIB, the decisions of the Board of Governors are taken following a system of double majority. To be adopted, a decision requires a favourable vote of the majority of the Board members and of the majority of the subscribed capital. A similar majority system could be used at the ESM.

¹² There are two types of precautionary credit lines available at the ESM: Precautionary Conditioned Credit Line (PCCL) and Enhanced conditions credit line (ECCL).

In addition, the decision-making body could include representatives of the centre to take into account the general European interests (given that there is currently no formal role for the European Parliament or the Commission to do that)¹³. A better governance model for the ESM might also lead to more moderate views among parties, help find compromises and thus contribute to improve the design of the programmes to avoid a reiteration of the ill-designed Greek programme characterised by low national ownership and often perceived by Greek citizens as a significant loss of economic sovereignty.

Insufficient Macroeconomic Stabilisation and the Limits of Monetary Policy

The second problem of current fiscal/monetary governance is that it does not provide enough stabilisation and relies too much on the ECB and on its unconventional monetary policies. We can legitimately fear that if the macro policy framework does not evolve this might continue to be the case for the foreseeable future and could be an issue when the next recession hits. Indeed, as explained in more detail in Claeys (2016b), a lower neutral interest rate (i.e. the equilibrium rate between demand for and supply of funds compatible with full employment and price stability) implies that episodes in which monetary policy is constrained by the zero lower bound are likely to be more frequent and longer, yet the results of Holston, Laubach and Williams (2016) for the euro area suggest a collapse in the equilibrium real rate after 2008 and point towards a negative value for the last few years. For instance, if the neutral real rate is around zero, even if inflation is around the 2 percent target, steady-state policy rates would be around 2 percent, which would not give enough leeway to cut rates in the next recession. For comparison, in the US the average reduction of the Fed policy rate during the last nine recessions was equal to about 5.5 percentage points. This implies that the ECB would need to rely more heavily on unconventional policies, the effects of which are less certain and more difficult to calibrate given their relative novelty. Moreover, the use of these policies has been politically more controversial than in other jurisdictions, which delayed their implementation in the euro area. The ECB's quantitative easing programme started six years after the beginning of asset purchases by the US Federal Reserve and the Bank of England. The reluctance to use this type of policy could lead to permanent suboptimal monetary policymaking in the euro area, should this set of policies become the ECB's main instrument because of a fall in the neutral rate.

A first possibility, if the neutral rate remains low for a prolonged period, would be for the ECB to reassess its monetary policy framework and inflation target. This target is not set in stone and is defined by the ECB itself. The (below but close to) 2 percent target might have been suitable for the first years of the ECB and may have helped anchor inflation expectations at a low and stable level at a time when the neutral rate was around 2 percent, but it might not be a well-suited inflation target for a low neutral rate era. The ECB should determine if it would be wise to raise its inflation target (for instance to 4 percent) so that the market can clear at a lower real rate. Of course, this is a very serious decision and there would be some risks involved. Some have argued that a change to the inflation target could lead to a loss of credibility of the central bank and dis-anchor fragile expectations. We do not think that this would be the case, but the main benefit of the 2 percent inflation target is that, at this level of inflation, many economic agents behave as if there were no inflation at all. A higher

¹³ In that case, the majority system of the EIB would have to be adapted to include voting rights for EU representatives.

level could change that and revive indexation of contracts and thus second-round effects when there is a shock to headline inflation (for instance from energy prices).

Fiscal Policy and Fiscal Rules

Another possibility is to give a more active role to fiscal policy in tackling recessions and slow recoveries and in supporting monetary policy to stabilise the economy. During recessions, governments should take advantage of the high demand for safe assets and the low rates to finance a surge in public infrastructure and R&D. As suggested by De Long and Summers (2012), with negative real rates, a higher multiplier at the zero lower bound and a positive impact of public investment on future potential growth, a strong fiscal push could even result in a decrease in the debt-to-GDP ratio in the long run. That is why it is time to design better fiscal policies in the euro area that would support the economy during recessions and recoveries, first by reforming the fiscal rules and then by enhancing the automatic stabiliser properties of European fiscal policies at the European level.

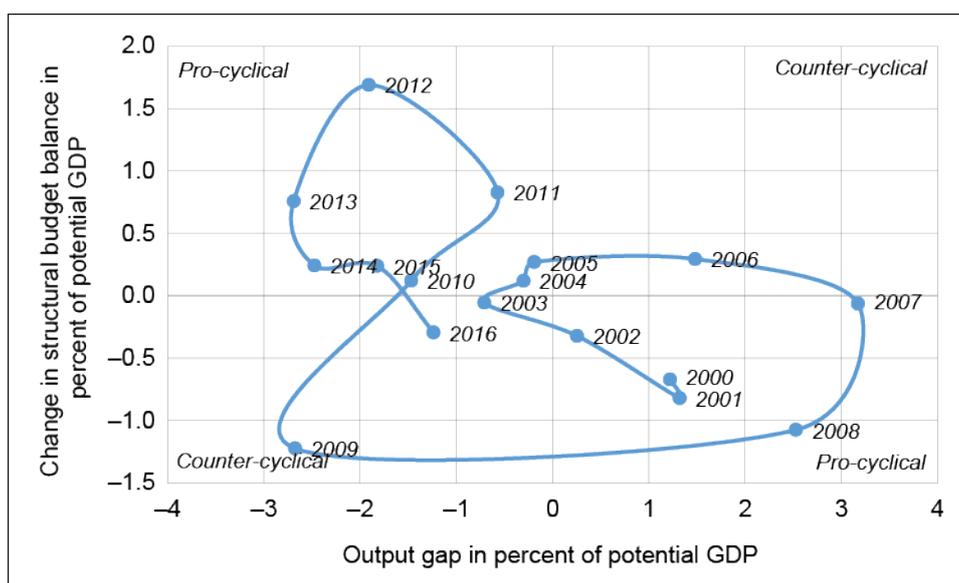
As shown in Claeys *et al* (2016), the current European fiscal framework is, in practice if not in theory, highly ineffective and has contributed to the anaemic economic recovery in Europe, raising questions about why EU budget rules failed to deliver both economic stabilisation and public debt sustainability.

In theory, the current rules should promote these two objectives. In addition to the famous 3 percent total deficit limit, another key indicator used in the current rules is the structural fiscal deficit, i.e. the government deficit, corrected for effects of the business cycle and one-off expenditures (such as those related to bank rescues during the financial crisis). In terms of counter-cyclical stabilisation, resorting to cyclically-adjusted targets makes sense in theory, and the current structural deficit rule combined with the 3 percent deficit rule should allow automatic stabilisers to operate fully in reasonably deep recessions. In addition, in deeper recessions, countries can decide to provide more cyclical stabilisation than what is allowed by the 3 percent deficit rule during one year by entering an excessive deficit procedure (EDP). They can also ask for deadline extensions for complying fully with the rules (which allow them to slow down fiscal consolidation). In terms of sustainability, if the rules are fully adhered to and in the absence of unexpected shocks, the public debt ratio should decline to low levels: for instance, with a nominal GDP growth of 3 percent, having a structural deficit of -1.0 percent of GDP ensures that the public debt to GDP ratio converges to 34 percent. Given the existence of negative shocks and the potential exemptions from the rules, the debt ratio would be higher but could be low enough to provide enough room for manoeuvre in the case of a recession.

Nevertheless, in practice, the rules do not fulfil their two objectives. First, the structural budget deficit is hard to measure in real time. Estimates of it are based on uncertain assessments of the business cycle (i.e. the output gap) and its impact on government revenues and expenditures. Estimated changes in the structural balance are typically revised by more than half a percent of GDP after one year, which is more than the yearly adjustment that the rules require. It seems inconceivable that recommendations for fiscal policies should be based on such an unreliable indicator, especially because during crises, measurement problems worsen at the moment where indication is most needed. The second problem is that the European Commission's growth and inflation forecasts are also a major source of errors. The fiscal rules are based on these forecasts, which have proved to be erroneous in recent years. Making forecasts is difficult, especially in times of uncertainty, which is why it would be appropriate to have a fiscal rule that does not depend on these forecasts. Third, another important issue is that even though countries can provide additional stimulus for one year by entering an

EDP, when a recession lingers for several years current fiscal rules allow at best the deceleration of fiscal consolidation instead of suggesting a necessary repeated stimulus. As a result of these issues, policy recommendations were largely mistaken already before the crisis and eventually worsened the economic situation in Europe during the crisis. There are obviously other reasons behind the recent poor management of fiscal policy in Europe (e.g. the self-fulfilling loss of market access by some countries discussed before) and fiscal rules might not be the only or even the main culprit, but they nevertheless contributed to these mistakes by providing misguided recommendations to member states.

Figure 5: Euro-area Aggregate Fiscal Stance



Source: Bruegel based on WEO October 2016, IMF.

Looking at the fiscal stance for the euro area since the establishment of the monetary union (Figure 5), it appears that fiscal policy was only really countercyclical in 2009 and has been mostly pro-cyclical the rest of the time. Therefore, before the crisis and in 2010–15, the fiscal framework ensured neither the sustainability of public finances nor macroeconomic stabilisation. During the boom years (2001–07), Spain and Ireland had on average large budget surpluses but they clearly suffered from a ‘political economy spending bias’ with an expenditure growth of around 10 percent per year. However, the current rules would not have constrained these countries because of the real-time measurement error leading to an overestimation of their structural balance. As a result, and as shown by Martin and Philippon (2017), we now realise that in countries like Spain and Ireland, fiscal policies were not countercyclical and should have been much more conservative during the boom and did not build enough margin of manoeuvre to be able to use fiscal stabilisation in the downturn.

In these circumstances, preserving the fiscal framework as it is today would be harmful, and a new framework is needed. The Stability and Growth Pact and the Fiscal Compact need to be revised: the 3 percent deficit and the badly measured structural deficit should not be used as operational targets for fiscal policy. Instead, the fiscal framework should focus on a rule limiting the growth of public expenditure, excluding unemployment insurance expenditure and one-off expenditures. According to this rule (explained in more details in Claeys *et al*, 2016), the annual growth of public

expenditure should not exceed the sum of the country's potential real GDP growth plus the inflation target of the central bank (2 percent per year). In bad times, this would reduce the incentive of governments to cut expenditures. Even if tax revenues fall and spending on unemployment increases, governments would still be allowed to support growth through deficits. In good times, it would dampen excessive booms, such as those in Ireland and Spain before the crisis, because governments would not be allowed to spend the extra tax revenues generated by bubbles. This limitation of expenditure would also take account of the level of public debt. Countries with high debt would have lower spending growth than those with low debt, in order to ensure long-term fiscal sustainability.

Another key issue in the current European fiscal framework is the multiplicity and opacity of the flexibility clauses. This leads to endless negotiations between EU member states and the Commission and between member states themselves. Leaders of countries that do not respect fully the rules consider them to be totally inappropriate and try as much as possible to disregard them. On the contrary, leaders of countries complying with the rules fear that the rules are not imposed on their partners with enough force and that the credibility of the system might be in danger. In practice, the use of these flexibility clauses has given discretionary power to the European Commission. This is both a blessing, because in bad times, it avoids dogmatic application of rules plagued by measurement and estimation errors, and a curse, because there is a risk that in good times member states will try to continue to use the flexibility of the system to bypass the rules when they should be applied strictly to reduce the debt and build some room for manoeuvre. That is why we also propose to abandon flexibility clauses and instead, since no rule can anticipate all contingencies, replace them with an accountable institution that would clearly exercise discretion and decide when countries can deviate from the rules, using whatever methods they deem appropriate (the estimation of output gaps being only one of them).

In Claeys *et al* (2016), we proposed that this task would be carried out by a newly created independent European Fiscal Council which, like the ECB Governing Council, would be composed of an executive board representing the general interests of the Union and the chairmen of the national fiscal councils. The executive board would be composed of six members (appointed by the Council and approved by European Parliament in a euro-area setup). Another possibility would be, as proposed for instance by Sapir and Wolff (2016), to have, in addition to the executive board, not national fiscal council chairs but the finance ministers of the euro area. Although we think it might be preferable to delegate these technical decisions to independent (but accountable) experts, the advantage of this solution (in addition to the fact that it could be more politically acceptable to member states) would be that this decision-making body could be the same as the one governing the reformed ESM presented before, which would provide some simplicity and clarity to the governance system and give some pre-eminence to the institution. In that case, the executive board could include a euro-area finance minister who would take over the current responsibilities of the Commissioner for Economic and Financial Affairs and of the President of the Eurogroup (see Figure 6).

This overhauled fiscal framework would be simpler, more transparent and easier to monitor than the current system. It would not rely on an unpredictable indicator, and, more importantly, it would be more conducive to the two objectives of sustainability and stabilisation. This is essential because ultimately, countries will not observe the rules because they fear sanctions, but because they all agree that the rule represents the best guidance for their fiscal policies to be both sustainable and supportive of growth.

Overall, it is thus urgent to improve the European macroeconomic policy framework to be able to put in place appropriate macroeconomic policies that were missing in the recent past. The first step is to reform the ESM/OMT framework and governance model in order to make it fully functional to avoid liquidity crises in the sovereign debt market that plagued euro-area countries during the crisis, and to have a proper way to deal with solvency crises. The second step is to fix the European fiscal rules so that they provide the right recommendations and help deliver countercyclical fiscal policies at the national level both in good and bad times. These changes would in our view already constitute a huge improvement compared to the current framework.

Taking into Account the Aggregate Fiscal Stance with a Euro-area Stabilisation Tool

Nevertheless, other critical problems remain. First, even if fiscal rules are fully adhered to and ensure sustainability and stabilisation at the national level, in a monetary union it is important to take into account the fiscal stance at the area-wide aggregate level¹⁴. Purely national fiscal policies not considering their positive or negative spill-overs on their partners might lead to a suboptimal aggregate fiscal stance in the absence of proper fiscal policy coordination, and to a suboptimal macroeconomic policy mix in the absence of coordination between monetary policy and aggregate fiscal policy. This issue is even more acute when monetary policy is constrained by the zero lower bound but also by political and institutional considerations. For instance, as noted by the recently created European Fiscal Advisory Board (2017), if all countries follow literally the current fiscal rules in 2018, this would result in a contractionary increase in the aggregate structural budget balance, while an expansionary stance would be appropriate given the remaining slack in the euro-area economy¹⁵. On the contrary, if countries with fiscal space used it, the euro-area aggregate fiscal stance could be slightly expansionary, which means that cross-country coordination of fiscal policy could solve the problem.

However, fiscal policy coordination attempts have never really succeeded in the euro area (except for the fiscal stimulus of 2009). Since the SGP is asymmetric and targets only countries with excessive deficits, it is illusory to think that it will ever be possible to make surplus countries spend more if it is not directly in their interest. Moreover, coordination might not even be the most cost-efficient tool to increase aggregate stabilisation in the euro area, given that recent research has shown that fiscal multipliers depend on the cyclical situation and are higher in an economy in which there is more slack. In that case, it might be better to increase spending not in countries with fiscal space but in countries in which there are spare capacities, especially if they cannot do it on their own because this would lead them to breach the rules.

This is why it is essential in the medium term (let's say over the next two to five years) to build a fiscal stabilisation tool at the euro-area level that would be able to deliver the right fiscal stance at the aggregate level and to achieve the right policy mix without overburdening the ECB. The stabilisation tool should be of sufficient magnitude to be able to generate the necessary fiscal impulse to close the gap between what is generated by the sum of (constrained) national fiscal policies and the desirable aggregate fiscal stance. As noted by Wolff (2017), to be politically acceptable by all

¹⁴ Inflationary (or deflationary) fiscal policy in one euro-area country could impact the average euro-area inflation rate targeted by the European Central Bank and trigger a monetary tightening (respectively easing) for everyone.

¹⁵ At the beginning of 2017 underemployment affects around 18 percent of the euro-area labour force (ECB, 2017)

parties this instrument should not have any allocative or (permanent) redistribution function and should focus solely on its stabilisation function. Furthermore, it should not give any incentive for member states to reduce fiscal discipline at the national level or to neglect structural issues. Actually, a side benefit resulting from the introduction of a stabilisation instrument at the Eurozone level would be that, once such a tool is in place, the improved fiscal rules could also be enforced more strictly – discretionary exemptions from the rules decided by the institution in charge will become less relevant – because the potential tightening effect of implementing the rules in a strict way at the national level could be compensated for using the common fiscal tool, and rules could focus even more on the sustainability of national public finances.

In addition, this tool should also be able to provide cross-country risk sharing against large asymmetric shocks that countries cannot easily deal with on their own because it would lead to a significant increase in public debt that could later cast doubts on their solvency and threaten their capacity to access markets. Although private risk sharing should be pursued through the completion of the banking union and the establishment of a genuine Capital Markets Union (CMU), this might not be sufficient. As shown theoretically by Fahri and Werning (2017) fiscal risk sharing and private risk sharing are complements rather than substitutes. In practice, a minimum degree of public risk sharing might be considered necessary by markets to sustain risk sharing within private markets. Banking union is a good example showing that some fiscal risk sharing (through EDIS and a fiscal backstop for bank resolution) is necessary to generate private risk sharing. The potential to generate private risk sharing through the CMU is high in principle, but this is still largely a work-in-progress project with uncertain prospects and practical challenges before it starts paying off in the long run. Besides, the desirable asset diversification might never take place if the institutional framework is not improved and the possibility of an exit by one of the countries is not definitely ruled out (and this possibility will never be totally ruled out if there are crises of the magnitude of those that took place in 2010-15 in the euro area).

Finally, this stabilisation tool would also benefit from having a borrowing capacity to increase its stabilisation properties through inter-temporal smoothing. In addition, having a European tool able to issue highly rated bonds would allow all EMU countries – and not only the core – to benefit marginally from the lower interest rates resulting from the flight to quality/safety that inevitably takes place during crises (which amplifies the divergence between core and periphery countries). The bonds issued by the stabilisation fund would be considered safe because they could be used as collateral at the ECB with a minimal haircut, and would be bought by the ECB as part of a QE programme as a supranational asset issued in euros.

A European Unemployment Insurance Scheme

There are several options for the stabilisation mechanism at the euro-area level, but we think the most promising would be to put in place a ‘catastrophic’ European Unemployment Insurance Scheme (EUIS), which would be activated in exceptional circumstances when a member state suffers a rapid and significant increase in short-term unemployment. When activated, the scheme would provide benefits to the unemployed in euro-area countries facing a significant shock and would be financed through borrowing and reimbursed *ex post* with a revenue stream coming from a single contribution rate on all wages in the euro area, regardless of the previous use of the scheme and the current economic situation of participating countries.

This stabilisation mechanism would fulfil all previously mentioned requirements by contributing to an appropriate aggregate fiscal stance and providing cross-country and inter-temporal risk sharing for large asymmetric shocks, while respecting current political constraints. The mechanism would be calibrated in such a way that it leads to a balanced budget of the fund over the cycle and that there are no permanent transfers between countries and no incentive to reduce fiscal discipline at national level or to neglect structural problems (as the scheme will only be triggered by a quick rise in unemployment and not by a high level of unemployment).

Claeys *et al* (2014) explored variants of such a scheme, playing with the different parameters of a potential EUIS (trigger, replacement rate, coverage rate, contributions, etc.). Table 2 shows an updated simulation of one of our favourite variants of the scheme in which the ‘catastrophic’ insurance scheme is activated when unemployment rises in a year by more than 0.5 percentage points above its previous five-year average. This version of the scheme sets a single contribution rate for all euro-area countries and finances unemployment benefits with a generous replacement rate of 80 percent of the wage previously received while employed.

Table 2: EUIS, Net Payments/Contributions (in % of GDP) to Participating Countries, and Annual and Cumulative Cash Positions of the Scheme for the Euro Area

% of GDP	2000	2001	2002	2003	2004	2005	2006	2007
Austria	0.00	0.00	0.00	0.00	0.47	0.47	-0.11	-0.11
Belgium	0.00	0.00	0.00	0.61	0.49	-0.07	-0.12	-0.12
Cyprus	0.00	0.00	0.00	0.00	-0.04	0.42	-0.10	-0.10
Estonia	0.00	0.00	0.00	0.00	-0.04	-0.05	-0.10	-0.11
Finland	0.00	0.00	0.00	0.00	-0.05	-0.07	-0.12	-0.11
France	0.00	0.00	0.00	0.00	-0.06	-0.08	-0.13	-0.13
Germany	0.00	0.00	0.00	0.67	-0.06	0.66	-0.12	-0.12
Greece	0.00	0.00	0.00	0.00	-0.04	-0.05	-0.08	-0.08
Ireland	0.00	0.00	0.00	0.00	-0.05	-0.07	-0.11	-0.11
Italy	0.00	0.00	0.00	0.00	-0.04	-0.06	-0.09	-0.10
Latvia	0.00	0.00	0.79	0.00	-0.04	-0.05	-0.10	-0.12
Lithuania	0.81	0.00	0.00	0.00	-0.04	-0.05	-0.10	-0.10
Luxembourg	0.00	0.00	0.00	0.13	0.16	0.12	-0.07	-0.07
Netherlands	0.00	0.00	0.00	0.33	0.36	-0.07	-0.12	-0.12
Portugal	0.00	0.00	0.39	0.58	0.45	0.51	0.45	0.52
Slovakia	0.68	0.00	0.00	0.00	-0.03	-0.05	-0.08	-0.09
Slovenia	0.00	0.00	0.00	0.00	-0.06	0.44	-0.12	-0.12
Spain	0.00	0.00	0.00	0.00	-0.05	-0.07	-0.12	-0.12
Annual cash position (%GDP)	-0.01	0.00	-0.01	-0.23	-0.02	-0.16	0.10	0.10
Accumulated cash position (%GDP)	-0.01	0.00	-0.01	-0.25	-0.26	-0.41	-0.30	-0.18
Annual cash position (€bn)	-0.43	0.06	-0.71	-20.68	-1.78	-14.37	9.87	10.09
Accumulated cash position (€bn)	-0.43	-0.37	-1.08	-21.76	-23.54	-37.91	-28.04	-17.96

continued on next page

Table 2 continued

% of GDP	2008	2009	2010	2011	2012	2013	2014	2015
Austria	-0.11	-0.11	-0.22	-0.31	-0.37	0.10	-0.63	-0.51
Belgium	-0.13	-0.12	-0.24	-0.34	-0.42	-0.57	-0.68	-0.54
Cyprus	-0.10	0.53	0.49	0.62	0.90	1.02	0.75	0.75
Estonia	-0.13	1.53	1.30	-0.31	-0.38	-0.54	-0.67	-0.55
Finland	-0.12	0.94	0.73	-0.32	-0.40	-0.55	-0.67	0.66
France	-0.13	0.74	0.57	-0.34	0.48	0.39	-0.68	-0.54
Germany	-0.12	-0.11	-0.24	-0.32	-0.39	-0.54	-0.67	-0.54
Greece	-0.08	0.72	0.84	1.14	1.30	1.01	-0.38	-0.30
Ireland	0.60	1.24	0.85	0.60	-0.31	-0.43	-0.51	-0.39
Italy	-0.10	0.47	0.37	-0.26	0.38	0.32	-0.52	-0.41
Latvia	-0.14	2.10	1.51	-0.29	-0.35	-0.49	-0.63	-0.51
Lithuania	-0.11	1.44	1.31	0.78	-0.32	-0.44	-0.54	-0.42
Luxembourg	-0.07	0.15	-0.15	-0.21	-0.26	-0.11	-0.18	-0.04
Netherlands	-0.12	-0.11	0.23	-0.31	0.19	0.20	0.07	-0.49
Portugal	-0.12	0.74	0.61	0.75	0.94	0.70	-0.55	-0.44
Slovakia	-0.09	0.73	0.59	-0.25	-0.30	-0.41	-0.50	-0.40
Slovenia	-0.12	0.59	0.48	0.47	0.43	0.37	-0.64	-0.50
Spain	1.35	2.26	1.98	1.92	2.14	1.94	-0.58	-0.46
Annual cash position (%GDP)	-0.07	-0.54	-0.42	-0.01	-0.30	-0.19	0.57	0.47
Accumulated cash position (%GDP)	-0.25	-0.80	-1.21	-1.19	-1.50	-1.70	-1.12	-0.63
Annual cash position (€bn)	-6.37	-50.82	-39.80	-0.80	-28.69	-18.62	55.04	45.85
Accumulated cash position (€bn)	-24.33	-75.14	-114.94	-115.74	-144.43	-163.04	-108.00	-62.16

Source: Bruegel based on the method in Claeys et al (2014). Note: Parameters used in this simulation: single contribution rate for the whole euro area; replacement rate of previous wage: 80%; trigger of the scheme: increase in unemployment of 0.5 ppt in one year above 5-year average. The table displays net payments as a percentage of GDP that would have been received by the countries from an EUI scheme since 2000. Positive numbers, in green, represent net payments to the countries, whereas negative numbers, in red, represent net contributions to the EUI scheme. The last 4 rows of the table indicate annual and cumulative cash positions of the scheme for each year (in % of GDP and in € billion). Positive numbers, in green, represent positive cash positions of the scheme that could be saved for the future, whereas negative numbers, in red, represent negative cash positions that would have to be financed by borrowing in capital markets.

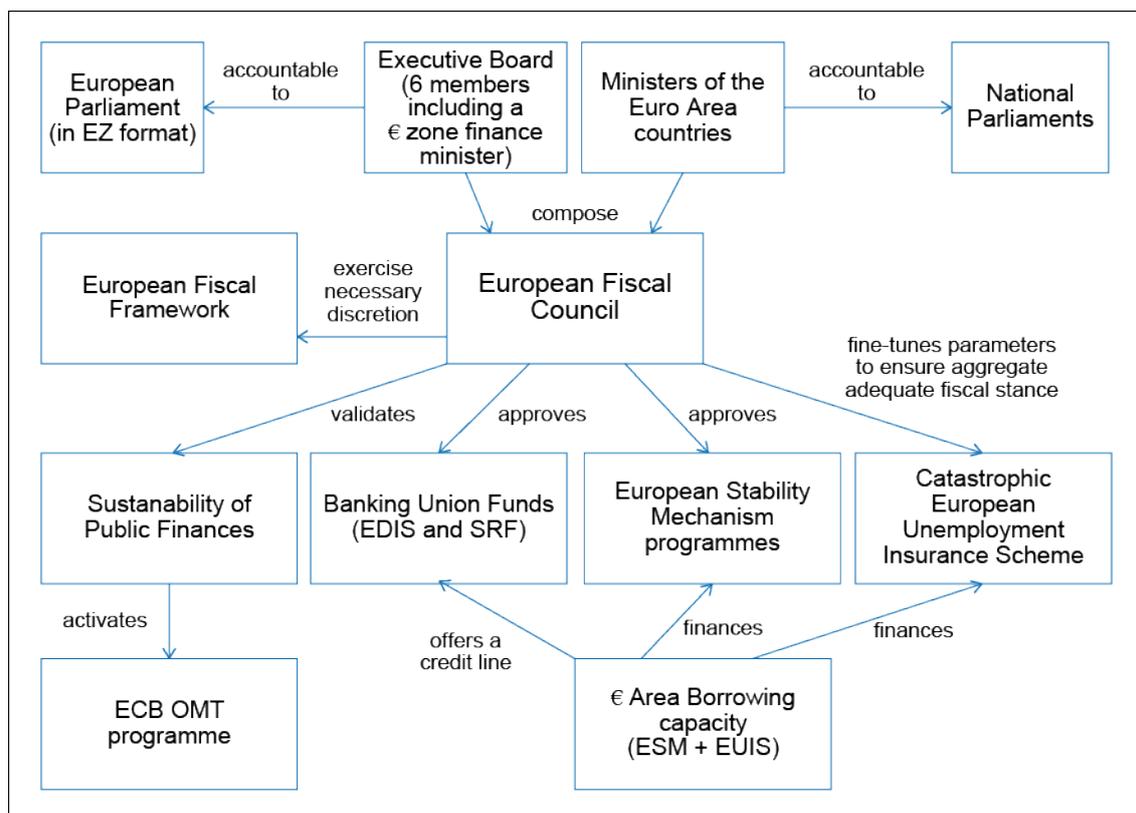
The main advantage of such a scheme is that, as long as member states benefitting from the scheme do not compensate by reducing their deficits, the scheme would make the aggregate fiscal policy of the euro area more countercyclical. However, even if the receiving countries decide to reduce their deficits, the scheme would help them absorb significant shocks better as lower deficits would result in a lower increase in their debt-to-GDP ratios.

The example of Spain during the crisis is revealing in that regard. Faced with an unprecedented increase in unemployment since the burst of the housing bubble, the country would have received on average almost 2 percent of its GDP per year from 2008 to 2013, which would have been extremely helpful at a time when deficits reached 10 percent, and then when Spain embarked in a fiscal consolidation of a magnitude of 2 percent of GDP per year. On a side note, the Spanish example also provides another good reason to centralise macroprudential policy, as discussed previously: if an EUIS is put in place and the cost of a bubble bursting is borne by the

monetary union as whole, then the responsibility to avoid the development of such bubbles should also be put at European level to avoid misaligned incentives.

Coming back to the functioning of the EUIS, it's important to note that Spain would not have been a isolated case and that many other countries would have benefited from it and would have been net receivers since 2000 when they experienced slumps: Austria in 2004–05, Belgium in 2003–04, Cyprus since 2009, Greece from 2009 to 2013, Germany in 2003 and 2005, and the Netherlands in 2003-05, etc. The EUIS in that particular form would therefore fulfil the main goals assigned to a euro-area stabilisation tool fairly well: provide stabilisation against asymmetric shocks and cross-border risk sharing without creating transfers between countries that are too large or persistent. As a result of the relatively frequent use of the scheme by the euro-area member states during that period, the EUIS would have accumulated, at its maximum, a moderate debt equivalent to 1.7 percent of euro-area GDP at the end of 2013, because of the necessary borrowing (the equivalent on average of 0.3 percent of euro-area GDP per year) to finance the scheme during the crisis. In order to avoid a lasting debtor position of the scheme, the contribution rate would be set every year at the level that would have balanced the fund over the past five years. As Table 2 shows, such a way to set contributions would allow the fund to return to surpluses fairly quickly but would also reduce its counter-cyclicality. Given the low frequency of such crises (and the slow recovery that tend to follow them), the return towards balance could be lengthened by increasing the number of years for calculating contributions from five to seven, or even 10 years.

Figure 6: Summary of the Proposed Euro-area Economic Governance Framework



Source: Bruegel. Notes: EDIS = European Deposit Insurance Scheme, EUIS = European Unemployment Insurance Scheme, ESM = European Stability Mechanism, OMT = Outright Monetary Transactions, SRF = Single Resolution Fund.

In terms of governance, the EUIS would in principle be mostly automatic and would not need much decision making once it is up and running. Nevertheless, given its complementarity with the other euro-area fiscal/monetary tools, the scheme could be put under the responsibility of the same institution that would agree on ESM programmes, validate the sustainability of national public finances before OMT is implemented, control the implementation of fiscal rules and exercise the necessary discretion over the fiscal framework¹⁶. There are several important parameters that influence the functioning of the EUIS: its generosity, its trigger, etc. These parameters should generally be calibrated to make sure that the scheme is countercyclical in bad times but also in good times, but they could be fine-tuned in real time by the institution in charge to ensure that the gap is closed between what is generated by the sum of national fiscal policies and the desirable euro-area aggregate fiscal stance (see Figure 6).

The Long Run: Towards a Fiscal/Political Union?

These elements (fixing the ESM/OMT framework and the fiscal rules and building a stabilisation tool for big shocks, with a unified governance framework) constitute in our view the minimum requirements for a consistent and resilient monetary union. However in the long run and if there is a political willingness to go in that direction, a very different but simpler model, more similar to the US model – with federal transfers, federal stabilisation mechanisms and a no-bailout clause for sub-federal entities – could be pursued in Europe. A no-bailout clause combined with a restructuring mechanism and a loosening or even a full removal of the fiscal rules could be credibly applied and would not be too disruptive in the euro area if, and only if, two conditions are met. First, a significant share of public spending (and thus the power of taxation) should be permanently transferred to the centre. This is an essential condition because it would avoid too much disruption in the provision of essential public services in case of default. In addition, it would help to maximise stabilisation because automatic stabilisers do not only rely on the sensitivity of revenues and expenditures to the cycle (e.g. unemployment benefits), but also on the overall size of the budget as the inertia in public spending also provides stabilisation to the economy. Second, banks should have a diversified portfolio of sovereign assets thanks to prudential regulation (such as sovereign exposure limits) so that a potential sovereign restructuring does not lead to a banking crisis and a return of the sovereign-bank feedback loop.

It is important to understand that this would represent a major step forward in terms of economic and political integration and would lead to a major loss of national sovereignty. Countries would have to accept that national fiscal policy could no longer be used as a countercyclical tool given that it would be practically impossible to restructure debt and to keep borrowing at the same time. They would also have to accept some volatility on national debt markets, intra-EMU flights to safety, and possibly some sovereign defaults as a result of liquidity crises if the central bank is only responsible for the federal debt, as in the US. More importantly, countries sharing fully automatic stabilisers and a high share of public spending and taxes would have to harmonise their social institutions accordingly. In that case, fiscal policy at the euro-area level would not only have a stabilisation function, as contemplated before, but would also have some redistributive and allocative dimensions. This, in turn, would only be

¹⁶ For consistency, the borrowing capacities of the ESM and the EUIS should be merged into a euro-area borrowing capacity, which would also increase the depth and liquidity of the market for the bonds issued by the common institution. The revenue stream to reimburse the issued debt would be a mixture of contribution on wages, bank levies for resolution and deposit guarantees and repayment from ESM loans.

desirable if it takes place in a democratic process through the appropriate accountable institutions and with the fiscal union becoming a political union.

3.4 Avoiding Competitiveness Divergence across the Union

As discussed in section 2, a long period of divergence in inflation rates not justified by productivity growth differentials, such as that observed before the crisis in the euro area, can have two major negative consequences in a monetary union. First, it leads to different real interest rates for the same policy rate, resulting in different effects of monetary policy in different member states, therefore amplifying the divergence between countries. Second, it can lead to some relative loss of price competitiveness between countries of the union, which cannot be compensated for by movements in the exchange rate. Once revealed by a crisis, nominal divergence can translate into a massive divergence of economic outcomes, as demonstrated by the major differences in terms of employment with Greek and Spanish unemployment levels above 25 percent while Germany is almost at full employment.

The drivers of the inflation divergence can be twofold. First, divergence can be the result of different situations in the economic and financial cycles. That is why, to deal with this issue in a monetary union composed of different countries, it is essential to have both single uniform banking supervision (to avoid lax policies in some countries and over-tight policies in others) and, at the same time, local macroprudential tools to take into account local financial developments (to prevent the emergence of bubbles). However, inflation divergence can also be the result of differences in wage-setting mechanisms in different countries (i.e. countries in similar situations generate different levels of inflation). It is difficult to know precisely which of the two reasons was the main driver of the recent divergence in Europe. It might have been a combination of the two (Spain and Ireland would tend to fall in the first category while Italy might fall in the second). The problem is that if previously mentioned financial tools can be quite powerful in dealing with the first type of issue, they might have little or even no impact in the second case, meaning other tools need to be found.

In that case, there are basically three options to solve this type of wage divergence issue. The first solution – the one that has mainly been tested in the euro area since the beginning of the crisis – is the use of an *ex-post* internal devaluation in the country that has lost price competitiveness to correct the previous divergence. There are two main problems with this option: 1) it is asymmetric, i.e. the adjustment is only borne by countries that have lost price competitiveness (even if wage and productivity growth were broadly in line, as it was the case in Belgium and France, see Table 1) and not by those that might have had unwarranted subdued wage developments (compared to productivity growth); and 2) internal devaluation can be very painful, as this adjustment often takes the form of high increases in unemployment because of the nominal stickiness of wages arising from contractual arrangements. In addition, at the macro level, downward wage and price flexibility can also lead to a dangerous debt deflation phenomenon, because in an economy in which most debt contracts are labelled in nominal terms, deflation can lead in the worst-case scenario to a generalised bankruptcy of economic agents, similar to that observed in the US during the Great Depression.

The second, more radical, solution would be to accept nominal divergences and the real economic consequences that come with them. This could result in the geographical concentration of some industries (as it is the case in the US), which could in the end lead to efficiency gains through economies of scale. However, in that case, it might also be necessary to increase labour mobility (but this might remain limited in the

euro area) or, if this is not possible, to compensate potential losers through significant transfers, which would only be acceptable in a truly integrated fiscal and political union. The other problem with accepting real divergences between countries is that this would also go against the European objective of convergence (as established in the preamble of the Treaty).

A less radical solution would thus be to find a symmetric rebalancing mechanism to replace the automatic exchange rate mechanism. The first best to reach a functioning monetary union would be to foster structural convergence between member states through the harmonisation of labour markets and wage-setting mechanisms, but also through higher productivity growth in the less-productive countries of the periphery (for instance by increasing the share of skilled workers, by improving the quality of the capital stock through widespread adoption of recent innovations, and by building an institutional framework more supportive of innovation by firms).

However, given the difficulty of convergence and the long time such initiatives would take, European authorities introduced in 2011 the Macroeconomic Imbalance Procedure (MIP) in order to monitor economic and financial developments and prevent the kind of divergence observed before the crisis, such as high current account imbalances or unsustainable external indebtedness. Although sensible in theory, the procedure is plagued with various flaws that render it fairly useless in practice: not only imbalances are treated asymmetrically (i.e. current account deficits are considered more harmful than surpluses of the same level), but more importantly, the procedure has simply been ineffective since it was launched because Country Specific Recommendations (CSR) are largely ignored by member states, which argue (somehow rightly) that, contrarily to fiscal rules, there is no direct link between policy levers and monitored variables such as current account developments, which makes it difficult to sanction those who do not respect recommendations.

Another option, first advocated by Sapir and Wolff (2015), would be to put in place competitiveness councils in each member state (modelled on the one that has existed in Belgium since the creation of the monetary union) to ensure that the domestic evolution of wages is compatible with those of the European partners and to prevent the development of competitiveness problems in the first place. This idea was taken on board in the Five President's report (Juncker *et al*, 2015) and in September 2016 the European Council recommended to member states to set up 'National Productivity Boards' (NPBs). If done well, this scheme could be helpful in preventing a repeat of what happened before the crisis. However, there are also three main risks in pursuing this strategy: first, given that this type of Council recommendation is not binding, countries needing such an institution the most might not establish them or might do so inadequately; second, recommendations from these institutions might not be followed or discussed enough to have any influence on the wage trajectory of the country; third, even if NPBs are established and functioning well and their recommendations followed, this leads to a potentially deflationary (or at least low-inflation) equilibrium in which each country promotes low wage growth to be more competitive than its monetary union partners, which would in the end make the job of the ECB to reach its 'below but close to 2 percent' target very difficult and constrain permanently aggregate demand in the euro area.

Finally, another possibility to avoid divergences in unit labour costs across the monetary union would be to try to engineer in each country an average nominal wage growth that would stay close to the sum of productivity growth and the ECB's inflation target of 2 percent. One way to do that would be to put in place a cross-country coordinated wage policy – as advocated for instance in iAGS (2016) – that would take into account accumulated imbalances in terms of current account and past

wage developments. A direct instrument controlled by the governments, such as the minimum wage, could be used as a coordination device. The yearly increases in minimum wage levels could be coordinated across member states to promote balanced and more sustainable economic growth. As with competitiveness councils, an institution (although at the central level in that case) would formulate yearly recommendations to member states in terms of minimum wage growth: for instance countries with current account deficits would see no increase in their minimum wage while countries with surpluses would be asked to increase theirs. This solution would have the advantages of being fairly simple, symmetric and not deflationary. However, there would be several drawbacks. First, such a strategy would be either not followed by member states because of the lack of ownership if recommendations are not binding, or, on the contrary, if they are binding, it could be quite intrusive as changes in the minimum wage usually result from the negotiations between social partners (and in some countries with the government) at the national level, which function differently in different countries. An additional issue is that some countries of the monetary union do not even have a minimum wage: as of 1 January 2017, there was no national minimum wage in Italy, Cyprus, Austria and Finland. Second, adjusting minimum wages might not be enough to prevent the rise of competitiveness imbalances because it would move one point of the distribution of wages as an attempt to influence the whole distribution, and would thus depend on the proportion of employees earning the minimum wage, which can vary considerably in different countries. In addition, in the end, what matters most are wages and productivity in the tradable sector but these might not even be affected significantly by the minimum wage, given that minimum wages are often concentrated in the low-skill service sector.

Overall, there is no silver bullet to tackle the complex problem of wage divergence in a monetary union with heterogeneous countries. The best option would be to achieve a significant convergence of wage-setting mechanisms (and therefore of social systems) over the medium to long run in the euro area, hoping that in the meantime financial tools (uniformly tight supervision at the bank level combined with macroprudential tools at the country level) will be sufficient to prevent significant competitiveness divergences across the monetary union.

4. CONCLUSIONS

The original economic governance framework that arose from the Maastricht Treaty was plagued with institutional flaws that during the first years of the monetary union were hidden behind unsustainable booms in the union's periphery. The booms were mistaken at the time for a convergence in living standards. In reality, significant imbalances with housing bubbles and unsustainable current account surpluses and deficits were built up, leading in the end to economic divergence between the countries of the monetary union.

The euro area lacked the tools to prevent these imbalances from occurring (strict and uniform banking supervision, generalised macroprudential policies, etc.) and instruments to manage and solve the crisis once these imbalances started unravelling. Without any powerful adjustment mechanisms to absorb asymmetric shocks – labour mobility, capital integration or a federal budget – the euro area entered the Global Financial Crisis as an incomplete monetary union that was far from being an optimal currency area. In addition, members of the monetary union entered the crisis without a central bank willing to play the role of lender of last resort in the sovereign debt market. At a time when deficits and debt-to-GDP ratios were rising quickly because of massive bank bailouts, lower tax revenues due to the recession and bursting bubbles, and

higher social expenditures due to huge increase in unemployment, sovereign debts were left vulnerable to self-fulfilling crises. As a consequence, the most-affected countries lost market access or had to pay high interest rates on their debts and thus were not to be able to use national fiscal policy as a macroeconomic stabilisation tool, leaving monetary policy as the only available tool in that regard. However, because there was no established consensus on what the ECB was allowed to do in such an unforeseen crisis (as a LoLR for sovereigns as we have seen, but also in terms of unconventional policies such as QE), monetary policy in the euro area was often behind the curve or even going in the wrong direction (as in 2008 and 2011). And even since the ECB has started playing its role fully (after 2012 with OMT and after 2015 with QE), macroeconomic policies have remained suboptimal, as the euro-area aggregate policy mix relies too much on monetary policy while it is constrained by the zero lower bound.

Several essential crisis management instruments that were previously missing (ESM, OMT, banking union, QE, etc.) were introduced to put a halt to the crisis that had been wrecking Europe for several years and that had almost brought an end to the euro. In addition, surveillance tools were set up to prevent the build-up of imbalances in the future. Thanks to these institutional and policy innovations, the basic building blocks of the architecture are now in place and the resilience of the system has increased. However, the euro area architecture is still incomplete and its foundations remain shaky.

The minimum requirements to achieve a well-functioning and resilient monetary union in Europe are the following. First, to definitely break the loop between banks and sovereigns, the banking union should be immediately completed with the setup of EDIS and of a fiscal backstop for the SRF, while banks should be given the incentives to diversify their sovereign portfolios. Second, the use of macroprudential tools should be more systematic in order to avoid divergence of financial cycles between countries. To do that, it would be better to centralise the decision-making to avoid inaction and delays. Third, an ambitious capital markets union project should be put forwards and quickly implemented to increase private risk sharing between the member states of the monetary union. And finally, to avoid the policy mistakes of the recent years in the next crisis, the macroeconomic policy setup needs to be updated. The OMT/ESM framework and its governance need to be revised to be effective in case another crisis of this type happens in the monetary union. The fiscal rules need to be fixed so that they provide the right recommendations for fiscal policy to become countercyclical at the national level both in bad and good times (in order to have some margin for manoeuvre when the next crisis hits). And given that policy coordination is illusory it is necessary for the euro area to add to its toolkit a stabilisation mechanism (such as, for instance, a catastrophic European Unemployment Insurance Scheme) at the euro-area level, in order to take into account the aggregate fiscal stance.

In mid-2017, growth in the euro area is finally picking up after a decade of recessions and slow recoveries. However, European leaders should not be complacent and wait for the next crisis to reform the euro architecture. On the contrary, these quieter times offer a good occasion to build a more permanent and coherent setup than that which was implemented in the heat of the crisis.

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